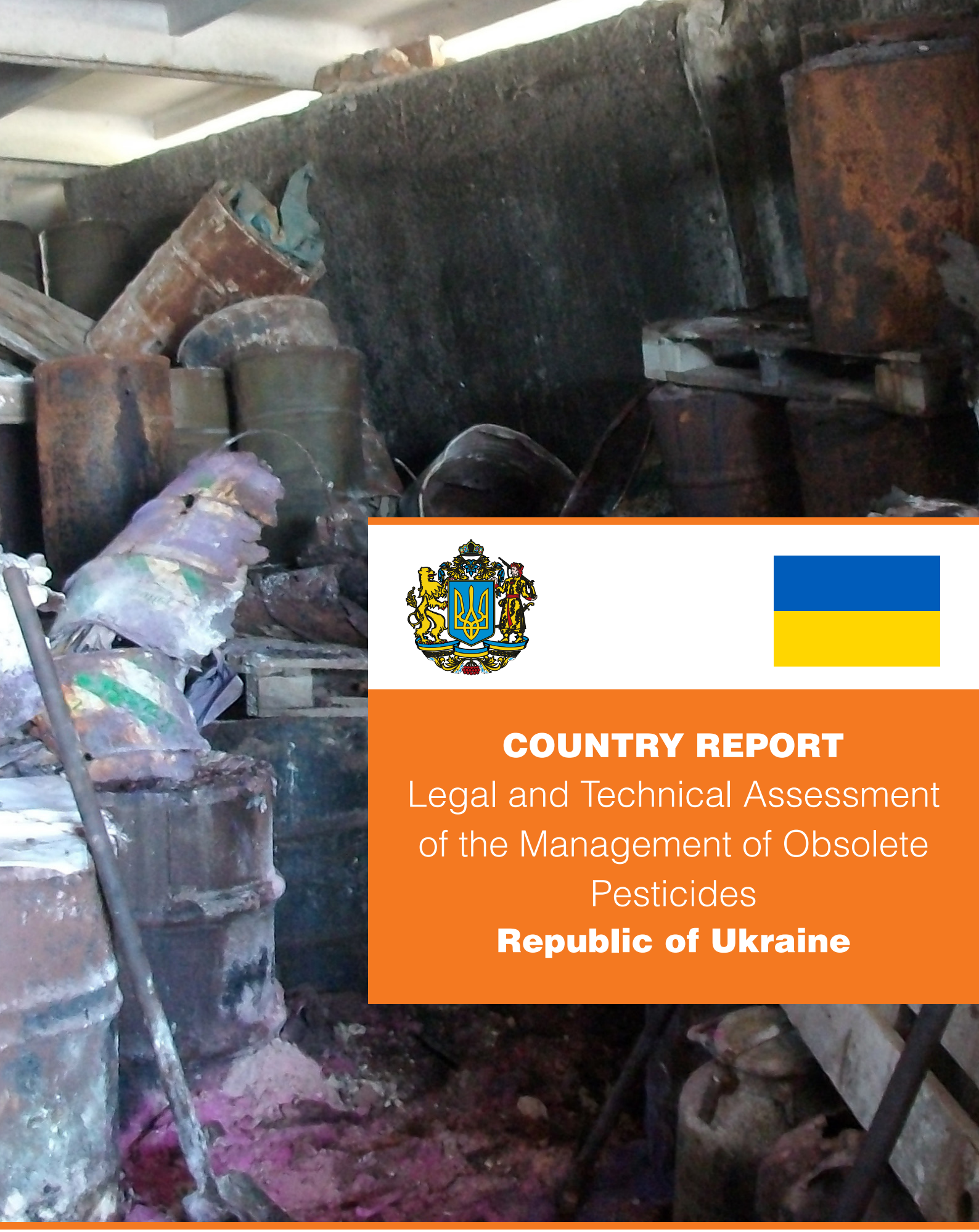

COUNTRY REPORT

Legal and Technical Assessment of the Management of Obsolete Pesticides

Republic of Ukraine

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 Ukraine

Coordinated by: John Vijgen and Bram de Borst, IHPA, and Andrei Isac
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Photographer: SI Group
Designer: Dennis Mijsen, www.studioijsselstad.nl

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 Ukraine

Annexes:

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

Annex 2: Details on history of obsolete pesticides and quantities of hazardous waste (only in English)

Annex 3. Hazardous waste classification and quantities

Annex 4: Old international projects, devoted to evaluation of OPs problem in Ukraine

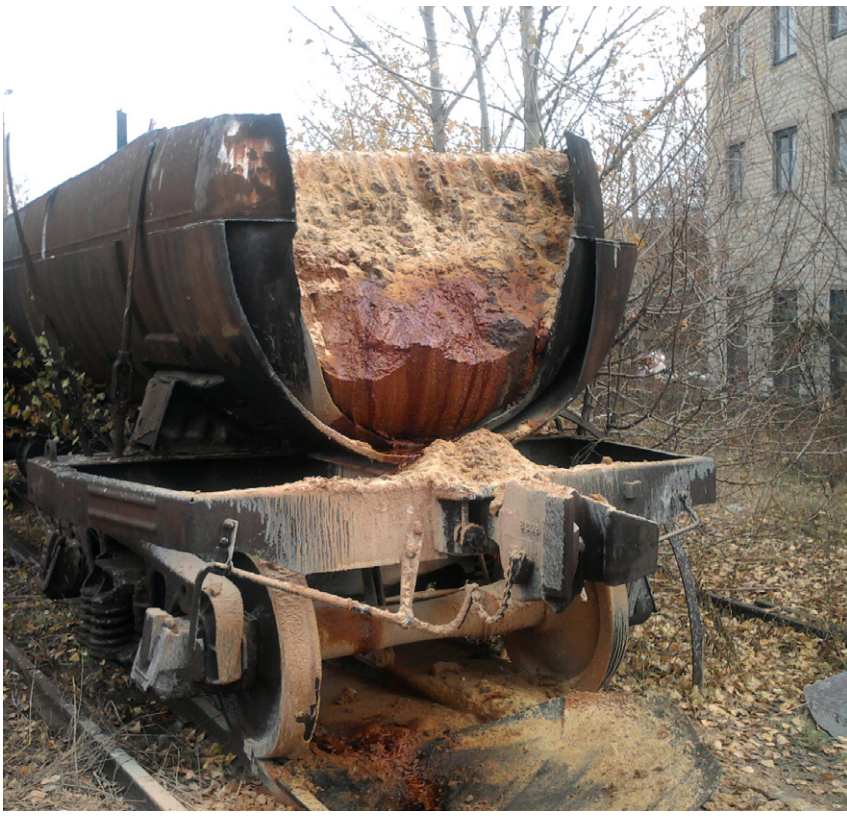
Annex 5: History of POPs management in Ukraine

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

Acknowledgement

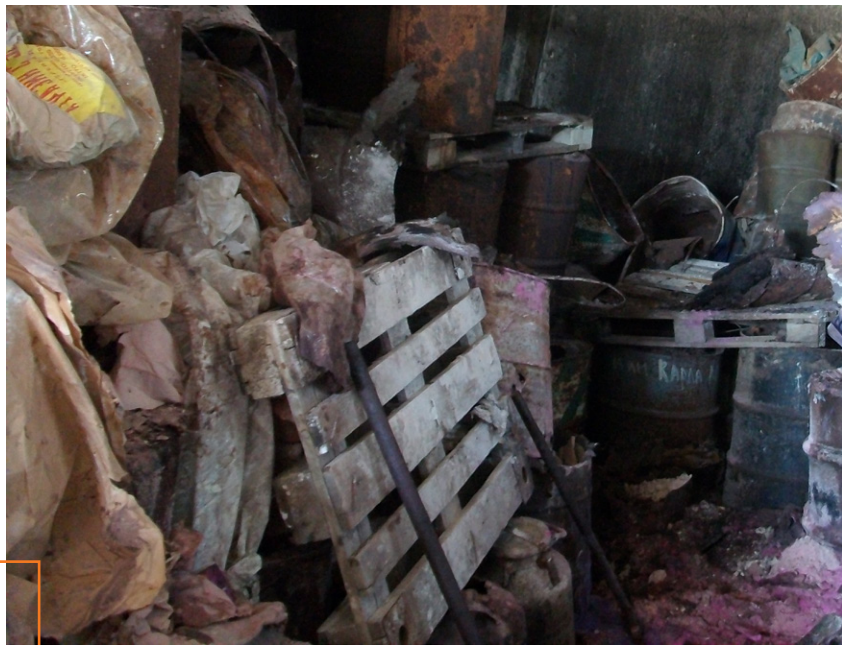
IHPA would like to thank herewith both main authors Ms. Irina Kireeva, the national legal expert responsible for Part I, The assessment of the legal framework on the Pesticides Waste Management in Ukraine and Mr. Mikhail Malkov, the national waste management consultant who was responsible for Part II, the Technical assessment of the management of obsolete pesticides and POPs waste and soil in Ukraine, for their strong engagement and commitment to achieve these reports.

We give special thanks for the methodological support, general coordination and encouragement of the work to FAO, Mr. Kevin Helps, former Project Coordinator of FAO-EU Partnership, Mr. Richard Thompson, present Project Coordinator of FAO-EU Partnership Project, Ms. Lalaina Ravelomanantsoa, Legal Officer, Development Law Branch, FAO Legal Office, Ms. Oxana Perminova, Agricultural Officer (Social and Economic Impact) of FAO-EU Partnership Project, Milieukontakt International, Green Cross Belarus and Blacksmith Institute.



List of acronyms

ADR	International Carriage of Dangerous Goods by Road
BAT	Best Available Techniques
BEP	Best Available Practices
CIS	Commonwealth of Independent States
CMR	Conditions for the international carriage of goods by road. (original: Convention relative au contrat de transport international de Marchandises par route
COWI	Christen Ostenfeld Wriborg W. Jønson, Denmark
DANCEE	Danish Environmental Assistance to Eastern Europe
DEPA	Danish Environmental Protection Agency
DNA	Designated National Authority
DDT	Dichlorodiphenyltrichloroethane
DOT	US Department of Transport (DOT) classification of dangerous material
EA	Environmental Assessment
EC	European Commission
ECMS	Empty Container Management Strategy
EEC	European Economic Community
EECCA	Eastern Europe, Caucasus and Central Asia
EEZ	Exclusive economic zone
EIA	Environmental Impact Assessment
EMP	Environmental Management Plans
EMTK	(FAO) Environmental Management Tool Kit for Obsolete Pesticides
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
GDP	Gross Domestic Product
GEF	Global Environment Facility
HCB	Hexachlorobenzene
IATA	International Air Transport Association
IFI	International Financial Institute
IMDG	International Maritime Dangerous Goods Code
MAC	maximum allowable concentration
MAPFU	Ministry of Agrarian Policy and Food
Matra	Civil society transformation (original in Dutch: maatschappelijke transformatie)
MoD	Ministry of Defence
MKT	Milieukontakt International
MENR	Ministry of Ecology and Natural Resources
Mln	Million
MNCB	Mononitrochlorobenzene
MT	Metric tonne (equal to 1000 kilogram. Also called tonne)
NANO	Nanotechnology and Nano materials
NANU	National Academy of Sciences of Ukraine
NATO	North Atlantic Treaty Organization
NFP	National Focal Point
NGO	Non-Governmental Organization
NCHWM	National Center for Hazardous Waste Management
NIP	National Implementation Plan
OP	Obsolete pesticide
PCB	Polychlorinated biphenyl
POP	Persistent Organic Pollutant
PPP	Public-Private Partnership
PRTR	Pollutant Release and Transfer Register
PSMS	Pesticide Stock Management System (FAO)
RID	International Transport of Dangerous Goods by Rail (original: Reglement concernant le transport international ferroviaire des Marchandises Dangereuses)
SSES	State Service of Ukraine for Emergency Situations
SAICM	Strategic Approach to International Chemicals Management
SMGS	Agreement of International Railway Freight Communication
TEQ	Toxic Equivalent
TRACECA	Transport Corridor Europe-Caucasus-Asia
UAH	Ukrainian Hryvnia
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
WM	Waste Management
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

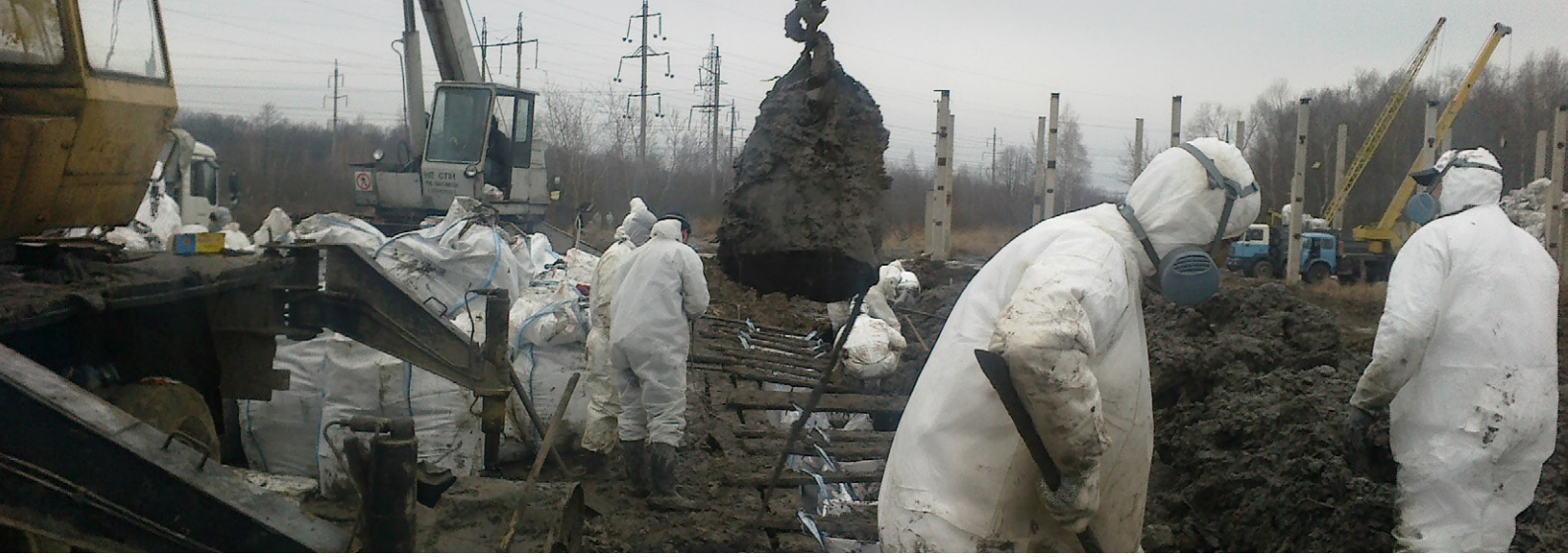
This section is dedicated to an analysis of existing national waste management legislation that reflects the legal framework regarding the different activities of waste management such as:

- 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

I



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/

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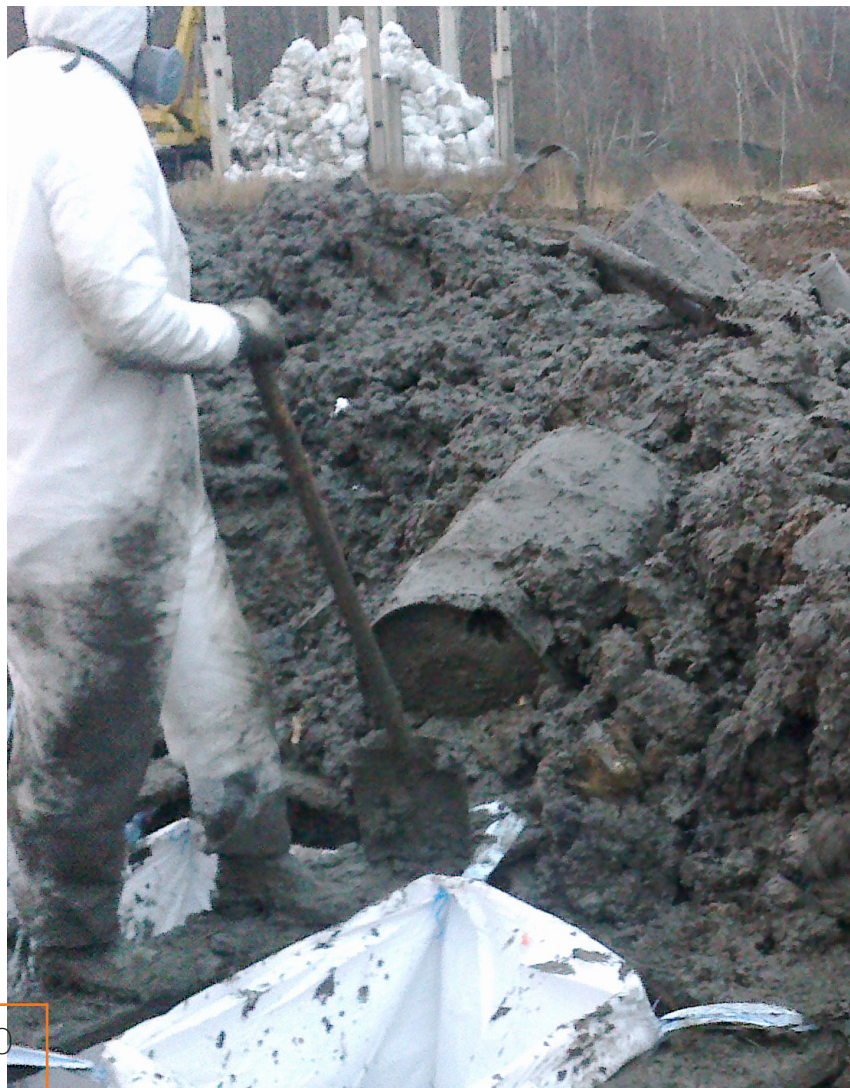
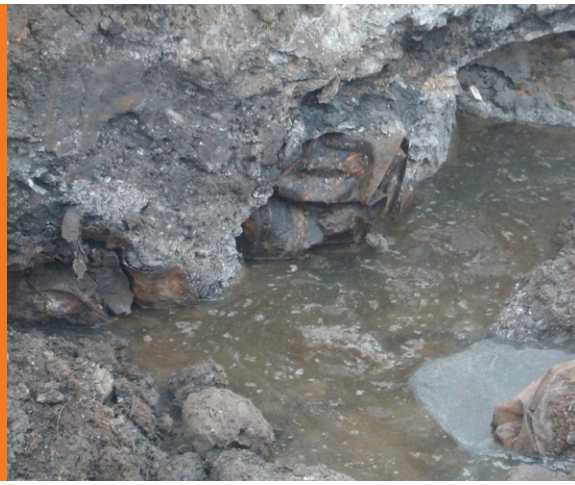


Summary
for the Republic of Ukraine

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 Ukraine

Major Findings

The Republic of Ukraine accessed to the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, to the Basel Convention on the Trans-boundary Movement of Hazardous Wastes and Their Disposal and also signed the Stockholm Convention on Persistent Organic Pollutants. Ukraine did not sign the Basel Protocol on Liability and Compensation for Damage Resulting from Trans-boundary Movements of Hazardous Wastes and their Disposal Basel, adopted on 10 December 1999.

The general problem with the Ukrainian laws is their inadequate quality and instability occurring rather often. Various different laws often contradict each other and there are constant changes and adjustments that are difficult to follow for everyone, but particularly for judges, to clearly understand which normative acts and rules are applicable to a particular situations at a particular time, or even more so, to do the planning and foresee the future developments. The main specific problem is in the area of civil legislation due to the absence of a modern civil code.

Another problem relates to the fact that Ukraine does not have legitimate restrictions on import and transit of hazardous wastes and other wastes through its territory. As an example, even if the Ukrainian Law "On Waste" provides a definition of a trans-boundary shipment of waste, referring to the waste transport to the territory / or through the Ukrainian territory or through the territory of another State, this Law does not contain provisions in relation to trans-boundary shipments of waste. This is because in 2002 the Article 36 of the Ukrainian Law was deleted from this legal act. So, before 2002 in accordance with the Law of Ukraine "On wastes" of 5 March 1998 No.187/98-BP (Article 36) the import of wastes in Ukraine with the purpose of their storage or disposal was prohibited. However, Article 36 was repealed by Law N 3073-III from 7 March 2002.

According to Article 16 of Decision of the Cabinet of Ministers of Ukraine No. 1120 from July, 13, 2000 import of hazardous waste to Ukraine is forbidden for the purpose of their storage or burial. However, hazardous waste can be imported to Ukraine only under conditions of presence of the written Agreement of the Ministry of the Environment Protection of Ukraine. One of such conditions are:

- The exporting country a party to the Basel Convention or the corresponding international agreement about trans-boundary movement of hazardous waste is made between Ukraine and that country;
- The exporting country has no technical opportunities and necessary capacities for removal and disposal of such waste products ecologically or such waste can be used as secondary raw material in Ukraine.

Definitions of waste and hazardous waste, provided by the Ukrainian Law "On Waste" of 1998 (Article 1), are more general and not so precise in comparison with the definition of Hazardous Waste provided by Directive 2008/98/EC of the EU (Article 3), since in the Directive a reference is made to a detailed Annex III with 16 properties that make waste hazardous.

With respect to the pesticides waste, it should be mentioned that the Law "On Waste" of 1998 does not provide any definition for waste pesticides. Also, the legislation does not provide any specific procedures to indicate when and how pesticides would become waste (particularly, hazardous waste).

According to the principle "Polluter Pays", commercial and industrial waste generators are obliged to reimburse the harm done to the environment, human health and property, enterprise and organizations done due to violation of established norms of waste treatment according to the Ukrainian legislation (Art. 43). However, there are no implementing regulations with clear methodology on how to calculate harm done to environment, human health, etc. So, in practice this provision of the Ukrainian Law on Waste is not effective.

Another negative aspect relies with the fact that, even if the Ukrainian legislation provides special norms of service provision in relation to waste collection and removal, which are revised each 5 years, there are no provisions with a possibility to complain about the inadequate or bad quality services provided by waste management companies.

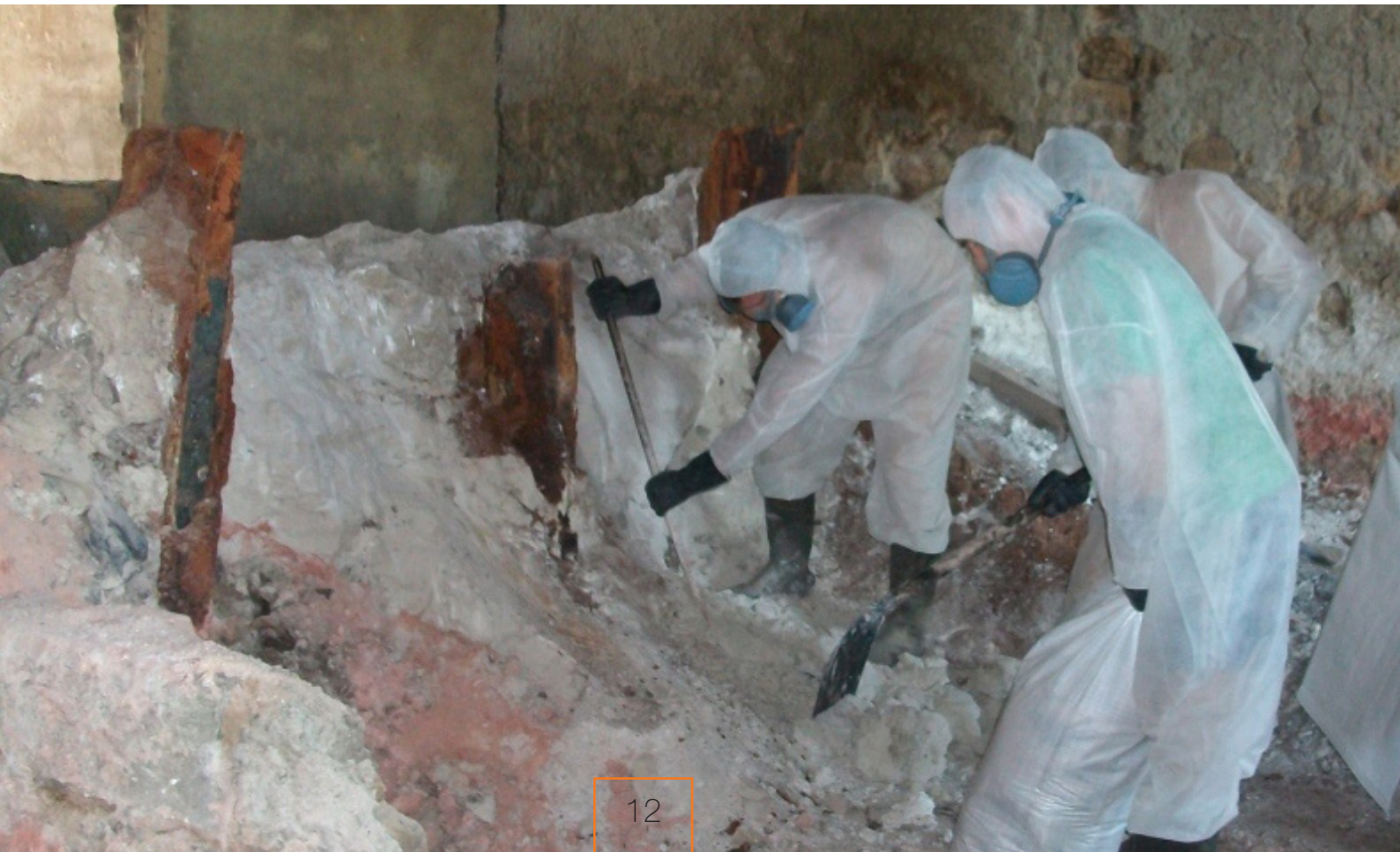
In relation to private sector participation in waste management, the legal framework does not create enforceable provisions; it is not clear whether industrial and commercial companies that generate waste are motivated to comply with the requirements since there are no subsidies for separate waste collection or taxes for waste mixture. In the absence of efficient and effective controls, provisions of the Law on Waste in Ukraine have a rather declarative character.

Also, it is important to note that the established legal framework does not have provisions addressing:

- implementation of the principle of responsibility of producer for collection of some types of products after their use;
- establishment in Ukraine of market principle of waste treatment as recyclables;
- economic incentives to stimulate increase of the volume of production of goods and products made of recyclables.

And there are no legal provisions in relation to waste incineration.

The competent bodies:
In accordance with the Order N° 434 adopted on 5 November 2004, the Ministry of Environmental Protection is the authorized central institution having plenary powers in the sphere of environmental protection, ecological safety, nature reserves, and also hydro-meteorological activity.



In accordance with Article 22 of the Law on Waste, a specially authorized executive body (National Centre for Hazardous Waste Management) in the sphere of Waste Management is the designated central executive authority in the field of waste management and its local authorities, State Sanitary and Epidemiological Service Ukraine and other executive agencies in accordance with their competence.

In accordance with Order No. 129/402 of the State Committee on Technical Regulation and Consumer Policy validating the Licensing terms and conditions for disinfection of materials and objects transferred through the state border of Ukraine and quarantine areas, the Ministry of Agrarian Policy shall be the licensing authority in the sphere of disinfection of materials and objects transferred through the state border of Ukraine and quarantine areas.

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

- **Identify the gaps in information (for all 5 sections):**

The main problem is the big shortage of official information on new POPs and contaminated sites. Finally, the last political changes in the country were followed by changes of the personnel on the different levels. Quite often the newly appointed specialists and managers have no access to the old databases and do not know the subject of their responsibility.

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

As mentioned above, the last political changes and unrest in the Eastern side of the country have been followed by systematic changes of the personnel on all levels. The newly appointed staff does not have any experience and quite often does not make feasible decisions. The political situation is also the subject of high level reduction of foreign economic activities in Ukraine. In the same time, the deep economic crisis suspended the local investment activity. However according to the latest information EU and major IFIs are keen to develop the financial support to Ukrainian economy right now. Such positive signal can eliminate the economic barriers for construction of regional waste management facilities in Ukraine.

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

There is a market demand on construction of multimodal WM center(s). Existing developing projects of construction of multimodal WM facility with the technical support of top global players and financial support from IFIs will be positively accepted by the Government and civil society.

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

Ukraine is importing about 100,000 tonnes of pesticides per annum. About 20% of this import is counterfeit. The country needs legal and financial instruments to ship the illegal products back to the country of origin or to dispose it inside Ukraine. In any case Ukraine is generating significant quantities of waste due to counterfeit products and empty containers.

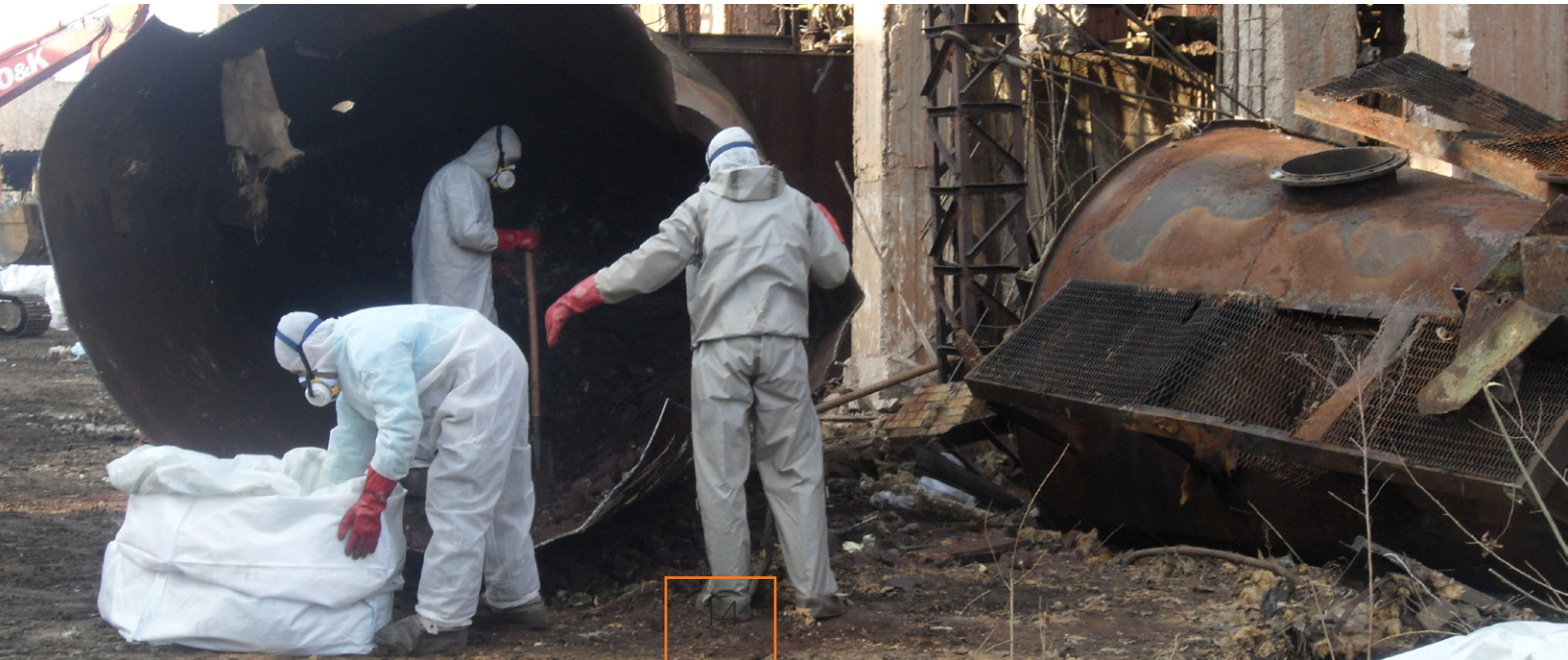
Suggestions and recommendations
for future activities

Based on the findings listed above, it is recommended for the Republic of Ukraine to:

- Implement regulations with clear rules and methodologies on how to calculate harm done to environment, human health, etc.
- Ensure the procedural possibility to complain about the inadequate quality services provided by waste management companies.
- Establish and implement in Ukraine the market principle of waste treatment of recyclables.
- Establish economic stimulus for increasing of the volume of production of goods and products made of recyclables.
- Implement the principle of responsibility of producers for collection of some types of wastes after production and their environmental disposal and use.
- Draft the legal provisions clearly prohibiting export of hazardous wastes in accordance with the Basel Convention.
- Develop the rules and procedures directly regulating movement of hazardous wastes.

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

- Elimination abroad of the OP stocks from the storages, using the Association agreement
- Elimination of PCB contaminated oils and equipment, of hazardous industrial wastes
- Reduction of risks and remediation of contaminated sites/land
- Management of empty containers
- Construction of disposal facilities (already planned in two regions, cement kilns operators are partially interested in co-processing)
- Increase the responsibility of the ministries to resolve the problems of wastes.



Food and Agriculture Organisation
of the United Nations