

Working Document
Management of Obsolete
Pesticides
Republic of Moldova



Food and Agriculture
Organization of the
United Nations



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Part I – The assessment of the legal framework on the pesticides waste management in the Republic of Moldova

Section I: General background information (International treaties participation)

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

The *Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade* was adopted on 10 September 1998 by the Conference of Plenipotentiaries on the Convention in Rotterdam, the Netherlands. In accordance with its Article 24, the Convention was open for signature at Rotterdam by all States and regional economic integration organizations on 11 September 1998, and subsequently at United Nations Headquarters in New York from 12 September 1998 to 10 September 1999.

Republic of Moldova adhered to Rotterdam Convention on 25th November 2004, and ratified it on 27/01/2005

The *Stockholm Convention on Persistent Organic Pollutants* was adopted on 22 May 2001 at the Conference of Plenipotentiaries on the Stockholm Convention on Persistent Organic Pollutants, Stockholm, 22-23 May 2001. In accordance with its Article 24, the Convention was open for signature at Stockholm by all States and by regional economic integration organizations on 23 May 2001 at the Stockholm City Conference Centre / Folkets Hus, and at the United Nations Headquarters in New York from 24 May 2001 to 22 May 2002.

Republic of Moldova signed the Stockholm Convention on 23/05/2001 and ratified it on 07/04/2004.

The *Basel Convention on the Transboundary Movement of Hazardous Wastes and Their Disposal* was adopted on 22 March 1989 by the Conference of Plenipotentiaries which was convened at Basel from 20 to 22 March 1989. In accordance with its Article 21, the Convention, which was open for signature at the Federal Department of Foreign Affairs of Switzerland in Berne from 23 March 1989 to 30 June 1989, was open thereafter at the Headquarters of the United Nations in New York until 22 March 1990.

The Republic of Moldova adhered to the Basel Convention on 10/03/1998 (Parliament Decision no. 1599-XIII)

International cooperation

The Republic of Moldova is part to a number of bilateral and multilateral treaties in relation to monitoring and environmental protection. The totality of treaties signed in this respect by the Republic of Moldova in a compulsory way enshrines the agreements relating to waste management (including issues in relation to pesticides).

Among the signed by the Republic of Moldova international treaties the following can be mentioned:

Bilateral treaties:

- *Agreement between the Government of the Kingdom of Belgium and the Government of URSS on cooperation in the domain of environment protection.* (Moscow, 25.06.1975). Entered into force on 21.06.1996.
- *Agreement on cooperation in the domain of industry and intersectorial production between the Ministry of Industry of the Republic of Moldova and the State Concern of Belarus on production of chemical and petrochemical goods* (Minsk, 31.03.1995). Entered into force on 31.03.1995.
- *Agreement between the Department on Environmental Protection of the Republic of Moldova and the Ministry of Natural Resources and Environmental Protection of the Republic of Belarus on cooperation in the domain of environmental protection* (Chisinau, 23.12.1994). Ratification document – Government Decision No. 223 of 6.04.1995. Published in “International Treaties” edition, vol. 18, p. 95. Entered into force on 14.04.1997.
- *Memorandum between the Government of the Republic of Moldova and the Government of Kingdom of Denmark on cooperation for the implementation of the clean development mechanism defined by the Kyoto Protocol to the Framework Convention on climate change* (Copenhagen, 27.10.2003). Ratification document – Law No. 332-XV of 7.10.2004. Published in “International Treaties” edition, vol. 32, p. 188. Entered into force on 2.11.2004.
- *Agreement between the Ministry of Environment, Constructions and Territory Development of the Republic of Moldova and the Ministry of Environment of the Republic of Poland on cooperation in the domain of environment protection and exploitation of natural resources.* (Chisinau, 22.10.2003). Ratification document – Government Decision nr. 25 of 19.01.2004. Published in “International Treaties” edition, vol.33, p. 260. Entered into force on 10.02.2004.
- *Agreement between the Ministry of Environment and Natural Resources of the Republic of Moldova and the Ministry*



of Environment of Latvia on cooperation in the domain of environment protection. (Riga, 17.03.2006). Entered into force 17.03.2006.

Multilateral treaties:

- *Agreement on cooperation in the sphere of ecology and environmental protection*. (8 February 1992). The Parties (Armenia; Azerbaijan; Belarus; Georgia; Kazakhstan; Kyrgyzstan; Moldova, Republic of; Russian Federation; Tajikistan; Turkmenistan; Ukraine; Uzbekistan) agree: (a) to elaborate environmental standards; (b) to carry out environmental monitoring; (c) to develop the system of protected areas, biosphere reserves and national parks; (d) to carry out environmental impact assessment (EIA); (e) to carry out environmental audit; (f) to promote ecological education; (g) to observe obligations arising from international agreements signed by the USSR (art. 2). The cooperation shall be carried out in the following fields: (a) harmonization of the environmental legislation and ecological norms and standards; (b) joint programmes on hazardous and radioactive waste disposal. For the implementation of the aforesaid provisions an Interstate Ecological Board shall be set up and a special international ecological fund administered thereby shall be constituted (art. 4).
- *Convention on Environmental Impact Assessment in a Transboundary Impact*. (Espoo, 25 February 1991). Entered into force on 10 September 1997.
- *Framework Convention on Climate Change*. (New York, 9 May 1992). Entered into force for the Republic of Moldova on 7 September 1995.
- *Protocol to the 1979 Convention on Long Range Transboundary Air Pollution on Persistent Organic Pollutants (POP's)*. (Aarhus, 24 June 1998). Entered into force for the Republic of Moldova on 23 October 2003.
- *Cooperation Agreement in the domain of assurance of industrial security at dangerous industrial objects*. (Moscow, 28.09.2001). Entered into force for the Republic of Moldova on 7.06.2002.
- *Joint Convention on the Safety of Spent Fuel Management and the Safety of Radioactive Waste Management*. (Vienna, 5.09.1997). Entered into force for the Republic of Moldova on 24.05.2010.
- *Implementation Act between the Government of the Republic of Moldova and the Organization for Support and Supply of the North-Atlantic Organization (NAMSO) on the destruction of hazardous chemicals and pesticides in Moldova*. (Bruxelles, 12.05.2006). Entered into force for the Republic of Moldova on 12.05.2006

Section II: Regulatory framework on waste management

Chapter I Political and legal framework

General overview

The general system of jurisprudence in the Republic of Moldova is part of the European continental system of "civil law". The Republic of Moldova's current Constitution of 29 July 1994 adopted the principle of the separation of power between the executive, legislative, and judicial branches.

Issues of pesticides and waste management

According to the Constitution the Parliament of Republic of Moldova adopts laws (constitutional, organic and ordinary laws), decisions and motions (Art.66, 72) while the President adopts decrees (Article 94) and the Cabinet of Ministers (the Government of Republic of Moldova as highest body of the executive branch) adopts decisions, ordinances and orders (Article 102). As well part of legal framework of Republic of Moldova are international treaties ratified by the Parliament of Republic of Moldova.

As a result, the legal framework is a combination of the laws, decisions, motions, President's decrees and decisions, ordinances and orders of the Government of the Republic of Moldova. The applicability of the national regulations takes place on the entire territory of the Republic of Moldova (32 rayons, 5 district cities, an autonomous unit – Gagauzia).

Article 37 of the Constitution of the Republic of Moldova of 29.07.1994 provides for the Right to a Healthy Environment:

- (1) Everyone has the right to an environment of ecologically harmless to life and health, and food and household items safe.
- (2) The state guarantees every citizen the right to free access to truthful information regarding the state of the natural environment, living conditions and working conditions, the quality of food and household items.
- (3) Concealment or falsification of information on the factors that are detrimental to human health is prohibited by law.
- (4) Natural and legal persons are liable for the damages caused to the health and wealth of a person as a result of environmental offenses.

Situation with stocks of obsolete pesticides



Situation with stocks of obsolete pesticides

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 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.¹

National legislation and regulatory measures adopted by Government in order to implement and enforce the provisions of the Basel Convention and other international conventions:

Government Decision no. 637 of 27 May 2003, which approved the Regulation on the Control of Transboundary Movements of Hazardous Wastes and their Disposal.

Ordinance no. 233 from 10th September 2003 (published in Official Journal no. 229-233 from 21st November 2003, article 314):

Instructions on filling in the Shipment Formulary;

Instructions on filling in the notification.

National laws and regulations that govern hazardous waste (especially OP) management

In Republic of Moldova the main law that regulates the conditions of research, testing, experimentation and state approval of plant protection products and fertilizers, as well their, manufacture, import, transport, storage, marketing and use is the Law No 119-XV on 22 April 2004 regarding plant protection products and fertilizers. Other specific laws and normative acts that govern pesticides use and management are:

Laws:

- Law No. 1515-XII of 16 June 1993 regarding environment protection;
- Law No. 851-XIII of 29 May 1996 regarding ecological expertise and environment impact assessment;
- Law No. 1236-XIII of 03.07.1997 on harmful products and substances;
- Law No. 1347-XIII of 09 October 1997 regarding production and household waste;
- Law No. 451-XV of 30 July 2001 regarding licensing of entrepreneur activity;
- Law No. 105-XV of 13 March 2003 regarding consumers protection;
- Law No. 78-XV of 18 March 2004 regarding food products;
- Law No. 119-XV of 22 April 2004 regarding plant products and fertilizers;
- Law No. 115-XVI of 09 June 2005 regarding agricultural ecological production;
- Law No. 228 of 23 September 2010 regarding plant protection and phyto sanitary quarantine;
- Water Law No. 272 of 23 December 2011;
- Law No 113 of 18 May 2012 regarding principles and general requirements of legal framework on food safety.

Government decisions:

- Government Decision No. 897 on 08 December 1994 regarding approval and use in agriculture of plant protection products and fertilizers;
- Government Decision No. 672 on 28 of May 2002 regarding approval of the Regulation on transport of dangerous goods in Moldova;
- Regulation on management of plant protection products and fertilizers in the national economy. Order of the Ministry of Agriculture and Food Industry No. 231 of 28.11.2003;
- National Strategy on the reduction and elimination of persistent organic pollutants, approved by Government Decision No. 1155 on 20 of October 2004;
- Government Decision No. 1045 on 05 October 2005 regarding approval of Regulation on import, storage, sale and use of plant protection products and fertilizers;
- Government Decision No. 1307 on 12 December 2005 regarding approval of Regulation on certification and homologation of plant protection products and fertilizers used in agriculture and forestry;
- Government Decision No. 1191 on 23 December 2010 regarding approval of Sanitary Regulation on maximum pesticide residues limits for food products, vegetal and animal feeding stuffs;

¹Managementul deșeurilor și substanțelor chimice.[On-line]:

<http://chimicale.wordpress.com/2012/03/16/managementul-deeurilor-si-substantelor-chimice/>.

- Strategy on food safety for 2011-2015, approved by Government Decision No 747 on 03 October 2011;
- Strategy on waste management in Republic of Moldova for 2013-2017, approved by Government Decision No. 248 on 10 April 2013;
- Government Decision No. 836 on 29 October 2013 regarding water pollution prevention from agricultural activities;

Policies or strategies at the national level

In the Republic of Moldova there are a number of policies and strategies that have a direct or indirect linkage with the prevention of pesticide wastes and minimisation of risks associated with pesticides wastes in the Republic of Moldova:

- **National Strategy on reduction and elimination of Persistent Organic Pollutants and the National Implementation Plan of the Stockholm Convention on Persistent Organic Pollutants** (Government Decision no. 1155 of 20.10.2004). The main goal of the Strategy is the reduction of the POP impact on environment and human health. The Plan has as a primary goal the assurance of respecting the obligations assumed by the Republic of Moldova by ratifying the Stockholm Convention and, also, the reduction and elimination of the risks for health, environment and development, associated with exposure (in past, present and future) to the POP's action.
- **National development strategy for 2008 – 2011** (Law no. 295-XVI of 21 December 2007). In the "Environment and natural resources exploitation" section was stipulated: "A major problem for the protection of the environment is the waste management. In recent years, particularly from foreign assistance, have been increased the activities for centralized storage and destruction of the obsolete pesticides, including POP. The estimates made during the execution of the works showed a total of about 3.000 tons of pesticides to 1712 tons initially estimated. Thus, it is necessary to continue these activities and during the implementation of the national development strategy"
- **National Program on sustainable management of chemical substances in the Republic of Moldova** (Government Decision no. 973 of 18.10.2010). The Program establishes the goals, objectives and actions meant for the creation of an integral system of management of the chemical substances, efficient from technical, economic, social and environmental point of view (pt. 1).
- **Strategy on food safety for 2011-2015** (Government Decision No 747 on 03 October 2011). The general goal of the Strategy in the domain of food safety is the achievement of the highest degree of the protection of public health and consumer in relation to the safety of food.
- **"Strategy for integrated solid waste management. Southern Development Region, Moldova",** September 2013, Project Waste Management – ISVP.
- **Strategy on waste management in Republic of Moldova for 2013-2017** (Government Decision No 248 on 10 April 2013). According to this Strategy the politics of the Government of the Republic of Moldova in the domain of waste management consist in the development of the infrastructure and of necessary services for a proper protection of the environment on global, national and local levels management of waste generated by citizens, business and institutions

	<i>Sector</i>	<i>EU legislation</i>	<i>Republic of Moldova legislation</i>
Chapter II Specific laws and regulations that govern waste management	<i>General waste management</i>	Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (Text with EEA relevance), <i>OJ L 312</i> , 22.11.2008, p. 3–30	Law No 1347-XIII of 09 October 1997 regarding production and household waste (published in "Monitorul Oficial" nr. 16-17 on 05.03.1998. The date on entry into force – 05.03.1998). Art. 2 of this law provide the goal of this normative act. In this context, the present law is applied to all natural and legal persons performing activities generating wastes (Art. 2, par. (1)).

			<p>The law governs the relationships formed in the process of waste management:</p> <p>a) raw material recovery and processing mineral deposits;</p> <p>b) the manufacture, transport and storage of technical articles, consumer goods, energy and energy carriers;</p> <p>c) carrying out the construction, agricultural, mining and other resources;</p> <p>d) provision of services;</p> <p>e) consumption of industrial and food products. Art. 2, par. (2))</p>
	Import / Export	<p>Regulation (EC) No 689/2008 of the European Parliament and of the Council of 17 June 2008 concerning the export and import of dangerous chemicals, <i>OJ L 204</i>, 31.7.2008, p. 1–35</p> <p>Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals Text with EEA relevance, <i>OJ L 201</i>, 27.7.2012, p. 60–106.</p>	<p>Import:</p> <p>Law No. 119 of 22 April 2004 on plant protection products and fertilizers the import and / or sale of plant protection products and fertilizers is performed based on: a) license, issued by Licensing Chamber, subordinated to Ministry of Economy, according to the Law No 451-XV on 30 July 2001 regarding licensing of entrepreneur activity; b) the contract of sale with producers - registrant or the concerned products or with the official distributor of the products; c) quality certificate from the manufacturer; d) import invoice; e) authorization for import or manufacturing of plant protection products and fertilizers.</p> <p>The authorization for import or manufacturing of plant protection products and fertilizers is issued free of charge, based on the State Register of plant protection products and fertilizers permitted for use in the Republic of Moldova by the National food Safety Agency for Food Safety, based on: a) the application for authorization; b) license for the import and sale of plant protection products and fertilizers; c) import invoice; d) the contract of sale with producers - registrant or the concerned products or with the official distributor of the products; e) document which proves ownership of specialized warehouse authorized or rent agreement; f) quality certificate issued by the manufacturer; g) confirmation from the manufacturer for repackaging companies – in case of import of plant protection products and fertilizers in small packing intended for sale.</p> <p>According to the Government Decision No. 1045 on 05 October 2005 regarding approval of Regulation on import, storage, sale and use of plant protection products and fertilizers, entering in the Republic of Moldova of plant protection products and fertilizers for research and testing needs in order to be</p>

			homologated, as well of the seeds and seedling material treated with plant protection products which are not registered in Moldova, is allowed only based on permission of the Centre for Certification and Approval of Phytosanitary Products and Fertilizers, with nomination of the quantity of products to be introduced in the Republic of Moldova. The imported plant protection products and fertilizers are registered in the Register of import, sale and storage of plant protection products and fertilizers, registered and sealed by Food Safety National Agency
	<i>Landfilling of waste</i>	Council Directive 1999/31/EC of 26 April 1999 on the landfilling of waste, <i>OJ L 182, 16.7.1999, p. 1–19</i>	Law No. 1347-XIII of 09 October 1997 regarding production and household waste establishes that the Government of the Republic of Moldova has the following obligations in respect of landfilling of waste as it follows: <ul style="list-style-type: none"> - adopts decisions affecting land to planning polygons for storing, processing, burial or disposal of waste; - sets limits for disposal (burial) of waste; - adopts definitive decisions, in case of lack of an agreement from local public administration, for establishing locations/placements of national importance on neutralization, processing, storage or burial of waste, only in compliance with environmental norms and other social requirements (Art. 3, par. c, e, g)
	<i>Incineration</i>	Directive 2000/76/EC of the European Parliament and of the Council of 4 December 2000 on the incineration of waste, <i>OJ L 332, 28.12.2000, p. 91–111</i>	According to Art. 20, par. (1), pt. d) of Law No. 1347-XIII of 09 October 1997 regarding production and household waste it is forbidden the incineration of the waste of any origin.
	<i>Shipment of waste</i>	Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste, <i>OJ L 190, 12.7.2006, p. 1–98.</i>	According to the Law No. 119 of 22 April 2004 on plant protection products and fertilizers (art.15), the transport of plant protection products and fertilizers is carried out according to the conventions and international agreements which Moldova is a party of, as well to national legal framework. Government Decision No. 1045 of 05 October 2005 regarding approval of Regulation on import, storage, sale and use of plant protection products and fertilizers establish that it is strictly prohibited transportation of plant protection products and fertilizers along with food products and in public transport. Is prohibited using of transport units, specially equipped for transportation of plant

			protection products and fertilizers other than the intended purposes. During transportation of plant protection products and fertilizers is allowed stay in transport units of persons whose job duties are related to transportation and fulfilling of loading and unloading work of them
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Chapter III Institution(s) involved in waste management (focus on pesticides)	<p>Institutions involved in waste management in the Republic of Moldova (including pesticides waste):</p> <ol style="list-style-type: none"> 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 <p>The Parliament of the Republic of Moldova:</p> <p><u>1) According to the Law 1515 of 16.06.1993 on environmental protection:</u></p> <ul style="list-style-type: none"> - approves the principles of the general politics in the domain of environmental protection and usage of natural resources (Art. 6, par. a)) <p>The Government of the Republic of Moldova:</p> <p><u>1) According to the Law 1515 of 16.06.1993 on environmental protection:</u></p> <p>performs the Parliament's environmental policy and ensure a rational use of natural resources (Art. 8, par. 1);</p> <ul style="list-style-type: none"> - coordinate the environmental protection deployed by the ministries, departments and local public authorities (Art. 8, par. (5); - determine the location and legal regime of the republican polygons for the storage and processing of waste production, storage of toxic and radioactive and regulating transportation and its inactivation (Art. 8, par. (8); - requires the authorities on the management of the economy to develop and ensure together with local public administration authorities, with research institutions and with authorities on environmental protection to draft programs and recommendations on: the development and management of economic instruments for waste minimization through the most efficient use of raw materials, reducing the use of toxic, corrosive and flammable materials or replace them with domestic alternatives by extending the term of use of production and by recycling them (Art. 8, par. (13), pt. e). <p><u>2) According to the Law nr. 1236 of 03.07.1997-XIII on harmful products and substances:</u></p> <ul style="list-style-type: none"> - adopts decisions and other normative acts on issues concerning the regime of harmful products and substances; - approves the National Register of potentially toxic chemical substances; - approves the measures for the prevention of accidents and damages at the warehouses with harmful products and substances; - establishes the perimeter and the way of operation of the specialized platform for neutralization and burial of obsolete harmful substances and products and their waste; - provides the training and further education of the responsible persons for the activities in this area (Art. 3, par. a-e)) <p><u>3) According to the Law No. 1347-XIII of 09.10.1997 on production and household wastes:</u></p> <ul style="list-style-type: none"> - organizes the drafting and approval of the State Program on recovery of industrial and domestic waste, ensures its implementation; - coordinates the waste management activity line of the ministries, departments and other
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- subordinated authorities;
- adopts decisions affecting land to planning polygons for storing, processing, burial or disposal of waste;
- sets limits for disposal (burial) of waste;
- approves the Regulation on licensing for carrying out activities of waste management and sets the fee for licensing the operators, which carry this activity;
- adopts definitive decisions, in case of lack of an agreement from local public administration, for establishing locations/placements of national importance on neutralization, processing, storage or burial of waste, only in compliance with environmental norms and other social requirements;
- fulfils international cooperation in the domain. (Art. 3, pt. a-h))

The Ministry of Environment:

1) According to the Law nr. 1236 of 03.07.1997-XIII on harmful products and substances:

- carries out the state control over compliance by individuals and legal entities on waste management legislation;
- issue and revoke the authorizations for carrying out waste management activities;
- carries out the environmental expertise of the programs, schemes and projects of transportation, storage, processing, neutralization, recovery, use, burial and disposal of the wastes;
- defines or cease the economic activity of legal entities in cases when it is done in violation of law;
- drafts and submits proposals to the Government on the ration of fees for waste disposal;
- approves, jointly with the Ministry of Health and Service of Civil Protection and Emergencies of the Ministry of Internal Affairs, the list of hazardous waste;
- approves the Regulation on waste management, taking into account the organization of collection, storage and its processing;
- monitor and assess, jointly with the Ministry of Health, the environmental situation in Moldova in terms of waste management and inform the public about it;
- coordinate the projects of construction and reconstruction of economic and social objectives;
- collaborate with similar bodies from other countries, carries out the study, synthesis and propagation of international experience, controlling the fulfilment of its obligations under international agreements of the Republic of Moldova on in the domain of waste management.(Art. 4, par. (1), pt. a-i)).

The Ministry of Health:

1) According to the Law nr. 1236 of 03.07.1997-XIII on harmful products and substances:

- exercise state control over observance of legislation on harmful substances and products;
- establish, keep and update the National Register of potentially toxic chemicals;
- update the Regulation on the use and neutralizing the harmful substances and products and their waste;
- approves the Regulation on the transport, storage and use of chemical fertilizers and pesticides and the list of chemicals and biological protection and stimulation of plant growth;
- authorizes the activities in the use of harmful substances and products;
- approves the maximum permissible concentrations of harmful substances in soil, water, air and food;
- carry out the toxicological-hygienic expertise of the potentially toxic chemicals and approves its registration; (Art. 4, par. (1), pt. a-g)).

2) According to the Law No. 1347-XIII of 09.10.1997 on production and household wastes:

- carry out the sanitary-epidemiological supervision on training, transportation, storage, processing, neutralization, use, burial and waste disposal , the decisions on preventing violations of sanitary legislation;
- determine the degree of toxicity of the waste, drafts the Classifier of the toxic waste and the methods for determination of the degree of toxicity;
- coordinate the decisions regarding the affecting land for storage and neutralization of hazardous waste;
- presents opinions on admissibility and conditions on sanitary and hygienic usage of products made from waste or their use;
- coordinates, in terms of respecting the sanitary- epidemiological requirements, the project documentation for the construction and reconstruction of enterprises and other facilities which generates waste;

- perform other functions provided by the Law on Sanitary - epidemiological assurance of the population and other regulations in the domain. (Art. 5, par. a-f)).

Ministry of Agriculture and Food Industry:

1) Law nr. 1236 of 03.07.1997-XIII on harmful products and substances:

- exercise the control over compliance with the legislation on management of pesticides and fertilizers;
- draws up the list of chemical and biological substances for the protection and of plant growth and submits it for approval to the Republican Interdepartmental Council for the approval of chemicals and biological substances for the protection and stimulation of plant growth;
- certifies the products of chemical and biological substances for the protection and of plant growth, keep strict records of pesticide application in agriculture;
- organizes the network of laboratories for analysis and quality control of pesticides and fertilizers, to ensure the compliance with the established concentration in the soil, feed, vegetable and animal foods. (Art. 4, par. 2, pt. a-d)).

2) Law No. 119-XV of 22 April 2004 regarding plant protection products and fertilizers:

- state policy in the plant protection products and fertilizers area is promoted by the Government through the Ministry of Agriculture and Food Industry (Art. 21, par. (1)).

3) Regulation on organization and functioning of Ministry of Agriculture and Food Industry (Government Decision No 793 of 02.12.2009):

- the mission of the Ministry is to develop and promote the state policy on suitable development of the agricultural food sector of Republic of Moldova, by enhancing the competitiveness and productivity of the sector and ensuring the safety and food sufficiency in the country, in order to create the premises for a permanent increase of welfare of population (pt. 4).

National Agency for Food Safety:

1) Law No. 119-XV of 22 April 2004 regarding plant protection products and fertilizers:

- state supervision and control of the manufacture, import, transportation, storage, marketing and use of plant protection products and fertilizers, as well control of residues of these products in food production, feed and environment is the responsibility of the National Agency for Food Safety, subordinated to the Government of Moldova. (Art. 21, par. (3)).

2) Regulation on organization and functioning of NAFS (Government Decision No. 52 of 16.01.2013)

- the mission of the Agency is to organize and coordinate the actions on areas oriented to food safety guarantee

State Environmental/Ecological Inspectorate:

1) According to the Law 1515 of 16.06.1993 on environmental protection:

- has the task of exercising the state control regarding the respect of the laws and normative acts on issues concerning the environment protection and usage of natural resources. (Art. 26, par. 1).

Service of Civil Protection and Exceptional Situations of the Ministry of Interior:

1) According to the Law nr. 1236 of 03.07.1997-XIII on harmful products and substances:

Jointly with the Ministry of Environment:

- coordinate and supervise the import, export, transport, use and neutralization of harmful substances and products (chemical, biological, explosive, flammable);
- authorize the import and export of products and harmful substances and transport of hazardous cargo in the country;
- record and approve the lists of dangerous cargoes;
- approve the lists of economical agents that use harmful substances and , also, the lists of approved establishments with hazardous cargo transportation;
- develop and approve, in consultation with the Ministry of Transport and Road Infrastructure, Ministry of Interior, Ministry of Health, the bill forces and means necessary to prevent the emergency situations during the transportation of and the use of harmful substances and products, and to remove the consequences of any damage;
- monitor the compliance by individuals and legal entities of the civil protection requirements in the manufacture and use of products and harmful substances and hazardous cargo transportation;

- coordinate the measures recommended by the local authorities in order to prevent and eliminate the consequences of damage and fire. (Art. 4, par. (4), pt. a-g)).

Licensing Chamber: – subordinated to the Ministry of Economy. It was created in accordance with the Government Decision No. 1327 of 03.12.2001.

The Licensing Chamber issued the license for the activity of activity import and/or manufacture, storage and wholesale of substances and toxic chemical materials, items and household chemicals (art. 8, par. (1), let. a), pt. 17 of the Law Nr. 451-XV of 30.07.2001 on licensing activity registration).

Local Public Authorities:

1) According to the Law 1515 of 16.06.1993 on environmental protection:

- local public authorities of the districts, cities together with local authorities for environment and health protection: pt. c) supervise and coordinate activities municipalities and prices for storage and processing of industrial and household waste, construction and operation of wastewater treatment facilities, installation of equipment and devices for neutralizing the harm, preventing and combating landslides, erosions, salinization, compaction and soil pollution by fertilizers and pesticides, rational use of pastures, land distribution to ensure the necessary degree of afforestation, creation of forest belts and green spaces (Art. 9, pt. c);
- local public authorities of the village, town together with local authorities for environment and health protection: ensure the implementation of measures for prevention and combat the landslides, erosion, salinization, compaction and soil pollution by fertilizers and pesticides allocation of land for new targets, perennial plantings, massive irrigation which are admitted
- only upon authorization geological service. (Art. 10)

2) According to the Law No. 1347-XIII of 09.10.1997 on production and household wastes:

- ensure in the subordinated territories the enforcement of the legislation on waste management;
- carry out economic and organizational coordination and regulation of activities of individuals and legal entities from the subordinated territories subordinated, in the domain of waste management in order to detect and return it into a high economic cycle;
- shall, in consultation with local authorities and environmental and health authorities, adopt decisions affecting land for waste disposal and construction (extension) for its processing and neutralizing, exercises the control over waste disposal and payment for environmental damage caused by waste production and consumption;
- carry the merging funds of individuals and legal entities businesses located in the subordinated territories to environmental funds and the budgets of administrative – territorial units to finance the construction of new targets, expansion and reconstruction of existing targets, neutralization and disposal of wastes;
- conduct systematic records of organization, storage and processing of the waste in the subordinated territory;
- organizes the collection and disposal of wastes, as well as those belonging to small producers, affects places for storage;
- prepare and maintain the records of waste disposal sites;
- adopts, jointly with the Service of Civil Protection and Emergencies of the Ministry of Interior, measures for civil protection at the economic objectives generators of hazardous waste;
- take the necessary measures for the liquidation of unauthorized and uncontrolled dumps;
- promotes the legislation on waste management;
- inform the public on the status of storage, preservation and processing of waste in locality, area, involving the population in the collection of harmless waste and secondary raw materials. (Art. 6, par. a-k))

Section III: Analysis of existing national waste management legislation	
Theme 1 Scope	<p>In the Republic of Moldova can be mentioned two framework laws, which establish the cornerstone of the legislation in force in respect of waste management: a) <i>Law No. 1236 of 03.07.1997-XIII on harmful products and substances</i>; b) <i>According to the Law No. 1347-XIII of 09.10.1997 on production and household wastes</i>.</p> <p>a) The Law No. 1236-XIII of 03.07.1997 on harmful products and substances establishes the legal framework for activities in respect of manufacture, storage, transportation and use of harmful substances and products, its import and export, in order to exclude, reduce or prevent the impact of such products and substances on human health and environment.</p> <p>Regarding the waste management this law has a certain connection on the following issues:</p> <ul style="list-style-type: none"> - Offers the definitions of: <i>harmful products, harmful substance, and dangerous hazard</i>. (Art.1 of the law) take the necessary measures for the liquidation of unauthorized and uncontrolled dumps; - Establishes the attributions of the Government, central public and local authorities in respect of the regime of harmful products and substances; - The legal regime of harmful products and substances, which comprise provisions on obligations of natural and legal persons in the domain, production, storage, transportation of such products and substances, etc. (Chapter III of the law) <p>b) The Law No. 1347-XIII of 09.10.1997 on production and household wastes. It is the main national normative act that settles the legal regime of the activities connected with waste management. The law offers the definition of the waste, industrial waste, household waste, dangerous waste (Art. 1). Also, this law settles the relationships that appear in case of waste management during the processes of:</p> <ul style="list-style-type: none"> - development of deposits and processing of mineral raw materials; - production transportation, transportation and storing of technical articles, consumer goods, energy and energy carriers; - carrying out the construction, agricultural, mining and other sort of activities; - carrying out services; - consumption of industrial and food products. (Art. 2, par. (2)) <p>Besides the act of establishing the main attributions of the Government, central and local authorities, it offers general provisions on evidence (Art. 10), registers of landfills of waste (Art. 12), control and supervision (Art. 13) in respect of waste management on the national level.</p> <p>It comprises specific provisions regarding the environmental security:</p> <ul style="list-style-type: none"> - prevention and limiting of negative influence of dangerous wastes (Art. 16); - requirements on depositing and storage of waste (Art. 18); - the way/methods of depositing and storage of wastes (Art. 19); - payment for waste storage (Art. 22)
Theme 2 Definitions	<p>By Art. 1, Law Nr. 1347-XIII from 09.10.1997 on production and household wastes can be identified the notion of Hazardous wastes - toxic waste, flammable, explosive, corrosive, infectious or otherwise, which, released into the environment, can cause damage to plants, animals or people.</p> <p>The Law Nr. 1347-XIII from 09.10.1997 on production and household wastes by Art. 1 offers a general definition of the Wastes - 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.</p> <p>There is no national definition of hazardous waste used for the purpose of transboundary movements of waste in Republic of Moldova. Definition from EU Directives is used.</p> <p>Hazardous waste – waste which has one or more of the properties listed in List A (Annex 1 to Regulation on the control of transboundary movements of waste and their disposal).</p> <p>There are no wastes defined as, or considered to be hazardous wastes by national legislation in accordance with Art. 1, para 1(b) of the Basel Convention.</p> <p>Republic of Moldova requires special consideration for the following waste(s) when subjected to transboundary movement: The Governmental Decisions No. 637 from 27 May 2003 on the control on transboundary movement of waste and their disposal required permission for the transboundary movement of any kind of waste.</p>

The **Law No. 1236 of 03.07.1997-XIII on harmful products and substances** offers the definitions of: *harmful products, harmful substance, and dangerous hazard*. (Art. 1)

- *Harmful products*: material for use in the national economy, whose presence in the environment can disrupt the normal functions of human bodies, plants and animals in ecosystems;
- *Harmful substance*: any substance, coming into contact with living organisms, may cause harm;
- *Dangerous cargo* - substances, materials, articles made from them, and their waste, which by virtue of their physical condition, chemical and biological properties in the transportation and storage can cause harm to life and health, pollute the environment;

The art. 3 of the **Law No 119-XV on 22 April 2004 regarding plant protection products and fertilizers**, provides the following relevant definitions:

- *plant protection products* are all products with chemical, biological or biotechnological character, as well those with growth, desiccant effect, repellent, adjuvant and synergist effect, pheromone traps and other products whose use is aimed to improve the phytosanitary conditions of agricultural plants, forest vegetation and stored products;
- *fertilizers* are products used as stimulator for plant nutrition, improvement or maintenance of chemical and biological soil properties; (the same definitions is offered by the Regulation on management of plant protection products and fertilizers in the national economy. Order of the Ministry of Agriculture and Food Industry No. 231 of 28.11.2003);
- *residues of plant protection products and fertilizers* are one or more substances present in the soil or on plants or products of plant origin, in animal origin products or in the environment, representing residues remaining after using of a plant protection product or fertilizer, including metabolites and products resulting from their degradation or reaction;
- *registration* means issuance of the certificate on homologation of the plant protection product or fertilizer and its registration in the State Register of plant protection products and fertilizers, followed by its placing on the market and use as intended.

The **Regulation on certification and homologation of plant protection products and fertilizers used in agriculture and forestry, approved by Government Decision No. 1307 on 12 December 2005** provides the same definitions of plant protection products and fertilizers as provided by the Law No 119-XV on 22 April 2004 regarding plant protection products and fertilizers.

In the same time, the Regulation gives the following additional definitions:

- *pesticide* is a substance or mixture of substances, intended to control or regulate the density of populations of organisms, provoking damage during production, processing, storage and transportation of food, agriculture and forestry products;
- *banned pesticide* is a product for which are forbidden all methods of use in the country by the decision of the Council or all applications for approval are rejected;
- *combined pesticide* is a product containing two or more active substances;
- *restricted use pesticide* is a pesticide for which are allowed only certain methods of use;
- *full analogue of approved pesticide* is a pesticide composition of which corresponds to that of previously approved product.

The **draft Law on waste** offers the definitions offers the definitions of:

Wastes - any substance or object the holder discards or intends or is required to discard.

Dangerous wastes - waste which displays one or more of the properties in Annex 3

H1 "Explosives": substances and preparations which may explode under the effect of a flame or which are more sensitive to shocks or friction than dinitrobenzene;

H2 "Oxidizing": substances and preparations which exhibit highly exothermic reactions in contact to other substances, particularly flammable substances;

H3-A "Highly flammable": a) liquid substances and preparations having a flash point below 21 °C (including extremely flammable liquids), b) substances and preparations which may become hot and finally catch fire in contact with air at ambient temperature without any application of energy, c) solid substances and preparations which may readily catch fire after brief contact with a source of ignition and which continue to burn or to be consumed after removal of the source of ignition, d) gaseous substances and preparations which are flammable in air at normal pressure, e) substances and preparations which, in contact with water or damp air, evolve highly flammable gases in dangerous quantities.

H3-B "Inflammable": liquid substances and preparations having a flash point equal to or greater than 21 °C and less than or equal to 55 °C.

	<p>H4 "Irritant": non-corrosive substances and preparations which, through immediate, prolonged or repeated contact with skin or mucous membrane, can cause inflammation.</p> <p>H 5 "Harmful": substances and preparations which, if they are inhaled or ingested or if they penetrate the skin, may involve limited health risks.</p> <p>H 6 "Toxic": substances and preparations (including very toxic substances and preparations) which, if they are inhaled or ingested or if they penetrate the skin, may involve serious, acute or chronic health risks and even death.</p> <p>H 7 "Cancer": substances and preparations which, if they are inhaled or ingested or if they penetrate the skin, may induce cancer or increase its incidence.</p> <p>H8 "Corrosive": substances and preparations which may destroy tissue on contact.</p> <p>H9 "Infectious": substances and preparations containing viable micro-organisms or their toxins which are known to cause disease in humans and other living organisms.</p> <p>H10 "Toxic for reproduction": substances and preparations which, if they are inhaled or ingested or if they penetrate the skin, may induce birth defects or increase their incidence.</p> <p>H 11 "Mutagenic": substances and preparations which, if they are inhaled or ingested or if they penetrate the skin, may induce hereditary genetic defects or increase their incidence.</p> <p>H 12 Waste which releases toxic or very toxic gases in contact with water, air or an acid.</p> <p>H 13 "Sensitizing": substances and preparations which, if they are inhaled or if they penetrate the skin, may cause a hypersensitivity reaction such that on further exposure to the substance or preparation, characteristic adverse effects.</p> <p>H 14 "Ecotoxic": waste which presents or may present immediate or delayed risks for one or more sectors of the environment.</p> <p>H 15 Waste capable by any means, after disposal, of yielding another substance, like leachate, which possesses any of the characteristics listed above</p>
Theme 3 Register of pesticides waste and general classification of waste	<p>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.</p> <p>Two separate classifiers are applied (in fact, both being abolished by Law no. 235) for waste and toxic waste, while the EU applies the List of waste, including hazardous waste marked with an asterisk.</p> <ul style="list-style-type: none"> - Data on hazardous waste does not include information about: oils, used tires, waste electrical and electronic equipment, other types of waste; - There are no data on volumes of recycled waste; - Toxic waste definitions do not include all categories of toxic waste; - Not all enterprises report about their toxic waste generation; - Data on historical hazardous wastes is very unreliable. - There are very little relevant analyses about the impact of hazardous wastes on health, soil/water or air quality, and economic activity. <p>However, there was established the national waste inventory and reporting system during the 2002-2004 activities of the Strategic Plan for the Basel Convention Implementation.</p> <p>Law No. 1347-XIII from 09.10.1997 on production and household wastes by Art. 12 provides that in order to ensure a complete evidence and description of the places of storage, accumulation and burial of waste and control their influence on the environment and human health, local public authorities are bound to prepare, with methodological support of the competent health authorities and environmental protection, registers of the landfill sites according to their qualitative and quantitative indicators. The records shall be made in the data record waste data from reports of waste generating companies and the information submitted by the authorities exercising control landfill sites. (Art. 12, par. (1)). The way of maintenance of the above mentioned registers is established by the central public authority authorized for the management of natural resources and environmental protection as a result of a common agreement with the Ministry of Health. (Art. 12, par. (2)).</p> <p>In this respect can be mentioned and the Government Decision No 1045 on 05 October 2005 regarding approval of Regulation on import, storage, sale and use of plant protection products and fertilizers in case of management of the plant protection products and fertilizers, which, also, can inflict the human health and environment in emergency situations</p>
Theme 4 Licensing	<p>Import and/or marketing of plant protection products and fertilizers is practiced based on a license issued according to the Law No 451-XV on 30 July 2001 regarding licensing of entrepreneur activity.</p>

	<p>Thus, art. 10 of the law mentioned above, the documents required to obtain or extend license are:</p> <ul style="list-style-type: none"> a) the statement, which contains name, address, IDNO of company or organization, type of activity, for which the license is required; b) a copy of the certificate of state registration of the enterprise or organization or of the identity card of the person; c) supporting documents in accordance with the legislative acts which regulate the licensed activity for which the license is requested. <p>The request of other documents than those provided in this article is prohibited. The issuance or extension of the license is performed during 5 working days from the date of registration of the request. The license for import and/or marketing of plant protection products and fertilizers is issued for a period of 5 years.</p> <p>The fee for license for import and/or marketing of plant protection products and fertilizers is 3250 lei.</p> <p>The license must be withdrawn if:</p> <ul style="list-style-type: none"> a) the license holder imports, storages and/or sales of counterfeited or unregistered plant protection products and fertilizers; b) the license holder does not present during a semester to National Food Safety Agency the information about importing and / or marketing of plant protection products and fertilizers; c) the license holder does not allow the representatives of the control bodies to perform planned or unplanned checks; d) the license holder keeps the plant protection products and/or fertilizers jointly with food, feed, household chemicals and other items. <p>Art. 6 of the Law No. 1236 of 03.07.1997-XIII on harmful products and substances offers provisions regarding the licensing of the activities in the domain of management of harmful products and substances as follows:</p> <p>Activities in the domain of production and utilization of the harmful products and substances for medical, veterinary, industrial, agricultural, forest, educational, scientific and commercial purposes, and also in the domain of its import and export, are made on the basis of issued licenses and registered by relevant institutions of the Ministry of Health, Ministry of Agriculture, Ministry of Environment, Service of Civil Protections and Emergency Situations of the Ministry of Home Affairs (par. (1)).</p> <p>After finishing the activities connected with the management of the harmful products and substances, the economic agent is bound, during a term of 20 days, to return the license to the institutions that issued it (par. (2))</p> <p>It is forbidden the import, storage and usage of pesticides and fertilizers without the license or authorization issued by the relevant institution. (par. (3))</p>
<p>Theme 5 Transboundary movement, import/export</p>	<p>According to the Law No. 119 of 22 April 2004 on plant protection products and fertilizers (art.15), the transport of plant protection products and fertilizers is carried out according to the conventions and international agreements to which Moldova is a party, as well to national legal framework. As a normative act for the implementation of this law is applied the Regulation on management of plant protection products and fertilizers in the national economy. Order of the Ministry of Agriculture and Food Industry No. 231 of 28.11.2003 which, also, has provisions on import of these goods/products.</p> <p>According to the Government Decision No 1045 on 05 October 2005 regarding approval of Regulation on import, storage, sale and use of plant protection products and fertilizers, is strictly prohibited transportation of plant protection products and fertilizers along with food products and in public transport. Is prohibited using of transport units, specially equipped for transportation of plant protection products and fertilizers other than the intended purposes.</p> <p>During transportation of plant protection products and fertilizers, persons whose job duties are related to transportation and fulfilling offloading and unloading work are allowed to stay in transport units.</p> <p>The Law No. 1347 from 09.10.1997 on production and household wastes by Art. 20, par. (1), pt. c) establish a restriction in respect of the introduction in the country of the wastes and residues of any kind, in the rough, except processed waste paper, waste and scrap of iron or steel, and glass shards, set out in annex 3, for use as secondary raw materials from existing domestic enterprises in order processing, temporary accumulation, storage, burial or destruction by any method.</p>

	<p>According to the Art. 6 of the Law No. 1236 of 03.07.1997-XIII on harmful products and substances it is forbidden the import, storage and usage of pesticides and fertilizers without the license or authorization issued by the relevant institution. (par. (3)).</p> <p>Also, by Art. 15 of the Law No. 1236 of 03.07.1997-XIII on harmful products and substances it is established that:</p> <p>(1) The import and export of products and harmful substances is carried out under licenses issued by competent bodies with the consent of the Ministry of Environment.</p> <p>(2) The import license will accompany the declaration by the importer on his own responsibility, stating the name and characteristics of goods or harmful substances to be introduced in the country</p>
Theme 6 Economic initiatives	<p>The Law No. 1347 from 09.10.1997 on production and household wastes has a separate Chapter V. Economic Financing and Stimulation by which are established general norms on funding and economic stimulation of the activities of waste management. Taking into account the general character of the law it can be applied in respect of dangerous wastes.</p> <p>Article 21. Funding the activities of waste management</p> <p>Financing of the activities of use, processing, storage (burial), storage and disposal of wastes are made from:</p> <ol style="list-style-type: none"> a) the state budget and the budgets of administrative-territorial units; b) legal and natural persons performing activities generating wastes; c) republican and local environmental funds; d) bank loans; e) donations. <p>Article 23. Economic stimulation of the wastes use and processing</p> <p>(1) Measures for economic stimulation and the use of waste processing include:</p> <ol style="list-style-type: none"> a) allocation of funds from the state budget and the budgets of administrative-territorial units for implementation of the measures on the use and processing of wastes; b) providing facilities of payment and soft loans to individuals and legal entities that use wastes as raw materials. <p>(2) The implementation of economic stimulation of using and processing of wastes is determined by legislation.</p> <p>According to the:</p> <ul style="list-style-type: none"> - Law No. 1515 of 16.06.1993 on environmental protection, Chapter VIII; - Law No. 1540 of 25.02.1998 on payment for environmental pollution <p>-Government Decision No.988 of 21.09.1998 on the approval of the Regulation on environment funds; there was established the National Environmental Fund in order to accumulate additional funds to finance environmental activities.</p> <p>The local environmental funds are used for the financing of:</p> <ol style="list-style-type: none"> a) drafting and implementation of local programs for environmental protection and regeneration of natural resources; b) construction, reconstruction and re-equipment of the objects for the protection of environment (plants for water and air treatment, etc.); c) design, construction and arrangement of polygons for waste disposal; d) sanitary measures (liquidation of unauthorized dumps, cleaning of wells, springs, lakes, etc.); e) enhancing the technical-material basis for the environmental structures/institutions; g) award bonus for inspectors (including the public one), which discovered environmental violations (up to 5% from local environmental fund) and maintenance of ecological-economic services from environmental agencies and inspections; h) actions of prevention and liquidation of consequences of environmental pollution of natural disasters and accidents, which have resulted in degradation of the environment; i) other works related to specific local environmental limits up to 15% of the income fund; j) financing the projects from territory is fulfilled according to the collected sums and transferred from the payment for environmental pollution in each district. <p>The financing of the projects in the territory from the means of local funds shall be made in accordance with the amounts accumulated and transferred to pay for environmental pollution in each district separately.</p>

	<p>According to the Law No. 249 of 2.11.2012 on State Budget of the Republic of Moldova for 2013 year established a budget for Environment protection (based on programmes) in the sum of 504788,1 thousands lei (Annex 4).</p> <p>The fees for the generation of hazardous waste are approximately 20 times higher than the one for non-toxic waste. Permits are required for all waste management activities (collection, recycling, incineration, pyrolysis, treatment and trade of waste). These are issued by the central public authority responsible for natural resources and environmental protection (Ministry of the Environment). Permits are for a one year period.</p> <p>According to the Law no.1347 /09.10.1997 on waste resulted from production activities and domestic waste, Article 22. Payment for waste disposal:</p> <ol style="list-style-type: none"> (1) Storage (burial) of Industrial and Municipal waste is charged. (2) The amount of the payment for waste disposal within the limits established and taking into account the environmental hazard is fixed in the Annex to the present Law. (3) Waste in quantities exceeding the storage limits are charged with a payment of 5 fixed fees. (4) The payment does not exempt individuals and businesses from liability for environmental safety from waste disposal. (5) Payment for waste disposal may vary depending on the state of the environment in the area, the recreational and agricultural value of the territory. (6) There is no payment collected for temporary storage of waste in transshipment stations and composting or filtering fields. <p><u>"Polluter Pays" principle in the Republic of Moldova legislation</u></p> <ol style="list-style-type: none"> 1) Law 1515 of 16.06.1993 on environmental protection, art. 3, par. c) - responsibility of all natural and legal persons for the harm caused to the environment, prevention, restriction, pollution control and recover of the damages caused to the environment and components from the natural and legal accounts that admitted (even unconsciously or through an oversight) the concrete damage; 2) Law nr. 1422 of 17.12.1997 on air protection, art. 13, par. f) - Natural and legal persons engaged in production generating emissions in the atmosphere are required: to respect the principle of "polluter - pays" within the established rules, by transferring the necessary payments to the environmental funds for the emission of pollutants. <p>The scope of the principle consists in the establishment of a general rule for making the natural and legal persons to be responsible for illegal actions that could harm the environment.</p> <p>In this respect the most relevant normative act is Law No. 1540-XIII of 25.02.1998 on payment for environmental pollution. It is based on the principle "polluter pays".</p> <p>One of the main objective of the law is the creation of an economic system in which it becomes inconvenient to cause any damage to the environment (Art. 1, par. a) Law No. 1540-XIII of 25.02.1998). The object of the law is the relationships with respect to emissions of pollutants into the environment and disposal of wastes form production (Art. 2, par. 2).</p> <p>The payment standards are established by the Parliament (Art. 4).</p> <p>The specific feature of the law consists in the fact that it created the mechanism for the implementation of the principle "polluter pays".</p> <p>The accumulated resources are administered in accordance to the Regulation concerning the ecologic funds, approved by Government Decision nr.988, 21.09.98 and is used for the creation of environmental protection infrastructure</p>
Theme 7 Transport	<p>The Law No. 1194-XIII of 21.05.1997 on transports provides general rules regarding the security during the transportation process:</p> <p>Art. 13</p> <ol style="list-style-type: none"> (1) Transport companies are bound to ensure the absence of any danger for human life and health, safe operation of vehicles, communication lines, buildings, installations and environment. (2) Workers who provide direct traffic safety transportation means must have professional training and health that needed for the quality of their service obligations. These workers and people working in hazardous conditions and dangerous transport will pass the established medical exam. (3) The territories of enterprises, train stations, ports, wharves and ways of communication where the

	<p>transport movements occurs or manoeuvres are carried out loading and unloading works are areas of increased danger. Rules of stay in these areas and performing work in them are determined by the Ministry of Transport and Roads, taking into account the proposals from interested organizations by agreement with local authorities.</p> <p>(4) The placement of objectives related to loading, transport and unloading of explosive, flammable, radioactive and toxic near residential areas, the natural reservation not allowed. The minimum distance from the objectives set by the norms and rules of construction coordinated with the state concerned, and normative acts.</p> <p>(5) Re-equipment of the communications related to the reconstruction and repair of transportation facilities located within the expropriation of communication is carried out by the owners of communication in their account agreement with internal affairs.</p> <p>(6) Enterprises, institutions and organizations forwarder or recipient of explosive, flammable, radioactive, toxic and other dangerous goods are required to ensure their safe transport, dispose of assets and mobile divisions to prevent emergency situations during transport of cargo or liquidation of consequences damage.</p> <p>(7) Issues regarding the transportation security on the territory of the Republic of Moldova of means of transport of foreign countries are settled according to the national legislation and the provisions of the international agreements to which the Republic of Moldova is taking part.</p> <p>(8) Traffic in transit through the territory of the Republic of Moldova of the particularly dangerous goods (nuclear materials, radioactive waste, waste from harmful chemicals and toxic substances, etc.) is allowed on the basis of the Government decision.</p> <p>As there has been already mentioned recently mentioned legal provisions have a general character regarding the transportation process, which indirectly could be linked to the issued on transport of the dangerous wastes and pesticides (substances that could put in danger the human life and health and the environment).</p> <p>Meanwhile there can be mentioned precise normative acts that have a direct connection with the management of dangerous wastes/pesticides/dangerous products.</p> <p>By Art. 7, par. (2) the Law No. 119 of 22 April 2004 on plant protection products and fertilizers forbid the production, import, marketing, usage and advertising of the plant protection products and fertilizers until its registration.</p> <p>Also, the law establishes general requirements for the manufacture/production, import, transport, storage, sale, usage/utilization and re-utilization of the plant protection products and fertilizers:</p> <ul style="list-style-type: none"> - manufacture/production, import, transport, storage, sale, usage/utilization and re-utilization of the plant protection products and fertilizers is made according to the present law and other legislative acts; - the transport of plant protection products and fertilizers is carried out according to the conventions and international agreements to which Moldova is a party, and according to this law and other legislative acts of the Republic of Moldova (Art. 15). - The Regulation on management of plant protection products and fertilizers in the national economy. Order of the Ministry of Agriculture and Food Industry No. 231 of 28.11.2003 includes a special Chapter IV entitled – Measures for storage, delivery and transportation of the plant protection products and fertilizers. <p>According to Art. 11 of the Law No. 1236 of 03.07.1997-XIII on harmful products and substances:</p> <ul style="list-style-type: none"> - Products and harmful substances are transported under an order of the director of transportation or the person authorized by it, indicating the technical standards established for each transporting vehicle; - Transportation is carried out in the presence of a companion/conductor, specialist in the domain, appointed by the management of the unit and trained in the way of transportation, of the harmfulness of products, the measures to be taken in the event of damage to the packaging, of a crash etc.; - It is prohibited to transport goods and harmful substances in damaged packages and without supervision
Theme 8 Labelling requirements	Law No. 119 of 22 April 2004 on plant protection products and fertilizers Art. 14 establish the legal requirements regarding the packaging and labelling of the plant protection products and fertilizers:

	<p>Unfortunately the national legislation does not provide any stipulations regarding the labelling of the toxic waste, except the system of labelling PCBs contaminated equipment. However the national legislation provides conditions for labelling the plant protection products and fertilizers.</p> <p>Par. (1) - Packaging and repackaging plant protection products and fertilizers for marketing and importation, repacking and distribution to users are made by individuals and businesses.</p> <ol style="list-style-type: none"> Repackaging of the plant protection products and fertilizers inserted in the State Register of the plant protection products and fertilizers; The ownership or lease of the building where it will run the packaging and/or repackaging of the plant protection products and fertilizers, holding operating sanitary authorization for these purposes; Application of specialized technological equipment; Use in the process of repackaging of the package (bottles, plastic bag) coordinated with the producers of this products, and its labelling under the requirements of par. (2); Compliance with the norms on labour protection, sanitary-hygienic protection, Fire protection, Environmental protection. <p>Par. (2) Each unit of a good produced in the Republic of Moldova is labelled in the Romanian language or Russian language, according to the recommendations approved by the State Center for Certification and Approval of Plant Products and Fertilizers.</p> <p>The label should indicate: the way of use, to which crops should be applied and/or which are the harmful organisms must be used the product, country of origin, the process applied, dose (time consumption), the number of treatments, the decomposition period, rest period, prohibitions or limitations, explosive and/or flammable peculiarities of the product and package, product application security measures, methods of medical first aid in case of poisoning, commercial name of the preparation, the content of the active substance, preparative form, producing company and its legal address, batch number of the goods and date of its manufacture, the risks they pose to humans, animals and the environment, the product, side effects and the time they occur, storage and packaging other information provided in the regulations. It is prohibited indications "non-toxic", "harmless" or similar. Information about the fact that the plant protection product may be used during the activity of bees and other insect species during flowering crops or weeds may appear on the label if the approval relates explicitly to use during the season of activity bees.</p> <p>Par. (3) It is prohibited the usage of labels of plant products and fertilizers for other purposes except the situations for which are intended for.</p> <p>Par. (4) The irrecoverable labels shall be destroyed by the users of the products immediately after its emptying, according to the instructions in force.</p> <p>Par. (5) The recoverable labels shall be returned according to the contract between the consumers and the contractors or economic agents, which have the duty of collecting such package</p>
<p>Theme 9 Packaging and containers</p>	<p>Law No. 119 of 22 April 2004 on plant protection products and fertilizers</p> <p>Art. 14 establish the legal requirements regarding the packaging and labelling of the plant protection products and fertilizers:</p> <p>Par. (1) - Packaging and repackaging plant protection products and fertilizers for marketing and importation, repacking and distribution to users are made by individuals and businesses.</p> <p>Repackaging of the plant protection products and fertilizers inserted in the State Register of the plant protection products and fertilizers;</p> <p>The ownership or lease of the building where it will run the packaging and/or repackaging of the plant protection products and fertilizers, holding operating sanitary authorization for these purposes;</p> <p>Application of specialized technological equipment;</p> <p>Use in the process of repackaging of the package (bottles, plastic bag) coordinated with the producers of this products, and its labelling under the requirements of par. (2);</p> <p>Compliance with the norms on labour protection, sanitary-hygienic protection, Fire protection, Environmental protection.</p> <p>According to the Government Decision No 1045 on 05 October 2005 regarding approval of Regulation on import, storage, sale and use of plant protection products and fertilizers, the repackaged and labelled plant protection products and fertilizers will be accompanied by:</p> <ol style="list-style-type: none"> certificate of origin; quality certificate from the manufacturer. <p>Is prohibited to use of packaging of plant protection products and fertilizers for purposes other than those for which they are intended.</p> <p>The recoverable packages are returned under the contractual clauses between suppliers and users of</p>

	<p>plant protection products and fertilizers.</p> <p>The unrecoverable packages will be destroyed by users of plant protection products and fertilizers immediately after their use in accordance with standing instructions, developed issued by the Ministry of Health and Ministry of Environment</p>
Theme 10 Emergency procedures	<p>Law No 1347-XIII of 09 October 1997 regarding production and household waste, article 8, establishes that the legal and physical persons are obliged:</p> <ul style="list-style-type: none"> - To inform the territorial authorities for emergency situations and civil protection, environmental authorities and health authorities, as well as the local public authorities about the cases of accidents which could conduct to environmental pollution with toxic and hazardous wastes and about the actions carried out linked to that
Theme 11 Disposal obligations	<p>Law No 1347-XIII of 09 October 1997 regarding production and household waste establishes that the Government of the Republic of Moldova has the following obligations in respect of landfill of waste as it follows:</p> <ul style="list-style-type: none"> - adopts decisions affecting land to planning polygons for storing, processing, burial or disposal of waste; - sets limits for disposal (burial) of waste; - adopts definitive decisions, in case of lack of an agreement from local public administration, for establishing locations/placements of national importance on neutralization, processing, storage or burial of waste, only in compliance with environmental norms and other social requirements (Art. 3, par. c, e, g). <p>According to the Law No. 119 of 22 April 2004 on plant protection products and fertilizers Art. 15, par. (3) the depositing of the plant products and fertilizers is allowed in specially equipped storehouses.</p> <p>Warehouses approved in the manner prescribed by the National Agency for Food Safety, intended exclusively for the storage of these products. Storage of plant protection products is prohibited unpacked.</p> <p>Also (Art.16) of the law establishes that the plant protection products and fertilizers unusable or prohibited for use are neutralized and/or liquidated and their packaging is disabled and / or destroyed. The methods of liquidation of plant protection products and fertilizers become unusable or prohibited for use and their packaging are developed by their producers in cooperation with the Ministry of Environment and National Centre for Public Health, subordinated to the Ministry of Health.</p> <p>The Regulation on management of plant protection products and fertilizers in the national economy. Order of the Ministry of Agriculture and Food Industry No. 231 of 28.11.2003 includes a special Chapter IV entitled – Measures for storage, delivery and transportation of the plant protection products and fertilizers.</p> <p>According to the Government Decision No 1045 on 05 October 2005 regarding approval of Regulation on import, storage, sale and use of plant protection products and fertilizers, the repackaged and labelled plant protection products and fertilizers, the plant protection products and fertilizers will be stored only in specialized stores and / or warehouses, built and furnished or re-equipped for this purpose. Stores and specialized stores, their related areas, landscaped and equipped with the necessary inventory are authorized, as established by preventive medicine authorities. The sanitary authorization is suspended by the authorities of preventive medicine if were violated the rules of storage and marketing of plant protection products and fertilizers.</p> <p>Storage of plant protection products and fertilizers in warehouses and stores that do not sanitary authorization is prohibited. Placing plant protection products and fertilizers within the deposit is made according to the degree of toxicity, fire and explosive characteristics, physical condition of products (solid, liquid), in accordance with storage instructions for these products.</p> <p>Work on deposits is only using special protective equipment, depending on the products stored in compliance with sanitary and hygienic rules and norms of labour protection.</p> <p>Art. 6 of the Law No. 1236 of 03.07.1997-XIII on harmful products and substances prohibit the import, storage and usage of pesticides and fertilizers without the license or authorization issued by the relevant institution. (par. (3)).</p> <p>Also, according to the same law by Article 10 are established the storage in this respect:</p> <p>(1) The products and harmful substances are stored in special rooms, furnished in accordance with regulations issued by the Ministry of Health jointly with the Ministry of Environment.</p>

	<p>(2) Take deposits in special registers strict records of harmful substances and products stored and delivered in observance coordinated by the Ministry of Health.</p> <p>(3) Products and harmful substances shall be issued only to individuals and companies authorized to use.</p> <p>Also in this respect can be mentioned Art. 10. Storage of the Law No. 1236 of 03.07.1997-XIII on harmful products and substances, which establish the following provisions:</p> <p>(1) The products and harmful substances are stored in special rooms/dwellings, furnished in accordance with regulations issued by the Ministry of Health jointly with the Ministry of Environment.</p> <p>(2) At the warehouses, in special registers, are kept strict records of harmful substances and products stored and delivered in observance with the requirements coordinated by the Ministry of Health.</p> <p>(3) Products and harmful substances shall be issued only to individuals and companies authorized to of its usage</p>
Theme 12 Incineration	<p>The Law No. 1347-XIII of 09.10.1997 on production and household wastes by Art. 20, par. (1), pt. d) forbids the incineration of wastes of any origin.</p> <p>At present, in the Parliament of the Republic of Moldova is discussed the draft Law on modification and completion of the Art. 20 of Law No. 1347-XIII of 09.10.1997 on production and household wastes. The proposal in this respect is a legislative initiative of a number of deputies of the Republic of Moldova. By this draft law is proposed the completion of the Art. 20, par. (1), pt. d) with the following wording: "It is forbidden the incineration of wastes of any origin, except of the cases when the incineration is made with the help of special equipment". During the public hearings in the frame of the Parliament Commission for Environment Protection the representatives of a number of NGO's and members of the Academy of Science of the Republic of Moldova presented their objections in respect of this draft law. The draft law is still in examination at the Parliament of the Republic of Moldova</p>
Theme 13 Recording, monitoring, and reporting	<p>Monitoring</p> <p>National Bureau of Statistic (NBS) – responsible for processing, publishing and spreading of the waste data. Fines may be imposed on private or legal entities which break the rules on waste management reporting.</p> <p>State Ecological Inspectorate (SEI) – responsible for collection and verification of the waste data. Waste reports are collected by the State Ecological Inspectorate, which passes the information to the National Bureau of Statistics for collation and management, and this entity relays information to the Ministry of the Environment.</p> <p>The monitoring of the toxic waste is performed on the base of the form „F-1 Toxic waste”. Though the number of enterprises that report on the production of toxic waste increased from 352 to 892 during the monitoring period (1995 – 2009), the accumulated amounts of waste decrease (Figure 5), on the ground of the economic decline that has been registered at end of the previous century and due to the structural changes of the industry of the Republic of Moldova.</p> <p>Up to the moment, the collection and processing of information related to the types and amounts of waste are performed under the standards of the former USSR, without being adjusted to the European classification requirements. Currently in Moldova two separate classifiers for waste and toxic waste are applied, while in EU the Waste List is applied, including hazardous marked with an asterisk.</p> <p>According to Art. 6 of the Law No. 1236 of 03.07.1997-XIII on harmful products and substances the control on respecting the legal provisions in the domain of management of harmful products and substances is fulfilled by the central bodies of public administration according to the legislation in force.</p> <p>In respect of Law No. 1347-XIII of 09.10.1997 on production and household wastes can be mentioned the following provisions:</p> <p>Article 13. Control and supervision</p> <ul style="list-style-type: none"> a) State control in the domain of waste management is fulfilled by the central public authority empowered with the administration of the natural resources and environment protection; b) State supervision on respecting the sanitary-epidemiological requirements in this domain is the responsibility of the Ministry of Health;

	<p>c) Primary control on training, use, storage, disposal and neutralization of waste is the duty of individuals and legal entities engaged in production activities.</p> <p>Article 14. Monitoring</p> <p>a) For environmental impact assessment and forecasting of the production and household waste, prevention, detection and timely liquidation of its negative consequences, local environmental authorities carry out monitoring of storage sites (burial) waste - part of the system state environmental Monitoring;</p> <p>b) The procedure and methodology of monitoring are determined by the central public authority empowered with the administration of the natural resources and environment protection</p>
Theme 14 Offences and penalties	<p>Law No. 1236 of 03.07.1997-XIII on harmful products and substances establish the following types of liability according to which are established penalties for the infringement of the provisions in this domain:</p> <p>Article 17. Civil, Administrative and Criminal Liability.</p> <p>Article 18. Economical Liability (Damage caused to human health and the environment due to the import, manufacture, use, processing, storage, transportation and burial of harmful substances and products are fully repaired by the guilty persons under the law in force).</p> <p>Law No. 1347-XIII of 09.10.1997 on production and household wastes</p> <p>Art. 24. Offences in the domain of waste management</p> <p>Constitute offenses waste management:</p> <p>a) failure to comply with the procedures established for the collection, storage, transportation, combustion, neutralization and disposal, which has led or may lead to environmental pollution;</p> <p>b) arbitrary storing in restricted areas or use other methods of waste disposal without the approval from appropriate authorities;</p> <p>c) non-enforcement of the provisions and requirements of authorities empowered to exercise state control over the storage, processing, disposal and burial of waste;</p> <p>d) concealment or false or incomplete disclosure on waste management and evacuation in case of disaster;</p> <p>e) violation of the rules of evidence and the primary control in the domain;</p> <p>f) failure to observe the presentation of reports on waste management;</p> <p>g) sending hazardous waste to natural or legal persons that do not have permits for transportation, storage and processing;</p> <p>h) failure to observe the rules established by mining and processing facilities and waste neutralization and burial places for storage or production wastes, and other waste;</p> <p>i) design and construction companies and other objectives, and implementation of technologies and materials that do not meet safety requirements regarding the use, handling and disposal of waste;</p> <p>j) non-compliance with other rules and requirements provided for in this Law and other laws.</p> <p>Art. 25. Responsibilities</p> <p>(1) Natural and legal persons guilty of violating the law on waste management gate material, disciplinary, administrative and criminal, as applicable under the law.</p> <p>(2) Disputes concerning the formation, storage, use, neutralization and disposal shall be settled by the courts.</p> <p>Law No. 119 of 22 April 2004 on plant protection products and fertilizers, Chapter VIII. Violations and Liabilities.</p> <p>Art. 27:</p> <p>Are considered violation of rules of manufacture, import, transport, storage, marketing and use of plant protection products and fertilizers the following actions:</p> <p>a) hiding or distortion of information on plant protection products and fertilizers that are dangerous for humans, animals and the environment;</p> <p>b) breach of mandatory standards, rules and regulations on the manufacture, import, transport, storage, marketing and use of plant protection products and fertilizers;</p> <p>c) pollution of agri-food products, raw agricultural production, soil, water and air with residues of plant protection products and fertilizers over the maximum allowable limits;</p> <p>d) publication and use of plant protection products and fertilizers, which have not been certified and homologated or tested and registered for use in the Republic of Moldova;</p> <p>e) violation of rules on destruction of agricultural raw materials and food products with residues of plant protection products or fertilizers over the maximum allowable limits;</p>

- f) failure to comply with statutory authorities and persons exercising official of state supervision and control in the domain;
- g) use of plant protection products and fertilizers for purposes other than those for which they have been registered;
- i) marketing of plant protection products and fertilizers which are not in compliance with certified parameters;
- j) infringement of other rules, requirements and prohibitions under this law;
- k) failure of the testing methodology research and testing and state registration of plant protection products and fertilizers.

Art. 28. Penalties:

- (1) Manufacturers, importers and retailers are liable under the law for the quality of plant protection products and fertilizers;
- (2) Natural and legal persons guilty of violating this law bear administrative, civil or criminal according to the legislation in force;
- (3) The persons holding responsible positions are responsible under the law for disclosure of information on plant protection products and fertilizers which are a trade secret;
- (4) Disputes relating to the manufacture, importation, transportation, storage, marketing and use of plant protection products and fertilizers shall be settled by the courts.

Contraventional Code of Republic of Moldova (No. 218 of 24.10.2008):

Art. 149:

Environmental pollution (air pollution, water bodies and groundwater, lands) with industrial waste, construction and domestic waste waters, emissions of pollutants that have caused damages entails a fine of 40 to 60 conventional units for individuals and a fine of 350 to 500 conventional units for legal entities with or without the deprivation in both cases of the right to exercise a certain activity for a period of 6 months to a year.

Art. 154:

Failure to follow the established procedures for the collection, storage, transport, neutralization and disposal of industrial waste, construction waste and other entails a fine of 20 to 40 conventional units for individuals or community work up to 60 hours, and a fine of 200 to 300 conventional units for legal entities with or without the deprivation in both cases of the right to exercise a certain activity for a period of 3 months to a year.

The same actions which created a hazard for environment pollution entails a fine of 40 to 80 conventional units for individuals and a fine of 300 to 400 conventional units for legal entities with or without the deprivation in both cases of the right to exercise a certain activity for a period of 3 months to a year.

Arbitrary or unrestricted storage or the use of other methods of waste disposal without the competent authorities authorisation entails a fine of 30 to 50 conventional units for individuals or community work up to 60 hours, a fine of 200 to 300 conventional units for legal entities with or without the deprivation in both cases of the right to exercise a certain activity for a period of 3 months to a year. Hiding of information or deliberate presentation of false or incomplete information on waste management on disaster evacuation in case of damage entails a fine of 40 to 50 conventional units for individuals or community work up to 60 hours and a fine of 300 to 500 conventional units for legal entities with or without the deprivation in both cases of the right to exercise a certain activity for a term of 6 months to a year.

Violation of the rules of evidence and primary control of waste management, of presentation of the required reports entails a fine of 40 to 50 conventional units for individuals or community work up to 60 hours, a fine of 200 to 300 conventional units for legal entities with or without the deprivation in both cases of the right to exercise a certain activity for a period of 3 months to a year.

Violation of the rules regarding the import, export or transit of waste entails a fine of 50 to 100 conventional units for individuals and a fine of 200 to 300 conventional units for legal entities with or without the deprivation in both cases of the right to exercise a certain activity for a period of 6 months to a year.

Art. 155 – violation of the rules of evidence, transport, storage, use and inhumation of biological and chemical substances, mineral fertilizers, pesticides, plant growth products, mixtures of toxic

	<p>substances, if this action does not meet the elements of the crime, entails a fine of 50 to 100 conventional units for individuals and a fine of 300 to 400 conventional units for legal entities with deprivation in both cases of the right to exercise a certain activity for a term of 6 months to a year.</p> <p>Criminal Code of Republic of Moldova (No. 985 of 18.04.2002): Art. 224: Violation of established rules regarding manufacture, import, export, inhumation, storage, transport or use of and radioactive or toxic substances, materials or waste and of pesticides, herbicides or other chemicals if it creates the danger of causing the essential health or environmental damage, entails a fine of 200 to 600 conventional units or by imprisonment up to three years; for legal person, entails a fine of 1,000 to 3,000 conventional units with the deprivation of the right to practice certain activities.</p> <p>The same actions committed in the exceptional ecological situation in the area of natural disasters, causing contamination or infection and causing mass destruction of animals entails a fine of 300 to 800 conventional units or imprisonment for up to 5 years: for a legal person entails a fine of 3,000 to 5,000 conventional units with the deprivation of the right to practice certain activities or liquidation of companies.</p> <p>Violation of established rules regarding manufacture, import, export, inhumation, storage, transport or use of and radioactive or toxic substances, materials or waste and of pesticides, herbicides or other chemicals if it creates the danger of causing the essential health or environmental damage, which caused by negligence the illness in the mass of people or death of the person entails the imprisonment of 3-7 years: for legal entity entails a fine of 5,000 to 10,000 conventional units with the deprivation of the right to practice certain activities or by the liquidation of companies.</p> <p>Violation of established rules regarding manufacture, import, export, inhumation, storage, transport or use of and radioactive or toxic substances, materials or waste and of pesticides, herbicides or other chemicals if it creates the danger of causing the essential health or environmental damage, resulting in the death of two or more persons, entails the imprisonment of 5-10 years: for legal entity entails a fine of 5,000 to 10,000 conventional units with the deprivation of the right to practice certain activities or by the liquidation of companies</p>
<p>Theme 15 Official controls and inspection</p>	<p>In Republic of Moldova in the process of management of pesticides are involved several governmental agencies.</p> <p>Thus according to art. 21 of Law No 119-XV on 22 April 2004 regarding plant protection products and fertilizers, state policy in the plant protection products and fertilizers area is promoted by the Government through the Ministry of Agriculture and Food Industry. State supervision and control of the manufacture, import, transportation, storage, marketing and use of plant protection products and fertilizers, as well control of residues of these products in food production, feed and environment is the responsibility of the National Agency for Food Safety.</p> <p>Phytosanitary agrochemical and ecotoxicological monitoring of plant, soil and agricultural production is carried by National Agency for Food Safety, scientific research institutions, organizations subordinated to Ministry of Agriculture and Food Industry and local authorities.</p> <p>Thereby according to Law No 119-XV on 22 April 2004 regarding plant protection products and fertilizers, organization, coordination and control of research, testing, experimentation of plant protection products and fertilizers is responsibility of State Centre for Certification and Approval of Phytosanitary Products and Fertilizers, subordinated to Ministry of Agriculture and Food Industry. The import and/or marketing of plant protection products and fertilizers is carried based on license, issued by Licensing Chamber, subordinated to Ministry of Economy according to Law No 451-XV on 30 July 2001 regarding licensing of entrepreneur activity. As well the import and manufacturing of plant protection products and fertilizers is conducted based on authorization, issued by Food Safety Agency, and subordinated to Government of Republic of Moldova.</p> <p>Approval of plant protection products and fertilizers is conducted by Republican Interdepartmental Council for approval of plant protection products and fertilizers. The membership of the Council is approved by the Ministry of Agriculture and Food Industry jointly with the Ministry of Environment, Ministry of Health and the Academy of Sciences.</p> <p>According to Government Decision No 847 on 18.12.2009, Ministry of Environment is public authority responsible for development, promotion and implementation for the state policy on waste</p>

	<p>management.</p> <p>According to the Government decision No. 51 on 16.01.2013 regarding organisation and functioning of National Food Safety Agency, the supervision and control of the production, import, marketing, use and storage of plant protection products and fertilizers is the competence of the National Food Safety Agency, which:</p> <p>a) performs control and supervision of:</p> <ul style="list-style-type: none"> - the manufacture, labelling, import, possession, acquisition, transport and marketing of plant protection products, as well of uniform and balanced management of natural and chemical fertilizers; - use of plant protection products and fertilizers only for the purposes for which they were - homologated within the limits of their validity, according to the State Register of plant protection products and fertilizers; - compliance of general requirements for the storage, transport, evidence and neutralization of the obsolete and prohibited pesticides and fertilizers; - management of plant protection products and fertilizers. <p>As well the National Food Safety Agency:</p> <p>a) conducts phyto sanitary supervision in order to limit the use of plant protection chemicals with adverse effects on the environment and biological balance in nature by the accumulation of residues in soil, food products, the human body;</p> <p>b) conducts official control of pesticide residues and fertilizers of plants and plant products from domestic and imported by specialized laboratories accredited;</p> <p>c) sampling for the official control of the quality of plant protection products and the control after homologation.</p> <p>According to Government Decision No 77 on 30.01.2004 regarding approval of structure and Regulation of State Ecological Inspectorate, the State Ecological Inspectorate performs:</p> <p>a) supervising of compliance with regulations and environmental requirements, instructions, recommendations, norms of use of natural resources, norms of use harmful products and substances, of waste;</p> <p>b) state control of compliance with laws and regulations related to environmental protection in the manufacture, storage, transportation, use, neutralization and burial of harmful substances and products and waste thereof;</p> <p>c) state control of compliance by operators of the limits of use of natural resources, of the norms of discharges and emissions of harmful substances into the environment, as well of the limits of industrial, domestic and toxic waste disposal;</p> <p>d) monitoring of import/export of waste, hazardous and toxic substances, as well of the harmful substances emissions from road transport and other sources</p>
<p>Theme 16 Research and development</p>	<p>Law No 1347-XIII of 09 October 1997 regarding production and household waste, article 16, foresee:</p> <ul style="list-style-type: none"> - the application of the results of scientific research, implementation of inventions and new technologies is not allowed for those that do not have solutions for the use, elimination or evacuation of wastes

Section IV: Information supplementing legal analyses – from other experts

Topic 1 – Pesticides Manufacturing Industry

Are there pesticides manufacturers in the country?

No

What measures are taken by agrochemicals industries in accordance with the national legislation in regard to hazardous waste, including pesticides waste?

No measures

Topic 2 – Management of Obsolete Pesticides Stocks

Whether there have been carried inventory/storage/disposal activities regarding obsolete stocks?

Yes, see Part II, section I in chapters:

Inventory

Environmental assessment

Inventory and environmental assessment management

Safeguarding

Storage and transport

Disposal

Containers

All data are stored in the register of the Ministry of Agriculture, data collection is done also by the Ministry of Defense. The PSMS system in Moldova did not work. It was not applied.

Who carried them, and what are the results? Provide the list of activities in chronological order.

Inventory in Part II under chapter Inventory. For data See Annex 2

Topic 3 – Methods used for treatment of pesticides wastes

What are the methods used for the treatment of pesticides wastes?

Collection, packaging and shipment out of the country for elimination.

Section V: Disposal, storage, recycling and recovery facilities – practical information from other experts

Topic 1 – Disposal facilities

Are there any disposal facilities in the country?

No

Are there created permanent facilities for the disposal of pesticides wastes or there are used ad-hoc methods and facilities in this respect?

No

Topic 2 – Storage facilities

Are there any storage of pesticides waste facilities in the country?

Yes, See part II under Storage and transport

Whether there are any pesticides waste final storage facilities constructed and operated in accordance with the environment standards?

No

Topic 3 – Recycling facilities

Are there any recycling/re-use facilities in the country?

No

Topic 4 – Recovery facilities

Are there any disposal/destruction facilities for pesticides wastes or recovery facilities (especially for liquid and high concentration toxic)? Please offer examples?

No

In case if the country does not have such facilities what are the methods or actions used by the national authorities to fulfil this task?

Export to EU Countries and destruction in approved and dedicated hazardous waste treatment plants (predominantly hazardous waste incineration plants)

Is there any foreign financial assistance? Are there any mutual/bilateral agreements with international organizations or states that offered its assistance in this respect?

Yes, the Moldovan government has been very active to approach concerned international organizations for assistance. See also Part II under Safeguarding and Disposal under international projects. See also Annex 4 Country summary sheet – Republic of Moldova.

Considerable support to the Republic of Moldova is provided by the World Bank, GEF, NATO Trust Fund, Thematic program of joint financing of the Ministry of Foreign Affairs of the Netherlands (TMF), the grant of the Czech Development Agency (CzDA) for the repackaging and elimination of the obsolete pesticides in other countries (France, Germany and Poland)

Part II – Technical assessment of the management of obsolete pesticides and POPs waste and soil contamination in the Republic of Moldova

Section I: Benchmarking of current POPs management against international best practice

**1. Institutional arrangements.
Responsibilities in the country**

Inter-ministerial Steering Committee for Obsolete Pesticides established?
Yes

If yes, when is it established, and how many times does it meet per year?
Founded in 2002, meets 1-2 times per year

Note: That is a separate Committee, established by a governmental decision (see ref [1]) to coordinate the repackaging and elimination of OP. The NCC was established only for the WB/GEF POPs project

National Body Representation	Responsible Ministry	Contact person (name/contact details)	Activity and outcome	No. of reference /Annex if needed
SAICM focal point	Ministry of Environment (MoE)	Division on Pollution Prevention and Wastes Management (DPPWM) Ms Liudmila Marduhaeva, Principal Consultant, DPPWM +373 22 20 45 26 liudmila@moldovapops.md	National Chemicals Profile (2008) National Report on Chemicals Management (2010); Mainstreaming Chemicals into sectorial activities (2013)	
GEF Focal Point /Coordinating Unit	Ministry of Environment	Mr Sergei PALIHOVICI, Minister of Environment + 373 22 20 45 07 palihovici.sergiu@mediu.gov.md www.mediu.gov.md	Coordination of all GEF financed projects	[4] Nominated as Minister in February 2015
Stockholm Focal Point /POP Centre	Ministry of Environment	Ms. Virginia Galatonov, Head of Section on management of wastes and chemicals, Division on Pollution Prevention and Wastes Management (DPPWM) +373 22 20 45 24 rosca@mediu.gov.md	Convention Ratified (2004), NIP (2004) Updated NIP (2010, as part of Sustainable Chemicals Management Programme) Amendments to the convention (new POPs) ratified (2012)	[4]
Basel Focal Point	Ministry of Environment	Ms. Virginia Galatonov, Head of	Implementation of the provisions of the	[4]

		Section on management of wastes and chemicals, Division on Pollution Prevention and Wastes Management (DPPWM) +373 22 20 45 24 rosca@mediu.gov.md	convention Notifications for the shipment of POPs	
Rotterdam Focal Point	Ministry of Environment	Ms. Virginia Galatonov, Head of Section on management of wastes and chemicals, Division on Pollution Prevention and Wastes Management (DPPWM) +373 22 20 45 24 rosca@mediu.gov.md	Implementation of the provisions of the convention	[4]
FAO National Focal Point	Ministry of Agriculture and Food Industry	Ms. Tamara Roznerita, Head of Division +373 22 210 137 Tamara.roznerita@gmail.com Tamara.roznerita@maia.gov.md	Coordination of FAO Programmes and Projects Coordination of activities in the field of obsolete pesticides	
EU/other project implementation units for hazardous waste	Ministry of Environment	Mr. Valentin Plesca, Manager Sustainable POPs Management Office (POPs Office) www.moldovapops.md Ms Tatiana Tugui, Manager Environmental Pollution Prevention Office (EPPO Office) www.eppo.md	Implementation of projects on POPs (2002 – present) Implementation of projects on chemicals management (2008 – present)	Governmental Decision and Ministerial Order
Inter-departmental committees	Ministry of Environment	SAICM Working Group WG on obsolete pesticides (MAFI)	Coordination of the work and consultation of the draft documents in the domain	Ministerial Order
Other national coordinating body NATO Contact/Focal Point EU Delegation	Academy of Science of Moldova/MoD EU Delegation to Moldova	Mr. Gheorghe DUCA, President, ASM www.asm.md Mr. Henno Putnik Attaché - Project Manager Henno.PUTNIK@eeas.europa.eu	NATO Science for Peace Program coordination EU Support Coordination	
National waste focal point	Ministry of Environment	Division on Pollution Prevention and Wastes Management (DPPWM) EPPO Office of the MoE	Policy making on wastes and chemicals management Draft Law on Wastes	Ministerial Order

		www.eppo.md	Draft Law on Chemicals National Strategy on Wastes Management 2013-2027 National Program for the Sustainable Chemicals Management in the Republic of Moldova for 2010-2015 (approved by Government in October 2010)	
PRTR Protocol	Ministry of Environment	Ms. Svetlana Bolocan, Head, Division on Pollution Prevention and Wastes Management (DPPWM) +373 22 20 45 27 bolocan@mediu.gov.md	Protocol ratified (2013) Feasibility Study on the implementation of PRTR (OSCE, MoE, EcoContact, 2013) Draft Action Plan for implementation 2 Pilot project developed (SAICM, UNITAR)	Ministerial Order

2. Inventory

If references needed please provide in the concerned Annex

2.1 National/regional inventory updated

(latest update and methodology, e.g. National guideline/NIP/World Bank/UNEP/FAO toolkit)
NIP/WB, UNEP Chemicals, FAO. Latest national inventory update - 2013 [2] [6]

2.2 Data sources and existing inventories (only Obsolete Pesticides)

(who, what, when, how, accuracy, validity?)
POPs Office of MoE, MAFI, MoD. All valid reports available [2] [6]

2.3 First National Implementation Plan (NIP)

(e.g. responsible, year, no of sites, estimated tons, desk study/field surveys (% of total locations), POPs pesticides, PCB and Dioxins)
POPs Office of MoE (WB/GEF)
Initial desk study and 100% locations field survey
Contaminated sites: 1600
Estimated OP pesticides – 5 650 t (2004)
Estimated PCBs – 1 200 t (2004)
Eliminated amounts – see Disposal
Preliminary PCBs inventory – See references [2] [6] [7]

2.4 NIP update (specifically on new POPs)

(e.g. responsible, year, no of sites, estimated tons, desk study/field surveys (% of total locations))
20 centralised OP storages remained (2013).
Estimated OP (2013, remained) – 1 779,48 t.
Detailed PCBs inventory – under finalisation.
No data on the new POPs in the updated NIP (2010).
See references [3] [6]

2.5 UNITAR Chemicals Profile

(e.g. responsible, data on organic hazardous waste available?)
National Profile, MoE, 2008.
Data on hazardous wastes available (on web site and hard copy).
See reference [5]

2.6 National Pesticides/POPs inventory

(e.g. responsible, other inventories independent from Convention frameworks)
MoE, POPs Office, MAFI, MoD.
Data and database (www.moldovapops.md).
See references [1] [2] [6]

2.7 FAO PSMS inventory

Inventory Implementation:

1. inventory training – conducted by MKT (EcoContact)
2. inventory work plan - no
3. inventory field visits and data collection – POPs Office
4. inventory data entry into PSMS - no
5. inventory data validation – stocks and contaminated sites – partially MAFI and POPs Office of the MoE

3. Environmental Assessment

If references needed please provide in the concerned Annex

3.1 National requirements

EIA= Environmental Impact Assessment etc + national experience

Yes. EIA according to the national law

3.2 International experience

non-FAO – WB, UNDP CESA etc

Yes. WB requirements

3.3 Capacity government and private to develop

Are there consultants or government trained people?

Yes. National consultants

Up to 10 persons, acting as experts in the ECOS and EcoContact (former MKI) Environmental NGOs

3.4 FAO stages in Environmental Assessment (EA) and Environmental Management Plans (EMP) experience from EMTK v 3

(Environmental Management Tool Kit for Obsolete Pesticides)

No

Other information:

Country priorities for 2010-2015:

1. Collection, storage and transportaton for elimination of the remained amount of obsolete pesticides (during 2014-2015)
2. Reduction of risks related to the POPs contaminated sites (develop a program for remediation, remediation of the most polluted sites)
3. Ensure environmental security of the Pesticides landfill, with a program for monitoring

See reference [3]

4. Inventory and Environmental Assessment Management

If references needed please provide in the concerned Annex

4.1 Responsible Organisation for Inventory and Assessment in place and operational

Yes. MAFI, MoE

See reference [1]

4.2 All managers/coordinators/Field people in place and operational

Yes.

Managers – MoE – 3; MAFI – 3, MoD – 1

4.3 All Field teams established and operational

Yes.

ECoContact – 20 persons

MoD – the exact number is not determined of provided by the army

4.4 All Inventory data management people in place and operational

Yes.

MoE – 10, MAFI – 3, MoD – 1

4.5 National/Regional Inventory updated

Yes.

2013/2014

See reference [6]

4.6 National Pesticides/POPs Inventory Established

Yes.

2004, last update 2013/2014

See reference [6]

4.7 Contaminated Sites Register

Yes.

Database: placed on the <http://pops.mediugov.md/>

General website: www.moldovapops.md

5. Safeguarding

If references needed please provide in the concerned Annex

5.1 National projects

Yes.

Guarding of the temporary centralized OP warehouses (from 2004 and still ongoing for the remained ones)

Ensure environmental security of the Chismichioi (Vulcanesti) pesticides landfill (monitoring and guarding)

20 centralised storages (remained) – one per rayon (still existing Centralized rayon OP warehouses). Partially eliminated by CZ and NEF projects – data will be available in June. FAO tender announced for Criuleni (Pascani) (June 2014) rayon OP warehouse.

20-30 priority (highly dangerous or contaminated) sites – destroyed OP warehouses to be remediated (generally planned in the action plan for 2010-2015, but only 7 done), but not planned in the current actions of the MoE. No resources secured in the state budget or ecological fund. Only 3 pilot, and 4 replicated projects (WB/GEF, UNDP and NEF).

See references [2], [3], [6]

5.2 International projects

Yes.

5 international projects

5 ongoing projects for the elimination of the obsolete pesticides:

- MoE Project, Sustainable POPs Management Office, Elimination of liquid POPs obsolete pesticides, 2013-2014, National Ecological Fund;
- Nato Project – elimination of 956,74 t of solid obsolete pesticides, Nato PfP Trust Fund, 2013-2014;
- CzDA-2 Project (MoE), elimination of 197 t of solid and liquid OP in 2013-2015;
- FAO-EC Project (MAFI), elimination of 195 t of solid and liquid OP in 2013-2014;
- OSCE Project, 150 tons in Transnistrian region (OSCE project – repackaging and transportation for elimination (2013-2014).

See also Section II

5.3 FAO projects

Yes. FAO-EC Project (MAFI), elimination of 195 t of solid and liquid OP in 2013-2014

6. Storage and transport
Packaging/Containerization/Storage/Transportation
6.1 Transport regulations <i>In-country transportation planning competences available ?</i> <i>(e.g. ADR/IMDG/RID/DOT compliant, route planning, scheme, vehicle inspection scheme, certified local contractors)</i> Yes. ADR
6.2 Driver regulations <i>Driver registration</i> Yes
6.3 Storage regulations <i>(Seveso – off and on site emergency planning)</i> Yes. National requirements
6.4 Storage capacity <i>Private or government, collection centers available, (e.g. responsible, no of suitable collection centers identified)</i> Yes. Government and private
6.5 Incident reporting and accidents Yes. National requirements
7. Disposal
7.1 National experience Temporary storage in central rayon warehouses; Yes, all OP (including POPs) were repackaged and stored in a centralized way. Now only 20 such centralized storages remained. Chismichioi (Vulcanesti) obsolete pesticides landfill, average of 4000 tons buried, Responsible – MAFI See references [1] [2]
7.2 International experience Destruction abroad and application of Basel Convention requirements: 2008-2010: 1,292 tons of obsolete pesticides and 1,010 tons of PCB contaminated capacitors – MoE (POPs Office), WB/GEF, Tredi, France; 2013: 105 t obsolete pesticides – OSCE, MoE (POPs Office), Sava, Germany 2011-2013: 202 t obsolete pesticides – Czech Aid, MoE (POPs Office), Sava, Germany 2013: NATO, MoD Certificates – movement document with confirmation of disposal, independent monitoring (Copies – MoE, POPs Office) See reference [6]
7.3 Experience with FAO Planned for 2015 (FAO-EC Project (MAFI))

8. Containers
8.1 National experience Not treated separately – repackaged and evacuated together with the obsolete pesticides and PCBs contaminated equipment [2]
8.2 International experience <i>e.g. Priorities on containers in NIP Action Plan</i> No separate priorities in NIP
8.3 FAO supported plan No
8.4 Amount and type of empty containers/packaging materials? <i>(e.g. materials recycling in types, amounts)</i> Not separate
8.5 Collection Centres for empty containers? <i>(e.g. no of centres, responsibility, compliant with FAO guidelines?)</i> Not the case

Section II: General overview of POPs and other hazardous waste data

info from Ministry of Commerce or Ministry of Industry or Ministry of Environment/Natural Resources and Ecology)

Category	Explanation to figures	Annually produced waste	Legacy waste	References/ Annexes
		volume, tonnes/year	volume, tonnes	
I. Summary of all waste streams				[5], [3]
A. Agricultural chemical waste: (see also parts already been filled in in the benchmarking section)				
1.Obsolete pesticide waste	2013: Including: 4,000 tonnes barred in Chismichioi (Vulcanesti) landfill (protection/guarding and monitoring); 2015: Stored in 10 warehouses (a number of project for elimination ongoing); In Transnistrian region: (150 t in 2013 – 105 t eliminated).		5,930 1,000 45	
2.POPs pesticide waste: aldrin, chlordane, DDT, dieldrin, endrin, heptachlor, hexachlorobenzene (HCB*), mirex, toxaphen, chlordecone, alpha hexachlorocyclohexane (a-HCH ²)*, beta hexachlorocyclohexane (b-HCH)*, lindane, pentachlorobenzene*	All obsolete pesticides are treated/reported as POPs contaminated For Chismichioi (Vulcanesti) dump data are available – the detailed list exists (EcoContact, MAFI). DDT (total):		634	Detailed list for Chismichioi exists – EcoContact and MAFI (annex, only hard copy, no reference to any lists on the website)
3.New pesticides waste (incl. fake (counterfeit) pesticides)				
4.Empty containers waste	Not treated separately		No separate data available	
5.Contaminated sites				
a. Burial sites (polygons)	Chismichioi (Vulcanesti) landfill		4,000	Responsible –

²at the end

	(south of Moldova)			MAFI
b. Storage sites	20 warehouses (centralized storage of repacked obsolete and unknown pesticides)		1,000	
c. Usage sites (airfields, formulation plants etc.)	1,600 sites, according to the national inventory Database: Inventory		Volume could not be estimated at present	POPs Office http://pops.medi.gov.md/
B. Industrial chemicals:				
1. POPs <i>a. PCBs, HCB*, hexabromobiphenyl (HBB), hexabromodiphenyl ether and heptabromodiphenyl ether, pentachlorobenzene*, perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride, tetrabromodiphenyl ether and pentabromodiphenyl ether (penta-BDE)</i> <i>b. brominated industrial chemicals</i> <i>c. Fluorinated industrial chemicals perfluorooctane sulfonyl fluoride (PFOS) and its salts and perfluorooctane sulfonyl fluoride (PFOSF)</i>	Electric capacitors transported for destruction, containing PCBs: they included 90 tons of excavated ones. Total 18,660 pcs National Inventory of PCBs made in 2012: (See also Annex 7) 301 Transformers à 0,5 tonnes= 150 Tonnes		934 150	POPs Office
2. Contaminated sites e.g. Contaminated containers, transformers and equipment	PCB contaminated sites: Inventory database : http://pops.medi.gov.md/		No estimated data available at the moment	http://pops.medi.gov.md/
3. Oily wastes e.g. non-POPs production waste, lagoons of sediments and sludges, solvents, waste lubricating oils	General data on toxic wastes: www.statistica.md . Total toxic wastes, existing – (01.01.2013)		6,360	http://www.statistica.md/category.php?l=ro&idc=99&
4. Inorganic wastes Solid, Liquid and sludge inorganic waste (often in many country with mining activities and metal industries)	No relevant mining activities. Metal industry – in Transnistria (Pibnita), not controlled by central government.			
C. By-products				

1. Unintentional POPs <i>Dioxins: Polychlorinated dibenzo-p-dioxins (PCDD) and Polychlorinated dibenzofurans (PCDF) and PCBs. Indicate sources like</i> <i>Pulp and paper production, Chlorinated inorganic chemicals, Chlorinated aliphatic chemicals, Chlorinated aromatic chemicals, Other chlorinated and non-chlorinated chemicals, Petroleum industry, Textile production, Leather refining</i> <i>Contaminated Sites and Hotspots:</i> <i>e.g. Sites used for the production of chlorine, Production sites of chlorinated organics, Application sites of PCDD/PCDF containing pesticides and chemicals, Use of PCB, Use of chlorine for production of metals and inorganic chemicals, Waste incinerators, Metal industries, Fire accidents, Dredging of sediments and contaminated flood plains, Dumps of wastes/residues from source groups, Kaolin or ball clay sites</i>	No data available on emissions (only calculations reported to the convention)		No data available	
2.a-HCH*, b-HCH* (being generated from the Lindane production) and pentachlorobenzene*	No Lindane production. No data available.		No data available	
3.HCB* generated from PVC production and rubber tyres production	No data available.			
D. Petroleum wastes Tarry and bituminous wastes, still bottom waste (from Distillation plants)	No petroleum industry.			
E. Inorganic wastes Liquid and sludge inorganic waste Solid inorganic waste	General information in the Annual Reports of the State Ecological Inspectorate, however data not reliable	No data available for 2013 and 2014		
F. Health Care Risk Waste	Data not available.		No data available	
Summary volumes				

Estimate of total hazardous waste market (watch need tonnes/year)	toxic wastes organic and inorganic formed yearly:	300-500		www.statistica.md
POPs waste volume	Stored in 10 warehouses: Barred in Chismichioi (Vulcanesti) landfill Total		1,000 4,000 5,000	
Other information added to this table:	5 ongoing projects for the elimination of the obsolete pesticides: <ul style="list-style-type: none">• MoE Project, Sustainable POPs Management Office, Elimination of liquid POPs obsolete pesticides, 2013-2014, National Ecological Fund;• NATO Project – elimination of 956,74 t of solid obsolete pesticides, NATO PfP Trust Fund, 2013-2014;• CzDA-2 Project (MoE), elimination of 197 t of solid and liquid OP in 2013-2015;• FAO-EC Project (MAFI), elimination of 195 t of solid and liquid OP in 2013-2014;• OSCE Project, 150 tons in Transnistrian region (OSCE project – repackaging and transportation for elimination (2013-2014)			
*HCB, a-HCH, b-HCH and pentachlorobenzene can occur as pesticide, by –product and industrial chemical Please note that nuclear/radioactive waste will not be considered for this overview!				

Section III: Existing and planned treatment options for POPs pesticides, obsolete pesticides and related hazardous wastes, contaminated land

Type of plant or technology	Address/location	Contact person (name/contact details)	Brief summary of technical data (treatment capacity, <u>permit for treatment of types hazardous waste, permit info, date permit</u>)	Reference Nr /Annex if needed
Existing plants e.g. existing and functioning hazardous waste landfills (polygons) or soil treatment plants				
1 Private owned	No			
2 Government owned	No			
Potential plants e.g. existing modern cement kilns and collect all data, photos, schemes, interest of companies to deal with OPs and POPs waste and contaminated soil destruction) Details include in Annexes				
1 Private owned	Lafarge (Rezina)	http://www.lafarge.md/	Treatment in cement kiln was examined, but rejected due to gaps in legislation on hazardous wastes incineration and due to strong opposition from NGOs and local population	
2 government owned	No		No treatment facilities planned to be built in Moldova	
Planned facilities Government and or privately planned new hazardous waste facilities e.g for treatment of oil waste in oil and gas industry				
1 Private owned	Not planned			
2 government owned	Not planned			
Planned and/or implemented pilot plants e.g as part of research programmes in cooperation with donors/universities/research institutes pilot plants that are being tested for hazardous waste and soil				
1	Not planned			
2				

Existing and/or planned empty container (plastic and or steel) recycling facilities/initiatives				
Steel recycling e.g at existing steel industry and plastic at existing plastic industry				
1 Private owned	Not planned			
2 government owned	Not planned			
Any other information related to important market players in this field List names of the major market players with address and main address/location, Contact person (name/contact details) and indicate their main interest				
1				
2				

Section IV: Transportation logistics				
Assessment of various transport alternatives from main stockpile locations (indicate large locations/or regions with more than 500 t separately to the existing/planned treatment facilities incl. cost estimate)				
Treatment facility in country and/or in foreign countries	Stockpile region/location	Transport method/alternatives – distances Rail-Road-waterway or combination of them Indicate main ports/railway stations etc. and supply maps where possible	Cost indications Problems to be expected	Reference Nr /Annex if needed
1 In country 2 In foreign country		Road (tracks) transport used mainly	Costs – 20-30% of total elimination costs. Country roads to the warehouses – without pavement – after rains or during winter – limited access.	
1 In country 2 In foreign country				
1 In country 2 In foreign country				
Assessment of possible storage networks: waste transfer stations e.g. at main railway stations or at existing landfills (polygons) or Waste handling stations <i>List and describe existing stations with required details</i> Selected central rayon storages are/could be used (capacity – 100 – 300 t).				
Assessment of transport capacity <i>Private owned and government owned specialized and licensed transport companies for hazardous waste transport (e.g. ADR/IMDG/RID/DOT compliant, route planning, scheme, vehicle inspection scheme, certified local contractors) Describe here, if not already covered under I. Benchmarking under 6. Storage and transport and 7. Disposal</i> Private owned companies (Romanian, Moldavian, etc). ADR applied.				
Reference to the requirements of the Basel Convention (+ previous) experiences made with international export Implications of custom facilities <i>Describe cases/experiences that country have been made with international exports, not already covered under I. Benchmarking under 7.2 International experience Indicate year and location (country) where transported from and where to and authorities involved and kind of waste. Briefly describe cases</i>				
Case 1: Basel Convention requirements and notifications applied. Experience of transit within Romania, Hungary, Austria, France, Ukraine, Poland, Germany, Czech Republic (2008-2014). Responsible authority – MoE. All notifications and certificates obtained				

Summary sheets on findings

- Identify the gaps in information

No final data on national PCBs inventory (volumes of contaminated oil and equipment).

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

Waste incineration not allowed by legislation. It is prohibited by law, and it is the main politically debated environmental issue – the communist party (Chairing the Environmental Commission in Parliament) is against waste incineration

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

Elimination alternatives assessment (2005-2007) indicated the economic and environmental justification of temporary storage and transportation of POPs, obsolete pesticides and toxic wastes for elimination out of 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 focus on polluted sites remediation



References		
No.	Document name	Key messages (2-5 lines with explanation)
[1]	<p><i>Governmental Decision Nr. 1543 of 29.11.2002 (updated in 2010) on the additional measures for the centralized storage and neuthralisation of obsolete pesticides</i></p> <p>http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=295863</p>	<p>Institutional settings, responsibilities and major actions</p> <p>MAFI – coordinator of the process, MoE, MoD – involved in the established Action Plan</p> <p>Centralized storage and repackaging of the obsolete pesticides</p> <p>Mobilisation of internal and external resources</p>
[2]	<p><i>Strategy and National Implementation Plan for the implementation of the Stockholm Convention in Moldova (approved by Government in November 2004)</i></p> <p>http://www.moldovapops.md/app/includes/files/nip_eng.pdf</p> <p>http://www.moldovapops.md/reports/</p> <p>http://www.moldovapops.md/app/includes/files/nip_eng.pdf</p>	<p>Key NIP priorities:</p> <ul style="list-style-type: none"> • Repackaging and centralization of obsolete pesticides • Identification of the contaminated sites • Inventory of PCBs • Environmentally sound remediation of PCB contaminated and leaking equipment • Public awareness, training and education on POPs
[3]	<p><i>National Program for the Sustainable Chemicals Management in the Republic of Moldova for 2010-2015 (approved by Government in October 2010)</i></p> <p>http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=336557</p>	<p>Priority actions for the implementation of the Stockholm Convention for 2010-2015:</p> <ul style="list-style-type: none"> • Finalisation of elimination of obsolete pesticides stockpiles from centralized storages • Remediation of the POPs contaminated sites • Ensure environmental security of the Chismichioi (Vulcanesti) pesticides landfill
[4]	<p><i>Order of the Minister of Environment, nr. 15 of 20.02.2014</i></p> <p><i>Not placed on the website</i></p>	<p>Nomination of National Focal Points for the Conventions, including Stockholm, Basel, Rotterdam and Aarhus</p>
[5]	<p><i>National Profile for Chemicals Management in the Republic of Moldova, Moe, UNEP, SAICM, 2008</i></p> <p>http://www.moldovapops.md/app/includes/files/NPCM%20Moldova%20Eng.pdf</p> <p>http://www.moldovapops.md/app/includes/files/NPCM%20Moldova%20Eng.pdf</p>	<p>Government undertake actions for sound chemicals management</p> <p>Establishment of the National Authority for Chemicals management</p> <p>Development of the Law on Chemicals</p> <p>Promotion of GHS in national legal base</p>
[6]	<p><i>Updated report on OP Stocks (Excel file) on quantities and ongoing repackaging, storage and elimination activities (2014)</i></p> <p><i>Reference and annex, not on the website</i></p>	<p>Data on stockpiles, per rayon, state, projects etc (Updated by the POPs Office of the MoE)</p>
[7]	<p>PCBs inventory Report (MoE, POPs Office, WB/GEF, 2010)</p> <p><i>Not on website, only word version</i></p>	<p>Data on the Initial national PCBs inventory</p>

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)

Annex 8: PCB inventory results from electric companies (January 2012) (Original in Moldavian)



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



FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS Terms of Reference for Consultant/PSA

Job Title	Coordination and implementation of a Disposal Study for Obsolete Pesticides in the Former Soviet Union		
Division/Department	AGPM		
Programme/Project Number	GCP/RER/040/EC		
Location	Regional		
Expected Start Date of Assignment	1 June 2012	Duration	1 year
Reports to	Kevin Helps	Title:	Coordinator, Senior Officer, Obsolete Pesticides

GENERAL DESCRIPTION OF TASK(S) AND OBJECTIVES TO BE ACHIEVED

The EC / FAO project GCP/RER/040/EC looks to develop capacity for management of hazardous wastes through the example of obsolete pesticides and POPs. There is an estimated 200,000 tonnes of these materials known to be affecting the Russian Federation, countries of the Eastern Neighbourhood (Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine) and the Central Asian Countries [CACs] (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan). Much of the previous work on disposal of waste from these 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 CACs to facilities in Europe makes the option of finding a local solution appealing based on risk management and cost considerations. Under the project a study of capacity to treat this material is to be commissioned. The Coordinator for the Disposal Study will for the 12 project countries:

- i. Review of existing policy framework for the management and elimination (including inventory, assessment, and transport) of POPs and obsolete pesticides in line with the requirements of the respective EU Directives/Stockholm Convention;
- ii. 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 per country
- iii. Review of existing agricultural policy framework on the linkage to fulfillment of environmental obligations such as requirements for the management of contaminated empty containers/packaging
- iv. Review of existing and planned treatment options for POPs pesticides, obsolete pesticides and related hazardous wastes, contaminated empty containers and contaminated land;
- v. 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.
- vi. 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. To be completed with due reference to the requirements of the Basel Convention.
- vii. 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;
- viii. Review existing country POPs data (Obsolete Pesticides 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 will be collated per country in order to assess the potential need for future investment per country/region. Provide



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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 obsolete pesticides, distribution and quantities of contaminated land and contaminated containers;

- ix. Assess status of recycling options for empty containers or already planned or ongoing programs and initiatives;
- x. Prepare country summary sheets on findings and identify the gaps in information;
- xi. Compile report of study findings, including recommendations for filling the information gaps.

The study will be undertaken in countries and through desk research as appropriate and will be implemented with the support of thematic international experts and national experts to be recruited as sub-contractors to the Coordinator of the Disposal Study. The coordinator will prepare draft terms of reference for all consultants within 2 months of the start of the study which will be approved by the Regional Coordinator of project GCP/RER/040/EC at FAO before final recruitment is made. All information collected and assessments conducted will (if possible) be verified by competent national authorities in order to seek ownership and support for further project activities.

The working language is English and some interpretation and document translation is foreseen.

KEY PERFORMANCE INDICATORS

Expected Outputs:

- i. Summary report of existing policy framework for the elimination and management of POPs and obsolete pesticides (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 September 2013, finalization of the report incorporating eventual comments

Required Completion Date:

All by end of June 2013.

September 2013

REQUIRED COMPETENCIES

Academic Qualification

- 1. First degree in chemistry, engineering, environmental science or similar subject area related to chemicals management;
- 2. Higher degree (PhD) in a waste management related area, chemistry or engineering discipline linked to chemicals management;
- 3. Research or (university) lecturing experience related to waste and POPs management.

Technical Competencies and Experience Requirements

- 1. Minimum 20 years experience in the waste management and soil remediation industry / research sector;
- 2. Experience in development of risk-based strategies for POPs treatment using a combination of in-situ and ex-situ technologies;
- 3. Experience in development of POPs remediation plans in developing countries, experience in Asia region desirable;
- 4. Minimum 10 years experience in development of cost-based budgets for project implementation;
- 5. Excellent understanding of FAO guidelines and training systems for POPs / pesticide management and contaminated site assessment;
- 6. Excellent computer skills;
- 7. Excellent report and proposal writing skills;
- 8. Fluency in English.



Annex 2: Data on stockpiles (updated excel file) as original report

Obsolete Pesticides Stockpiles in Moldova
 kept in the Central district warehouses
 (1 September 2010)

No.	Central Storage (locality, district)	OP collected from district	Total	UN package			Non UN package			Total solid (tons)	Total liquid (tons)
				Sub-total 1 (tons)	solid (tons)	liquid (tons)	Sub-total 2 (tons)	solid (tons)	liquid (tons)		
1	Alexandreni, SG	Sîngerei	87,49				87,49	79,09	8,40	79,09	8,40
		m.Bălți	32,52				32,52	20,97	11,55	20,97	11,55
		Glodeni	38,87	38,87	26,38	12,49				26,38	12,49
		Drochia	23,47	0,70			22,77	22,77		22,77	0,70
2	Sîngerei	Sîngerei	43,20				43,20	40,20	3,00	40,20	3,00
3	Ranger Danceni	Anenii Noi	20,60	20,60	19,55	1,05				19,55	1,05
		Ialoveni	123,44	123,44	111,97	11,47				111,97	11,47
4	Pașcani, Criuleni	Criuleni	45,70				45,70	42,20	3,50	42,20	3,50
		m.Chișinău	139,18	130,41	122,84	7,57	8,77	8,77		131,61	7,57
5	Sadacția	Basarabasca	47,27	47,27	44,56	2,71				44,56	2,71
6	Cahul	Cahul	77,52	77,52	63,55	13,97				63,55	13,97
7	Ciobalaccia	Canemir	12,21		7,89	7,89	4,32	4,32		4,32	7,89
8	Călărași	Călărași	69,99	69,99	69,99					69,99	
9	Oniscani	Călărași	62,15				62,15	56,60	5,55	56,60	5,55
10	Gaidar	Ceadir-Lunga	76,81	17,39		17,39	59,42	59,42		59,42	17,39
11	Bigeac	Comrat	135,44	135,44	133,44	2,00				133,44	2,00
12	Tîrnova	Dondușeni	54,88	54,88	54,88					54,88	
13	Dorotcaia	Dubăsari	21,00	21,00	21,00					21,00	
14	Edinet	Edinet	9,20	1,37		1,37	7,83	7,83		7,83	1,37
15	Hitresti	Fălești	200,20	200,20	187,86	12,34				187,86	12,34
16	Iargara	Leova	56,77	56,77	38,27	18,50				38,27	18,50
17	Clocusna	Ocnita	16,00	9,20	9,20		6,80	6,80		16,00	
18	Pelivan	Orhei	57,45	57,45	54,52	2,93				54,52	2,93
19	Cosauti	Soroca	34,45	34,45	33,75	0,70				33,75	0,70
20	Rodina Nova	Taraclia	190,74	190,74	172,54	18,20				172,54	18,20
21	Grădinița	Căușeni	141,71				141,71	129,61	12,10	129,61	12,10
22	Papauti	Rezina	34,12				34,12	28,32	5,80	28,32	5,80
23	Ranger Ungheni	Ungheni	97,02				97,02	88,32	8,70	88,32	8,70
TOTAL:			1949,40	1295,58	1164,30	131,28	653,82	595,22	58,60	1759,52	189,88

kept in the Central district warehouses

No.	Central Storage (locality, district)	OP collected from district	Total	UN package			Non UN package			Total solid (tons)	Total liquid (tons)
				Sub-total 1 (tons)	solid (tons)	liquid (tons)	Sub-total 2 (tons)	solid (tons)	liquid (tons)		
1	Alexandreni, Sîngerei	Sîngerei	87,49				87,49	79,09	8,40	79,09	8,40
		m.Bălți	32,52				32,52	20,97	11,55	20,97	11,55
		Glodeni	38,87	38,87	26,38	12,49				26,38	12,49
		Drochia	23,47	0,70			22,77	22,77		22,77	0,70
2	Ranger Danceni	Anenii Noi	20,60	20,60	19,55	1,05				19,55	1,05
		Ialoveni	123,44	123,44	111,97	11,47				111,97	11,47
3	Sadacția	Basarabasca	47,27	47,27	44,56	2,71				44,56	2,71
4	Cahul	Cahul	77,52	77,52	63,55	13,97				63,55	13,97
5	Călărași	Călărași	69,99	69,99	69,99					69,99	
6	Gaidar	Ceadir-Lunga	76,81	17,39		17,39	59,42	59,42		59,42	17,39
7	Bigeac	Comrat	135,44	135,44	133,44	2,00				133,44	2,00
8	Tîrnova	Dondușeni	54,88	54,88	54,88					54,88	
9	Dorotcaia	Dubăsari	21,00	21,00	21,00					21,00	
10	Edinet	Edinet	9,20	1,37		1,37	7,83	7,83		7,83	1,37
11	Hitresti	Fălești	200,20	200,20	187,86	12,34				187,86	12,34
12	Iargara	Leova	56,77	56,77	38,27	18,50				38,27	18,50
13	Cosauti	Soroca	34,45	34,45	33,75	0,70				33,75	0,70
14	Rodina Nova	Taraclia	190,74	190,74	172,54	18,20				172,54	18,20
15	Ranger Ungheni	Ungheni	97,02				97,02	88,32	8,70	88,32	8,70
TOTAL:			1397,68	1090,63	977,74	112,89	307,05	278,40	28,65	1256,14	141,54

OP Stocks to be eliminated within CzDA-2 Project (Ministry of Environment) in 2013-2014

16	Sîngerei	Sîngerei	43,20				43,20	40,20	3,00	40,20	3,00
17	Oniscani	Călărași	62,15				62,15	56,60	5,55	56,60	5,55
18	Pelivan	Orhei	57,45	57,45	54,52	2,93				54,52	2,93
19	Papauti	Rezina	34,12				34,12	28,32	5,80	28,32	5,80
Total			196,92	57,45	54,52	2,93	139,47	125,12	14,35	179,64	17,28

OP Stocks to be eliminated within FAO-EC Project (Ministry of Agriculture and Food Industry) in 2013-2014

20	Pașcani, Criuleni	Criuleni	45,70				45,70	42,20	3,50	42,20	3,50
		m.Chișinău	139,18	130,41	122,84	7,57	8,77	8,77		131,61	7,57
Total			184,88	130,41	122,84	7,57	54,47	50,97	3,50	173,81	11,07

Obsolete Pesticides Stockpiles in Moldova
kept in the Central district warehouses
(1 May 2013)

No.	Central Storage (locality, district)	OP collected from district	UN package			Non UN package			Total solid (tons)	Total liquid (tons)	Total
			solid (tons)	liquid (tons)	Sub-total 1 (tons)	solid (tons)	liquid (tons)	Sub-total 2 (tons)			
1	Alexandreni, SG	SG, BL, DR, GL	26,38	13,19	39,57	122,83	19,95	142,78	149,21	33,14	182,35
2	Ranger Danceni	AN, IL	131,52	12,52	144,04			0,00	131,52	12,52	144,04
3	Sadaclia	Basarabasca	44,56	2,71	47,27			0,00	44,56	2,71	47,27
4	Cahul	Cahul	63,55	13,97	77,52			0,00	63,55	13,97	77,52
5	Călărași	Călărași	69,99		69,99			0,00	69,99	0,00	69,99
6	Gaidar	Ceadir-Lunga		17,39	17,39	59,42		59,42	59,42	17,39	76,81
7	Bigeac	Comrat	133,44	2,00	135,44			0,00	133,44	2,00	135,44
8	Tirnova	Donduseni	54,88		54,88			0,00	54,88	0,00	54,88
9	Dorotcaia	Dubăsari	11,00		11,00			0,00	11,00	0,00	11,00
10	Edinet	Edinet		1,37	1,37	7,83		7,83	7,83	1,37	9,20
11	Hitresti	Fălești	187,86	12,34	200,20			0,00	187,86	12,34	200,20
12	Iargara	Leova	38,27	18,50	56,77			0,00	38,27	18,50	56,77
13	Cosauti	Soroca	33,75	0,70	34,45			0,00	33,75	0,70	34,45
14	Rodina Nova	Taracalia	172,54	18,20	190,74			0,00	172,54	18,20	190,74
15	Ranger Ungheni	Ungheni			0,00	88,32	8,70	97,02	88,32	8,70	97,02
16	Singerei	Singerei			0,00	40,20	3,00	43,20	40,20	3,00	43,20
17	Oniscani	Călărași			0,00	56,60	5,55	62,15	56,60	5,55	62,15
18	Pelivan	Orhei	54,52	2,93	57,45			0,00	54,52	2,93	57,45
19	Papauti	Rezina			0,00	28,32	5,80	34,12	28,32	5,80	34,12
TOTAL:			1022,26	115,82	1138,08	403,52	43,00	446,52	1425,78	158,82	1584,60

Liquid OP Stocks to be eliminated within NEF Project (Ministry of Environment) in 2013-2014

18,83 158,82 177,65

OP Stocks to be eliminated within CzDA-2 Project (Ministry of Environment) in 2013-2014

16	Singerei	Singerei				40,20	3,00	43,20	40,20	3,00	43,20
17	Oniscani	Călărași				56,60	5,55	62,15	56,60	5,55	62,15
18	Pelivan	Orhei	54,52	2,93	57,45				54,52	2,93	57,45
19	Papauti	Rezina				28,32	5,80	34,12	28,32	5,80	34,12
Total			54,52	2,93	57,45	125,12	14,35	139,47	179,64	17,28	196,92

OP Stocks to be eliminated within FAO-EC Project (Ministry of Agriculture and Food Industry) in 2013-2014

20	Pașcani, Criuleni	Criuleni				42,20	3,50	45,70	42,20	3,50	45,70
		m.Chisinau	122,84	7,57	130,41	8,77		8,77	131,61	7,57	139,18
		Dubăsari	10,00		10,00						10,00
Total			132,84	7,57	140,41	50,97	3,50	54,47	173,81	11,07	194,88

Obsolete Pesticides Stockpiles in Moldova kept in the Central district warehouses (7 May 2013)											
No.	Central Storage (locality, district)	OP collected from district	UN package			Non UN package			Total solid (tons)	Total liquid (tons)	Total
			solid (tons)	liquid (tons)	Sub-total 1 (tons)	solid (tons)	liquid (tons)	Sub-total 2 (tons)			
1	Alexandreni, SG	Singerei				79,09	8,40	87,49	79,09	8,40	87,49
		m.Bălți				20,97	11,55	32,52	20,97	11,55	32,52
		Glodeni	26,38	12,49	38,87				26,38	12,49	38,87
		Drochia		0,70	0,70	22,77		22,77	22,77	0,70	23,47
2	Ranger Ungheni	Ungheni				88,32	8,70	97,02	88,32	8,70	97,02
3	Ranger Danceni	Anenii Noi	19,55	1,05	20,60				19,55	1,05	20,60
		Ialoveni	111,97	11,47	123,44				111,97	11,47	123,44
4	Sadaclia	Basarabasca	44,56	2,71	47,27				44,56	2,71	47,27
5	Cahul	Cahul	63,55	13,97	77,52				63,55	13,97	77,52
6	Călărași	Călărași	69,99		69,99				69,99		69,99
7	Bigeac	Comrat	133,44	2,00	135,44				133,44	2,00	135,44
8	Tirnova	Donduseni	54,88		54,88				54,88		54,88
9	Hitresti	Fălești	187,86	12,34	200,20				187,86	12,34	200,20
10	Iargara	Leova	38,27	18,50	56,77				38,27	18,50	56,77
11	Cosauti	Soroca	33,75	0,70	34,45				33,75	0,70	34,45
12	Rodina Nova	Taradlia	172,54	18,20	190,74				172,54	18,20	190,74
13	Dorotcaia	Dubăsari	11,00		11,00				11,00		11,00
14	Edinet	Edinet		1,37	1,37	7,83		7,83	7,83	1,37	9,20
15	Singerei	Singerei				40,20	3,00	43,20	40,20	3,00	43,20
16	Oniscani	Călărași				56,60	5,55	62,15	56,60	5,55	62,15
17	Pelivan	Orhei	54,52	2,93	57,45				54,52	2,93	57,45
18	Papauti	Rezina				28,32	5,80	34,12	28,32	5,80	34,12
19	Gaidar	Ceadir-Lunga		17,39	17,39	59,42		59,42	59,42	17,39	76,81
20	Pașcani, Criuleni	Criuleni				42,20	3,50	45,70	42,20	3,50	45,70
		m.Chisinau	122,84	7,57	130,41	8,77		8,77	131,61	7,57	139,18
		Dubasari	10,00		10,00				10,00		10,00
TOTAL:			1155,10	123,39	1278,49	454,49	46,50	500,99	1609,59	169,89	1779,48
					1278,49			500,99	1609,59	169,89	1779,48
1	OP Stocks to be eliminated within NATO Project (MoD)								956,74		956,74
2	OP Stocks to be eliminated within CzDA-2 Project (MoE) in 2013-2015								179,64	17,28	196,92
3	OP Stocks to be eliminated within NEF Project (MoE) in 2013-2014								7,83	141,54	149,37
4	OP Stocks to be eliminated within FAO-EC Project (MAFI) in 2013-2014								183,81	11,07	194,88
5	Remainig								281,57		281,57
	Total								1609,59	169,89	1779,48
6	OP Stoks eliminated within OSCE Project in 2013-2014 from Transnistria (finished)								105		105

Obsolete Pesticides Stockpiles in Moldova
to be eliminated within MoE/NEF Project (7 May 2013)

No.	Central Storage (locality)	District	Solid (tons)	Liquid (tons)	Total	Contact persons	Phone
1	Rodina Nova	Taraclia		18,20	18,20		
2	Gaidar	Ceadir-Lunga		17,39	17,39		
3	Bugeac	Comrat		2,00	2,00		
4	Sadaclia	Basarabasca		2,71	2,71		
5	Cahul	Cahul		13,97	13,97		
6	Iargara	Leova		18,50	18,50		
7	Ranger Danceni	Ialoveni		12,52	12,52		
8	Alexandreni, SG	Singerei		33,14	33,14		
9	Cosauti	Soroca		0,70	0,70		
10	Edinet	Edinet	7,83	1,37	9,20		
11	Hitresti	Falesti		12,34	12,34		
12	Ranger Ungheni	Ungheni		8,70	8,70		
Total			7,83	141,54	149,37		

Annex 3: Polychlorinated biphenyls – danger for public health and environment: assessment of the national inventory of PCBs in the Republic of Moldova

**POLYCHLORINATED BIPHENYLS –
DANGER FOR PUBLIC HEALTH AND ENVIRONMENT:
Assessment of the national inventory of PCBs in the Republic of Moldova**

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Summary: The Polychlorinated Biphenyls (PCB) represents a category of Persistent Organic Pollutants (POP) present everywhere in the world due to their persistency and bioaccumulation properties. Meanwhile was demonstrated the negative impact of PCBs on the human health and environment. The accumulation of the PCB in the human body could cause irregularities in the functioning of the liver, kidneys, immune system, malformation at kids, skin diseases and could cause the cancer. The Stockholm Convention settled that all Parties, among which is the Republic of Moldova, will undertake measures to reduce the impact on the environment and on human health, caused by this substances. Among these measures the signatories of the convention undertake measures to identify, label and eliminate the stockpiles of POPs. The Republic of Moldova since 2001 and than 2004, carries out a number of measures for the implementation of the provisions of the Convention with the approval by the Governmental Decision no. 1155 of 20 October 2004 of the National Strategy on the reduction and elimination of POPs and of the National Implementation Plan for the Stockholm Convention on POPs and their practical realization.

Key words: polychlorinated biphenyls (PCB), persistent organic pollutants (POP), bioaccumulation, contamination, emissions, dielectric oil, electric equipment, PCB inventory, Stockholm Convention, elimination.

1. Polychlorinated Biphenyls – performance characteristics or danger for health?

The Polychlorinated Biphenyls represent a mixture of the chlorinated compounds included in the list of 12 persistent organic pollutants, regulated by the Stockholm Convention.

The Polychlorinated Biphenyls were synthesized for the first time in 1866 by Schmidt and Schultz. Commercial use of PCBs was done by the „Monsanto” Company in 1920 in USA, its trade being started at the end of the year 1929. Those could have a waxlike, oily structure, solid or liquid, without color, taste and smell and were used broadly in the past as refrigerating and lubricant agents in transformers, capacitors and other electric equipment due to their performance properties. Besides this, these substances were used for the production of paintings, inks and even in the cosmetics. The PCBs were considered as a perfect discovery for the chemical industry. They were broadly marketed starting with 1930 and the maximum amount was produced in the 1960's. The special qualities of the PCBs are characterized by:

- Extreme stability,
- Non-biodegradable,
- Low pressure of vapors,
- High boiling point: 278 - 415 C,
- Reduced solubility in water,
- Good solubility in many organic solvents and lubricants,
- Good thermo conductor,
- High dielectric constancy,
- High resistance to the temperatures (hard to inflame).

At the same time, these substances have a negative impact on environment and living organisms due to their strong toxic properties. Having a bioaccumulation effect, the PCBs are deposited in the tissues resulting in pathogenic and teratogenic effects. In special conditions the PCBs could be transformed in dioxins and furans – very toxic poisons.

In the former USSA area the PCBs were broadly produced and used in the period of 1960-1980 as dielectric oils for the electro-energetic equipment and known under the names of *Sovol* and *Sovtol*. In the USA this product has the commercial name *Aroclor*.

With the appearance of the clear arguments that the PCBs could cause dangerous effects for the human health, its production was stopped at the global level in the period of 1977-1983. In the ex-USSR the PCBs were prohibited in 1987-1991.



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United Nations



Besides the fact that the production of the PCBs was cancelled, these substances continuously contribute to the environmental pollution and extend their impact on human health, animals and vegetation. Numerous units of equipment in use or disposed, produced before 1970, could contain PCBs, which remain as a danger for the entire planet.

2. Use of PCBs

Due to the special physical and chemical properties the PCB compounds were broadly used in different domains, both in open and closed systems.

Most frequently those were used as refrigerating agents, isolating materials, dielectric oils, hydraulic liquids, plasticizers, solvents, paintings, impregnation agents for wood and paper etc.

Use in closed systems (isolated from the environment):

- Dielectric and/or cooling oils in the power transformers,
- Dielectric oils in the power capacitors,
- Dielectric oils in switchers, couplings, measuring transformers etc.,
- Dielectric oils in capacitors and electronic equipment, such as TV and radio apparatus etc.,
- Hydraulic liquid in the power equipment.

Almost all power transformers are filled with dielectric oils – from the small ones to very big ones

a) 25 kVA

b) 200 MVA

Use in partially closed systems (could be released to environment during the exploitation):

- Thermo transfer fluids,
- Hydraulic fluids,
- Oils for the cutting processes.

Use in open systems (are in direct contact with the environment):

- Lubricants,
- Moulding wax,
- Inks, pigments,
- Solvents, paints,
- Adhesives, epoxide glue,
- Plasticizers, air tightns,
- Surface coverings,
- Thermo isolation materials,
- Electric cable isolation materials,
- Ballasts for the fluorescence lamps etc.

3. How the PCBs is released into the environment?

The PCBs-could pollute the water, air and soil by different means.

The water – the PCBs could penetrate into the surface waters from different direct emissions and discharges, as well as from the atmospheric precipitations, polluted with PCB vapors. Besides the fact that the PCBs are less soluble in water, their compounds sediment at the bottom of the water bodies, where very easy are transferred through the food chain.

The air – the PCB compounds, influenced by the high temperatures, are eliminated in atmosphere by evaporation, afterwards being condensed in small aerosol particles and are, thus, and transferred in air at long distances. The degree of evaporation of PCBs from the soil surface is much higher than from the water surface.

The soil – the Soil represent a very good absorbent for PCBs in the cases of leakages or emissions from different sources, starting with accidental leakages and finishing with polluted atmospheric precipitations.

The main causes with conduct to the pollution with PCBs are:

- Pollution in the process of PCBs production (before the introduction of restrictions),
- Leakages during the use and reparation of the equipment containing PCBs,
- Accidental leakages during the transportation of the PCBs and PCB contaminated products,
- Emissions of PCBs or their compounds during their elimination - incineration,
- Fire with participation of PCBs or PCB contaminated products, as a result of which emissions of dioxins and furans took place,
- Emissions of PCBs on soil, water or air from the toxic wastes landfills,
- Burning or incineration of the municipal wastes,
- Ventilation and air conditioning installations,
- Illegal discharges of industrial wastes and of chemical products in uncontrolled places.

The PCBs, while released to environment, is holding for a long period due to their persistence and to the bioaccumulation effect. The PCB compounds could easily pass from one matter to an other, keeping their qualities as an environmental pollutant.



The PCBs could be transported by the air – by evaporation and re-condensation – the so called „global distillation” – to very long distances from the place from which they were discharged, the atmosphere playing the primary role of the way through which the PCBs travel at the global level. As a consequence, the PCBs could be found everywhere around the world, even in the snows and ice of the Arctic Circle.

4. How the PCBs penetrate into the human bodies?

The PCBs released into environment represent a major danger for the human health, flora and fauna.

The people could be exposed to the PCB contamination by different means, the main being the inhalation of the PCB vapours, get of PCB on skin and through the food chain.

The inhalation of PCB vapours could take place in any place, were PCB products or PCB contaminated products are stored or used: TV sets, lamps, old electric equipment with dielectric oils. This equipment is warming up during the use and is conditioning the release of PCB into air. An other way of inhalation is the presence close to the PCB containing paintings, foams, adhesives, inks etc.

The exposure on skin could take place during restoration works, of the electric equipment, during accidents, fires, during transportation, storage and elimination of PCBs and equipment contaminated with PCBs. IN this cases this is combined with inhalation of PCB vapours.

The use of food products could be one of the main cause of the getting of PCBs into the bodies of the people, who are far away from the PCB contaminated zones or equipment. The fish, meat, eggs, milk products and vegetables are among the first category of products, which could contain PCBs. The PCBs are contained in these products due to the bioaccumulation effect in the food chain.

5. PCBs – danger for human health

The negative effects on human health and environment placed the PCBs among the 12 substances, regulated by the Stockholm Convention.

The people, contaminated with small dose of PCBs could have the following effects:

- Irregularities of the liver and kidneys,
- Influence on the thyroidal gland,
- Possible irregularities in the development of the brain,
- Influence on the reproductive system and pregnancy,
- Influence on the immune system ,
- Possible cancer effect.

Possible effects of PCBs contamination³

In the case of long duration of exposure the PCBs could become extreme toxic, having the following effects:

- Skin diseases,
- Fall of the hair,
- Head aches.

The effects during pregnancy and breast feeding

PCBs – danger for newborn babies

The new babies are most sensible to the PCBs exposure. These substances are transmitted from the mother to kids during pregnancy and with the milk. There are cases, when the babies are born with different effects, such as:

- Delay in development,
- Affects of the locomotors capacities,
- Changes in behavior,
- Effects on memory,
- Irregularities of the immune system.

6. The obligations to eliminate the PCBs

On 17 May 2004 the *Stockholm Convention on persistent organic pollutants (POPs) entered into force*. The convention is an international agreement on the management of POPs aimed to protect human health and the environment from the impact of POPs. The Republic of Moldova ratified the convention in April 2004.

The obligations Moldova for the implementation of the Convention on the PCB issues are:

³ billboardmama.com

1. Stop use PCBs in energetic installations (transformers, capacitors or equipment, with dielectric oils with PCB) by 2020 and, accordingly:
 - The equipment with the volume of PCBs more than 5 dm³ will be out of use as soon as possible, but not later than 31 December 2015.
 - The use of equipment with the volume higher than 5 dm³ and containing PCBs between 0.005 % and 0.05% it is allowed till 31 December 2020.
 - The equipment with PCBs with the volume less than 5 dm³ could be used till the end of its life period, with the condition that it is in a good technical/working condition.
2. Identification of other materials with the PCB containing more than 0,005% (ex: cable cover, painted materials etc)

On 2 February 2009 the Government of Moldova approved the Regulation on PCBs (Governmental Decision nr. 81) which foresee the obligations of holders of equipment to identify, mark and eliminate the equipment with PCBs or PCB contaminated with the volume higher than 5 l (5 dm³).

The implemented actions

Till present the Republic of Moldova has undertaken a number of actions for the implementation of the Stockholm Convention, in particular:

2001: *Signing of the Convention*

2002: *Launching of the WB/GEF project "Enabling activities for the implementation of the Stockholm Convention on POPs in Moldova"*

In the Ministry of Environment was established the Sustainable POPs Management Office (www.moldovapops.md), responsible for the implementation of the projects in this field.

2003: *Preliminary PCB inventory – I stage*

Was developed a report on the potential holders of electro-energetic equipment with dielectric oils. According to this report the biggest amount of equipment potentially contaminated with PCBs could be found out in the energy sector, in particular with this type of oils are filled the transformers, capacitors, measuring transformers, switches, reactors, couplers etc. This report was used as background for the actions included in the National Implementation Plan for the Stockholm Convention, later being part of the WB/GEF projects activities. During this stage a number of capacitors from the S.I. Moldelectrica are filled with oils with PCBs.

2005-2006: *Preliminary PCB inventory – II stage*

At the electro-energetic companies I.C.S. RED Union Fenosa S.A., Î.S. Moldelectrica and S.A. CET-2 Chisinau were inventoried 633 units of equipment with the use of express test kits „Clor-n-Oil”.

Express test kits „Clor-n-Oil”

2007-2008: *Actions for the elimination of contaminated capacitors from the country*

From all 13 enterprises of Î.S. Moldelectrica, among which the biggest ones in Vulcănești and Strășeni were carried our works for the dismantling of the capacitors. At the same time were excavated the capacitors, buried after accidents and which were kept in soil for a period of decades. These actions took place at the Vulcanesti, Dondușeni and Soroca Stations of Î.S. Moldelectrica.

As a result, from the country were transported for destruction 18660 electric capacitors, containing PCBs (934 tons, including 90 tons of excavated ones). These hazardous wastes were transported to France, to the TREDI Company, for elimination.

7. The national inventory – an intermediary stage in the process of final elimination of the PCB stockpiles

In September 2008 within the Project „Management and destruction of POPs stockpiles”, financed by GEF through the WB, the Inventory of PCBs in Moldova was launched. The PCB inventory at the national scale represents an important stage in the identification and elimination of the contaminated equipment.

The goal and objectives of the inventory

The goal of the inventory is to create a database on the electro-energetic equipment, from the territory of Moldova, which contain dielectric oils with PCBs in concentration higher than 50 ppm⁴ in a volume higher than 5 l.

The objectives of the inventory are:

- a) Identification of the holders of electro-energetic equipment with dielectric oil in the electro-energetic sector,
- b) Identification of the holders of electro-energetic equipment with dielectric oil in other economic sectors,
- c) Taking of samples of dielectric oil from the electro-energetic equipment from the electro-energetic sector and laboratory analysis of them,
- d) Informing the holders of electro-energetic equipment with dielectric oil from energy and other sectors about the impact of PCBs and necessity of inventory,
- e) Establishment of the data base on the electro-energetic equipment with dielectric oil with PCB in concentration higher than 50 ppm in a volume higher than 5 liters.

⁴ ppm – part per million



In November 2008 was established the Steering Committee for the PCBs Inventory (SC), approved by the order of the MoE nr. 52 from 07.11.2008.

This Committee included the representatives of the Ministry of Economy, MoE, electro-energetic enterprises and consumers.

SC at one of its first working meetings issued a decision, which foresees the realization of the inventory of the electro-energetic equipment in two stages:

- I. The Inventory of the electro-energetic equipment filled with dielectric oil in a volume higher than 5 liters from the electro-energetic companies,
- II. The Inventory of the electro-energetic equipment filled with dielectric oil in a volume higher than 5 liters from other holders of electro-energetic equipment.

The Inventory of PCBs at the electro-energetic companies

The electro-energetic companies, at which the first stage of inventory is carried out are:

Energy production companies -

- S.A. "CET-1, Chişinău",
- S.A. "CET-2, Chişinău",
- S.A. "CET-Nord", Bălţi,
- Î.S. „Nodul Hidroenergetic Costeşti”.

Energy transportation company –

- Î.S. „Moldelectrica”.

Energy distribution companies –

- S.A. „RED Union Fenosa”,
- S.A. „RED-Nord”,
- S.A. „RED Nord-Vest”.

Practical workshop for the inventory teams

By February 2009 at each company inventory teams were created for the sampling of oil from the equipment, filled with dielectric oil. These teams were trained on the modality of sampling.

The companies were supplied with the necessary inventory equipment for sampling (protection wears, emergency cases kits, recipients etc). For each sample was completed a special inventory form according to the PCBs Regulation.

The form contain the information about the type of equipment, its owner, placement, etc.

The samples are examined in two stages. At the first stage all samples are checked with the help of the t Analyzer L2000DX.

This analyzer determines the content of clor in the sample. In case if the content is higher than 50 ppm – this sample is submitted to the second stage of investigation – the gas-chromatography analyses for the precise quantity of PCB in the sample. For this in the State Hidrometeorological Centre was equipped a special laboratory, which carry out the analyses of the samples with more than 50 ppm.

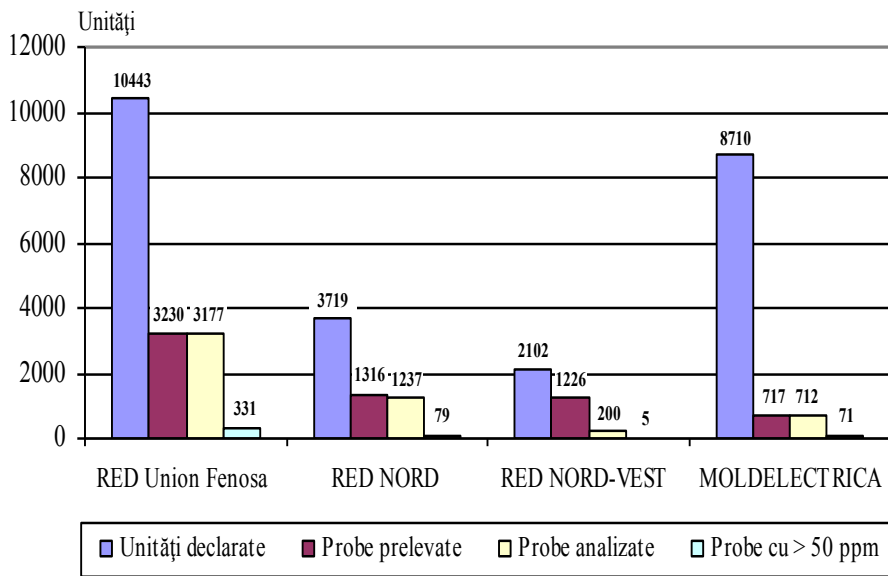
At the electro-energetic companies three dielectric oil analyses centres were established:

1. RED Union Fenosa S.A, Chişinău
2. RED Nord, filiala Sângerei,
3. Î.S. Moldelectrica, Chişinău

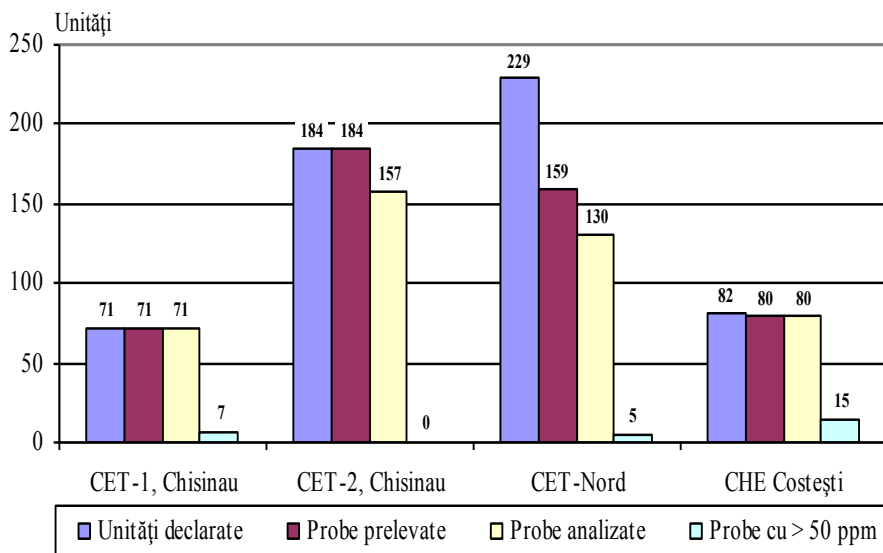
These Centers were equipped with the necessary kits for the oil investigations. For the training of the personal in the use of L2000DX and to ensure the quality of data, a training workshop took place with the participation of international experts.

The inventory process is currently ongoing at the electro-energetic companies. This process requires a serious attitude and effort from the companies. It is planned, that by the end of 2010 the process of identification and sampling of the dielectric oil to be finished both at electro-energetic sector and selected consumers. To be mentioned, that this actions became possible due to the financial support from the GEF, Canadian POPs Fund and the National Ecological Fund of Moldova. In total, an amount of 550 th USD were allocated for this process.





Inventory of PCBs - electro-energetic, distribution and transport sectors



Inventory of PCBs – energy generation sector

The Inventory of PCBs at other electro-energetic equipment holders

In the country exist individual households, enterprises, institutions and organizations, which hold different electro-energetic equipment. Examples of such holders are: enterprises of food proceeding, construction enterprises, light industry enterprises, telecommunication enterprises, water supply and treatment companies, public institutions, military units etc. Many of these installations are among the ones filled with the dielectric oils, which could be potentially contaminated with PCBs and present a risk. The risk could be much higher than at the electro-energetic companies, as at these units there are no prepared staff, involved in maintenance or reparation. Very often this equipment is abandoned and nobody verify its technical state.

The PCB inventory at holders is different that the one at the electro-energetic companies. The country was divided in three zones: Centre, North and South and for the implementation of this task three consultants were selected. The consultants were trained and equipped with all necessary tools and automobiles.

A special role in the process of inventory play the State Energetic Inspectorate, which have the data on the holders, placement of the equipment etc.

For the sampling the consultant, accompanied by the territorial energy inspector, set up the time and process. The responsible person for the equipment take the sample and the consultant fill in the inventory form, make the picture and register the GPS data of the monitored equipment. The selected samples are analyzed by the laboratory of the Hidrometeorological Centre.

Zone	Samples	Examined samples	Analysed samples	Samples with > 50 ppm
North	730	688	377	12
Centre	545	353	339	14
South	589	251	233	18
TOTAL	1868	1292	949	44

Table: Inventory of PCBs – other holders

The final stage of the process of inventory is the labeling of the tested electro-technical equipment with a volume higher than 5 l. So, accordingly to the provisions of the PCB Regulation all the equipment under inventory have to be labeled. The regulation foresees red labels for the contaminated equipment and green ones for PCB free units.

Based on the results of the inventory a data base will be established on the placement of the equipment with PCB or PCB contaminated.

Conclusions

- The PCBs are a category of chemical substances with special chemical and technological properties broadly used in 1930-1970.
- The main domain of application of PCBs is the use in dielectric oils in the electro-energetic equipment.
- The PCBs could be found everywhere around the world due to their properties of bioaccumulation and stability..
- The PCBs could cause serious impacts to the human health and environment.
- The Inventory of BPC, currently carried out in the Republic of Moldova represents an important stage of the identification and elimination of the PCBs in the country.
- The indicated data for the 2 sectors, number of identified units, samples and results are presented according to the data as of 1 March 2010.

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Annex 4: Country summary sheet – Republic of Moldova**COUNTRY SUMMARY SHEET – REPUBLIC OF MOLDOVA**

This summary sheet is based on the outputs described in the TORs for the National Waste Management Consultants:

- i. Analysis of barriers (technical, economic) to the development of national and regional waste management capacity;
- ii. Report on Opportunities for introduction of new technologies (Thermal and non-thermal) e.g specific stockpiles (DDT and HCH waste)
- iii. Summary report of existing and potential Treatment Facilities, pilot plant facilities and empty container recycling facilities/initiatives
- iv. Report on POPs waste in relation to total hazardous waste market and approaches for Investment plan for POPs destruction for Moldova and the region
- v. Presentation of the draft report to the SC meeting in November 2013, finalization of the report incorporating eventual comments (no comments were received!)

Name of Country: Republic of Moldova	Prepared by: Andrei Isac
	Finalized date: 19.12.2013

Short summary of the history of obsolete pesticides in Moldova:

(prepare approx. ½ page of summary of the history and current status, including issues and achievements, public perception and any major events and milestones)

Stockholm Convention ratified by Moldova in February 2004

<http://www.moldovapops.md/legislation/>

National Strategy on reduction and elimination on persistent organic pollutants in the Republic of Moldova

approved by the Government on October 20, 2004 <http://www.moldovapops.md/legislation/>

National Implementation Plan approved by the Government on October 20, 2004:

http://www.moldovapops.md/app/includes/files/nip_eng.pdf

POPs Sustainable Management Office

The Project Management Team on sustainable management of POPs (herein as POPs Sustainable Management PMT) has been created as an office inside the Ministry of Ecology and Natural Resources (MENR), in order to facilitate the accomplishment of National Implementation Plan of the Stockholm Convention on persistent organic pollutants (POP), approved by Government Decision no. 1155 from 20th October 2004 and according to point 4.14) and 5.9) of MENR Regulation, approved by Government Decision nr. 573 from 13th June 2005.

Completed Projects:

- Project "Enabling Activities related to the implementation of the Stockholm Convention in the Republic of Moldova" (2002-2004);
- Grant for Preparation of Sustainable Persistent Organic Pollutants (POPs) Stockpiles Management Project (2004-2006);
- Moldova National Chemicals Management Case Study 2005;
- POPs Stockpiles Management and Destruction Project (2006-2010) (elimination of POPs pesticides, inventory of contaminated sites, pilot sites remediation;
- Canadian Grant for the Remediation of POP Pesticides Polluted Areas and Inventory of PCB Contaminated Oil in Power Equipment (2007-2008)
- SAICM Project (2007-2009).

POPs Stockpiles Management and Destruction Project (2006-2010):

The project activities were focused on the disposal of obsolete pesticides from 13 centralized warehouses in 11 districts. The goal of ensuring the destruction of 1,150 tons of obsolete pesticides was surpassed, reaching 1,292 tons. The project's objective also called for the destruction of 1,010 tons of PCB contaminated capacitors and excavation and shipment for destruction of 50 tons of PCB contaminated soil. These activities resulted in a full removal of PCB

contaminated capacitors from all known project sites in Moldova and the destruction of 934 tons of PCB contaminated capacitors (18,660 pcs.), including 9 tons (1,800 capacitors) unearthed from four burial pits in Vulcanesti. With regard to PCBs inventory, by the end of October 2010, four energy companies (CET-1, CET-2, CET-Nord, HES Costesti) finished their activities of inventory and sampling and presented oils to the laboratory for testing. Other four companies (Union Fenosa, Moldelectrica, RED Nord, RED Nord-Vest) continued these activities with the expected finish by the end of 2010. In addition to the above, an inventory and sampling works from small customers were completed in September 2010.

National Program for the Sustainable Chemicals Management in the Republic of Moldova for 2010-2015, approved by the Government on October 18, 2010 (Annex 2 – action plan for the implementation of the Stockholm Convention for 2010-2015)

5 ongoing projects for the elimination of the obsolete pesticides:

- MoE Project, Sustainable POPs Management Office, Elimination of liquid POPs obsolete pesticides, 2013-2014, National Ecological Fund;
- Nato Project – elimination of 956,74 t of solid obsolete pesticides, Nato PfP Trust Fund, 2013-2014;
- CzDA-2 Project (MoE), elimination of 197 t of solid and liquid OP in 2013-2015;
- FAO-EC Project (MAFI), elimination of 195 t of solid and liquid OP in 2013-2014;
- OSCE Project, 150 tons in Transnistrian region (OSCE project – repackaging and transportation for elimination (2013-2014)).

New policy and legal development:

Draft Law on chemicals (2013), draft Law on wastes (2013), draft Law on environmental protection (2013), new draft National Environmental Strategy 2014-2023, draft Regulation on GHS (2013) – to be submitted to the Government for approval by end 2013.

A. Inventory of POPs pesticides, obsolete pesticides in Moldova:

(collect data and fill-in the amounts in the categories below. The number should be divided into legacies and current production of waste)

Id	Category	Legacies/stockpiles (tons or m ³)	Production (t/year, m ³ /year)
2.A.1	Obsolete and POPs Pesticides	5,930 tons Including: 4000 tons barred in Chismichioi (Vulcanesti) landfill (protection/guarding and monitoring); 1780 tons stored in 20 warehouses (a number of project for elimination ongoing); 150 tons in Transnistrian region.	-
2.A.2	PCBs and PCBs contaminated equipment	Transported for destruction 18660 electric capacitors, containing PCBs (934 tons, including 90 tons of excavated ones Inventory of PCBs in other sectors (not energy companies) not completed	-
2.A.3	Dioxins	No data available on emissions (only calculations)	-
2.A.4	New POPs	General data available Details (Annex 2 – national report Questionnaire for submission of information on New POPs in accordance with SC-	-

		4/19)	
2.A.5	Empty containers	No data available	-
2.A.6	Fake pesticides	No data available	-
2.A.7	Soil contaminated with any of the above	Inventory database (see : http://pops.mediu.gov.md/)	-
2.A.8	Assessment of data quality and identification of significant waste streams: <i>(the collected information will provide input for the assessment of potential application of (new) technology for major mainstreams as e.g. DDT and HCH (section 4))</i>		

2. B. Inventory of organic hazardous waste streams in Moldova:

(collect data of the different classes of organic hazardous waste, e.g. oil waste, solvents etc.). Include data on contaminated soil)

Generation of hazardous wastes in Moldova: <http://www.statistica.md/category.php?l=ro&idc=99&>

1.3.16. DEȘEURI TOXICE

ТОКСИЧНЫЕ ОТХОДЫ
TOXIC WASTE

tone / тонн / tonnes

	2005	2006	2007	2008	2009	2010	2011	2012
Numărul întreprinderilor cercetate, unități Число обследованных предприятий, единиц Number of surveyed enterprises, units	780	777	816	892	875	886	716	938
Deșeuri formate Образовано отходов Waste generated	835	634	610	756	1125	404	528	418
Deșeuri utilizate Использовано отходов Waste used	271	780	1478	799	594	593	874	571
Deșeuri neutralizate (lichidate) Обезврежено (уничтожено) отходов Neutralized (liquidated) waste	64	264	440	256	36	65	112	51
Transportate la poligoanele deșeurilor menajere Вывезено на полигоны бытовых отходов Transported to domestic waste area	235	162	202	130	694	61	17	21
Deșeuri existente (la sfârșitul anului) Наличие отходов (на конец года) Existing waste (end-year)	7897	7426	6501	6530	6488	6504	6087	6360

Id	Category	Legacies/stockpiles (tons or m ³)	Produced haz waste (t/year, m ³ /year)
2.B.1	Oil wastes	Could be obtained in addition, if requested from National Bureau of	-



		Statistics	
2.B.2	Solvents wastes	Could be obtained in addition, if requested from National Bureau of Statistics	-
		
	...		
2.B.n	Soil contaminated with any of the above	Data not available, general information in the Annual Reports of the State Ecological Inspectorate and POPs Database	
2.B.n	Assessment of data quality and identification of significant waste streams:		

Current management practices in Moldova:

[describe current practices within POP and OP management and included situation regarding hazardous waste in general. Describe the benchmark against international practices]

Moldova is part of 19 Multilateral Environmental Agreements (MEAs). Their implementation has been coordinated by the Ministry of Environment and was reflected in many sector strategies. Inter-ministerial working groups, including key governmental agencies and NGOs were established, and the major work and promotion of the implementation of the conventions was possible due to the external assistance.

The implementation of the Stockholm Convention is coordinated by the MoE (NFP), Division of Pollution Prevention and Wastes Management and Sustainable POPs Management Office of the MoE. There is a inter-ministerial WG on Stockholm convention and one on SAICM.

The evaluation of the Global Environmental Fund projects portfolio in 2009 in Moldova demonstrated that since 1994, the GEF has invested about USD 21.72 million through 14 national projects, including five projects in biodiversity, four in climate change, two in international waters, two in POPs, and one multifocal project. The World Bank, with eight implemented projects totalling USD 18.64 million, has been the main channel for GEF support in Moldova followed by the UNDP (four projects worth USD 1.58 million). The implemented projects contributed greatly to capacity building of the environmental institutions, development of policy documents or reports in the domains covered and supported many practical actions within a number of MEAs.

Box1 illustrates how the Stockholm Convention on Persistent Organic Pollutants has been implemented in Moldova, thus significantly contributing to the implementation of the ***National Strategy for Reduction and Elimination of the Persistent Organic Pollutants*** adopted in 2004.

Box1. Stockholm Convention on Persistent Organic Pollutants: Major results of implementation 2002-2010

In Moldova implementation of the Stockholm Convention of POPs has led to the following key results:

- Development of the National Implementation Plan of the Convention (approved in 2004);
- Repackaging, transportation and final disposal of about 1,150 tons of POPs contaminated obsolete pesticides held in 10 (of the total 37) central storage sites in administrative districts. This constituted 38 percent of the total estimated 3,000 tons in warehouses throughout Moldova;
- Dismantling of 17,300 obsolete capacitors and excavation of 2,000 capacitors buried in two pits, packing in closed containers, shipment and as well as up to 50 tons of highly polluted soil from Vulcanesti substation destruction (approximately 1060 tons of material). This meant removal of all PCB containing capacitors and solving 80percent of PCB problem in closed systems in Moldova;
- Inventory, registration system, and national database for electrical equipment containing or contaminated with PCBs above a concentration of 50 ppm.
- Strengthened institutional capacities for POPs sustainable management.

Source: Sustainable POPs Management Office, MoE, Progress Report, 2012.



Box.2 State of POPs management, October 2013.			
Country/State	Quantity in tonnes (estimated) November 2008	Please fill in: Quantity in tonnes (estimated) October 2013	3 most important achievements in your country since 2009
Republic of Moldova	5,450	5,930 tons Including: 4000 tons barred in Chismichioi (Vulcanesti) landfill (protection/guarding and monitoring); 1780 tons stored in 20 warehouses (a number of project for elimination ongoing); 150 tons in Transnistrian region (OSCE project – repackaging and transportation for elimination (2013).	<ol style="list-style-type: none"> 1) 202 tons of OP eliminated in 2011-2013; 2) 5 projects initiated, in which 2120 tones of OP will be removed in 2013- 2015; 3) National inventory and mapping of POPs contaminated areas carried out (2009-2010), database containing approx. 1600 polluted sites available on web (http://pops.mediu.gov.md) 4) Remediation of 6 priority contaminated sites.

Note: Obsolete Pesticides Stockpiles in Moldova, kept in the Central district warehouses (7 May 2013): excel file indicate the current status and implementation of projects as of May 2013 (**Annex 1** - Obsolete Pesticides Stockpiles in Moldova kept in the Central district warehouses (7 May 2013) Excel).

The long-term sustainability of elimination of POPs and cleaning of the sites is still not guaranteed mainly due to the limited follow-up action at the national level. This is often linked to a lack of political commitment, partly explained by political instability, changes in institutional structures and personnel. Lack of nationally/locally available funding to build on the outcomes of donors-supported projects is also seen as a serious obstacle to sustainability. Many projects lack clear exit strategies; often there are not clear provisions for designating the institution which should take ownership of projects' results. Another significant aspect is the limited information on projects' lessons and results, even though there are many positive things to learn.

Existing and planned treatment options for POPs pesticides, obsolete pesticides and related hazardous wastes, contaminated land in Moldova

(Collect information on existing and planned treatment facilities)

4.1	4.2	4.3	4.4
Owner, Name and Address	Permit and treatment method	Capacity (ton/year)	In operation/planned operations from
Nn1	No	No	No
Nn2			
....			

Comments: No special treatment facilities exist the country and not planned. Hazardous waste incineration banned by the environmental legislation.

Treatment in cement kiln was examined, but rejected due to gaps in legislation on hazardous wastes incineration and due to strong opposition from NGOs and population side.



Proposed new treatment options for major specific high volume OP mainstreams like as e.g. DDT and HCH or other streams you have identified that would justify an investment for these specific waste streams

Indicate motivation for planned treatment facility(ies).....Please explain:

No treatment facilities planned to be built in Moldova

5.1 Thermal Technologies		5.2 Non-Thermal technologies	
Possible data on planned treatment facility(ies)		Possible data on planned treatment facility(ies)	
5.2 Amount and type of OP waste identified/suitable for such treatment:		5.2 Amount and type of OP waste identified/suitable for such treatment:	
1. Any specific requirements related to this waste necessary for any technology		5.3 Any specific requirements related to this waste necessary for any technology	
Comments:			
<p>2. Transportation logistics in Moldova:</p> <p><i>(describe national and international transportation logistics including the influence of the Russia-Belarus-Kazakhstan Customs Union)</i></p> <p>In-country and for transboundary shipment only road transport was used. In application are:</p> <ul style="list-style-type: none"> ○ ADR (transport rutier), ○ RID (railways), ○ ADN (river transportation), ○ ICAO TI (air transport) <p>with the use of the Fourth Edition of the GHS (2011). GHS Regulation developed, to be approved by the Government – plans: by end 2013 or in 2014.</p>			
5.1	5.2	5.3	5.4
Owner, Name and Address	Access by road/rail/waterway	Operation nationally /internationally	Transport permit issues (if any)
Nn1	Yes	Yes	Yes
Nn2			
....			
Comments: Notifications issued by the MoE			

Conclusion of finding in Moldova:

Priority actions needed:

- Adoption of the new legislation on chemicals and wastes;
- Strengthen institutional capacities in the field of POPs (in the MoE, EPA (planned), SEI);
- Repackaging, transportation for elimination of the remained obsolete pesticides;
- Remediation of POPs contaminated sites (warehouses, solution preparation points and contaminated soil);
- Protection and monitoring of the pesticides landfill site in Vulcancesit;



- Improvement of POPs and PCBs monitoring capacities;
- Improve capacities for international reporting;
- Awareness and information for population.

Major issues within the need for improved legislation for chemicals management in Moldova include:

☐ Insufficient application of the Law on the administration of hazardous substances and products (lack of a register of chemicals, lack of evidence of their use etc), incompatibility of these with the international initiatives and actual requirements essential for chemicals management vis-avis production, trade, packaging, classification and labelling of chemical substances;

☐ Even though the procedure for imports is authorized by the Chamber of License and approved by some relevant Ministries according to the requirements, a re-examination of procedures is needed. Establishing a database which would register the quantities of imported and used chemicals should be a significant step in estimating risk associated with their use. The establishment of

registry of chemical substances/products, is mentioned in the Law on the regime of dangerous products and substances, and will be an important component in the management of chemicals;

☐ The existing control system, including the procedures for licensing of chemical imports (does not regulate the spectrum and quantity of imported substances) doesn't comply with the principles of Globally Harmonized System of Classification and Labelling of Chemicals which sets out the basis for a global security programme for chemical products and substances;

☐ Issues raised at the international level related to management of waste, specific to substances such as asbestos from construction and demolition waste, the content of heavy metals in diverse products such as batteries, paints, mercury etc, are not in the focus of central public administrative authorities;

☐ Sectoral management of chemicals (by branches of the economy) does not correspond with agreements of international conventions ratified by Moldova (there are no restrictions on the use of some chemicals (POPs, heavy metals, etc) and use of chemicals is not regulated in accordance with accepted international standards; chemicals used in industry are not subject to supervision by the central public policy bodies with the exception of hazardous chemical substances;

☐ Legislation specific to the issue of chemicals management, including strategies and national policies do not include provisions vis-a-vis promotion of SAICM initiatives for sustainable chemicals management, including achievements of the Millennium Development Goals, including education and public awareness activities.

Considered through the concept of sustainable development and the perspective of adhering to EU legislation the new approach for chemicals management in conformity with ratified agreements and conventions is required. European legislation is the starting point for a number of states for the elaboration of national legislation and successfully represents a cooperative model between states.

One of the most important strategies for the achievement of sustainable development is the promotion of a legislative system coherent with current requirements at the international level.

Any other comments: **Useful documents and reports:**

(state any other comment(s) that is relevant for the understanding of the situation in your country)

Annex 3: Questionnaire for submission of information on ways to support the Stockholm Convention pursuant to decision SC-4/24 (2010)

Annex 4: Concept of POPs Information Management and Reporting System and Monitoring Network (2011)



Food and Agriculture
Organization of the
United Nations



Annex 5: Questionnaire for submission of information on New POPs in accordance with SC-4/19

**Questionnaire for submission of information on
New POPs in accordance with SC-4/19**

PART I – General information on the submission

Date of submission	
Name of the submitting Party/observer	Republic of Moldova
Contact details (name, address, telephone, e-mail)	Liudmila Marduhaeva, Ministry of Environment 9, Cosmonautilor St., MD-2005 Chisinau, Republic of Moldova Tel.: +(373 22) 20 45 26 Fax: +(373 22) 22 62 54 / 22 68 58 E-mail: Liudmila@moldovapops.md
Information sources: (Industry groups, private entities, NGOs, government, universities, sites, waste treatment plants, facilities, landfills, etc.)	Government, POPs Office, Institute of Geology and Seismology (GEOLAB)

PART II – Commercial PentaBDE (tetra- and pentabromodiphenyl ether) and commercial OctaBDE (hepta- and hexabromodiphenyl ether)

SECTION A – GENERAL QUESTIONS

II-A-1 Has your country ever manufactured articles containing commercial PentaBDE or commercial OctaBDE? (Please see Part II - Section B for a list of articles potentially containing commercial PentaBDE or commercial OctaBDE)

- ☐ Yes (Please also answer the more detailed questions in section B)
☒ **No**
☐ Unknown

II-A-2 Do you have information on articles in use in your country containing commercial PentaBDE or commercial OctaBDE, including concentrations of those substances in articles?

- ☐ Yes (Please also answer the more detailed questions in section B)
☒ **No**

II-A-3 If possible, please provide information on articles containing commercial pentaBDE and octaBDE that are recycled in your country. Please add additional rows if necessary.

There is no any information about articles containing commercial pentaBDE and octaBDE that are recycled in the Republic of Moldova. Need to be inventoried.

Types of articles recycled	Congener or commercial mixture	Rate of recycling of articles (%)
1.		
2.		
3.		

II-A-4 What types of new articles are produced from recycled articles which contained commercial pentaBDE and octaBDE?

No data on the types of new articles that might be produced from recycled articles which contained commercial pentaBDE and octaBDE is available for Republic of Moldova. Need to be inventoried.



II-A-5 Are there any legal or other frameworks (e.g. voluntary agreement, license conditions, extended producer responsibility, export control, labelling requirements, etc.), for waste management and/or recycling of articles containing polybrominated diphenyl ethers under development or currently being implemented in your country? Please add additional rows if necessary.

☐ Yes ☐ No ☐ Unknown

There is only a general legal framework in the field of chemicals and waste management. At the same time actually draft Law on waste is under development. Provisions on POPs waste / stockpiles management, including polybrominated diphenyl ethers, extended producer/holder responsibility and other relevant provisions has included into new draft Law on waste.

If yes, please describe these frameworks and indicate references. Please add additional rows if needed.

	Description (entry into force, elements of framework, concerned entities, etc.)	Reference
Framework for waste management of articles containing PBDE		
Framework for recycling of the articles containing PBDE	Need to be established	

II-A-6 Please identify methods you are aware of for identifying the presence and levels of commercial pentaBDE and octaBDE in articles. Please add additional rows if necessary.

Type of material	Method	Reference
1. PentaBDE and octaBDE in articles	No information available. Need to be identified.	
2.		
3.		

II-A-7 Please describe recycling operations in your country for articles potentially containing commercial pentaBDE and octaBDE (e.g. large scale commercial recycling of plastics or foams, small backyard recycling of electronic equipment, etc.). Please add additional rows if necessary.

Recycling Operation	Description	Potential releases of commercial pentaBDE and octaBDE
1.	No information available. Need to be identified.	Not evaluated
2.		
3.		

II-A-8 Please describe measures for the environmental management of recycling operations under development or currently implemented in your country (e.g. flue-gas treatment, water treatment, etc.). Please add additional rows if necessary.

Measures for the environmental management of recycling operations	Description (e.g., effectiveness including cost effectiveness, waste by-products, etc.)
1. No information available. Need to be established.	No data
2.	
3.	

II-A-9 Please provide a list of methods in development or in use for the disposal of articles containing commercial pentaBDE and octaBDE (e.g., environmentally sound disposal, low technology methods, etc.). Please add additional rows if necessary.

Such list does not exist yet. Need to be established.

Methods for the environmentally sound disposal	Description (e.g., effectiveness including cost effectiveness, releases, technology in use, etc.)
1. N/A	Not evaluated
2.	
3.	

II-A-10 If your country has identified sites contaminated by commercial pentaBDE and octaBDE e.g. from production and compounding sites or open burning areas, please describe environmentally sound methods used in your country for the remediation of these sites. Please add additional rows if necessary.

Not identified yet. Need to be identified.

Remediation methods for contaminated sites	Description (e.g., technology in use, effectiveness including cost effectiveness, etc.)
1.	
2.	
3.	

II-A-11 Please provide any other related information that may be useful for the work programme to facilitate the elimination of commercial pentaBDE and octaBDE listed under the Stockholm Convention.

Activity on inventory of new POPs, including commercial pentaBDE and octaBDE, has included in draft National Programme on Sound Management of Chemicals in the Republic of Moldova. The draft Government Decision on Approval of the National Programme on Sound Management of Chemicals in the Republic of Moldova has submitted to Government for examination and approval.

SECTION B – DETAILED QUESTIONS

Categories of articles potentially containing commercial OctaBDE and commercial PentaBDE could include, but are not limited to, the following:

1. Electronic equipment
 - Housings of electronic products (e.g. computers monitors)
 - Small encapsulated electronic components
 - Technical laminates
 - Printed circuit boards
 - Dashboards in automobiles
 - Major appliances (e.g. equipment in refrigerators, etc.)
 - Telephones and mobiles
2. Products for buildings/construction
 - Building films
 - Conveyor belts
 - Coatings for chemical processing plants moulds
 - Construction panels and rigid foams
 - Pipes and fittings
 - Foam insulation for pipes
3. Wire and cables
 - Cable sheaths
 - Wiring components
4. Textiles
 - Cushioning materials
 - Mattresses
 - Protective clothing
 - Carpets and rugs (including polyurethane underlay)
 - Curtains
 - Upholstery fabrics
 - Tents
 - Other technical textiles
 - Carpet backing and impregnated carpet fabric
5. Transportation sector
 - Moulded and slab foams for automotive parts
 - Vehicle seats
 - Automotive parts and trim
6. Other applications
 - Packaging
 - Padding
 - Toys
 - Furniture
 - Small appliances (e.g. housewares, tools, etc.)

II-B-1 Please indicate the types and quantities of articles containing commercial PentaBDE or commercial OctaBDE that were manufactured in your country including concentrations of those substances in the articles. Please also indicate any additional information, such as the years you are referring to, the year when production was stopped, estimates or assumptions used for calculations, the estimated lifetime of products, etc. Please add additional rows as required to include other types of articles. If you do not have information on any of the elements, please indicate “no data”.

Types of articles	Congener or commercial mixture	Estimated content [% by weight]	Quantities of articles manufactured [kg/year]	Annual amount of PBDE in articles [kg/year]	Comments (e.g. year, assumptions, references, applied emission factors, etc.)	Estimated lifetime of products
EXAMPLES						
ARTICLE X	<i>BDE-153</i>	<i>2%</i>	<i>5000 kg/year</i>	<i>100kg/year</i>	<i>Production from 1995-2000</i>	<i>10 years</i>
ARTICLE X	<i>BDE-175</i>	<i>0.2%</i>	<i>2500 kg/year</i>	<i>5kg/year</i>	<i>Production from 1997-2003</i>	<i>7 years</i>
1. Electronic equipment	No data	Not estimated				
2. Products for buildings/construction	No data	Not estimated				
3. Wire and cables	No data	Not estimated				
4. Textiles	No data	Not estimated				
5. Transportation sector	No data	Not estimated				
6. Other applications	No data	Not estimated				
Total						

II-B-2 Please indicate the types and quantities of articles containing commercial PentaBDE or commercial OctaBDE that currently exist in your country including concentrations of those substances in the articles. Please also indicate any additional information, such as the years you are referring to, the year when production was stopped, estimates or assumptions used for calculations, the estimated lifetime of products, etc. Please add additional rows as required to include other types of articles. If you do not have information on any of the elements, please indicate “no data”.

Types of articles	Congener or commercial mixture	Estimated content [% by weight]	Quantities of articles in use [kg]	Annual amount of PBDE in articles [kg]	Comments (e.g. year, assumptions, references, applied emission factors, etc.)	Estimated lifetime of products
EXAMPLES						
ARTICLE X	<i>BDE-153</i>	<i>2%</i>	<i>5000 kg</i>	<i>100kg</i>	<i>Data from 2007</i>	<i>10 years</i>
ARTICLE X	<i>BDE-175</i>	<i>0.2%</i>	<i>2500 kg</i>	<i>5kg</i>	<i>Data from 2005</i>	<i>4 years</i>
1. Electronic equipment	No data	Not estimated				
2. Products for buildings/construction	No data	Not estimated				
3. Wire and cables	No data	Not estimated				
4. Textiles	No data	Not estimated				
5. Transportation sector	No data	Not estimated				
6. Other applications	No data	Not estimated				
Total						

PART III – Perfluorooctane sulfonic acid (PFOS), its salts and perfluorooctane sulfonyl fluoride (PFOSF)**SECTION A – GENERAL QUESTIONS**

III-A-1 Has your country ever manufactured or is it still manufacturing articles containing PFOS, its salts or PFOSF? (Please see Part III - Section B for a list of articles potentially containing these chemicals)

- ☐ Yes (Please also answer the more detailed questions in section B)
- ☒ **No**
- ☐ Unknown

III-A-2 Do you have information on articles in use in your country containing PFOS, its salts or PFOSF, including concentrations of those substances in articles?

- ☐ Yes (Please also answer the more detailed questions in section B)
- ☒ **No**

III-A-3 Are there legal and other frameworks (e.g. voluntary agreement, licence conditions, extended producer responsibility, export control, labelling, etc.) for processes using PFOS, its salts or PFOSF and for recycling operations of articles containing these chemicals under development or currently implemented in your country? **There is only a general legal framework in the field of chemicals and waste management. At the same time actually draft new Law on chemicals and draft new Law on waste are under development.**

☐ Yes ☐ No ☐ Unknown

If yes, please describe these frameworks, indicate references and add additional rows if needed.

	Description (entry into force, elements of framework, concerned entities, etc.)	Reference
Framework for processes using PFOS, its salts or PFOSF	Need to be established.	
Framework for recycling of the articles containing PFOS, its salts or PFOSF		

III-A-4 Does your country use PFOS, its salts or PFOSF in processes (please see Section B for a list of processing potentially using these chemicals) ?

- ☐ Yes (Please also answer the more detailed questions in section B)
- ☐ No
- ☒ **Unknown**

III-A-5 Does your country recycle articles that contain PFOS, its salts and PFOSF? (e.g. articles such coated fabrics or packaging recycled commercially on a large scale or articles recycled on a small scale by communities, etc.)

- ☐ Yes (Please also answer the more detailed questions in section B)
- ☐ No
- ☒ **Unknown**

Q6. Please indicate methods you are aware of for identifying the presence and levels of PFOS, its salts and PFOSF in articles. Please add additional rows if necessary.

Type of material	Method	Reference
1.		
2.		
3.		

III-A-7 If your country has identified sites contaminated by PFOS, its salts and PFOSF such as production and compounding sites, please describe environmentally sound methods used in your country for the remediation of these sites. Please add additional rows if necessary.

Not identified yet. Need to be identified.

Remediation methods for contaminated sites	Description (e.g., technology in use, effectiveness including cost effectiveness, etc.)
1.	
2.	
3.	

III-A-8 Please provide any other related information that may be useful for the work programme to facilitate the elimination of PFOS, its salts and PFOSF listed under the Stockholm Convention.

Activity on inventory of new POPs, including PFOS, its salts and PFOSF, has included in draft National Programme on Sound Management of Chemicals in the Republic of Moldova. The draft Government Decision on Approval of the National Programme on Sound Management of Chemicals in the Republic of Moldova has submitted to Government for examination and approval.

SECTION B – DETAILED QUESTIONS

Categories of articles containing or processes using as an intermediate PFOS, its salts and PFOSF could include, but are not limited to, the following:

1. Articles

- Impregnation of packaging (paper/cardboard)
- Impregnation/surface protection of clothing, footwear, rugs, carpets, furniture with leather or textile fabrics, etc.
- Medical devices (ethylene tetrafluoroethylene copolymer (ETFE) layers and radio-opaque ETFE production, in-vitro diagnostic medical devices and CCD color filters)
- Aviation hydraulic fluids
- Insect baits for control of leaf-cutting ants and insecticides for red imported fire ants and termites
- Electric and electronic parts for some color printers and color copying machines
- Some rubber and plastics and some coatings and coating additives

2. Industrial processes

- Metal plating
- Etching agent for compound semi-conductors and ceramic filters
- Photo masks in the semiconductor and liquid crystal display (LCD) industry
- Photo imaging
- Photo-resist and anti-reflective coatings for semi-conductor production
- Chemically driven oil production

3. Consumer products

- Cleaning agents, waxes and polishes for cars and floors
- Waxes for skiing
- Paints and varnishes

III-B-I Please indicate:

- Types and quantities of articles containing PFOS, its salts or PFOSF that are/were manufactured in your country (include concentrations of these substances)
- Processes using/that used these chemicals
- Any additional information, such as the years you are referring to, estimates or assumptions used for calculations, etc.

Please add additional rows as required to include other types of articles and processes. If you do not have information on any of the elements, please indicate “no data”.

Types of articles	Specify compound	Estimated content [% by weight]	Quantities of articles manufactured [kg/year]	Annual amount of compound in articles [kg/year]	Comments (e.g. year, assumptions, references, applied emission factors, etc.)
EXAMPLES					
ARTICLE X	PFOS-X	2%	5000 kg	100kg	
ARTICLE Y	PFOS-Y	0.2%	2500 kg	5kg	
1. Articles	No data	Not estimated			
2. Industrial processes	No data	Not estimated			
3. Consumer products	No data	Not estimated			
4. Others	No data	Not estimated			
Total					

III-B-2 Please indicate the types and quantities of articles containing PFOS, its salts or PFOSF that currently exist in your country including concentrations of those substances in the articles. Please also indicate any additional information, such as the years you are referring to, estimates or assumptions used for calculations, etc. Please add additional rows as required to include others types of articles. If you do not have information on any of the elements, please indicate “no data”.

Types of articles	Specify compound	Estimated content [% by weight]	Quantities of articles in use [kg]	Annual amount of PBDE in articles [kg]	Comments (e.g. year, assumptions, references, applied emission factors, etc.)
EXAMPLES					
ARTICLE X	PFOS-X	2%	5000 kg	100kg	
ARTICLE Y	PFOS-Y	0.2%	2500 kg	5kg	
1. Articles	No data	Not estimated			
2. Consumer products	No data	Not estimated			
3. Others	No data	Not estimated			
Total					



III-B-3 Please describe existing processes using PFOS, its salts or PFOSF in your country, indicate the specific names and concentrations of the chemicals used (including the precursors⁵) and provide information on releases and potential releases resulting from such processing operations. Please add additional rows if necessary.

Types of process using PFOS, its salts or PFOSF	Description (e.g. technology used, specific names and concentrations of chemicals, potential and actual releases of PFOS, its salts and PFOSF, etc.)
1. N/A	Not evaluated
2.	
3.	

(a) Need to be identified.

(b)

III-B-4 Please describe measures for the environmental management of processes using PFOS, its salts or PFOSF in development or implemented in your country (e.g. flue-gas treatment, water treatment, etc.). Please add additional rows if necessary.

Measures for the environmental management of processes using PFOS, its salts or PFOSF	Description (e.g., effectiveness including cost effectiveness, waste by-products, etc.)
1. No information available	No data
2.	
3.	

Need to be established.

III-B-5 Please list articles, recycled in your country, that contain PFOS, its salts and PFOSF. Please add additional rows if necessary.

Types of articles recycled	Compound/precursor	Rate of recycling (%)
1. No data on articles, recycled in the Republic of Moldova, that might contain PFOS, its salts and PFOSF	No data	No data
2.		
3.		

Need to be identified.

III-B-6 What types of articles are produced from recycling articles which contained PFOS, its salts and PFOSF?

No data. Need to be identified.

III-B-7 Please describe recycling operations in your country for articles potentially containing PFOS, its salts and PFOSF. Please add additional rows if necessary. Need to be identified.

Recycling Operation	Description	Potential releases of PFOS, its salts and PFOSF resulting from recycling operations	If possible, cost of recycling per ton of article
1. No information available		Not evaluated	
2.			
3.			

⁵ The term "precursors" is used here to indicate other compounds that may be transformed into PFOS in the environment.

III-B-8 Please describe measures for the environmental management of recycling operations in development or implemented in your country (e.g. flue-gas treatment, water treatment). Please add additional rows if necessary.

Measures for the environmental management of recycling operations	Description (e.g., effectiveness including cost effectiveness, waste by-products, etc.)
1. No information available. Need to be established.	No data
2.	
3.	

(c) PART IV – Other chemicals listed in Annex A at the fourth Meeting of the Conference of the Parties

(d)

(e) **IV-1-a** Please indicate if any one of the following chemicals is contained in articles in your country?⁶

(f) No information available. Need to be identified.

- (g) ☐ Lindane
- (h) ☐ Alpha-HCH
- (i) ☐ Beta-HCH
- (j) ☐ Chlordane
- (k) ☐ Hexabromobiphenyl
- (l) ☐ Pentachlorobenzene

(m) **IV-1-b** If 'yes' for any of the above chemicals, please provide information on the extent to which such chemicals occur in articles (e.g., types of articles, percent content of the chemical in the articles, if possible quantities of each article or category of article in metric values, etc.) ?

(n)

(o) **IV-2-a** Please indicate if you have stockpiles of the following chemicals?

- (p) ☒ Lindane
- (q) ☒ Alpha-HCH
- (r) ☒ Beta-HCH
- (s) ☐ Chlordane
- (t) ☐ Hexabromobiphenyl
- (u) ☐ Pentachlorobenzene

(v) **IV-2-b** If 'yes' for any of the above chemicals, please provide information on the extent to which these chemicals present a risk of human exposure from stockpiles (e.g. condition and size of stockpile, security, planned intervention to safeguard the site, proximity to local population or vulnerable groups, etc.)? Please explain how you are defining a 'stockpile' in the information you provide below.

The risk is moderately reduced as long as all stocks of obsolete pesticides have been repacked in the central warehouses under control of local authorities. There is no access of local population to central warehouses. All stockpiles are repacked in the UN approved plastic and steel drums ready for final disposal planned for the next coming years.

(w)

(x) **IV-3-a** Please indicate if you have sites contaminated with any of the following chemicals?

- (y) ☒ Lindane
- (z) ☒ Alpha-HCH
- (aa) ☒ Beta-HCH
- (bb) ☐ Chlordane Need to be investigated
- (cc) ☐ Hexabromobiphenyl Need to be investigated
- (dd) ☐ Pentachlorobenzene Need to be investigated
- (ee)

(ff) **IV-3-b** If 'yes' for any of the above chemicals, please provide information on the extent to which these chemicals present a risk of human exposure from contaminated sites (e.g., condition and size of contaminated

⁶ According to note (ii) found in Annex A and in Annex B of the Convention, quantities of a chemical occurring as constituents of articles manufactured or already in use before or on the date of entry into force of the relevant obligation with respect to that chemical, shall not be considered as listed in this Annex, provided that a Party has notified the Secretariat that a particular type of article remains in use within that Party.

site, security, planned intervention to safeguard the site, proximity to local population or vulnerable groups, etc.)? Please explain how you are defining a 'contaminated site' in the information you provide below.

Identification of contaminated sites with POPs, including new POPs such as Lindane, alpha-HCH and beta-HCH, its mapping and elaboration of electronic data base have been effectuated in the framework of the GEF PPG No. TF055875 "POPs Stockpiles Management and Destruction Project" during period 2009-2010. Actually this activity is at final stage of report preparation and effectuation of training for users of electronic data base.

Some results:

- 1588 POPs contaminated sites have been identified and investigated.
- Environment and health risk zones have been identified.
- Electronic data base using the GIS technology has been elaborated.

In nearest time the report and data base will be available at WEB: www.moldovapops.md.

The following ranging for contamination site was proposed:

- no contamination – POPs level in soil < 0,10 mg/kg;
- low contamination – POPs level in the interval 0,10 – 1,0 mg/kg;
- middle contamination – POPs level in the interval 1,0 – 10,0 mg/kg;
- high contamination – POPs level in the interval 10,0 – 50,0 mg/kg;
- extra high contamination – POPs level more 50,0 mg/kg;
- super extra high contamination – POPs level more 250,0 mg/kg

Investigated HCH and Lindane polluted sites present risk for environment and local population, because pollution level more that 10,0 mg/kg for soil and there is free access for local population and animals. Some sites have placed near by residential areas and water basins.

The maximal determined concentration for Alpha-HCH, Beta-HCH and Lindane is presented below in table.

Pollution level clusters, mg/kg	Alpha-HCH		Beta-HCH		Gamma HCH Lindane		Total HCHs	
	n	%	N	%	n	%	n	%
> 250	15	0.9	12	0.7	7	0.4	30	1.81
250 – 50.0	25	1.5	43	2.6	10	0.6	48	2.90
10.0 - 50.0	40	2.4	85	5.1	32	1.9	115	6.95
1.0 - 10.0	163	9.8	330	19.9	143	8.6	412	24.89
0.1 - 1.0	466	28.2	563	34.0	346	20.9	636	38.43
< 0.1	946	57.2	622	37.6	1117	67.5	414	25.02
Maximal concentration, mg/kg	3725.0		39878.0		3713.0		39879.0	

Annex 6: Priorities for 2010-2015-2020

Priorities for 2010-2015-2020

Annex nr. 3

To the National Program on the Sustainable management of chemicals in the Republic of Moldova (2010).

Priorities and needs for the implementation of the Stockholm Convention in Moldova for 2010-2015

Nr.	Priorities and actions	Cost, USD	Notes (current state)
1	Strengthening of the legal and institutional base in the field of POPs management	1,700,000	Partially implemented
	Development of the regulations and instructions for the application of the Law on chemicals and Law on wastes, including provisions on POPs management	500,000	Partially implemented, regulations need to be finalised and approved
	Establishment of the Chemicals Management Agency, which will cover the POPs management	450,000	Legal base developed, but not yet adopted
	Development of the legal base for the Centre for toxic wastes management, which will cover the POPs management	450,000	Legal base developed, but not yet adopted
	Development of the normative base for the prevention/reduction of the unintended POPs emissions, mentioned in the Annex C of the Stockholm Convention and the Annex III of the POPs Protocol of the CLRTAP	300,000	Art. 5
2	Management of the emissions of POPs, generated intentionally	2,100,000	Art. 3, 4 Partially implemented
	Development, maintainance and updating of the national inventory of PCBs (in open and closed systems)	650,000	Ongoing, planned to be finished in the first half 2014
	Implementation of actions for taking out and elimination of the PCBs contaminated equipment	1,200,000	Will be reflected in the updated NIP
	Inventory of new POPs according to the Stockholm Convention and Protocol on POPs of the CLRTAP	250,000	
3	Reduction of emissions of POPs, generated unintentionally	14,450,000	Art. 5
	Development, maintainance and updating of the emission inventory of the unintended POPs emissions	800,000	Will be reflected in the updated NIP
	Development of the prevention/elimination measures for unintended POPs emissions	300,000	
	Implementation of prevention/elimination measures for the burning of wastes on landfills	12,000,000	
	Establishment of the Centre for toxic wastes management with the goal of elimination of Dioxins and Furans and other POPs, mentioned in the Annex C of the Stockholm Convention and the Annex III of the POPs Protocol of the CLRTAP	1350,000	
4	Measures for the reduction of risks related to the POPs contaminated sites	7,450,000	
	Collection, storage and transportation for elimination of 2000 tonns of obsolete pesticides from 22 rayons		Ongoing, 5 projects under implementation, planned to be finished by end 2015
	Ensure environmental security of the Chismichioi (Vulcanesti) pesticides landfill, with a program of		Periodical conservation and monitoring works

	monitoring		Proposal to FAO/IHPA submitted on the Feasibility study (for the new GEF regional project)
	Development and updating of the national inventory of the POPs contaminated sites and their permanent monitoring	500,000	
	Development of the Program of remediation of the POPs contaminated sites	450,000	Key priority for 2014-2020
	Implementation of actions for the remediation of the POPs contaminated sites	6,500,000	Key priority for 2014-2020
5	Update the National Implementation Plan for the Ctockholm Convention, in sinergy with Rotterdam and Basel Conventions and SAICM provisions	150,000	Art. 7 Priority for 2014-2015
6	Awareness actions and enviornmental education in the field of POPs	820,000	Art. 10
	Public information, development of education programmes, development of economic agents, public participation and information dissemination measures	420,000	Partially ongoing, will be reflected in the updated NIP
	Access to information on POPs, including to the national POPs inventory - development of the PRTR	150,000 200,000	Priority for 2014-2015
	Organisation of trainings for public servants and managers from central and local public administration on responsibilities according to the Stockholm and Rotterdam Conventions	50,000	
7	Strengthening of the monitoring and control capacities in the field of POPs	1250,000	Art. 11
	Development of the research program and of the mecanisms of POPs monitoring in the enviornment, in drinking water, products and in air	500,000	
	Development of the laboratory capacities of the State Ecological Inspectirate, including promotion of standards for sampling of POPs and validity of inventory	500,000	National Enviornmental Reference Laboratory establishment foreseen in the draft Law on enviornment and National Enviornmental Strategy 2014-2020
	Development and strengthening of the capacities of the research institutions for the implementation of related provisions of the Stockholm and Rotterdam Conventions	250,000	
8	Strengthening of the capacities for the reporting in the field of POPs	170,000	Art. 15
	Establishment of the data collection system for the reporting (national and international) in the field of POPs	120,000	
	Development of the statistical reporting forms on POPs management	50,000	
	TOTAL	28,090,000	

Annex 7: Overview official volumes of disposal at Vulcanesti Landfill 1978, 1982, 1986, 1987
(Original in Russian)

Перечень пестицидов, захороненных в Вулканештском районе (на могильнике)					
(тонн)					
наименование пестицидов	! 1978 г	! 1982 г	! 1986 г	! 1987	
I	2	3	4	5	
Шашки Г-17	(шт) 800				
ДДТ технический	86.3	21.2			
Немагон гранул.	247.3	39.7			
Цинеб	10.5	7.8			10.2
Цирам	38.8	11.4			3.8
ТМТД	7.3	0.6			15.8
ДДТ 5.5%	134.3	35.2			
ДДТ 30%	292.7	26.2			18.2
Купритокс	0.7				
Нитрафен	0.8	44.5			
Куприкол	1.2				
ГХП 12%, 25%	30.3	53.5			12.8
Эфирсульфонат	10.5	3.5			25
Атразин	1.8				11.2
Симазин	1.7	17.3			12.9
Далапон	13.1	8.1			9.5
Карботион	37.4	86.7			
2.4-Д аминная соль	78.6	70.3			
Севин	11.6	0.6			9.3
Рогор	2.1				
Зеазин	2.2	4.5			
Натриевая соль	7.3				1.3
Хлорофос	6.3	10.9			
Карболинеум	2.5	21.1			
Полихлоркамфен	13.4	91			
Д.Н.О.К.	0.4	2.8			0.6
ДХМ	0.3				2.8
Новозир	8.8				
Хлорат магния	0.7	5.9			
ГХП технический	15.6				1.5
Железный купорос	7.3				
Сера молотая	26.6	18.6			6.9
ДДТ 75%	22.6				
Тритокс	6.7				
Т.Х.А.Н.	3.6				1.5
Фундазол					0.1
2М-4ХМ					1.1
Линдан					0.2
Литокс	23.4	4.2			
Сера коллоидная	7.0	9.6			
Препарат АБ	8.4				
Восфатокс	4.4	18.6			6.2
Гранозан	5.3	6.3			
Энтобактерин	27.4	43.1			0.9
ДДТ 15%	3.1				
Дикол	1.8	3.9			
Хлорокись меди	0.1	2.6			
Хомецин	1.7	11			0.3
Арсенат вальция	9.1				
Парижская зелень	0.3				0.2

I	! 2	! 3	! 4	! 5
Косан	10.7			0.4
Полихлорпинен	37.1			
Неизвестные сыпучие	239.6			440.9
Пентатиурам	0.7			0.2
Кельтан	12.3			
Препарат 30	39.8			
Метатион	0.1			0.2
Метабиосульфат	0.1			
Нафтенат меди	12.2			11.3
ГХЦГ 20%	14.3			
ГХЦГ 16%	2.1			
2,4-ДБ	3.7			2.5
Перозин	13.2			4.3
Т у р	10.9			
Паста ДДТ	14.3			
Трихлороль-5	10			
Метафос	20			1.0
Сера 80%	17.6			
Политриазин	24			43
Трефлан	0.2			
Дендробациллин	6.3			0.1
Тиосульфат	1.4			2.7
Хунгазин				0.3
Олгин				0.5
Прометрин				
НРВ	0.4			
Фталофос	3.6			
Бетанал	0.2			
АНТИО	0.4			
Зеапос	0.1			0.3
Карбофос	1.9			
Метальдегид	0.3			
Метилпаратон	1.0			
Поликарбацин	0.8			
Редион	1.5			
Фозалон	0.2			
Анабазин-сульфат	0.1			
Дозанекс	0.3			
Нафталин	2.4			
Оф Шут	1.4			
Линурон, Афалон				6.8
Энид				10.9
Тиазон				21
Фентиурам				0.5
2,4-Д бутиловый эфир				2.3
Рамрод				4.0
ТМТД				1.1
Диффенамид				8.0
Медный купорос				8.0
Хлорофос 7%				0.6
Ровикурт				1.5
Тилт				4.2
Изофен				0.5
Радокор				1.7
Полихом				0.5
Вензар				0.1
Бензофосфат				0.5
Семерон				0.1
Тетрал				0.2
Дитокс				0.1
110 смесь пестицидов с ж/б конструкциями после пожара	800			
Итого:	1224	1206	800	737

Annex 8: PCB inventory results from electric companies (January 2012) (Original in Moldavian)

Rezultatele inventarierii BPC la întreprinderile electroenergetice (ianuarie 2012)

Întreprinderea / deținătorul	Întreprinderi											Laboratorul testare					Laboratorul analiza GC (SHS)				
	Unități echipament declarate inițial	Unități echipament declarate în 2012	Unități de echipament supus inventarierii	Diferența	Recipiente primite apr. 2009	Recipiente primite nov.+dec. 2009	Total recipiente primite	Probe prelevate	Echipament rămas	Probe prezentate la testare	Probe ramase	Probe primite la testare	Probe testate	Probe ramase	Probe cu Clor > 50 ppm	Din acestea transmise la analiza GC	Probe ramase	Probe primite la analiza GC	Probe analizate GC	Probe ramase	Probe cu BPC > 50 ppm
MOLDELECTRICA	8710	10805	4212	6593	500	7000	7500	4212	0	4212	0	4212	4212	0	895	585	310	592	360	232	104
RED Union Fenosa	10443	10163	9869	294	2500	4420	6920	9869	0	9869	0	9869	9869	0	815	815	0	830	525	305	61
CET-1, Chisinau	71	71	71	0	160		160	71	0	71	0	71	71	0	7	7	0			0	
CET-2, Chisinau	184	177	169	8	290		290	169	0	169	0	157	157	0	0	0	0			0	
RED Nord	3719	3577	3577	0	1420	2300	3720	3577	0	3577	0	3577	3530	47	205	205	0	208	83	125	1
RED Nord-Vest	2102	2055	2055	0	815	1280	2095	2012	43	2012	0	1926	1849	77	103	103	0	103	5	98	2
CET-Nord, Bălți	229	160	160	0	230		230	160	0	160	0	159	159	0	5	5	0	5	5	0	
CHE Costești	82	82	82	0	85		85	82	0	82	0	80	80	0	15	15	0	15	15	0	1
Total Întreprinderi	25540	27090	20195	6895	6000	15000	21000	20152	43	20152	0	20051	19927	124	2045	1735	310	1753	993	760	169
Consumatori Nord				0				0	0	0	0			0			0			0	
Consumatori Centru				0				0	0	0	0			0			0			0	
Consumatori Sud				0				0	0	0	0			0			0			0	
Total Consumatori	7849	7849	7849	0	0	7849	7849	7849	0	7849	0	7849	7849	0	654	654	0	653	501	152	132
Grand TOTAL	33389	34939	28044	6895	6000	22849	28849	28001	43	28001	0	27900	27776	124	2699	2389	310	2406	1494	912	301