

Working Document
Management of Obsolete
Pesticides
Republic of Azerbaijan



Food and Agriculture
Organization of the
United Nations



Content		
Part I	Part I – The Assessment of the legal framework on the pesticides waste management in the Republic of Azerbaijan	4
Section I	General background information (International Treaties participation)	4
Section II	Regulatory framework on waste management	5
Chapter I	Political & legal framework	5
Chapter II	Specific laws and regulations that govern waste management	5
Chapter III	Institution(s) involved in waste management (focus on pesticides)	7
Section III	Analysis of existing national waste management legislation	8
Theme 1	Scope	8
Theme 2	Definitions	8
Theme 3	Administrative and institutional structure	8
Theme 4	Licensing	8
Theme 5	Trans-boundary movement, import/ export	8
Theme 6	Economic initiatives	10
Theme 7	Transport	10
Theme 8	Labelling requirements	11
Theme 9	Packaging and containers	12
Theme 10	Emergency procedures	12
Theme 11	Disposal obligations	12
Theme 12	Incineration	12
Theme 13	Recording, monitoring, and reporting	13
Theme 14	Offences and penalties	14
Theme 15	Official controls and inspection	14
Theme 16	Research and development	15
Section IV	Information supplementing legal analyses – from other Experts	17
Section V	Disposal, Storage, Recycling and Recovery Facilities – practical information from other Experts	18
Part II	Part II. Technical assessment of the management of obsolete pesticides and POPs waste and soil contamination in Azerbaijan	19
Section I	Benchmarking of current POPs management against international best practice	19
1	Institutional arrangements	19
2	Inventory	21
3	Environmental Assessment	22
4	Inventory and Environmental Assessment Management	23
5	Safeguarding	24
6	Storage and transport	25
7	Disposal	26
8	Containers	27
Section II	General overview of POPs and other hazardous waste data	28
Section III	Existing and planned treatment options for POPs pesticides, obsolete pesticides and related hazardous wastes, contaminated land	34
Section IV	Transportation logistics	38
Summary sheets on findings		39
References		40
Annexes		43
Annex 1	Terms of Reference for IHPA for Coordination of a Disposal Study for Obsolete Pesticides in the Former Soviet Union	44
Annex 2	Map of “Hot-spots” of OPs. The Map has been prepared according to the recent Report of the	47

	Interministerial Working group Inventory Report in 2013 by Khoshgadam Alasgarova	
Annex 3	Yearly Statistic data book of 2013 (Original in Azeri)	48
Annex 4	English translation of Yearly Statistic data book of 2013 (Original is in Azeri)	49
Annex 5	Report on management of chemical wastes in Azerbaijan by Prof. Islam Mustafayev	50

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Part I – The Assessment of the legal framework on the pesticides waste management in the Republic of Azerbaijan

Section I: General background information (International Treaties participation)

The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade

(general information regarding statute of adaptation, signing and ratification, Focal Point Institute)

One of the international documents referred in Stockholm Convention is Rotterdam Convention “On Agreement Procedure Previously Grounded On Several Hazardous Chemicals And Pesticides In International Trade”.

Azerbaijan has not ratified this convention. Country reviews relevant documents in order to accede to this Convention, as well as, Protocol “On Registration Of Wastes And Transportation Of Pollutants” of the Aarhus Convention

The Stockholm Convention on Persistent Organic Pollutants

(general information regarding statute of adaptation, signing and ratification, Focal Point Institute)

Country ratified Stockholm Convention “on Persistent Organic Pollutants” in 2003.

On later periods national legislation has been improved in accordance with this Convention

The Basel Convention on the Transboundary Movement of Hazardous Wastes and Their Disposal

(general information regarding statute of adaptation, signing and ratification, Focal Point Institute)

Azerbaijan accedes to this Convention in 2001. Relevant works are implemented in the country for the execution of obligations arising from the requirements of Convention. Ministry of Ecology and Natural Resources was appointed as competent authority on this Convention. Procedure for “Documentation of hazardous waste” (2003), “State Strategy on the management of hazardous waste in Azerbaijan Republic” (2004) and Procedure for “Cross –border transportation of hazardous waste” (2008) were developed and approved according to the requirements of the document. According to the requirements of the convention, relevant additions and changes were made to the Law “on Industrial and domestic wastes” in 2007. Special polygon that meets the requirements of international standards for the disposal (storage) of hazardous waste was constructed; National Center “on the waste storage” commenced its operation

International cooperation

Are there any Bilateral, Multilateral or Regional Agreements signed in the field of pesticides waste management?

There are bilateral, multilateral or regional agreements signed in the field of pesticides waste management.

Does your country cooperate with other states in monitoring the effects of the management of pesticides wastes on human health and the environment? (legal or political documents)

Cooperation is implemented with other countries and international organization in this field of the management of pesticides wastes on human health and the environment.

Were there any guidelines or codes of practice developed in cooperation with other countries?

Collaboration with foreign countries is implemented on the basis of relevant mutual agreements. In this case the requirements of relevant codes, laws and technical standards are applied

Section II: Regulatory framework on waste management

<p>Chapter I. Political & Legal Framework</p>	<p>General overview</p> <p>National Laws and regulations that govern hazardous waste (especially OP) management</p> <p>National Laws on the management of hazardous wastes are:</p> <ul style="list-style-type: none"> - Laws “On Industrial And Domestic Wastes” - “On Phytosanitary Control” - “On Ecological Safety” - “Radiation safety of population”. <p>According to these Laws, there are relevant regulations on the management of hazardous wastes (collection, transportation, storage, neutralization, disposal, etc.).</p> <p><i>Are there any policies or strategies at the national level (federal level) aimed for the prevention of pesticides waste generation and minimization of risks associated with pesticides waste?</i></p> <p>Available. State Strategy was adopted on the Management Of Hazardous Wastes In Azerbaijan Republic (2004).</p> <p><i>Is there a Hazardous Waste Classification System in the country? Are the pesticides waste included in such classification?</i></p> <p>Hazardous Waste Classification System exists in the country. It is adopted based on legislation on wastes and Basel Convention and the pesticides waste have been included in the classification.</p> <p><i>Are there any other national legislation and regulatory measures adopted by Government in order to implement and enforce the provisions of the Basel Convention?</i></p> <p>Basel Convention “On Cross-Border Transportation And Removal Of Hazardous Wastes” of the UN was ratified in 2001 by the parliament of Azerbaijan. According to this Convention, relevant changes and additions were provided in 2004 on Law dated 1998.</p> <p>In addition to this Procedure for Documentation of hazardous waste (2004), Rules on cross-border transportation of hazardous wastes (2008), Instructions on the management of waste (2007), Inventory procedure for wastes (hazardous) generated as a result of production process (industrial facilities) (2008) were developed and adopted</p>		
<p>Chapter II. Specific Laws and Regulations that govern waste management</p>	<p>Sector</p> <p><i>General waste management</i></p>	<p>EU legislation</p> <p>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, 22.11.2008, p. 3–30</i></p>	<p>Country legislation</p>

<i>Import/Export</i>	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, 31.7.2008, p. 1–35</i> 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, 27.7.2012, p. 60–106</i>	<p>There are national legal instruments on the export and import of hazardous chemical substances. These documents were prepared in accordance with the European Union Directives and Basel Convention.</p> <p>There are national legislative acts on hazardous waste. The above mentioned directive was taken as a basis.</p> <p>National Regulations' Project on the locating of waste in polygons under the improvement project of solid waste management (within the framework of Development Program of UNO) implemented in 2011 in the country.</p> <ol style="list-style-type: none"> 1) Regulations on Import and application of pesticides and biological preparations that are not registered by the state, approved by the resolution of the Cabinet of Ministers No. 10, dated January 22, 2007 of the Republic of Azerbaijan. 2) Regulations on state testing, registration of pesticides, biological preparations and agrochemicals and entering them to the list of permitted preparations, approved by the resolution of the Cabinet of Ministers No. 10, dated January 22, 2007 of the Republic of Azerbaijan
<i>Landfill of waste</i>	Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste, <i>OJ L 182, 16.7.1999, p. 1–19</i>	In this case, the provisions of 1999/31/EC Directive on Polygons and 2006/66/EC Directive on batteries and accumulators were taken as a basis. The project has been issued to governmental structures
<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>	<p>Within the above mentioned project National Regulations' Project on waste incineration was developed taking the directive on Waste Incineration as a basis within the above mentioned Project.</p> <p>This document has also been submitted to government structures</p>
<i>Shipment of waste/Transport</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>	<p>There are relevant legal documents related to the shipment of waste in Azerbaijan. Legal acts of European Union related to the transportation of waste were used during the preparation of these documents.</p> <p>Regulations regarding the transportation and preservation of poisonous chemicals within the country, approved by the resolution of the Cabinet of Ministers No. 10, dated January 22, 2007 of the Republic of Azerbaijan</p>

<p>Chapter III. Institution(s) involved in waste management (focus on pesticides)</p>	<p><i>Name/s of the responsible institution/s in this respect? What normative act provides this?</i> The responsible institution in this respect is the State Phytosanitary Control Service.</p> <p><i>When did it begin to work/function? Indicate the financial assistance in this respect (foreign or strictly national/internal).</i> In 2007.</p> <p><i>Who is responsible for identifying whether a waste is hazardous or not?</i> MENR, MoA, and Ministry of Health (depending on hazard degree and type) is responsible for identifying whether a waste is hazardous or not.</p> <p>Pesticides waste management planning</p> <p><i>Who is responsible for developing and implementing pesticides waste management plans?</i> MoA, its Phytosanitary Control Service and MENR are responsible for developing and implementing pesticides waste management plans.</p> <p><i>Are there certain programs or activities of involving the home-owners in the collection and transportation of pesticides wastes?</i> Relevant plans and programs are developed and implemented based on the rules about the participation and involvement of public, environment safety, ecological protection, phytosanitary control, ecological education of population as well as there are certain programs to involve the private owners in the collection and transportation of pesticides wastes</p>
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Section III: Analysis of existing national waste management legislation	
Theme 1 Scope	<p><i>What is covered by the national law in relation to waste management, regarding pesticides waste?</i> or <i>What is covered by the national law in relation to chemical management, regarding pesticides waste?</i></p> <p>Hazardous Waste Classification System exists in the country. It is adopted based on legislation on wastes and Basel Convention and the pesticides waste have been included in the classification</p>
Theme 2 Definitions	<p><i>Is there a definition of hazardous waste, especially of pesticides waste in the national legislation?</i> These issues are described in the table below as well as supplementing information. Definitions of hazardous waste, especially of pesticides waste in the national legislation are based on the Regulations and Instructions adopted according to the Rules “on Wastes”, “on Phytosanitary control”.</p> <p><i>Does the legislation provide any criteria/procedure when pesticides become waste pesticides?</i> Yes, see previous question</p>
Theme 3 Administrative and institutional structure	<p><i>Is there an institutional infrastructure on the national level on pesticides wastes?</i> The main institutions involved in pesticides waste management at national level are MoA and State Phytosanitary Control Service under its subordinate, MENR, MES, Ministry of Economy and Industry.</p> <p><i>Name the responsible institution/s in this respect?</i> There is a concrete infrastructure on the national level on pesticides wastes. This is the Jangi Pesticide Polygon being under the subordinate of State Phytosanitary Control Service. See Chapter III. Institution(s) involved in waste management (focus on pesticides)</p> <p><i>When did it begin to work/function? Indicate the financial assistance in this respect (foreign or strictly national/internal)?</i> Financial support is provided on the expense of state budget and other financial means by government for the purpose of application of new technologies and practices</p>
Theme 4 Licensing	<p><i>Are there permits/licensing for waste (pesticides waste) management activities required?</i> Permission is required. Competent authority is MENR.</p> <p><i>Does the legislation provide explanations what the pesticides activities mean?</i> Yes, especially due to the fact that country has adopted a State Strategy on the Management Of Hazardous Wastes In Azerbaijan Republic (2004).</p> <p><i>Do the permits/licensing include activities as using, stocking, disposal of pesticides?</i> See Part II, Section I, 5. Safeguarding, 6. Storage and transport and 7 Disposal. See also the number of plants existing in Part II, Section III: Existing and planned treatment options for POPs pesticides, obsolete pesticides and related hazardous wastes, contaminated land under 1. Existing plants.</p> <p><i>Which authority/authorities are responsible for issuing the license for the disposal of pesticides wastes?</i> License is given by MENR and having obtained the opinion of State Phytosanitary Control Service. This applies for the Jangi Pesticides Polygon.</p> <p><i>Are there provisions for disposal facility licensing? Are there any specific requirements?</i> License is required for the hazardous wastes. Special permission is applied for other wastes</p>
Theme 5	<p><i>What are the Transboundary Movement Reduction Measures taken at the national level so far?</i></p>

<p>Transboundary movement, Import/Export</p>	<p>Relevant negotiations with the relevant state bodies of neighbouring countries are carried out, if necessary, joint-documents are adopted.</p> <p><i>What is the procedure of notification for the Transboundary Movement?</i> Customs clarification is implemented, mutual information exchange is implemented.</p> <p><i>Name the international standards (ISO) adopted at national level.</i> The international standards (ISO) adopted at national level are the following: ISO 9001: 2008, ISO 14001: 2004</p> <p><i>Who is responsible for notifying the transboundary shipment of hazardous (pesticides) waste destined for disposal?</i> MENR is responsible for notifying the transboundary shipment of hazardous (pesticides) waste destined for disposal.</p> <p><i>Are there any restrictions on import, export and transit of hazardous (pesticides) wastes?</i> There are limitations and restrictions on import, export and transit of hazardous (pesticides) wastes. It is prohibited to bring, transit, transport and neutralize the hazardous wastes that their safe processing is not possible to the country. Article 30: Import and Export of Poisonous Chemical Substances stipulates that: The pesticides and biological preparations may be imported and exported if they have passed the state registration in the Republic of Azerbaijan, are included in the list of preparations the use of which is permitted, have a certificate of origin and quality and are duly packed and labelled. The import, sale, application and advertising of pesticides and biological preparations not having a certificate of origin and quality shall be prohibited. <u>The import and export of pesticides and biological preparations which are not passed the state registration may be permitted where:</u></p> <ul style="list-style-type: none"> ➤ It is used for the purpose of scientific-research works and displayed at the expositions without a right to be sold; ➤ It is imported and exported together with seeds and sowing materials processed with plant protection means. <p>They have the documents confirming their registration and use in the country of production and on the basis of a decision of the relevant executive authority made for the purpose of preventing the mass spread of pests subjected to quarantine and especially dangerous pests in emergency cases.</p> <p><i>In what cases is the authorization refused? How is this reflected in the national legislation?</i> MENR will intervene when control by Customs Bodies is not satisfactory. However information has not been noted related to such issues. According to the regulations <i>on Import and application of pesticides and biological preparations that are not registered by the state</i>, approved by the resolution of the Cabinet of Ministers No 10, dated January 22, 2007 of the Republic of Azerbaijan, In the following cases the import and application of pesticides and biological preparations are rejected:</p> <ol style="list-style-type: none"> 1. when the documents considered in these regulation are not submitted; 2. when there is a wrong or falsified information in submitted documents. <p>The import and application of pesticides and biological preparations that are not registered by the state are conducted under the control of the State Phytosanitary Control Service (afterwards - State Service) under the Ministry of Agriculture of the Republic of Azerbaijan. The Ministry of the Ecology and Natural Resources, the Ministry of Health and the Ministry of Emergency Situations of the Republic of Azerbaijan are informed on import of pesticides and biological preparations that are not registered (state registration) by the State Service every half-year.</p> <p>The physical and legal persons engaged in import and application of pesticides and biological preparations that are not registered by the state should apply to the State Service in cases shown in 2.1 and 2.2 items of this</p>
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	<p>regulation.</p> <p>The followings must be shown in the application:</p> <ol style="list-style-type: none"> 1. for legal persons – name of the legal person, legal-organizational form, legal address; 2. for physical persons – name, surname, patronymic, information on identification document (series, number, when was given and by whom, address). <p>The following documents should be submitted with the application:</p> <ul style="list-style-type: none"> ➤ the copy of state registration certificate of the legal person; ➤ the copy of the certificate on registration by the taxes authority for the engagement of physical persons in entrepreneurship; ➤ information on pesticides and biological preparations that are not registered by the state; ➤ the type of preparation considered for importation; ➤ amount of preparation; ➤ the name of the company, name of the country from where it is coming from ; ➤ the kept place and application area; ➤ certificate of conformity. <p>Application of the applicant and the documents considered in the 4-th article of this regulation are accepted by the State Service by registering in a special book and the resolution is given within 5 days after registration. If there is no reason for rejecting, the permission for import and application of pesticides and biological preparations is given. The applicant is officially notified about this.</p> <p>Based on these regulations, when the import and application of pesticides and biological preparations are rejected, the applicant is informed in a written form showing the reasons of rejection. After solving these problems and submitting the documents, it is assessed within 3 days and the relevant decision is made.</p> <p><i>Are there any specific national legal provisions clearly prohibiting export of pesticides wastes?</i></p> <p>There are specific national legal provisions clearly prohibiting export of pesticides wastes. These Regulations were adopted by The Cabinet of Ministers.</p> <p>Importation, exportation, preservation, sales and application of use prohibited pesticides, biological preparations and agrochemicals, the ones that are not meeting the state standards of the Republic of Azerbaijan and officially recognized international standards in the Republic of Azerbaijan, and also not undergone the state testing and registration in accordance with these regulations are not allowed</p>
<p>Theme 6 Economic Initiatives</p>	<p><i>Does the legislation on waste management and chemicals provide the following principles: “polluter pay”, Waste Prevention Principle, Substitution Principle and Elimination of Toxic Substances, Principle of Internalizing Costs?</i></p> <p>This principle is fully applied in the country.</p> <p>There is consecrated principle in the national legislation. It was reflected in the Laws “On Environmental protection”, “Production and domestic wastes”.</p> <p>MENR controls the principle of the application of this and implements its enforcement.</p> <p><i>Does the legislation provide any economic facilities /requests for the minimization of hazardous waste, especially the pesticides waste?</i></p> <p>Yes, State Strategy was adopted on the Management Of Hazardous Wastes In Azerbaijan Republic (2004)</p>
<p>Theme 7 Transport</p>	<p><i>Do regulations regarding the transportation of hazardous (pesticides) wastes (transportation time, place, route, transported quantity, etc.) exist?</i></p> <p>There are related regulations, laws and rules.</p> <p>According to the Legislation on Phytosanitary Control, the transportation and storage of poisonous chemical substances within the territory of the country shall be carried out by complying with the specified technical terms and requirements, in accordance with the regulations established by the relevant executive authority. (Law on Wastes, Procedure for Cross-border transportation of hazardous wastes).</p> <p><i>Does the legislation provide the minimum guidelines regarding transportation of waste pesticides?</i></p>

	<p>The regulations on destruction or neutralization of unfit or prohibited pesticides, biological preparation, their compounds and containers by taking back from their owners, approved by the resolution of the Cabinet of Ministers No. 10, dated January 22, 2007 of the Republic of Azerbaijan stipulates:</p> <p>During the transportation from one place to another, of unfit or prohibited pesticides, biological preparations, their compounds and containers with the aim of neutralization and destruction, should be in undamaged and intact vessels. Otherwise, chemicals should be filled and closed into containers with its name, weight and the date of issue should be written on it.</p> <p><i>Have there been approved any duties in respect of carriers?</i></p> <p>There are certain obligations.</p> <p>Regulations Transportation and preservation of poisonous chemicals within the country, approved by the resolution of the Cabinet of Ministers No 10, dated January 22, 2007 of the Republic of Azerbaijan:</p> <ol style="list-style-type: none"> 1. When participating in the transportation of poisonous chemicals, legal and physical persons (afterwards-entrepreneur) engaged in production, preservation, sale and application of poisonous chemicals as considered in the legislation of the Republic of Azerbaijan <u>should use special clothes and other means.</u> When transporting the poisonous chemicals in a vehicle, <u>people should sit in the cabin.</u> 2. Easily cleaned and neutralized special means of transport should be used for transportation of poisonous chemicals. The board of the car should be painted with relevant paint and “poisonous material” to be written on it and red small flags should be put on both sides. By the means of transport the preparations packaged in the factory, in intact, tight closed tares should be transported; 3. In vehicles, having carried the poisonous materials and not having been cleaned or neutralized after carrying, the transportation of people, food and forage is prohibited; 4. Loading and unloading works of poisonous chemicals should be performed carefully, damaging of tires, spilling of poisonous chemicals should not be allowed; 5. The flammable poisonous materials should be carried in a car equipped with fire extinguisher and covered with iron over the car; 6. The entrepreneur should keep the poisonous materials in special storages built with this aim meeting the technical safety and sanitary-hygienic requirements. Storages should be equipped with fire extinguishers, water, dust and other fire extinguisher inventories and compulsory ventilators should be installed. 7. Usually, storages are located in places with a fence around it, near the railway station, open and these places have a special infrastructure that doesn’t allow the pollution of soil, ground water and air; 8. Loading and unloading of poisonous chemicals should be mechanized. The used means should be collected from storages and stored after cleaning. <p><i>Are there special units that take care of the transportation of the hazardous (pesticides) wastes or this task is fulfilled by simple legal persons that collect the solid wastes in villages/towns and have concluded contracts with local authorities?</i></p> <p>MENR (as well as within their powers MES, MA, State Customs Committee) is responsible for the transportation of the hazardous (pesticides) wastes or this task is fulfilled by simple legal persons that collects the solid wastes in villages/towns and have concluded contracts with local authorities</p>
<p>Theme 8 Labeling requirements</p>	<p><i>Does the legislation provide requests for package and labelling of hazardous waste, including (pesticides waste)?</i></p> <p>According to the Phytosanitary law, art. 15, (15.3.1. point), plant and plant products are carried in a sealed means of transportation or containers and packed in accordance with the requirements of international standards for the purpose of preventing the spread of pests.</p> <p>Art. 31 stipulates that the pesticides and biological preparations produced in the Republic of Azerbaijan and permitted for use <u>should be packed and labelled</u> in accordance with the relevant standards and technical terms, and the date of production, period and conditions of storage thereof and other information shall be indicated in the accompanying documents and instructions for use in Azerbaijani language and, if necessary, in other languages.</p> <p><i>If yes, does the requests for package and labelling of hazardous waste are according with the international and European standards in force?</i></p>

	Requirements of international conventions and standards mentioned in them are taken into consideration
Theme 9 Packaging and containers	<p><i>Does legislation provide any requests regarding materials that can be used for packaging or repackaging of pesticides waste?</i></p> <p>The pesticides and biological preparations produced in the Republic of Azerbaijan and permitted for use shall be packed and labelled in accordance with the relevant standards and technical terms, and the date of production, period and conditions of storage thereof and other information shall be indicated in the accompanying documents and instructions for use in Azerbaijani language and, if necessary, in other languages.</p> <p><i>Is there the requirement of proper management of containers that contain pesticides waste in order to minimize the potential for release, and to ensure that the wastes are packaged in a manner consistent with the requirements for transportation stipulated in the legislation?</i></p> <p>There certain requirements on Rules on waste and Phytosanitary control, there are rules approved by Cabinet of Ministers (2007)</p>
Theme 10 Emergency procedures	<p><i>Does legislation provide any requests regarding the spill response and emergency procedures?</i></p> <p>Yes, MES (Ministry of Emergency Situations) is the specialized service that provides prevention of occurrence of Emergency situations</p>
Theme 11 Disposal obligations	<p><i>Does legislation provide any requests regarding specific obligations in relation to disposal?</i></p> <p>The National Laws on the management of hazardous wastes: “On Industrial and Domestic Wastes”, “On Phytosanitary Control”, “On Ecological Safety” and “Radiation safety of population” include the relevant regulations on the management of hazardous wastes (collection, transportation, storage, neutralization, disposal, etc.).</p> <p><i>Does legislation provide any requests regarding the disposal procedure?</i></p> <p>Yes, see the previous question</p> <p><i>How does the disposal of pesticides waste take place? Is it a uniform procedure or it depends on each case? What the legal act provides such request?</i></p> <p>Wastes are placed in accordance with the relevant rules related to their replacement. Special Personal Protection Equipment, where required, is used</p>
Theme 12 Incineration	<p><i>Is incineration allowed according to the national legislation? What are the categories of waste that can be incinerated?</i></p> <p>According to the laws of the country on wastes, incineration of wastes in open air is prohibited. The waste should be incinerated in special designed facilities. Incineration of solid domestic and industrial wastes, medical and biological wastes are allowed in the facilities established for this purpose and that meet the requirements of the concerned standards. Radioactive wastes should be stored in the institution of radioactive wastes storage (disposal) established for this purpose.</p> <p><i>Who is responsible for issuing a permit for incineration? Based on what requirements?</i></p> <p>Permission should be obtained from MENR. The main requirement is that the institution that disposes (burns) wastes should meet international standards.</p> <p><i>Is there a detailed description of distribution and disposal of the waste, including waste composition that helps to determine the percentage of waste suitable for incineration?</i></p> <p>A waste disposal plant was established in Baku city in 2012.</p> <p>Another plant near to this one – a waste sorting plant has been built and is managed by Open Joint Stock Company ‘Təmiz Şəhər’ (Clean City). This company was established on March 12, 2009 in accordance with the Decree of the President of the Republic of Azerbaijan on «Improvement of Municipal Waste Management in Baku city» dated August 6, 2008. Waste is sorted here, and appropriate waste for re-use and processing is sent</p>

	<p>to other processing institutions, the remaining part is incinerated; in this case the obtained heat energy is turned into electrical energy</p>
<p>Theme 13 Recording, monitoring, and reporting</p>	<p>Recording <i>Are there requirements that on every site where tipping of pesticides waste takes place that this is recorded and identified?</i> In this case the rules of the countries of the European Union apply. Registration, identification or recording of wastes are required in areas where they exist, there are certain registration activities are carried out.</p> <p><i>Who has the responsibility of access to Material Safety Data Sheets (MSDS)?</i> All the data is fully belong to the MoENR and MES (within its powers) and they can access them.</p> <p>Monitoring <i>Provide general background of how does the monitoring take place for various hazardous wastes, according with national legislation.</i> The monitoring for various hazardous wastes is implemented in accordance with the relevant rules adopted by the Cabinet of Ministers. Monitoring group is established by the participation of specialists of relevant bodies for this purpose.</p> <p><i>Who is responsible for Hazardous waste monitoring, including the pesticides waste?</i> MENR, MES, MoA, and their bodies (institutions) which are engaged in the management of wastes. <i>Does the national legislation provide requests of the periodical reports system on the national level regarding the hazardous wastes, including pesticides waste? What are the responsible institutions for this?</i> The system of submitting periodic reports in national level exists. Responsible bodies are the MENR, MES, MoA, and State Statistics Committee.</p> <p><i>Do the non-state participants have a free access to the information on pesticides wastes, which is stocked by the relevant public authorities?</i> NGOs are informed during control over pesticides. The information on pesticides wastes, which is stored by the relevant public authorities is not kept confidential from civil society.</p> <p><i>What is the situation with access to information to the general public in case if pesticides waste is managed by private entity?</i> Any institution that will manage pesticides is obliged to inform the public related to the works that will be implemented in this field. This requirement is the subject of Law “On Availability of the Data on the Environment”.</p> <p><i>Does the national legislation provide requests regarding monitoring of the construction and demolition of pesticides waste sites?</i> Construction and demolition pesticides waste monitoring are implemented by the MENR and MoA.</p> <p><i>What is the legal request regarding medical pesticides Waste monitoring?</i> Medical pesticides Waste monitoring is currently carried out. The Monitoring is carried out by State Phytosanitary Control Service together with the Ministry of Health.</p> <p>Reporting <i>What kind of legal persons (enterprises) must report to the relevant authorities on the hazardous wastes (including pesticides waste) registered during its activities?</i> The rules of Accounting and Reporting Pesticides, Biological Preparations and Agrochemical Compounds, Approved by the Resolution No. 14 dated 25 January 2007 of the Cabinet of Ministers of the Azerbaijan Republic: 1. The non-governmental phytosanitary service operators of the Azerbaijan Republic (the Entrepreneurs</p>

	<p>hereunder) shall keep the accounting and reporting of all the stages of production and circulation of pesticides, biological preparations and agrochemical compounds (the Compounds hereunder) to implement the quality and safety rule compliance control over them.</p> <p>2. The Entrepreneurs engaged in importing, exporting, manufacturing, storing, selling and applying the Preparations shall submit to the State Phytosanitary Service of the Ministry of Agriculture of the Azerbaijan Republic (the State Service hereunder) the annual (quarterly) information updates about the actions taken in the field of phytosanitary inspection.</p> <p>3. The Entrepreneurs shall be responsible for timely accounting for and reporting of the preparation export, manufacture, storage, sales and application information.</p> <p>4. Except for the cases provided for by the laws, it is not permitted to account pesticides, biological preparations and agrochemical compounds that did not undergo the government states and registration, are not included in the list of preparations cleared for application, are not packaged or labelled appropriately.</p> <p>5. The accounting and reporting on importation and application of pesticides and biological preparations that are not registered in the manner established under the applicable laws shall be done by the State Service.</p> <p><i>Is this kind of report compulsory?</i> Yes.</p> <p><i>What are the consequences in case of non-reporting?</i> Sanitary-Epidemiological Service of Ministry of Health is the regional bodies of MENR must report to the relevant authorities on the hazardous wastes (including pesticides waste) registered during its activities. Efficiency of these reports is satisfactory and they are developed systematically. If the reports are not transmitted, heads of new bodies are reprimanded</p>
<p>Theme 14 Offences and penalties</p>	<p><i>Is there being set up a certain legal frame regarding the liability (criminal/civil) of the carrier in case of the non-fulfilment of the already established duties?</i> When this existing obligation is not fulfilled, as shown in the 4th sector of the above mentioned rules, physical and legal persons who have violated the requirements of legislation during transportation bear administrative, civil and criminal responsibility in accordance with the relevant laws of country.</p> <p><i>Are there any legal (criminal, civil or administrative) measures to prevent and punish illegal import/export of pesticides wastes?</i> Legal and administrative measures are taken, they are determined in the Regulations and other legislative acts for the prevention of illegal export/import of pesticides.</p> <p><i>Are there national legal provisions regarding the illegal traffic of pesticides wastes?</i> There are relevant national legislative acts against illegal turnover of pesticides.</p> <p><i>Are there any specific articles in the national Criminal/Administrative Codes or Environment Protection Law regarding punishment of illegal traffic?</i> There are specific articles in the national Criminal/Administrative Codes or Environment Protection Law regarding punishment of illegal traffic. It is intended to apply penalties for the illegal turnover of wastes in accordance with the relevant rules, laws adopted related to the wastes</p>
<p>Theme 15 Official controls and inspection</p>	<p><i>Are there inspections made at accumulation areas to ensure that all spill contingency materials are maintained in working order, to ensure that containers are not deteriorating and maintain their integrity, and to identify spills or releases? If yes, what is their periodicity?</i> There are inspections made at accumulation areas to ensure that all spill contingency materials are maintained in working order, to ensure that containers are not deteriorating and maintain their integrity, and to identify spills or releases, and it is regularly supervised in accordance with the requirements in Rules on Wastes approved by Cabinet of Ministers. Regulations on transportation and preservation of poisonous chemicals within the country, approved by the</p>

	<p>resolution of the Cabinet of Ministers No. 10, dated January 22, 2007 of the Republic of Azerbaijan: The State Phytosanitary Service under the Ministry of Agriculture of the Republic of Azerbaijan shall, in accordance with the schedule agreed with participation of the Ministry of Ecology and Natural Resources of the Republic of Azerbaijan, Ministry of Emergencies of the Republic of Azerbaijan, check the compliance by entrepreneurs engaged in the transportation and storage of chemical substances with the current agenda, sanitary hygienic rules and technical safety, as well as check their impact on the environment and public health. Results of these checks [inspections] shall be documented in the relevant protocol. First name, last name and patronymic of the employees of the agency of state control [state supervision authority] shall be reflected in the protocol and there shall be made relevant notes in the control book. One copy of the protocol shall be presented to entrepreneurs. When signing the protocol the entrepreneurs shall have the right to add to the protocol their own opinion.</p> <p><i>Are the inspections documented on inspection logs and are the logs maintained as a part of the facility operating record?</i> The inspections are documented on inspection logs and the logs are maintained as part of the facility operating record</p>
<p>Theme 16 Research and development</p>	<p><i>Whether Government, educational institutions, and private industry cooperate to support a broad range of research, development, training, and educational activities designed to create and diffuse knowledge and professional expertise on pesticides waste minimization or not?</i> Activities such as conducting scientific researches and investigations in the management of pesticides, implementation of special surveys for informing public, conducting trainings for local specialists by the participation of international experts, implementation of practical exchange are executed. Detailed information related to the proposed activities to create and diffuse knowledge and professional expertise on pesticides waste minimization is given in the Annex 5.</p> <p><i>Has your country developed pesticides waste prevention programmes? If any, please specify.</i> Yes. The government of the Republic of Azerbaijan have developed pesticides waste prevention programmes as well as relevant measures have been intended on combat with pesticides in “Complex Action Plan for 2006-2010 on the improvement of ecological condition in Azerbaijan Republic”. According to the item 1.22 of Decree dated on August 2, 1996 of the President of Azerbaijan Republic on the application of Law “on Phytosanitary control”, at present the project of State program on the production of Pesticides and biological substances is under preparation.</p> <p><i>Has there been noticed an improvement after their implementation, results achieved?</i> There has been noticed an improvement after their implementation/results achieved but more support is needed in this filed to achieve proper management in the international level.</p> <p><i>Any statistics/national reports proving the reduction of pesticides waste generation?</i> According to the above mentioned Complex Action Plan, the Jangi Pesticide Polygon was given to the balance of State Phytosanitary Control Service under Ministry of Agriculture by the act dated July 27, 2007 of State Committee on the Management of State property by the decree No. 170 dated on June 25, 2007 of the Cabinet of Ministers, and was re-organized. The Regulation of this polygon by the order dated October 16, 2007 of the Ministry of Agriculture was approved. After the Polygon was given to the balance of the Ministry of Agriculture, administrative building, checkpoint, sanitary centers, storage for inventory, water tanks whose volume is 100m³ were constructed and existing 183 cells were restored. Metal piles were poled for the illumination of polygon on perimeter and a cable network was established. In 2010, store which area is 1000m² for the storage of liquid pesticides and additionally 60 wells was constructed. The Jangi Pesticide Polygon commenced its operation in 1991. Pesticide residuals were covered by laying thick polyethylene sheets from bottom and top of the bunkers. Pesticide residuals which were inappropriate for usage and whose usage were prohibited (DDT, calcium arsenate, calcium cyanamide, hexachloran, granozan, chomesin, zineb etc.) nearly 8 tons which were brought from various regions of country were burned until the cancellation of “Azerkendkimya” PU. After this union was cancelled in 1996, pesticide residuals of more than</p>

4,000 tons were used due to uncontrolled condition until 2005. In 2006, 3,500 – 3,700 tons pesticide residuals were found in bunkers and in spread form in the territory of the polygon while inventarization was being carried out. As a result of the implemented monitoring in recent years outdated, high toxicity have been revealed, which usage have been prohibited with a volume of more than 3 thousand tons. Their packages were transported to this polygon from regions during 2008-2010 by repeatedly packaging them. Liquid polydophene in Ganja city was transported to the storage that was constructed in the polygon (1180 drums and 200 polluted pan) and their temporary storage was intended until their complete neutralization (destruction).

Are there special trainings organized on the national level for persons involved in the management of pesticides wastes? In case of existence of such trainings what kind of method is mainly used – formal or on-the-job? What do the training courses cover in this domain in your country (Ex: topic, categories of involved persons, the used sources during the educational process, etc.)?

Some trainings on the national level are organized for persons are involved in the management of pesticides wastes



Section IV: Information supplementing legal analyses – from other Experts

Topic 1 – Pesticides Manufacturing Industry

Are there pesticides manufacturers in the country?

Jangi Pesticide Polygon.

More data about this polygon you may find in this report.

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

Initiatives are being taken by the industries in accordance with the national legislation in regard to hazardous waste, including pesticides waste.

This is implemented by all large industrial enterprises.

Does the legislation request to be-taken by industries/waste generators any measures in order to reduce or eliminate pesticides waste generation?

Relevant measures are currently taken by industries/waste generators in order to reduce or eliminate pesticides waste generation. These measures are implemented within the relevant state programs executed in the country

Topic 2 – Management of Obsolete Pesticides Stocks

Does the legislation provide request, conditions/methods for carried inventory/storage/disposal activities regarding obsolete stocks?

See Chapter III – Institution(s) involved in waste management (focus on pesticides)

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

State Phytosanitary Control Service under Ministry of Agriculture

Topic 3 – Methods used for treatment of pesticides wastes

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

The Methods mentioned in Stockholm Convention are applied in the country for the treatment of pesticides wastes

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? What kind of legislation provides the activities of such facilities?

There are some disposal facilities in Azerbaijan. See the waste management part of this report and the related annex

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

Available. Fields are divided according to the legislation

Topic 2 – Storage facilities

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

There are some disposal facilities in Azerbaijan. See waste management part of this report and the related annex

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

Available. There is a pesticides waste final storage facilities constructed in Jangi and operated in accordance with the environment standards and 70-80% of the volume is filled with pesticide waste. Equipment is regularly replaced or repaired. Technical equipment for waste handling are strengthened and improved each year

Does the legislation establish different rules for storage hazard waste? Please provide the differences.

Yes, it depend on the waste classification

Topic 3 – Recycling facilities

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

There are organizations dealing with sorting and utilization (disposal) and re-use of wastes. At present, the Ecotechnopark is being established in Baku for the re-use of larger volume wastes

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?

Detailed overview of treatment plants and landfills can be found in the waste management part.

In case if the country does not have such facilities what are the methods or actions used by the national authorities to fulfill this task? Is there any foreign financial assistance? Are the any mutual/bilateral agreements with international organizations or states that offered its assistance in this respect?

Financial support from abroad is also provided in this field. This support is based on the bilateral agreements. Especially in oil-gas industry, processing sector.

There are several agreements with international organizations or states especially with the financial organisations from Great Britain, France, Italy, Netherland, Japan, Finland etc. that offered its assistance in this respect

Part II. Technical assessment of the management of obsolete pesticides and POPs waste and soil contamination in Azerbaijan

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?

2006 – 1 time, 2011-2014 – 1 time per year

National Body Representation	Responsible Ministry	Contact person (name/contact details)	Activity and outcome	No. of reference/annex if needed
SAICM focal point	Ministry of Ecology and Natural Resources	Mirsalam Gambarov MENR Tel: (+99412)514-18-26	No projects and special activities. Representatives of country have been participated in the separate events organised by SAICM (Nairobi-2004, Budapest-2006, Skopje-2013, etc)	-
GEF Focal Point /Coordinating Unit	Ministry of Ecology and Natural Resources	Huseyngulu Bagirov Tel: (+99412)538-85-08	Coordination of overall activities of GEF in the country. Projects implementation	[1]
Stockholm Focal Point /POP Centre	Ministry of Ecology and Natural Resources	Gulmali Suleymanov Tel: (+99455)686-91-22	NIP on SC, PCB-inventory, Management of PCB, Coordination of activity of Convention Secretariat	[5]
Basel Focal Point	Ministry of Ecology and Natural Resources	Adil Zeynalov Tel: (+99450)331-05-57 adilzeynalov@mail.ru	Management of hazardous wastes. Monitoring of contamination. Disposal of wastes. Reporting	[6]
Rotterdam Focal Point	Ministry of Ecology and Natural Resources	Still not signed		
FAO National Focal Point	Ministry of Agriculture	Ms. Tarana Bashirova (FAO-representative in AZE) Tel: (+99412)498-02-57 Ms. Xoshqadam Alasgarova (MoA)	Training, inventory, repackaging, transportation of OP in Pilot projects. New Project in the process for signature	[1]

		Tel: (+99450)4355004		
EU/other project implementation units for hazardous waste	Ministry of Ecology and Natural Resources	Adil Zeynalov Tel: (+99450)331-05-57 adilzeynalov@mail.ru	Project of WB: "Urgent Environmental problems in the Azerbaijan" 1998 Collection of Mercury – containing wastes around the Sumgait Surface active compounds plants and disposal in National Waste Center. "Melange" fuel-waste utilisation project of NATO	[13, 7, 8, 19]
Inter-departmental committees	Ministry of Agriculture	Khoshgadam Alasgarova Tel: (+99450)435-50-04	Conducting joint inventory of OP in the territory of the country, development of integrated management of the pesticides wastes	[2]
Other national coordinating body	1. National Waste Center 2. Ruzgar NGO	1. Bagir Hidayetov Tel: (+99455)331-08-93 2. Islam Mustafayev Tel: (+99450)320-78-16	1. Collection, transportation and disposal of wastes to the National Waste Center. Treatment of the wastes 2. Public awareness and public participation	[3]
National waste focal point	Ministry of Ecology and Natural Resources	Adil Zeynalov Tel: (+99450)331-05-57	Coordinating of Projects on waste management, implementation of National Program on waste, Participation in the interministerial committee	[13]
PRTR Protocol	Ministry of Ecology and Natural Resources	Shovket Bakirov Tel: (+99450)392-88-67	UNEP Project on creation of protocol of register for 2 pilot enterprises. Ongoing project, not finished	[20]
Other information:				

2. Inventory If references needed please provide in the concerned Annex
2.1 National/regional inventory updated <i>(latest update and methodology, e.g. National guideline/NIP/World Bank/UNEP/FAO toolkit)</i> Ministry of Agriculture Ministry of Ecology and Natural Resources Ministry of Emergency Situations Latest national inventory update - 2012-2013 [27]
2.2 Data sources and existing inventories (only Obsolete Pesticides) <i>(who, what, when, how, accuracy, validity?)</i> 1. Ministry of Agriculture (Results in Report, pictures, PSMS) 2007-2013 2. Ministry of Ecology and Natural Resources (Results in Report, pictures), 2006-2013[27] 3. Ministry of Emergency Situation (Results in Report, pictures), 2009-2013[27] 4. NGO Ruzgar (Results, reports, pictures), 2004-2006. [28]
2.3 First National Implementation Plan (NIP) <i>(e.g. responsible, year, no of sites, estimated tons, desk study/field surveys (% of total locations), POPs pesticides, PCB and Dioxins)</i> Ministry of Ecology and Natural Resources. NIP with financial support of UNIDO was implemented in 2006. During the inventory about 30% of OP was discovered
2.4 NIP update (specifically on new POPs) <i>(e.g. responsible, year, no of sites, estimated tons, desk study/field surveys (% of total locations))</i> NIP on POPs is not yet updated. No full data on the new POPs
2.5 UNITAR Chemicals Profile <i>(e.g. responsible, data on organic hazardous waste available?)</i> There were no UNITAR Chemical profile projects in Azerbaijan. Data on organic hazardous waste available in Ministry of Ecology and Natural resources, Ministry of Agriculture. There was a NATO Project on elimination of organic "Melange" – fuel waste
2.6 National Pesticides/POPs inventory <i>(e.g. responsible, other inventories independent from Convention frameworks)</i> Section of waste management of Department for environmental protection of Ministry Ecology and Natural Resources
2.7 FAO PSMS inventory – Yes, PSMS created and inventory periodically updated Inventory Implementation: <ol style="list-style-type: none"> 1. inventory training – In interministerial commission there is a work plan on inventory 2. inventory work plan – Conducting of training 3. inventory field visits and data collection – Field visits, data collection 4. inventory data entry into PSMS – Data entered into PSMS 5. inventory data validation – stocks and contaminated sites: stocks and contaminated sites are found in more than 20 rayons
Other information:

3. Environmental Assessment

If references needed please provide in the concerned Annex

3.1 National requirements

EIA= Environmental Impact Assessment etc.) + national experience

Chapter 8, sections 51-54 of the Law on Environmental protection establishes the environmental assessment process which is directed to the old EIA system. In the chapters 5,9,13 of the Law on Environmental Security considers the necessity of State environmental expertise in the Development of economy

3.2 International experience

non-FAO – WB, UNDP CESA etc.

Asian Development Bank now implementing Project on improvement of national Safeguards system in Azerbaijan that contains new requirements on EIA. EIA Handbook (1996) published by UNDP on procedures of EIA processes in Azerbaijan [26]

3.3 Capacity government and private to develop

Are there consultants or government trained people?

There are National consultants and private companies who are able to develop EIA projects. The State Ecological Expertise Department of the MENR has staff with expertise of EIA projects according to the National Legislation and International requirements

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)

FAO stages EA and EMP are still not used in Azerbaijan. Now starting new project on these issues and will be taken into account of FAO stages in EIA and EMP

Other information:



<p>4. Inventory and Environmental Assessment Management If references needed please provide in the concerned Annex</p>
<p>4.1 Responsible Organisation for Inventory and Assessment in place and operational: State Phytosanitary Service of Ministry of Agriculture and their regional offices responsible for inventory and Assessment in place and operational. In more than 50 regions the Service has regional offices and staff consisting of 1 manager and 1 technical assistant on Pesticide management</p>
<p>4.2 All managers/coordinators/Field people in place and operational: In the State Phytosanitary Service OP, management is implemented by special sector of pesticides, where 3 Managers are working. In regional offices (there are 57 regional offices in the country) of Phytosanitary Service there is 1 manager and 1 technical assistant. In inventory processes besides these managers 1 person from MENR, 1 – MES, 1 – MH participates</p>
<p>4.3 All Field teams established and operational: Field team for inventory was realized in 2012 as a part of interministerial committee, which consists of representatives of the MoA, MENR, MES, MH. In 2006-2007, inventory was conducted by Ministry of MENR. In 2004-2005, first inventory of OP was implemented by NGO Ruzgar</p>
<p>4.4 All Inventory data management people in place and operational: All inventory data collected by MoA. Ms Kh. Alasgarova has entered data into the PSMS system. In the partner-Ministeries one has also inventory data. In the regional offices of Phytosanitary service there are data available of their regions</p>
<p>4.5 National/Regional Inventory updated: First inventory-2004/2005, Second-2006/2007, last-2012/2013. Last data entered into the PSMS in 2014</p>
<p>4.6 National Pesticides/POPs Inventory Established: Yes. In 2012 by Decree of CM created interministerial committee and 2012-2013 inventory was conducted</p>
<p>4.7 Contaminated Sites Register: Contaminated Sites are registered during the inventory, 2013-last time, Currently about 76000 m² OP polluted areas in the 20 rayons of Azerbaijan have been identified</p>
<p>Other information:</p>

5. Safeguarding

If references needed please provide in the concerned Annex

5.1 National projects:

There are two National project:

- 1) Reconstruction of polygon for OP
- 2) Creation of interministerial working group and conducting of inventory

5.2 International projects:

There are four international projects:

1. Strengthening the capacity of management of obsolete and POPs pesticides in the EECCA countries (GEF-FAO)-2010-2013
2. National Action Plan on POPs pesticides. 2007. Stockholm Convention Secretariat Project
3. Solid Waste Management Improvement in Azerbaijan. UNDP/Norwegian Government 2009-2012
4. Definition of POPs in the rivers of Kura and Aras" Caspian Environmental Program-2005

5.3 FAO projects:

Regional project are finished, one is in start-up stage

Other information:

<p>6. Storage and transport Packaging/Containerization/Storage/Transportation</p>
<p>6.1 Transport regulations <i>In-country transportation planning competences available?</i> (e.g. ADR/IMDG/RID/DOT compliant, route planning, scheme, vehicle inspection scheme, certified local contractors) According to the National regulation transportation of OP from temporary storages in regions to the Jangi polygon or to the National Waste Center is realized in the special trucks. The transport company is selected by the tender that contains special safety requirements. All trucks are equipped with the required safety devices so that OPs are isolated from environment and workers.</p>
<p>6.2 Driver regulations <i>Driver registration</i> According to the national transport regulation truck drivers have to follow a special training.</p>
<p>6.3 Storage regulations <i>(Seveso – off and on site emergency planning)</i> National requirements described in the Regulation of the Jangi Storage, have been adopted by the Ministry of Agriculture in 2007. This Regulation needs improvement according to the EU landfill directive</p>
<p>6.4 Storage capacity Private or government, collection centers available, (e.g. responsible, no of suitable collection centers identified) Initially Central Storage capacity at the Jangi polygon was 183 containers, each with a content of about 30 m³. In 2007 the polygon has been reconstructed and additionally 60 containers were constructed, with a total capacity of 7,290 m³. Now 227 containers are filled with a total capacity of 6,810 m³. There are 16 empty containers with capacity 480 m³. At the moment it is very difficult to estimate amount in tons. Approximately estimation shown that its 10,000 ton</p>
<p>6.5 Incident reporting and accidents An incidents and accidents reporting procedure has been included in the Regulation of Polygon adopted by Ministry of Agriculture in 2007. Till today, there were no incidents and accidents</p>
<p>Other information:</p>

7. Disposal

7.1 National experience

Technology selection

Temporary storages in the about 20 rayon centres (map in the Annex);

Transboundary transport under Basel Convention

About 9,000 tons OPs have been transported and disposed in the Jangi polygon

National transport

There are specialised truck parks and a truck park of Ministry of Emergency, which should be used for transportation of OP. It is not fully meeting the Basel Convention requirements, but it can be rearranged to Basel Convention criteria.

Disposal capacities in Country

(e.g. type and no of disposal facilities, (landfill/destruction) permits quality and standards applied (national/international), ownership (public/private), contact details)

- 1) Jangi polygon for OP – 7,290 m³.
- 2) National Waste center – 250,000 m³, only for hazardous wastes- meets requirements of EC Directives
- 3) Municipal waste polygons, about 60 with a total capacity more 3 mln ton. These are not authorized polygons, but are waste discharge areas that do not meet at all any standards
- 4) Polygon BP-Saranja exclusively for BP operational wastes – meets requirements of EC Directives
- 5) SOCAR's polygon Akhtarma for oil industry wastes, mainly for oil sludges.

It is not allowed to dispose OP to the 3 – 5 polygons – is meeting EU requirements.

Each of these disposal facilities, besides of item 3 has a special Regulation document and has environmental safeguard documents, such as EIA, Environmental passport.

Project examples

(e.g. name project, tons, year, landfill or destruction facility, responsible authority (if possible, contact details)

In the UNDP Project “Solid wastes management improvement in Azerbaijan” (2009-2012) feasibility studies, EIA, Cleaner Technology Program, audit, inventory, etc. have been prepared [6]

7.2 International experience

Technology selection

About 2,000 tons disposal from 17 contaminated sites and former storages in the regions and 10,000 tons in Jangi polygon. These are disposal areas. Only one storage is guarded, some of the sites are privatized and have an owner. Most of them are open, so that animals and people have access to the sites.

Transboundary transport under Basel Convention

No transboundary transport under Basel Convention.

National transport

Till present one has not yet selected one or more technology(ies) for elimination, but the technologies like modern cement kiln, incinerator and thermal desorption are available in the country and should (could) be assessed on possible use for treatment of OPs and with OPs contaminated soil

7.3 Experience with FAO

FAO Project on these issues in the start-up stage

Other information:

8. Containers
<p>8.1 National experience Not dealt with separately – repackaged and transported and (temporary) stored together with the obsolete pesticides and PCB contaminated equipment</p>
<p>8.2 International experience <i>(e.g. Priorities on containers in NIP Action Plan)</i> No separate priorities in NIP for containers</p>
<p>8.3 FAO supported plan: No supported FAO plan</p>
<p>8.4 Amount and type of empty containers/packaging materials? <i>(e.g. materials recycling in types, amounts)</i> More than 1,000 empty metallic containers are in the OP temporary storage areas, lot of empty packaging cardboard and paper materials</p>
<p>8.5 Collection Centres for empty containers? <i>(e.g. number of centres, responsibility, compliancy with FAO guidelines)</i> No collection centres for containers from current pesticides. Management systems for empty containers does not exist</p>
<p>Other information: in case of liquid pesticides – the content will be transferred into authorised containers and the old empty ones will be crushed and transported and temporary stored together. Separation in three types – containers from obsolete pesticides, from new pesticides and from other chemicals</p>

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 for all waste streams				
A. Agricultural chemical waste: (see also parts already been filled in in the benchmarking section)			9,000-10,000	[1,2,5,6]
1. Obsolete pesticide waste	Approximately more than		8,500	[1,2,5,6]
2. POPs pesticide waste: <i>aldrin, chlordane, DDT, dieldrin, endrin, heptachlor, hexachlorobenzene (HCB*), mirex, toxaphen, chlordecone, alpha hexachlorocyclohexane (α-HCH¹)*, beta hexachlorocyclohexane (β-HCH)*, lindane, pentachlorobenzene*</i>	All agricultural chemical wastes are mixed, it is impossible to define separate wastes			[1,2,5,6,9,11]
3. New pesticides waste (incl. fake (counterfeit) pesticides)	No new pesticides wastes	0	0	[1,2]
4. Empty containers waste	Number of containers around:		1,000 pcs	[1,2]
5. Contaminated sites	See under B2			[1,2]
a. Burial sites (polygons)	1) Municipal wastes polygons in the about 60 rayons centers: no quantities are available			[5,6,9]
b. Storage sites	About 20 temporary storages sites with estimated quantity OP:		2,000	[1,2]
c. Usage sites (airfields, formulation plants)	2 usage sites in National waste center and Serenja polygon of			[8,22]

¹ HCH is often used in Russian as HCCH

etc.)	BP			
B. Industrial chemicals:	Total in oil industry: 71,659 tonnes Non-hazardous chemicals 10,239 tonnes Remaining Hazardous chemicals to be treated:		61,420	[22]
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>	PCB contained in transformers and condensers DDT, other POPs are mixed with other OP. It is impossible to identify separate amount of POPs		500	[5]
2. Contaminated sites <i>e.g. Contaminated containers, transformers and equipment</i>	76,000 m ² (as depths are unknown no volumes can be given)The former with lindane, HCH, DDT and other pesticides contaminated soils at the Sumgait site have been cleaned during the last year(s)		No volumes can be given	[1,2]
3. Oily wastes <i>e.g. non-POPs production waste, lagoons of sediments and sludges, solvents, waste lubricating oils</i>	See also under D. Petroleum wastes			[22]
4. Inorganic wastes <i>Solid, liquid and sludge inorganic waste (often in many country with mining activities and metal industries)</i>	Mining and waste from Quarries: 542,900 t. There is no information on the quantity of hazardous waste in this waste One of the most serious environmental problems of the industry of Sumgait is connected with use of mercury process for	No info		[6]

	<p>chlorine – alkaline manufacture, where about 180,000 tonnes mercury tailing containing 0.1-0.3 % of mercury was dumped. Total quantity of mercury waste dumped: 180,000</p> <p>The World Bank project (2000-2004) – “Elimination of mercury pollution” costing about 8.1 million USD. The quantity of mercury waste that has been safely disposed of at the National Waste Center in Sumgait was: 60,000 tonnes The remaining part of wastes (120,000 tonnes) is still present in the environment and it is not clear if the area has been cleaned-up and is decontaminated sufficiently for construction of the “Chemical Park”.</p> <p>Note: The final supervision mission reported that the cleaned area is becoming contaminated again with waste that continues to be generated by the chlorine plant operations. <u>This suggests that the benefits of the cleanup effort may be transitory!!</u> However, it is stated that from 2012-2013 about 120,000 m³ mercury containing wastes was collected and transported to the National Waste Center, eliminated from the environment So this means that the total quantity of Mercury has been removed.</p>			<p>[29]</p> <p>Annex 4</p>
C. By-products				
<p>1. Unintentional POPs <i>Dioxins: Polychlorinated dibenzo-p-dioxins (PCDD) and Polychlorinated dibenzofurans (PCDF) and PCBs.</i> <i>Indicate sources like</i> <i>Pulp and paper production,</i> <i>Chlorinated inorganic chemicals,</i> <i>Chlorinated aliphatic chemicals,</i></p>	<p>Dioxin and Furans produced.</p> <p>Other information is not available</p>	<p>127 gram/year</p>		

<p><i>Chlorinated aromatic chemicals, Other chlorinated and non-chlorinated chemicals, Petroleum industry, Textile production, Leather refining</i></p> <p><u>Contaminated Sites and Hotspots:</u> <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></p>				
<p>2. a-HCH*, b-HCH* <i>(being generated from the Lindane production) and pentachlorobenzene*</i></p>	<p>None. See also under Contaminated land at Sumgait under B.2.</p>			
<p>3. HCB* <i>generated from PVC production and rubber tyres production</i></p>	<p>Information is not available</p>			
<p>D. Petroleum wastes <i>Tarry and bituminous wastes, still bottom waste (from Distillation plants)</i></p>	<p>British Petroleum waste production 2012: 138,367 tonnes of solid and liquid waste, included:</p> <ol style="list-style-type: none"> 118,435 tonnes is hazardous waste (including sewage) 28% increase to 2011, from which 35,611 tonnes drilling cuttings are processed at Serenja hazardous waste management facility by indirect thermal desorption. Other hazardous solids are stored at Serenja hazardous waste management facility. 19,932 tonnes were non-hazardous waste. 89% increase to 2011 <p>Note that all waste of BP is properly disposed by approved contractors: All waste BP disposes at the Serenja landfill (See Section III, under 2 Government owned).</p>			<p>[22]</p>

	<p>But some hazardous waste is destroyed at the Garadagh Cement Plant.</p> <p>Some non-hazardous waste (5,793 tons – 29%) and some hazardous waste (3,923 tons – 3.3%) were recycled or reused by local companies. The remaining wastes were either treated and disposed of by BP approved waste disposal contractors using approved methods and routes, sent to a regulator-approved non-hazardous waste. In addition to 2012 non-hazardous waste 4,080 tonnes of drill cuttings were disposed of in a non-hazardous waste landfill.</p> <p>Summarizing: Total amount of hazardous petroleum waste: 118,435 tons It is important to note that <u>From this quantity is already treated by indirect thermal desorption: 35,611</u> Remaining for treatment:</p>	118,435		
		82,824		
E. Inorganic wastes <i>Liquid and sludge inorganic waste</i> <i>Solid inorganic waste</i>	See under B.4 under Inorganic wastes			
F. Health Care Risk Waste	<p>In 2012: Generation of medical wastes: 81,800 tones Decontaminated medical wastes: 3,800 tones Transported to the medical waste facilities, but still to be treated at a later stage</p>	81,800		Annex 3, 4

Summary volumes				
<p>Estimate of total hazardous waste market (watch need tonnes/year)</p>	<p>44,000 tonnes/year in municipal wastes (accumulators, lamps, medical wastes, etc.). Oil hazardous waste generated in 2012: 118,435 tonnes Drilling cuttings treated by thermal desorption: -35,611 tonnes The end of the 2012 amount of accumulated hazardous wastes was: Annual hazardous waste generation: Annual recycling of hazardous waste: 6,300 Annual hazardous waste disposal on landfills: 113,000</p> <p>Remaining hazardous waste to be dealt with for 2012: $297,000 - 6,300 - 113,000 = 177,700$</p>	<p>118,435</p> <p>297,000</p>	<p>1,764.400</p>	<p>[6, 25, 31]</p>
<p>POPs waste volume</p>	<p>Total wastes of <u>OP</u> is about: It is impossible to identify separately POPs. <u>POPs wastes</u> of the total OPs is approximately estimated about</p>	<p>9,000</p> <p>2,000</p>		<p>[1,2,6,9,11]</p>
<p>Other information added to this table:</p>				
<p><i>*HCB, α-HCH, β-HCH and pentachlorobenzene occur as pesticide, by-product and industrial chemical Please note that nuclear/radioactive waste will not be considered for this overview!</i></p>				

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>)	No. of reference/ Annex
1. Existing plants <i>e.g. existing and functioning hazardous waste landfills (polygons) or soil treatment plants</i>				
1. Private owned	National Waste Center	Bagir Hidayatov (+99455)331-08-93	<p>1. Jangi Polygon for storage of hazards wastes, mainly Mercury, PCB and OP wastes. OPs transported here from former Dayikend Storage on 2006. Usually OP disposed in the Jangi polygon. This center constructed and are regulating according to the EU regulation. These mixed POPs and OP wastes.Center has a Safeguard documents such as EIA, Environmental passport,etc</p> <p>2. Garadagh cement production Company "Holcim" at the high-temperature rotating kiln burning hazardous waste, including burning of oil sludge and car tires. For last 10 years the question has been discussed about the opportunity of using waste of the petroleum industry (oil sludges) and tire covers by the Holcim cement plant. It was proposed that oil sludges to be used as additives on initial raw material for reception of a product, and additives on fuel. An EIA project has been developed on use of these wastes at the Holcim plant. However, the Ministry of Ecology and natural resources has not approved this project</p>	[8,22,30] Annex 5 includes also a lot of information and photos about the polygons and treatment plants
2. Government owned	Balakhany incinerator	Zakir Ibrahimov (CEO) (+99412)464-91-11	Incinerator for combustion of Municipal wastes with capacity 500,000 ton/year and production electricity 300 mln kWh/year. The Waste-to-Energy Facility at Balakhani was completed in 2012 and its pilot phase of operation commenced in 2013. The facility includes an <u>incinerator designed to handle 10,000 tonnes of medical waste per year</u> . Industries specialising	[6,22]

			<p>in recycling plastics, rubber and tyres, lead batteries, <u>mercury-containing equipment, electronic waste and other materials</u> are welcome at the eco-industrial park, which is by far the largest project of its kind not only in Azerbaijan, but also in the Caucasus and Central Asia.</p> <p>The hazardous wastes from landfill BP are transported to this polygon and treated here. The treatment plant includes a rotary furnace for treatment of the drilling cuttings and other industrial wastes at 1,500 °C. Hazardous products resulted from the waste combustion are buried in the landfill of this polygon.</p> <p>BP is using the following facilities to manage its drilling cuttings and waste: (UNECE, 2011)</p> <p>3. Serenja Hazardous Waste Management Facility, where the drilling cuttings are received, temporarily stored, and treated by:</p> <ul style="list-style-type: none"> • Indirect Thermal Desorption (ITD) includes a rotary furnace treating at up to 450°C. 35,611 tonnes of BP's drilling cuttings from offshore were processed and generating 3,751 tonnes of recovered base oil for re-use and by • bioremediation; <p>Bioremediation processes are conducting by microorganisms. Oil sludges are mixed with soils and straw and manure are added for activation of microorganisms. Microorganisms destroy organic part of sludges, inorganic part content oil less than 1%. This technology non-applicable for POPs, but may be tested for some of OPs.</p> <p>The hazardous wastes from the BP landfill are transported to this polygon and treated here. Hazardous products resulting from the waste combustion are buried in the landfill of this polygon.</p> <p>4. Sumgayit – Tahlükəli Tullantılar MMC (Hazardous Waste Ltd) facility non-hazardous waste cell;</p> <p>5. Lokbatan – Central Waste</p>	
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			<p>Accumulation Site. BP waste management activities are important in Azerbaijan because they support the development of the network of specialized companies, which can also be used by Azerbaijani enterprises. The development of waste management facilities and operation practices also provides a good example of the application of international waste management standards.</p> <p>6. SOCAR Akhtarma landfill The center of Karadag region, 10-12 km away from the nearest residential area, "Akhtarma" is in an area of the mountain north of the plain of smooth and sediments. The total area of 10 hectares in the center, administrative building area is 123.3 m². Concreted sections of the waste consists of 6 units, the total volume of 45,000 m³ (99,000 tons) of the vessels. Production of electricity (KTM-160 kVA transformer) and backup generator ("Gen Power", 22 kVA) is provided</p>	
<p>2. Potential plants <i>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</i></p>				
1. Private owned	National Waste Center	Bagir Hidayatov (+99455)331-08-93	<p>Currently establishing technology for processes.</p> <p>Ministry of Ecology and Natural Resources according to the UNIDO Project conducted the inventory of PCB wastes and all PCB will be transported to the this Center. The project is a component of the pilot project for the destruction of PCB. PCB in the presence of metallic sodium at the temperature of 110°C de-chlorination process occurs. This plant will have capacity of 20 tons per month. There are 500 tons of PCB wastes that will be refined during 25 months. The actual installation is now nearing completion.</p>	[5,8]
2. Government owned	Information is not available			

3. 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	Information is not available			
2. Government owned	Regional Wastes polygons	Haci Huseynov (WB) (+99412)492-28-17	Will be constructed for 3-4 rayons with population about 300-400 thousand persons	[6]
4. 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.	Information is not available			
2.	No			
5. 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	No			
2. Government owned	No			
6. 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				
1. 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 Saranja 2 In foreign country	Sangachal	Special trucks for wastes transportation	Not estimated	[22]
1 In country National Waste Center 2 In foreign country	Various waste points of Azenerji Ministry of Energy	Special trucks for wastes transportation	Not estimated	Ongoing projects
1. 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> In the Yevlax, Zardob, Agjabedi, Horadiz and Genja there are OP wastes of OP stores of more than 500 ton. In the Yevlax, Horadiz, Genja there are railway stations. From Agjabedi and Zardob it is possible to transport OP wastes by trucks				
2. 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)</i> <i>Describe here, if not already covered under 1. Benchmarking under 6. Storage and transport and 7. Disposal</i> There are specialized companies of transportation and Services of Ministry of Emergency to safe transportation of wastes to the treatment plants				
3. 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 1. Benchmarking under 7.2</i> <i>International experience Indicate year and location (country) where transported from and where to and authorities involved and kind of waste. Briefly describe cases</i> Now is no solution about international transportation of wastes to the transport facilities. Azerbaijan did not export yet any waste to EU, there is no experience				

Summary sheets on findings

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

There are no correct data about planned pilot plants, amounts of POPs wastes in the OP. No periodic information system on disposal, treatment, landfilling of wastes. Access to these sources is limited

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

No results of Feasibility study on Waste management regarding to the Azerbaijan. Specific issues of EIA of waste in Azerbaijan also are not defined. No Special Monitoring Plan on Waste. The technical capacity on monitoring of wastes has a serious lacks. No results of Stakeholders analysis and capacity assessment

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

Azerbaijan has developed considerable capacity on hazardous waste disposal collected in the framework of this study. The possibilities of treatment of OPs/POPs in one or more of the existing plants should be discussed with the concerned authorities, based on evaluation of the technologies, its adaptation, trial tests needed and adaptation of the existing licenses. The destruction of 500 tons of PCB is already being dealt with by a pilot project led by UNIDO by means of sodium reduction plant with a capacity of 20 tons per month that will take around 25 months. The actual installation is now nearing completion. Azerbaijan has progressed enormously on the built up of capacity for the destruction of waste and hazardous waste. However especially on the hazardous waste that includes legacy waste like obsolete and POPs pesticides, now temporarily stored at the Jangi special landfill, being in total 1,764,000 tonnes have to be dealt with. Additionally, every year 297,000 tonnes of hazardous waste are generated, from which only 2% is recycled and nearly 40% been disposed at landfills. In order to deal in a sustainable way with the legacy and with the arising hazardous waste a national plan would be needed to look for example into:

- Possibility of using available capacity at the Balakhany (municipal) waste incinerator that designed to handle 10,000 tonnes of medical waste per year. If it can take care about other hazardous waste.
- Use of the existing cement kiln capacity, for which EIA have been already performed, and which is owned by an international consortium that has global experience in hazardous waste treatment.
- Installation of additional capacity of hazardous waste treatment capacity at the National Waste Center.
- Look into options for continuation of the Sodium reduction plant, after the finalization of the pilot project to treat specific other waste stream.
- Develop further the already tested capacity on biological treatment of oil contaminated soils but also work on pesticides and other POPs contaminated soils.

If further developments of capacity are continuing, Azerbaijan could play a major role to assist neighbouring countries like Georgia to deal with their hazardous waste problem in the near and far future

References		
Refer. No.	Document name	Key messages
[1]	Project: Strengthening capacity to management of obsolete and POPs pesticides in the EECCA countries (GEF-FAO) -2010-2013	Trainings, public awareness, creation of inventory capacity, seminars, workshops, repackaging, and transportation of OP to landfills (pilot projects). Report is at the Green Cross and of courses available in English
[2]	Creation of Interministerial Commission on Management of OP. (2012). Decree of CM	Commission –representatives of Ministry of Agriculture, Ministry of Ecology and Natural resources, Ministry of Emergency situation, Ministry of Health. Activities: inventory, development of management program
[3]	«Complex Plan on improvement environmental condition for 2006-2010/2013” Item 5.11. Management of OP	Inventory, repackaging, utilization of obsolete pesticides, reconstruction of Jangi polygon, which is implemented from 2007-2008
[5]	National Action Plan on POPs pesticides 2007. Baku - 2007	National plan on improvement capacity on inventory, monitoring, repackaging, transportation and landfilling of the POPs pesticides.
[6]	Solid Waste Management Improvement in Azerbaijan. UNDP/Norwegian Gov. 2009-2012	Development of RRR-strategy for SW, improvement of Legislative documents, inventory, Survey, field work, definition of per capita waste generation, EIA of SW
[7]	Test Paints for Lead in Nine Countries where No Data are Currently Available. IPEN-2012	Definition of lead content of 30 samples of paints, public awareness
[8]	Heavy metals, Mercury contamination prevention. IPEN-2010	Inventory of mercury containing materials and techniques, public awareness on mercury contamination prevention
[9]	Country POPs-Situation report for Azerbaijan. IPEN 2006	Production, using of POPs pesticides in the country. OP inventory results, national capacity on OP management, stakeholders’ analysis. Polygons for Pesticides management
[10]	“Definition of POPs in the rivers of Kura and Araz” Caspian Environmental Program-2005	Definition of the content of the lindane and DDT in the water and sediment of the rivers Kura and Aras
[11]	«Public-environmental inventory of pesticides in Azerbaijan Republic and Organizing of public movement for its elimination» IPEN-2004	Inventory, legislation, international policy, stakeholders, management of polygons, publication of the book, public awareness
[12]	Decree of CM № 260, 07 December 2006 on adoption of some normative acts about phytosanitary control	The legislative issues of plant protection, use, transportation, storage of pesticides has been considered
[13]	Project of WB: “Urgent Environmental problems in the Azerbaijan” 1998	There are 4 projects, one of them related to the management of mercury-containing wastes in the Sumgait Surface active compounds plant
[14]	Law of Azerbaijan Republic on Phytosanitary control, 12 may 2006, № 102-IIIQ	Definition of role, responsibilities, rights and obligations of stakeholders in the processes of plant protection, pesticides application, management of Agricultural chemical wastes, etc.
[15]	Regulation of the Polygon for obsolete pesticides. MoA-2007	Setting, instruction, capacity, safety, security, staff and their responsibilities, reporting

[16]	Report ADB. Country Environmental Safeguard System. 2014	The existing environmental safeguard system in Azerbaijan has been analysed. The proposal on the improvement of ESS according to the ABD requirements have been submitted
[17]	Law of Azerbaijan Republic on Phitosanitary control, 12 may 2006, № 102-IIIQ	Definition of role, responsibilities, rights and obligations of stakeholders in the processes of plant protection, pesticides application, management of Agricultural chemical wastes, etc.
[18]	Handbook for the "Environmental Impact Assessment Process in Azerbaijan" UNDP-1996	Objective, aims, content, procedures, generic of EIA process. Obligations of Parties in ESS. Stages, timing, financing, Scope of EIA document. Legal requirements, public participation, informing, Review, expert group work, adoption, monitoring of EIA. Distribution of responsibilities between parties in the EIA process
[19]	NATO "Melange" fuel-waste project	Collected and utilized about 1,300 tonnes Mélange-fuel wastes by National Academy of Sciences http://www.nato.int/cps/en/natolive/news_8066.htm?selectedLocale=en Report is confidential and not accessible
[20]	National PRTR-project	Creation of the National register for 2 pilot plants
[21]	Russell Cobban & Khatuna Akhalaia. Field Report Obsolete Pesticide Repackaging Project: Strengthening capacity to management of obsolete and POPs pesticides in the EECCA countries (GEF-FAO) -2010-2013	Training and Repackaging Demonstration Project Gança, Azerbaijan Project Date: 5-19 of November 2011
[22]	Report BP on Sustainable Development	Environmental impact assessment of oil industry realized by BP-2010
[23]	Annual report of State Statistical Committee of AR. 2013	Statistical data
[24]	2-nd Review environmental performance in Azerbaijan. UNECE-2011	Environmental performance Report
[25]	Report Ministry Ecology and Natural Resources of AR. 2008-2012	Activities Report on Environmental protection and nature use
[26]	Azerbaijan Environmental Safeguard system	This project is ongoing, being implemented by Charles Adamson and Islam Mustafayev, will be ready on end of year
[27]	Report of Interministerial Commission on inventory of OP	Places, content, amount of OPs in 20 rayons
[28]	Pesticides and Environment. Baku, 2005	Brochure on obsolete pesticides inventory. IPEN
[29]	Document of The World Bank, for official use only Report No: 34745, Implementation Completion Report (IDA-31070 TF-25582 TF-26521) on a credit in the amount of US\$20 million equivalent to the republic of Azerbaijan for an urgent environmental investment project, December 29, 2005, Public Disclosure Authorized	http://www-wds.worldbank.org/servlet/WDSContentServer?WDSPath=/IB/2006/01/23/000160016_20060123112257/Rendered/PDF/34745.pdf
[30]	Waste and Chemicals in Azerbaijan, A Visual	http://issuu.com/zoienvironment/docs/aze-waste-and-chemicals-

	Synthesis, Zoï Environment Network 2013	<u>2013</u>
[31]	The Republic of Azerbaijan's Fifth National Report to the Convention on Biological Diversity, page 28-29	https://www.cbd.int/doc/world/az/az-nr-05-en.pdf

ANNEXES

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

Annex 2: Map of “Hot-spots” of OPs. The Map has been prepared according to the recent Report of the Interministerial Working group Inventory Report in 2013 by Khoshgadam Alasgarova

Annex 3: Yearly Statistic data book of 2013 (Original in Azeri)

Annex 4: English translation of Yearly Statistic data book of 2013

Annex 5: Report on management of chemical wastes in Azerbaijan by Prof Islam Mustafayev

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 tones 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 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

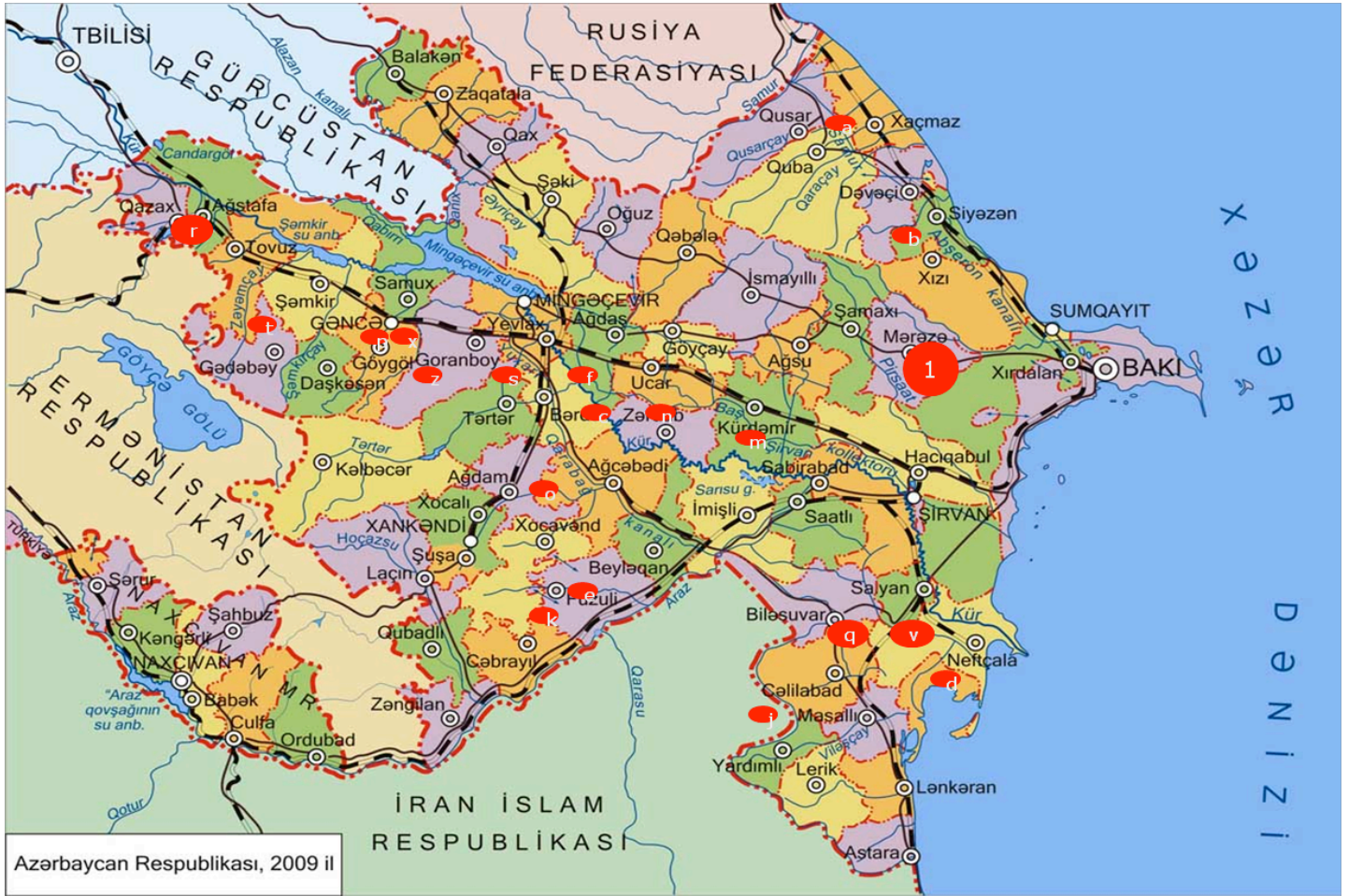
Academic Qualification

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: Map of “Hot-spots” of OPs. The Map has been prepared according to the recent Report of the Interministerial Working group Inventory Report in 2013 by Khoshgadam Alasgarova



Legend

-  Hot spot of OPs (Obsolete Pesticides)
-  Jangi Pesticides Storage

Annex 3: Yearly Statistic data book of 2013 (Original in Azeri)**İstehsal və istehlak tullantılarının yaranması,
istifadə edilməsi və zərərsizləşdirilməsi
(min ton)**

	2009	2010	2011	2012
Yaranmış istehsal və istehlak tullantılarının miqdarı	2287,6	2281,5	2789,7	3096,7
adambaşına düşən, kq	259	255	308	338
İstifadə edilmiş, zərərsizləşdirilmiş istehsal və istehlak tullantılarının miqdarı	503,1	476,0	572,2	665,4
adambaşına düşən, kq	57	53	63	73

**Təhlükəli istehsalat tullantılarının yaranması, istifadə edilməsi və zərərsizləşdirilməsi
(min ton)**

	2009	2010	2011	2012
Yaranmış təhlükəli tullantıların miqdarı	131,8	140,0	185,4	297,0
İstifadə edilmiş təhlükəli tullantıların miqdarı	18,7	5,5	3,6	6,3
Zərərsizləşdirilmiş təhlükəli tullantıların miqdarı	10,4	58,4	37,1	113,9

**Tibbi tullantılarının yaranması və zərərsizləşdirilməsi
(ton)**

	2009	2010	2011	2012
Yaranmış tibbi tullantıların miqdarı	60,6	87,5	89,9	81,8
Zərərsizləşdirilmiş tibbi tullantıların miqdarı	6,8	3,1	7,0	3,8
müəssisələrə verilmiş tibbi tullantılar	54,6	84,2	85,2	78,4

Annex 4: English translation of Yearly Statistic data book of 2013 (Original is in Azeri)

Table 1. Generation, use and disposal of industrial Hazardous wastes (thousand ton)

	2009	2010	2011	2012
Generation	131,8	140,0	185,4	297,0
Use of hazardous wastes	18,7	5,5	3,6	6,3
Disposal of Hazardous wastes (decontamination)	10,4	58,4	37,1	113,9

Table 2. Generation, use and disposal of industrial medical wastes (thousand ton)

	2009	2010	2011	2012
Generation of medical wastes	60,6	87,5	89,9	81,8
Decontaminated medical wastes	6,8	3,1	7,0	3,8
Transported to the medical waste facilities	54,6	84,2	85,2	78,4

According to the Mercury wastes: 2012-2013 about 120,000 m³ mercury containing wastes was collected and transported to the National Waste Center, cleaned from the environment

Report on management of chemical wastes in Azerbaijan**Structure of the Report**

Introduction	51
1. General information about chemicals (production, import, utilization)	51
2. Inventory and environmental impact assessment of chemical waste and obsolete pesticides.....	51
2.1. Municipal solid waste	52
2.2. Obsolete pesticides	53
2.3. Export and import of pesticides in Azerbaijan	57
2.4. Historical production of pesticides.....	58
3. Management of hazardous wastes	58
3.1. Mercury wastes	59
3.2. The current problems in the management of hazardous waste	60
4. National priorities in Management of chemicals	61
5. Waste landfills	61
5.1 Municipal waste landfill sites	61
5.2. National Center for hazardous waste in Sumgayit.....	62
5.3. Polygon for obsolete pesticides of Ministry of Agriculture (Jangi landfill).....	63
5.4 BP Serenja landfill for hazardous waste	64
5.5. SOCAR Akhtarma landfill	65
6. Treatment of chemical wastes.....	66
6.1. Baku Balakhany incinerator for municipal waste.....	66
6.2 National Center of hazardous industrial wastes.....	66
6.3. Sodium reduction or alkali metal PCB treatment plant.....	67
6.4 Garadagh cement production Company "Holcim"	67
6.5. The State Oil Company of Azerbaijan Republic (SOCAR).....	67
6.6. Treatment of Medical waste	68
References:	68
Attachments	69

Introduction

This report has been made as explanation to the Technical assessment of the management of obsolete pesticides and POPs waste and soil contamination in Country Azerbaijan within the framework of a Disposal Study for Obsolete Pesticides in the Former Soviet Union. By going through the country report, a lot of the historical circumstances and details that were not possible to include in the technical assessment report can be of use for the reader.

1. General information about chemicals (production, import, utilization)

The agriculture sector of Azerbaijan- cotton, grapes, fruit and vegetable production, used more than 100 different types of pesticide and agrochemicals. In the 80s of the last century the amount was estimated at 50-60,000 tons including DDT, hexachloran-hexacyclochlorohexane (HCH), Lindane, "Preparat-30", etc. Part of this amount was produced in the Sumgait chemical complex and a great part was imported. Sumgayit "Surface-active Substances" plant production can be described as follows:

- 1958-1980, 500,000 tons of 5% DDT
- 1986 -1889, 181 tons of Lindane,
- 1951-1978, 30,500 tons hexacyclochlorohexane (HCH)
- 1984-1994, 19,000 tons of "Preparat-30".

Some of these chemicals have been used in agriculture, exported to the South Caucasus Republics and other countries. Azerbaijan was one of the places with the highest use of pesticides per hectare in the former USSR. In the 70s of the last century when many countries restricted the use of pesticides, in the 80s of the major changes in agriculture, a large portion of these pesticides were present in warehouses, fields, at railway stations and distribution places "was banned overdue pesticides" as "obsolete" pesticides, hereafter called OP(s). In this case, the dangerous chemicals remained without special supervision and control a source of serious danger to the environment and to human health. Sumgayit city was one of the largest petrochemical complexes in Former USSR. Chlorine-organic compounds, synthetic rubber, organic-synthesis and other hundreds of chemicals, including pesticides, chlorine have been produced. Many dangerous substances have been used as initial substances, and as catalyst.

As a result of the production processes large amounts of wastes were generated. For example during '70-80s of the last century, in the manufacture of chlorine approximately 200,000 tons of mercury waste was generated.

This report includes information on the various level (systemic, individual and institutional) of capacity building measures in the field of waste management, data regarding inventory, monitoring, transportation, treatment, landfills of chemical waste and obsolete pesticides in Azerbaijan.

2. Inventory and environmental impact assessment of chemical waste and obsolete pesticides

Since Azerbaijan acceded to the Basel Convention 16 February 23 in 2001, the legislative framework was widened from a single act to several legislative norms. Actions needed to improve the waste management

situation were included in the Comprehensive Action Plan for Improving the Environmental Situation (CAPIES) in Azerbaijan for 2006–2010.

The system of municipal solid waste (MSW) collection, transportation and disposal works well in Baku City, and disposal practices have been significantly improved by concentrating waste at a single disposal site, which receives some 50 per cent of municipal solid waste collected on the Absheron peninsula, as well as upgrading operations. In general, however, existing landfills do not meet international sanitary standards. Waste separation is starting to be introduced. Rural areas are only partly covered by municipal waste service.

Outdated technologies are continuously being replaced with modern ones, reducing industrial waste generation. Oil and gas industries have upgraded their waste management practices, also under the influence of British Petroleum (BP).

Facilities for the storage of obsolete pesticides and for radioactive waste have been rehabilitated, and measures implemented have significantly reduced environmental risks at these sites. A medical waste legislative and strategic framework has been defined and several private ambulances now incinerate their waste, but the public health sector has yet to introduce proper management of medical waste. The Government has made a great effort to improve the waste management situation. Steps taken have significantly reduced environmental pollution from waste.

2.1. Municipal solid waste

MSW management in Azerbaijan is receiving much more attention than previously. Most development occurs in the area of Greater Baku and on the Absheron peninsula, where about 50 per cent of the country's population live, but the application of MSW management to other regions is only envisaged in future projects. Simultaneously 3 International projects have been implemented during the 2009-2012:

1. The UNDP / Government of Norway funded project “Solid Waste Management Improvement Project (SWMIP)”, focused on the country of Azerbaijan
2. World Bank funded project “Integrated Solid Waste Management Project”, focused primarily on the City of Baku and its environs
3. European Union funded project “Waste Governance – ENPI East”, a regional project focused on the Trans Caucasus countries, including Azerbaijan

The implementation of these projects has developed fundamental basics of the waste management processes.

The main results of UNDP funded Project are:

- * National Strategy of RRR of SWM has been developed
- * Amendments and improvement few legislative acts
- * Cleaner technology Program for SWM has been created
- * For 4 seasons surveys to identify daily SW amount per capita and its composition were conducted,
- * Laboratory analysis of air, soil, and water samples, taken from 17 regional landfills were conducted.
- * Microbiological analysis of soil and water samples from 50 rayons SMW landfills has been conducted
- * SWM inventarisation was conducted in 52 regions of the country
- * Guidelines for EIA of Solid municipal wastes according to EU-Directives have been developed
- * Guidelines for audit of Solid municipal wastes according to EU-Directives have been developed
- * Identified data on SWM to include National Solid Waste Data
- * Module for SW Data Base has been developed and tested
- * Calculation methodology and guidelines of feasibility studies applied in municipal solid waste management in the EU, adapted to the local conditions in Azerbaijan *has been developed*

* The Strategy on Public awareness for SWM have been created.

According to the latest estimates (2012) the following amounts and composition of municipal wastes in Baku and in the country are available as can be seen in Table 1.

Table 1. Municipal wastes in Azerbaijan

Territory	Served Population on date 2013	Waste amount		Composition of wastes, %					
		Daily per capita, kg/day/pers	Annual, Kton/year	food	plastic	paper	metal/glass	hazardous/medical	other
Azerbaijan	4,459.00	0.615	1,000.2	63.5	7.5	8.1	6.0	2.1	12.8
Baku	2,122.30	0.586	453.94	68.1	7.3	6.9	5.3	2	10.4

Separation and recycling of municipal waste by citizens had not started by the time of the EPR review as a formal, widespread programme. However, there are agents who buy waste paper, plastic and metals from individuals. At the current stage, a basic waste management infrastructure for recycling is being developed. In addition, a waste paper processing plant, Sumgait Carton, developed by "Azersun" in 2009 is able to produce up to 50,000 tons of paper annually. Similarly, the country has capacity for processing waste glass and scrap metal, which creates a solid base for the introduction of nationwide recycling programmes.

2.2. Obsolete pesticides

The inventory of wastes and banned pesticides in areas, and the organizations in the field of environmental impact assessment and management of by serious work has been made:

- Kur-Araz rivers DDT and lindane contamination and pollution of the Caspian Sea, the determination of the contribution of these rivers in the pollution of the Caspian Sea (2005),
- Preparation of the National Action Plan for the management of persistent organic pollutants,
- Soil samples from territory of 20 agricultural regions to determine the concentration of DDT and hexachlorocyclohexane (HCH),
- The inventory of prohibited pesticides and agro chemicals at Jangi landfill in Daykand village from the Salyan district have been destroyed and mixed with the soil form of in 2.0 tons of DDT, 40 tons polidophen and 110 tons of salt mixture. An amount of 55 m³ of soil contaminated with DDT was cleaned and the hazardous waste was transported to the Jangi polygon of Ministry of Agriculture.

In 2011-2012, up to 40 "hot spots" (former chemical products stored in warehouses and with pesticides contaminated areas) have been monitored. As a result of inventories that have been implemented, approximately 1,520 tons of solid pesticides, 1,064 m³ unidentified pesticides buried and 1,000 barrels of liquid pesticides have been found.

At present, researches on definition of "hot spots", polluted OP and the assessment of their impact to the environment are carried out.

In 2004, in the Republic of Azerbaijan the first inventory of the forbidden and unsuitable obsolete pesticides was implemented by the Ecological Society «Ruzgar» under the IPEN project. The results of this inventory are published in [1]. Within the framework of the National Implementation Plan (NIP) of the Stockholm Convention on POPs (Persistent Organic Pollutants), in August 2006, the inventory activities started by the State bodies of the country with experts from Public Service on Phytosanitary Supervision

and from the Ministry of Ecology and Natural Resources. The NIP has been prepared and has been presented to the government for the statement, but till present this plan has not been approved yet.

On the basis of the conducted monitoring works initial data have been obtained. During the inventory works, the various residuals of obsolete pesticides, POPs pesticides, often mixed (DDT, granozan, isofen, dalapon, teflan, zineb, hexacyclochlorohexane, homesin, sulphur mixed with isofen etc) have been found in regions. Only in Salyan and in Ganja pure polidophen, with about 20% DDT has been encountered. Around hot spots, areas contaminated with pesticides have been found, due to migration of pesticides by winds, rains and ground water.

The initial inventory has been implemented visually and the obtained data have not completely reflected the real situation in the country. Despite of this, the data obtained during inventory have created basis for a concept to be presented to the government. The Ministry of Agriculture has presented the results of the data on obsolete pesticides to the government of the republic.

As a result of these actions, in September 2006 the problem of obsolete, pesticides was subject of the Order of the President of Azerbaijan Republic. The “Complex Activity Plan for 2006-2010 on Improvement of Ecological Situation in the Republic of Azerbaijan,” includes item 5.11 which is completely devoted to inventory, to gathering and recycling of the unsuitable, toxic substances forbidden to use and reconstruction of range for pesticides. The Public Service on Phytosanitary Supervision within the Ministry of Agriculture of Azerbaijani Republic was assigned to perform these tasks.

In the framework of the Comprehensive Activity Plan for 2006-2010 on Improvement of Ecological Situation in the Republic of Azerbaijan in 2010, a construction for the storage of liquid pesticides has been erected, and also 60 more bunkers for solid pesticides out from which is already half is filled.

In 2009 in the framework of the project financed by World Bank in Baku, training on inventory of the obsolete pesticides has been carried out for the representatives of the Ministries of Ecology and Natural Resources, Ministry of Agriculture, Ministry of Emergency Situations, Ministry of Health as well as NGOs. Practical doctrines on inventory and repacking of the obsolete pesticides have been developed based on an example of storehouse for obsolete pesticides in the Dayikent area in the Salyan region, The « Caspian Sea POPs Workshop» took place in 2010 for representatives of the countries of the Caspian region was a great opportunity for an exchange of the best practices and information.

In 2010 in the city of Ganja about 1,180 barrels polidofen and 200 pallets were repackaged and these materials have been transported for storage before their final destruction.

In 2011 in Zardob region area a residential building has been constructed, but because of the smell of pesticides it was impossible for people to live in the buildings. According to the local authorities of the Zardob region, a decision was taken to clean the area around the building polluted by various chemicals. With financial support of the State budget, 1,143 m³ of with OPs contaminated soil has been excavated and replaced with new clean soil. The polluted soil has been repacked and transported to the Jangi polygon.

It is necessary to note, that as a result of repeated monitoring activities in 2009-2010 new sites such as a burial place with a large amount of the obsolete of pesticides which have not been revealed earlier have been discovered. In many areas (Siazan, Samux, Shamkir, Agstafa, Saatly, Beylagan, Yevlax, Kurdemir, etc.) new storage sites with OPs and other chemical waste and the related contaminated soil areas have been encountered.

In 2009-2011 experts of State service of Phytosanitary Supervision jointly with experts of the Ministry of Ecology and Natural Resources participated in all seminars and trainings implemented within the framework of the project GEF/FAO « Creation of capacity on struggle with obsolete and POPs pesticides in the countries of the Eastern Europe, Caucasus and the Central Asia ». Within the framework of this project, the participation in seminars and trainings on inventory, repacking, on public awareness and on introduction

of the information System under the reference with stocks of pesticides, have helped the authorities to come to the decision to raise the problem of the obsolete pesticides at an international scale.

By the end of 2011 and beginning of 2012 within the framework of project GEF/FAO project “Capacity Building on Obsolete and POPs Pesticides in Eastern European Caucasus and Central Asian (EECCA) countries », (from here on the abbreviation **EECCA-project** will be used) a mini project for «micro-supports of carrying out of inventory of the obsolete pesticides and increase of public awareness » has been carried out in the country. In Baku, Ganja and in Salyan regional seminars have been conducted. The participants were farmers, representatives of private companies involved with import and distribution of pesticides, experts on plant protection, scientific institutes, students of high schools, public organizations, etc. In the framework of the mini project employees of the State Service of Phytosanitary Supervision have been trained on work with the FAO Pesticides Stock Management System (PSMS). After the training, sessions a full inventory of the obsolete pesticides according to FAO standards has been performed in all the countries and the obtained data have been included into the PSMS FAO database.

In September 2011 in the city of Gabala the 11th International HCH and Pesticides Forum has been held with the participants of from more than 40 countries (representatives from various ministries, departments and public and private organizations).

In November, 2011 within the framework of the EECCA project one more seminar-training on repacking the obsolete pesticides has been conducted under the coordination of international experts and with participation of experts from Belorussia, Moldova, Georgia, Romania and Azerbaijan. In this project practical work on repacking the obsolete pesticides has been performed and the including all necessary individual Personal Protection Equipment (PPE), necessary repacking materials, loading equipment have been delivered.

During training about 70 tons of the obsolete pesticides was repacked and transported to the Jangi polygon for storage before further elimination.

It was planned to carry out repacking of the obsolete pesticides in the former organization «Selxozximiya» in Samux, Shamkir and Akstafa. At present, these chemicals storages are privatized. In the Shemkir region near the storage for OPs, the Green-house for cultivation of vegetable cultures has been constructed. Now the remaining pesticides in the store have already been disassembled and the reinforced concrete construction is destroyed. During the EECCA-project training about 70 tons of the obsolete of pesticides from Samukh, Shamkir and Akstafa regions was repackaged and has been sent to the Jangi polygon, for storage for final destruction.

In 2012, employees of Jangi polygon in framework of the EECCA project accepted to participate in Kyrgyzstan in the seminar inventory-training and in Byelorussia in the repackaging training of obsolete pesticides.

In 2012, referring to data received after the main inventory as part of the EECCA mini project, a letter was written to the Cabinet of Ministers of Republic about a situation on the obsolete pesticides in the country. On the 17 of January 2012, the Government of Azerbaijan established a fact-finding Inventory Commission consisting of the experts of the Ministry of Agriculture, the Ministry of Ecology and Natural Resources, the Ministry of Public Health Services, the Ministry of Emergency Situations, the Ministry of Finance, the Ministry of Economic Development and the State Committee of Land and Cartography (order of the Cabinet of Ministers of the Republic of Azerbaijan No. 31/5-46 dated 14 December 2011). The objective of the commission was to organize field trips to the former agrochemical storage facilities in different regions of Azerbaijan, to reveal and report quantities of banned and obsolete pesticides, details of contaminated sites, and provide recommendations to the Government of Azerbaijan on further actions to reduce the exposure to the population through proper practices of OP safeguarding, disposal and remediation activities. The inventory field trips have been completed within the period of 26 January - 5 March 2012. The detailed OP inventory report was submitted to the Deputy Prime Minister of Azerbaijan along with recommendations. The findings of the Inventory Commission have also been entered into the Pesticide

Stock Management System (PSMS) developed by FAO. The Action Plan for mitigation/elimination of OPs is under preparation by the commission experts.

The inventory has been implemented in 36 areas of the country, but only in 18 areas (Salyan, Neftchala, Ujar, Agstafa, Shamkir, Beylagan, Horadiz, Agcabedi, etc) the residuals and soil polluted with OPs have been found. Around 2,000 tons of mixed OPs and about 1,000 areas where the soil has been contaminated underneath the pesticides waste have been identified.

Table 2. Results of inventory of OPs in Azerbaijan

Location area	Amount of OP	Polluted area	Content of OP
Salyan	200ton+300 m ³ +500 rotten	23,775 m ²	Polidofen, etc
Neftchala	5 ton		natrium propinat
Jalilabad	50 ton	5,840	
Agcabedi	40 ton	2,500 m ²	
Beylaqan	60	900 m ²	
Fizuli-Horadiz	500 ton	16,100 m ²	DDT, Hexachloran, Izofen
Goranboy-Dalmammadli	-	10,500 m ²	
Ucar	50 ton	3,450 m ²	
Ucar-Mususlu		2,400 m ²	
Yevlakh	100 ton	1,000 m ²	
Agdash	100 ton	5,600 m ²	
Khachmaz	163 m ³		
Siyazan	5ton	876 m ²	Unknown
Samukh		300m ²	
Kolayir village	98 m ³ +100 ton		Izofen, chlorofos, hexachloran
Shamkir	120 ton	30 cm thick	
Agstafa	60 ton	600 m ²	
Yevlax, Ujar, Zardab	3,084 ton	-	
Agcabedi	1,036 ton	-	
Ganja	1,180 drums+200 pieces	-	
Zardob	1,143 m ³	-	

The Salyan area needs urgent attention, as it is very close to a food store site. It is necessary to note, that in this area the groundwater is very close to the surface and along the contaminated site the Kura river flows and the pollution is already now running into the river and will continue to enter the river and spread the pollution.



A bigger problem is the repacking and recycling of liquid pesticides existing in range. Some metal drums that have been repackaged in Ganja, in 2010, are already leaking now and pose again a danger that has to be dealt with urgently. Therefore the problem of the soil pollution at these sites, around the food stores has to be addressed asap in order to reduce risk for environment and the population.

An additional problem is what to do with the former storage buildings that have been destroyed. All remaining building materials like bricks reinforced-concrete and other parts that have been contaminated. Therefore appropriate solutions have to be found how to deal with these materials. There are probabilities, that part PO is at the population. The group that implemented the inventory simultaneously has spent works on public awareness for revealing residuals of OP with help of local communities.

In Azerbaijan pesticides are imported by various private companies. Only for struggle against quarantine and special cases for struggle against dangerous wreckers, the government has allocated funds for purchase of pesticides. Propagation of pesticides basically goes through various firms, the companies and their shops. The pesticides at present, mainly private companies are imported, stored and distributed.

However, these facilities are unsuitable for the storage of pesticides, and have to be adapted for storage of hazards chemicals.

According to “The Order of conducting the account and the reporting of pesticides, biological preparations and agrochemicals” each quarter of the year the account of import in Republic of pesticides, biological preparations and agrochemicals is conducted. Quarterly this report is then provided to the statistical committee. The overview of the companies which are involved in import and distribution of pesticides, biological preparations and agrochemicals is conducted.

2.3. Export and import of pesticides in Azerbaijan

Every year about 1,000-1,200 tons of pesticides are imported into the country, and for the growth season 700-900 tons of pesticides are used. Pesticides are applied on grain, cotton plantations, fruit and subtropical gardens, on corn, sunflower, vegetable and melon cultures.

The State Service of Phytosanitary Control of Ministry of Agriculture is conducting of monitoring for import and use of pesticides.

Except for it in State Service of Phytosanitary Supervision the account of new pesticides on FAO the control system of stocks of new pesticides (PSMS) is conducted.

Export and import of chemicals and their waste is limited to the fact that after the collapse of the Soviet Union custom system creates certain difficulties due to the legislation in these countries differ. In the Russian Federation a unified system of custom between countries Russia-Belorussia-Kazakhstan has been created that facilitates also the process of import and export of chemicals and wastes. However till today this custom unit has no regulation that allows the transport of hazardous waste. However recently it was announced that by the end of 2014, the custom unit will come up with a solution for this problem. Azerbaijan did not enter to the custom Union and there are problems with export and import chemicals and their wastes.

In the last years, an acute problem exists on collection and recycling of empty pesticides containers. There is no mechanism of collection and recycling of empty containers. Common practice is that after the use the container is scattered, left on site of application or about a site which to result to pollution an environment and is becoming a new the center of health hazard for the population as the empty containers are frequently used in housekeeping.

It is the duty of the Republican Laboratory under State service of Phytosanitary Supervision to define the quality of pesticides, definition of residual quantity of pesticides in soil, food stuff, etc. The Laboratory has all the modern equipment to implement these tasks but the shortage of qualified personnel, complicates their work on this area. There is a need for the training for the experts of toxicological laboratory.

2.4. Historical production of pesticides

After the Second World War the restoration of the economy took place, including the establishment of new production of among others pesticides at the industrial city of Sumgait in Azerbaijan. For the first time in 1945 the production of caustic soda and chlorine was started. This chlorine production plant was no longer economically viable and in 1951, outside of this company the production of technical HCH was started. In this process, gaseous chlorine liquid benzene was chlorinated by a photochemical method.

Since 1958, with a design capacity of 60 thousand tons DDT/ year, was put into operation and lasted until 1980. During the operation period of 22 years, 482,539 tonnes was produced (see Table 1 in Attachments). At the beginning of 1982, this production did not meet the environmental requirements. It should be noted that all production of the USSR of DDT was forbidden in 1970 although the production of DDT for non-specific reasons, was continued till 1982. Since 1958, DDT was produced in other regions of the former USSR (Chapayev, Dzerjinsk city) with 60-80% semi-products. The total number of semi-final products from the production could not be determined.

According to the management of the plant during about 65-70 employees were working the same period in the plant. For further details on the DDT production, see Annex 1. Now this plant stopped and all remaining chemicals transported to the Jangi polygon.

At the plant an initial inventory has been made by the multi-stakeholders inventory (Ministries of Ecology and Natural resources, Agriculture, Health and Emergency) group that once worked in the factory. They calculated that at the section of the plant production 1 ton of DDT product was present (based on the results of the samples taken in the area by the monitoring group).

3. Management of hazardous wastes

Hazardous wastes -Management of industrial waste generated during production processes has not been addressed for a long time, but in the last years the impact of hazardous waste issues on the environment and on human health has been strengthened. The hazardous wastes from the oil and chemical industry,

construction wastes, metallurgical and energy production wastes, residues of chemical compounds used in agriculture are polluting the environment in Azerbaijan.

According to the State Statistics Committee report the hazardous waste generation statistics for the years 2000 till 2011 are shown in the following Table.

Table 3. The amount of waste and hazardous waste in Azerbaijan (generated, used and disposed) in thousand tonnes

	2000	2002	2004	2006	2008	2010	2011
The end of the year amount of waste	2937,4	2956,3	2877,7	1686,8	1644,7	1577,8	1764,4
Hazardous waste generation	26,6	9,8	11,2	29,5	24,3	25,8	185,4
Use of hazardous waste	22,1	4,3	104,2	148,6	4,8	5,3	24,9
Hazardous Waste Disposal	no report	1,0	0,968	25,9	8.6	28,3	113,0

Results of the studies carried out by the Ministry of Ecology and Natural Resources show that in most cases the environmental norms and standards of management and disposal of industrial waste have not been met. There are no special technologies for the treatment of hazard wastes. In many cases hazardous wastes is discharged together with municipal wastes. The permanent exposure to the environment and public health is resulting in harmful effects and creating a negative impact. At the same time, there is no proper administration and monitoring of hazardous waste which can be used for the further set up of a future national hazardous waste management plan in order to plan the necessary investments to deal with the present and future problems.

The national priorities on chemicals management are listed in paragraph 3.2.

The most problematic sites are located on the Absheron Peninsula. Official hazardous waste landfills in other regions of the country (at least regional landfills) are absent. All wastes are disposed in landfills together without preliminary separation. It creates quite some problems for the proper planning of reuse and refining of wastes.

3.1. Mercury wastes

One of the most serious environmental problems of the industry of Sumgait is connected to use of mercury process of chlorine–alkali process. In Sumgait are living around 350 thousand inhabitants and the city is located 30 kilometers northwest of Baku. The climate of semi-deserts and dry steppes, with hot summers is characteristic. Health parameters of the population, such as children's death rate in Sumgait are much higher, than in other areas of country.

Mercury pollution is caused by two factories making chlorine-tailings that are located in the industrial zone of Sumgait. One factory works still now, and another one which settled down earlier on the given site, has

been closed in 1981. For the manufacture of chlorine a mercury content 1 kg/ton was needed. Now the concentration of mercury makes – is 300 g/ton (standards 2-3 g/t).

The mercury-contained wastes are emitted into the atmosphere, dumped together with sewage and the partly collected in the territory of the factory. Before realization of the World Bank project a problem of about 200,000 ton of mercury tailings containing 0.1-0.3% of mercury and the pollution of groundwater with the risk for spreading in the Caspian Sea. There are no data available about depth of the soil pollution and the pollution in the Caspian Sea. No investigations have been made on the effects of mercury pollution on the health of inhabitants of Sumgait. The issues of mercury as a tailing and as liquid mercury in the concrete foundations and in the soil below the factory have not been taken into consideration. The total flow into Caspian Sea has not investigated, but without any doubt it can be stated that mercury in soil and in the tailings is a potential source of serious pollution of Apsheron peninsula.

In sediment traps of the Sumgait-river the high concentrations of mercury, and in smaller amounts - in sea deposits have been detected. This preliminary research has also revealed that mercury has accumulated in the ecosystem of the Caspian Sea. During the World Bank project a storage for mercury waste products has been constructed near the city of Sumgait.

The involvement of the nongovernmental organizations during development of the World Bank project was realized during the discussions of the program and can be seen as one of the major results of the project. Now a limited number NGOs is informed about mercury pollution of the populated Apsheron peninsula. Public awareness by informing the population and increasing their ecological education is carried out in a context of Toxic waste products. However, no special attention has been paid to mercury pollution. It is emphasized that it is necessary to realize special projects for raising of public environmental awareness on these issues. It is of the highest importance to restrict the consumption of the food connected to polluted sites around the factory and in the surrounding zones related to the influence mercury containing wastes.

3.2. The current problems in the management of hazardous waste

As can be seen from the numbers published, the most information on hazardous waste is collected on the Absheron peninsula, but the information from other regions seems to be incomplete. What is more, the published statistical data do not include waste resulting from activities of foreign companies operating in the country (see Tables 4-5).

Table 4. Estimated generation, use and disposal of hazardous waste, 2000-2008 in tonnes per year

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Generation	26,600	..	9,800	26,900	11,200	12,800	29,500	10,400	24,300
Re-use	11,400	..	700	1,400	3,800	4,900	3,300	4,900	4,700
Disposal	1,000	9,700	1,000	40	26,000	1,200	8,600

Table 5. Estimated generation of hazardous waste, 2000-2008 in tonnes per year

City	2000	2001	2002	2003	2004	2005	2006	2007	2008
Baku	21,300	..	7,200	6,400	5,200	8,400	7,300	8,400	22,300
Ganja	100	..			200	200	500
Mingechevir	6	..	4	3	4	3	2	2	1
Sumgayit	4,900	..	2,500	20,100	5,800	3,900	21,500	1,300	1,500

Centers of industrial activities, such as Ganja, Mingechevir and Shirvan, generate significant amounts of industrial non-hazardous and hazardous waste, but concrete information is lacking.

Medical waste

Medical wastes are hazardous wastes and have to be managed accordingly. The monitoring carried out by the Ministry of Ecology and Natural Resources shows that the medical and pharmaceutical waste generated by medical- prophylactic institutions is still, as in previous years, disposed without any separation at the municipal wastes landfills together with other wastes.

Hazardous waste disposal and neutralization

Azerbaijan is a Party to the Basel Convention on waste disposal methods in the indicated country and has to fulfill the requirements of on disposal of waste accordingly. However, as mentioned before, disposal of the waste is mostly disposed at landfills. Re-use and recycling of waste, disposal, recovery, and other methods such as raw materials, can lead to the sustainable use of natural resources. For this purpose, the hazardous waste owners should introduce new technologies for waste disposal, recycling, recovery of waste in the improvement of the system at special locations.

4. National priorities in Management of chemicals

Hazardous waste management priorities are:

1. Development and application of system for sorting of wastes in the industrial objects
2. Unitary waste accounting and reporting system.
3. The study of opportunities to use of wastes as a raw materials, development of innovative technologies in these fields, establishment of enterprises in this area, to increase the interest of the private sector
4. Enterprises that have accumulated over the years in the areas of industrial waste disposal and recovery.
5. Increasing the capacity of staff in the field of waste management.
6. The introduction of low-waste and non-waste generating technologies.
7. Establishment of systems of hazardous waste management.
8. Hazardous waste landfills to accommodate the creation of the modern regions.
9. To improve the management of medical and other hazardous waste.

5. Waste landfills

5.1 Municipal waste landfill sites

The Balakhany settlement near Baku in Azerbaijan is the largest municipal waste landfill located with an area of 200 ha. Annually about 1.0 mln tonnes of household waste are dumped here without any separation. The waste contains of course medical wastes, hazardous wastes containing mercury and lead, which are disposed here. In addition, the Absheron district of Baku, Xazar, Surakhany and the Karadag regions there were relatively large disposal sites, but the site is planned to be closed permanently. All regional centers (more than 60) have dumpsites, of about 5-20 thousand tons each depending on the number of city's

population. In recent years, with the support of the Japanese government in Baku Ismayilly and Zagatala modern municipal wastes landfills have been built. With the exception of these regions and municipal landfills in Balakhany, the landfills in the rest of the country do not meet the necessary environmental standards.



5.2. National Center for hazardous waste in Sumgayit

The National Centre for Hazardous Waste Management was developed as part of the Urgent Environmental Investment Project, with financing from the World Bank in full compliance with EU regulations for hazardous waste landfills. The site was built by the Italian company RENCO, in cooperation with Azeri subcontractors. Design and construction supervision was undertaken by the UK firms Currie & Brown Ltd and CQA International Ltd. The landfill cell has a volume of 250,000 m³ and 105,000 m³ have already been used for the disposal of mercury contaminated soil and sludge from Sumgayit. The remaining space is available for commercial waste disposal. The Centre has been in operation since July 2004.



The hazardous waste landfill is located at 15 km from Sumgayit. The absolute height reaches 110-115m, basically, as the slopes going from northwest on a southeast.

200 thousand tons of waste products were already transported to this storage. Thus all waste and polluted soils have been excavated from the zone of the plant and been transported to the National Center for hazardous wastes.

The total capacity of storage for hazardous wastes is about 2,000,000 m³.

Currently, BP has developed there a new cell for disposal of its non-hazardous waste.

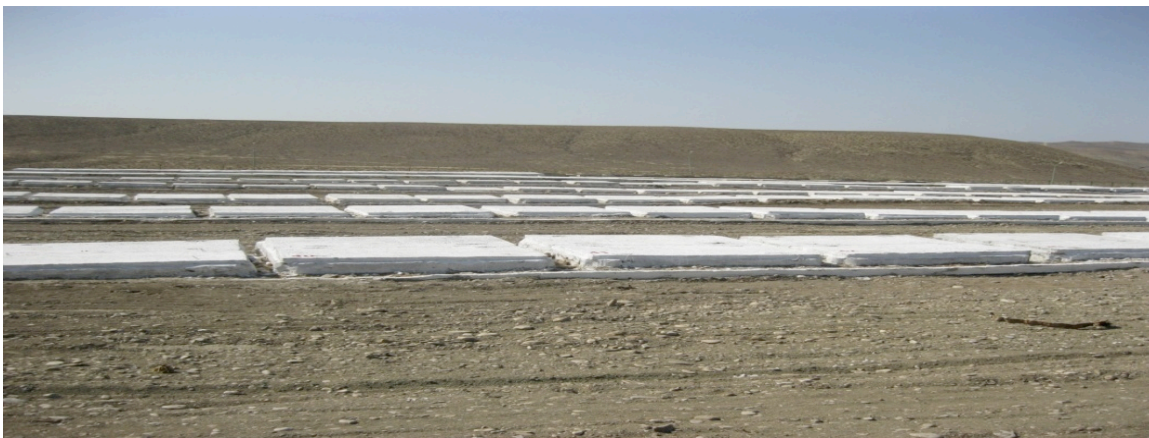
There are problems with the following problems issues:

- Treatment of sludges;
- Establishment permanent monitoring;
- Implementation and monitoring of the necessary safety and health measures (Personal Protection Equipment) of workers.

5.3. Polygon for obsolete pesticides of Ministry of Agriculture (Jangi landfill)

During 1989-1990, due to the fact that a lot of obsolete pesticide remnants were still present in the areas, there was a need to build Jangi Pesticide Disposal Polygon in the framework of the former “Azerkandkimya”. The location is 53 km away from Baku, 4 km away from Jangi village, in the Absheron district, placed on solid rock that was obsolete pesticides burial landfill. The landfill was operating since 1991 and consists of 183 special waterproof bunkers on reinforced concrete plates and each volume was 32.4 m³. After the collapse of USSR the polygon was not controlled, for a long time the polygon was not guarded and consequently has heavily deteriorated. During the primary inventory, the site has been revealed and it was advised and accepted by the various instances that the necessary measures had to be taken to renovate the location and to reinstate its original function. Initial problem of the comprehensive plan was the transfer of Jangi polygon to the State service on Phytosanitary and complete its reconstruction. In 2006 when the initial inventory was taken pesticides were found scattered in the landfill and approximately 3,500-3,700 tonnes pesticide waste was found in the bunkers.

At present time the polygon operates as an economic structure financed from the state budget, with a director, experts-chemists, permanent security service and other personnel. The area of the polygon is completely fenced by a metal grid, a gate, and includes a storage tank for water and a fire security. Also a check point and administration unit, an office for stock is constructed. From 2008-2010, the polygon was completely reconstructed and more than 4,000 tonnes of obsolete pesticides waste and its contaminated soils, from different regions of country there have been transported and buried here. The filled bunkers are closed by concrete slabs. Nowadays nearly 9,000 tonnes of forbidden, obsolete and POPs pesticides are buried at the Jangi polygon.



According to the Decree No. 170 of Cabinet of Ministers from July 25, 2007 the Jangi Pesticide Landfill was handed over to the State Phytosanitary Control Service under the Ministry of Agriculture, and measures were taken into consideration to improve storage conditions. Some of pesticide remnants were collected from the regions and buried in Jangi landfill. However, the problem is not solved so far: considerable amounts of old pesticide waste are still present under dangerous conditions which can harm people and the environment.

5.4 BP Serenja landfill for hazardous waste

The oil industry is the backbone of Azerbaijan's economy. The share of oil sector in the country's foreign investments is 65%, contribution to the state budget – 70%, and to the GDP – 60%. In this connection the management of hazardous wastes in oil industry of Azerbaijan has been analysed separately. 20 km away from Baku Serenja BP's production wastes are disposed of in the landfill.

In 2012, a total of 138,367 tons of solid and liquid waste were produced during BP operations in Azerbaijan of which 118,435 tons were hazardous waste (including sewage), and 19,932 tons were non-hazardous waste. This represents a 28% increase in hazardous waste volumes compared to 2011, largely due to increased drilling activities; and an 89% increase in non-hazardous waste volumes compared to 2011 largely due to the initiation of new projects.

Some non-hazardous waste (5,793 tons – 29%) and some hazardous waste (3,923 tons – 3.3%) were recycled or reused by local companies. The remaining wastes were either treated and/or disposed by BP through officially licensed waste disposal contractors using officially approved methods and routes, and were sent to the national Waste center. Additionally 4,080 tons of drilling cuttings non-hazardous waste was disposed in non-hazardous waste landfill in 2012. Approximately 35,611 tons of offshore drilling cuttings were treated at the Serenja hazardous waste management facility by indirect thermal desorption. From the thermal desorption process, 3,751 tons of oils were recovered for re-use. Most of the hazardous solids were stored at Serenja hazardous waste management facility as indicated above.

Drilling cuttings. Because they are not toxic, water-based drilling cuttings (a mixture of crushed rock and water-based drilling fluids recovered from well drilling activities) are discharged into the Caspian Sea. However, drilling cuttings with potentially toxic synthetic (oil-)based mud (SBM) are either re-injected into suitable geological formations offshore or are shipped to shore for treatment and disposal. Offshore re-injection is routinely used for drilling cuttings from the Azeri and Deepwater Gunashli platforms, but Chirag, Shah Deniz, and the mobile offshore drilling rigs are unable to re-inject cuttings and are therefore routinely shipped to the shore for treatment, recovery (some base oil may be recovered and reused) and disposal. In 2012, BP discharged 32,920 tonnes of drilling cuttings and associated fluids (water- drilling mud or WBM), into the Caspian Sea. These discharges complied with the Azeri-Chirag-Deepwater Gunashli production sharing agreement. The two-fold increase in discharges compared to 2011 was largely due to drilling activities at Shah Deniz Stage 2 performed by the Istiglal drilling rig. A total of 68,254 tonnes of waste were re-injected from the Azeri and Deepwater Gunashli platforms in 2012, which represented a 6% decrease compared to 2011.

Table 6. Drilling cuttings discharged by BP to water, in Azerbaijan (tonnes)

Asset/Facility	Drilling cuttings with WBM	Drilling cuttings with SBM	Total drilling cuttings
Central Azeri	10,452	0	10,452
West Azeri	1,078	0	1,078
East Azeri	74	0	74
Chirag, Deepwater Gunashli and Shah Deniz	0	0	0
Dada Gorgud drilling rig	3,756	0	3,756
Istiglal drilling rig	17,560	0	17,560

Table 7. Generated waste quantities by BP, in Azerbaijan (tonnes)

	2011	2012
Hazardous waste (excluding sewage)	40,672	73,001
Non-hazardous waste	10,533	19,932
Produced water	1,632,353	617,897
Raw sewage	51,762	45,434

5.5. SOCAR Akhtarma landfill

The center of Garadag region, 10-12 km away from the nearest residential area, "Akhtarma" is in an area of the mountain north of the plain of smooth and sediments. The total area is 10 hectares with in the center an administrative building area of 123.3 m².

Concreted sections of the waste consists of 6 units, the total volume of 45,000 m³ (99,000 tons) of the vessels. Production of electricity (KTM-160 kVA transformer) and backup generator ("Gen Power," 22 kVA) is provided.

The current operations of the State Oil Company of Azerbaijan Republic (SOCAR) generate a wide variety of wastes, including drilling mud, oil-contaminated soil, waste oil, tires, formation water, and solid waste such as plastics, wood, and electronic components. In addition, oil-contaminated soils are present in a great number of locations throughout the Absheron peninsula, which SOCAR plans to remediate. Currently, SOCAR manages a single 45,000 m³ disposal facility in Garadagh District that commenced operations in 1985, for the final disposal of a portion of the oil-contaminated soils from remediation and from drilling activities. This six-cell landfill, however, has structural flaws (e.g. cracks in the concrete liner) and needs to be replaced. Along with the need to dispose of waste generated from ongoing remediation efforts, one of SOCAR's highest priorities is establishing a new waste management facility or upgrading the existing facility that will process waste from SOCAR operations (past and present) as well as from its approximately 120 subsidiaries. A Feasibility Study evaluating the technical, economic, and financial viability of the development of a waste management facility or the upgrading of the existing waste management facility will be carried out and provide suggestions for the design, construction and operation of the facility. This study is supported by the United States Trade and Development Agency with a US\$ 572,068 grant. The winner of the tender, M-I SWACO, was announced in March 2010. The facility is now under construction. Sludge from current oil drilling is partially discharged into the sea (water-based drill fluid), reinjected offshore or transported to land for processing and disposal (synthetic-based drill fluid). The share of drill

cuttings transported to land is growing, reflecting improved environmental practice. However, the amount of drilling cuttings depends on the need for oil exploration works.

6. Treatment of chemical wastes

6.1. Baku Balakhany incinerator for municipal waste

The construction of Waste-to-Energy Plant in Baku was decided within the framework of “The Comprehensive Action Plan about the improvement of ecological situation in the Republic of Azerbaijan for 2006-2010 years”. An area of 20 ha was designated in the Balakhani settlement. The Balakhani Waste-to-Energy Plant consists of 2 incineration lines, each line with 250,000 ton capacity and a turbine producing electricity. The amount of electricity obtained as a result of burning of waste will be equal to 231.5 million kWh/year. Establishment and functioning of the plant, was part of the waste management plan of the country. The "Tamiz Shahar" Joint-Stock Company was entrusted with the function of management, placement and disposal of household wastes in accordance with modern state of the art technology. The construction of the plant started in October 2009 and was commissioned in 2012. Environmental and economic characteristics of plant meet the European Union directives and regulations. It is also interesting to note that, around the facility there is Eco-industrial park situated: The main advantages of Eco-Industrial Park with total area of 7 ha (production area – 23,460 m², infrastructure area – 3.000 m²) which could create opportunities for example hazardous waste treatment: It is necessary to note, that this incinerator does not accept dangerous waste and toxic substances.

The incinerator allows:

- To create unique infrastructure in one area;
- To reduce environmental impact as a result of activity of green business;
- To establish enterprises of recycling/reusing and production;
- Sale of obtained raw material and extension of market of produced goods.

6.2 National Center of hazardous industrial wastes

The Ministry of Ecology and Natural Resources constructed the National Center of hazardous industrial wastes. The hazardous wastes from BP landfill are transported to this polygon and treated here. The treatment plant includes a rotary furnace for treatment of the drilling cuttings and other industrial wastes at 1,500°C. During the processes all organic parts are decomposed. Processes take place at high temperature without oxygen. Hazardous inorganic products generated from the waste combustion are buried in the landfill of this polygon.

BP is using the following facilities to manage its drilling cuttings and waste:

- (a) Serenja Hazardous Waste Management Facility, receives, temporarily stores, and treats by Indirect Thermal Desorption (ITD) and by bioremediation; the drilling cuttings,
- (b) Sumgayit – Tahlükəli Tullantılar MMC (Hazardous Waste Ltd) facility non-hazardous waste cell, permanently stores non-hazardous drilling cuttings??
- (c) Lokbatan, Central Waste Accumulation Site. The construction of this landfill started on June 2014 and will be finished in 2 years. The cost of Site will be about 2 billion USD.

The BP waste management activities are important in Azerbaijan because they support the development of the network of specialized companies and their services can also be used by Azerbaijani enterprises. The development of waste management facilities and operation practices also provides a good example of the application of international waste management standards

6.3. Sodium reduction or alkali metal PCB treatment plant

Ministry of Ecology and Natural Resources implements the UNIDO PCB Project). The Ministry conducted the inventory of PCB wastes and all PCB will be transported to this Center. The project is a component of the pilot project for the destruction of PCB's. Sodium reduction or alkali metal is the technology where PCB in the presence of metallic sodium at a temperature of 110°C dechlorinates PCBs. This plant will have capacity of 20 tons per month. Full production capacity of the plant is estimated at 500 tons per year. The actual installation is now nearing completion. Treatment of PCB is planned end of 2014.

6.4 Garadagh cement production Company "Holcim"

at the high-temperature rotating kiln burning hazardous waste, including burning of oil sludge and car tires. For the last 10 years, the use oil sludges as additives to initial raw material to save energy costs has been discussed. An EIA project was developed on the use of these wastes in the Holcim plant. However, in the Ministry of Ecology and Natural Resources discussions are still ongoing about the co-incineration of these wastes.

6.5. The State Oil Company of Azerbaijan Republic (SOCAR)

has accepted responsibility for this past pollution. Major attention to soil clean-up has been paid to the areas contaminated by oil pollution. As new technologies and techniques are introduced, mostly in oil mining and manufacturing sectors, and soil clean-up continues, the trend for soil clean-up should be a positive one. Currently, SOCAR manages a single 45,000 m³ disposal facility in Garadagh District that commenced operations in 1985, for the final disposal of the portion of the oil contaminated soils from remediation and from drilling activities.

Clean up of contaminated sites in oil industry

The State Oil Company of Azerbaijan Republic (SOCAR) has accepted responsibility for old oil pollution and is taking concrete actions to identify and clean up polluted territories. Its Ecological Department, founded in 2006, plays a major role in planning, performing, coordination and monitoring such measures. This department performed detailed mapping of oil-polluted territories on the Absheron peninsula and published the Atlas of Pollution in Absheron in 2009, creating a broad database of information for planning clean-up activities. The total area polluted by oil is estimated at 10,000 ha. Clean-up of highly polluted soil is performed by mechanical methods with a capacity of 20 m³/h of the mining spill soil at Ramana settlement where the cleaned soil is then returned to its original place. Bioremediation is used for less polluted soil. Approximately 300 ha of land were remediated by a combination of these methods in 2009, and it is expected that 400 ha will be cleaned in 2010. The largest recent project is the clean-up and remediation of Bibi Heybat, which was previously used as an oil storage area in open tanks. The company EKOL Engineering Services started clean-up works in May 2008 and by now more than 11 ha of land have been remediated and more than 18,124 m³ of liquid oil waste have been sent for treatment. The fact that SOCAR has accepted responsibility for the past oil pollution, has benefits beyond the clean-up of polluted territories. First, this decision ensures the viability of remediation action, as it is not artificially limited by start/end dates of project financed by foreign donors. Second, accepting responsibility for old pollution

sends an important signal to the international community that Azerbaijan is aware of its environmental situation and has the capacity and ability to improve it. The experience gained in Absheron can and should be used to improve waste management in other parts of the country.

The presence of major foreign investors like British Petroleum (BP) supports the creation of local consulting services geared to waste management, and the Government has learned to use their expertise for solving waste management issues and hence accelerating the modernization of waste management practice. Further improvement of waste management after the promising start depends on the continuity of current actions, the expansion of activities to other regions, and the focus on waste streams that are not yet covered by currently defined actions.

6.6. Treatment of Medical waste

Medical waste remains a problem for Azerbaijan. There has been some improvement, especially for the management of this waste in the private health sector, where several clinics and ambulances in Baku use incinerators as a disposal option. However, no changes have been identified in the practices of the State-owned health sector. No concrete local evidence about the harmful impact of this practice was found, but international experience provides relevant examples of the spread of diseases, infections and direct injuries related to this practice.

However, significant changes have occurred. New legislation has been adopted and a strategy for health-care management has been drafted and is supported by all involved ministries (Policies and strategies section).

Those operating the MSW incinerator at Balakhany are already considering reserving capacity of 10,000 tons per year for the incineration of medical waste. This would considerably improve medical waste management and reduce environmental and health risks resulting from the current practice

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Attachments

Table 1. Production of DDT in the "Surface-Active Substances" plant

Production date	Manufactured products (ton)	Production date	Manufactured products (ton)
1958	1216	1970	25122
1959	5412	1971	12496
1960	19939	1972	14805
1961	18874	1973	11133
1962	25647	1974	21931
1963	27061	1975	21133
1964	36200	1976	22257
1965	35093	1977	26221
1966	29102	1978	23400
1967	21823	1979	27428
1968	27717	1980	5246
1969	21293		

Table 2. Hexacyclochlorohexane. Plant was put into operation since 1951

Production date	Manufactured products (ton)	Production date	Manufactured products (ton)
1951	48	1965	1580
1952	94	1966	1362
1953	270	1967	1954
1954	550	1968	1225
1955	724	1969	892
1956	1110	1970	1149
1957	1234	1971	927
1958	1094	1972	475
1959	1302	1973	788
1960	1502	1974	927
1961	1583	1975	887
1962	1630	1976	737
1963	1619	1977	928
1964	1650	1978	625

Table 3. Preparat-30 production dynamics

Production date	Produced (tonnes)	Production date	Produced (tonnes)	Production date	Produced (tonnes)
1960	962	1975	9843	1990	2764
1961	1564	1976	11272	1991	8820
1962	2691	1977	11826	1992	7808
1963	3717	1978	13218	1993	1550
1964	5579	1979	12349	1994	1325
1965	7926	1980	11630	1995	100
1966	10501	1981	11886	1996	2435
1967	10420	1982	11544	1997	294
1968	11540	1983	12500	1998	349
1969	11080	1984	13424	1999	193
1970	12747	1985	10082	2000	182
1971	10396	1986	9576	2001	102
1972	13235	1987	6976	2002	147
1973	11350	1988	7409	2003	127
1974	13161	1989		2004	115

Table 4. Production of 2,4-D Amine salt of Surface-Active Substances

Production date	Produced (tonnes)	Production date	Produced (tonnes)
1962	2193	1975	9781
1963	5033	1976	10160
1964	5928	1977	10942
1965	6117	1978	14124
1966	6247	1979	13747
1967	7239	1980	14351
1968	8042	1981	11314
1969	8875	1982	13116
1970	9060	1983	10816
1971	9843	1984	11650
1972	7359	1985	12235
1973	9435	1986	12641
1974	9639	1987	12432

Table 5. Production of Lindane in the plant of surface-active substances in Sumgait

Years	Production, ton	Note
1986	10	100% Export
1987	64	100% Export
1988	107	100% Export

Table 6. BP Azerbaijan drilling cuttings, 2005-2008, ton/year

	2005	2006	2007	2008
Discharged to the sea	13,014	15,811	23,995	9,397
Transported	15,051	17,650	23,010	24,782
Treated by ITD*	14,298	13,391	14,922	16,884

*Indirect Thermal Desorption