Chemical Profile of Georgia

Tbilisi
2009

This is incomplete translation of original Profile from Georgian.

Text of secondary importance (for ex. the detailed deliberations concerning international conventions and Georgian legislation in Chapter 6, some footnotes with references to specific articles of the laws, annex with Georgian terminology) has been omitted, though all findings and conclusions of the original report are fully indicated.

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Introduction

Using natural and artificial chemical substances in industry, agriculture, households, as a fuel – is vital for economic development of a country. However, many chemicals are dangerous for environment, human health and safety and if not used properly, can cause serious damage. Therefore, proper management of dangerous chemicals to ensure chemical safety is necessary for sustainable development

Naturally, chemical safety is also concern of international institutions. Starting from 1980, several international mechanisms were developed for management of hazardous chemical substances. The most important from them were decisions UN Conference on Environment and Development in 1992. Latest international event in the sphere of management of chemicals is adoption by International Intergovernmental Conference at Dubai in 2006 of Strategic Approach to Sound Management of Chemicals (SAICM), according to which adverse effects of chemical production and use on environment and human health has to be minimized by 2020. Specifically, cost-benefit analysis should be used to assess the risks arising from chemicals production and use and if the risk is high and unjustified, production and use of such substances should be ceased. Possibility of release of these substances into environment is also to be minimized. For these purposes scientific researches, improvement of information gathering and exchange as well as governance of chemicals on international levels as well as at the level of each country are defined by the Strategy. Capacity development, technical assistance between countries and raising public awareness are necessary to achieve these goals.

Following groups of chemicals are the primary target for SAICM:

- Persistent, bioaccumulative and toxic substances (PBTs);
- Very persistent and very bioaccumulative substances; chemicals that are carcinogens or mutagens or that adversely affect, inter alia, the reproductive, endocrine, immune, or nervous systems;
- Persistent organic pollutants (POPs), mercury and other chemicals of global concern;
- Chemicals produced or used in high volumes; those subject to wide dispersive uses;
- Other chemicals of concern at the national level.

The primary goal for developing this Profile was to evaluate capacities of Georgia to fulfill the SAICM.

The Profile was prepared in the framework of the UNITAR project on updating a National Chemicals Management Profile, Capacity Assessment for SAICM implementation and Priority Setting for their Improvement. The Project was financed under Quick Start Program Fund established for SAICM implementation by International Conference on Chemical Management (ICCM). The implementation of the project in Georgia was provided by NGO Center for Strategic Research and Development of Georgia. Mrs. Nino Tkhilava, Head of the Integrated Management Department of the Ministry Environment and Natural Resources of Georgia, was the National Coordinator of the project.

The profile was prepared by group of Georgian experts. The draft profile was reviewed by international experts. Preparation process was supervised by Coordination Team comprised from representatives of various organizations and institutions of Georgia (See Profile Preparation Contributors). The draft profile was considered at the national meetings with stakeholders and Coordination Team on 18-19 June 2008 and 13 May 2009. The received comments have been fully taken into account.

It was decided that the final draft of Chemical Profile will not be formally approved by the authorities but will be make available to them and the public and serve as a working document for decision-makers. The profile will be regularly updated by the government in due curse.

It is to be noticed that one of the first problems the Coordination Team had to solve during profile preparation was to decide which types of substances would be covered by the National Profile. As SAICM strategy targets wide range of substances, it was agreed to cover in this Profile following types of market products and their wastes:

- Pesticides
- Agrochemicals
- Disinfection, disinsection and deratization materials
- Petroleum products
- Industrial chemicals (Chemical compounds and mixtures, which are used in industry)
- Detergents for household use, pesticides, glues, solvents, paint for consumer/domestic use.
- Refrigeration agents depleting the ozone layer of the earth.
- Chemicals having statute of chemical weapons and other sources such as arms and materials of military use left behind on the territories of the former Soviet Union (later Russian federation) military bases.

This report does not cover living organisms, pharmaceuticals, foodstuffs, radioactive substances and wastes.

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Chapter 1. Summary and conclusions

Main shortage in management of chemicals in Georgia is a deficit of information resources needed for such management. As a result of complete destruction of information collection and processing system, today Georgia has no reliable information on the following:

- What chemicals are produced or imported or transported through the country and in what quantity;
- Where are hazardous chemicals consumed, in what quantity, what technologies are applied; Safety and environmental standards met;
- What hazardous waste is produced in the country, in what quantities, where and how are they neutralized or disposed; whether environment is protected against pollution;
- What amount of dangerous (harmful) substances are discarded into environment; what is concentration of these substances in air, water and soil;
- What is impact of these dangerous (harmful) substances on human health (directly or via polluted environment or foodstuffs/drinking water)?

Consequently, in these circumstances capacity of the competent organs to reveal problems related to chemical substances is very limited. By now they have revealed just several evident "hot spots". These are:

- Industrial, agricultural and military wastes accumulated in the Soviet period. Namely:
    - 4-9% arsenic containing waste amounting to 100 thousand tons in the Villages of Tsana and Uravi;
    - 5000 ton of pesticide and agrochemicals wastes accumulated on the territories of storehouses of former kolkhozes and soviet state farms;
    - About 2000 tons of diverse waste left behind on the territories of former soviet military bases.

Part of the said waste has been neutralized with support of state resources as well as with international aid; the rest is still to be neutralized.

Apart of this certain risks and threats have been identified by the competent bodies responsible for management of chemicals, but lack of information does not allow them to provide enough evidence to plan, approve and implement the sufficient remedial measures. These threats are:

- High probability of poisoning of the users of pesticides and agrochemicals and also contamination of the agricultural products by this substances due to the low level of awareness of pesticide and agrochemicals users;
- Due to temporary suspension of control of import of dangerous chemicals and wastes and also the weakness of customs identification and registration, there is a threat of dumping of dangerous chemicals in the country;
- Due to extremely weak level of environment monitoring, threat of arising substantial pollution of air, water or soil and formation of new "hot spots".

Below are summed up main characteristics and shortfalls of management of chemicals in Georgia.

1.1 Regulation of chemicals at different stages of their management

This section contains a short summary of the issues considered in detail in the Chapter 3. It covers the basic alleged problems. For further details see Chapter 3.

1.1.1 Registration

Formally in Georgia there is a system of obligatory registration of the chemical substances prior to their admission to the market. In reality this system never worked (the reasons see in section 3.1). It is desirable to explore possibilities of participation/inclusion of Georgia in REACH system and accordingly to bring the system of selective admission of the chemicals in Georgia closer to the REACH system (or its simplified analogue, taking into account the capacities of the country and the transition stage of its economy).

1.1.2 Import-Export

Under the requirements of a number of international agreements and national laws, state should control import-export of dangerous chemical substances and hazardous wastes in Georgia. (See Table 22). However, there is no effective instrument in Georgia for such control so far. One of such means of control could be the import-export permits system for "materials of limited turnover" (see section 6.2.15.4.1). But due to incompatibility of control measures and procedures of different international instruments the system has failed to work and has been suspended. It would be desirable to develop a new tool for regulation of import-export of dangerous chemical substances and hazardous wastes, which would allow different procedures for chemical substances and wastes causing different threats.

See detailed review of imperfections in regulation of import-export of dangerous chemicals and hazardous wastes in the Section 3.1.

1.1.3 Production and transportation

Situation is similar in production and utilization of dangerous chemical substances as well as transportation of wastes (including hazardous wastes); notwithstanding a number of international and national normative acts providing for necessity of state control of those (see Table 23), today's legislation of Georgia does not include any acts to ensure such control.

For detailed review of imperfections of control of dangerous chemical substances production, see the Section 3.3.

1.1.4 Environmental pollution

The recognized method for prevention of environment pollution with dangerous chemical substances is application of two supplementary sets of measures:

- Control of environment pollution processes/ polluters;
- Inspection/monitoring of the level of pollution of environment;

Georgian legislation shares this approach and establishes both the tools for control of polluters and the "standards of cleanness" of environment. But enforcement or even monitoring of implementation of those requirements is weak.

For more details see Section 3.5.

1.1.5 Management of pesticides

Problems of management of pesticides are summed up in the table below. For details see Section 3.4.

Table 1. State of implementation pesticides' management stages as per International Code of Conduct on the Distribution and Use of Pesticides

Pesticides management stage	Requirement of Georgian legislation	Implementation	comment
Selective admission of pesticides onto the market	Registration of pesticides	Implemented voluntarily	There is no mechanism for prevention of import of unregistered pesticides; No enforcement mechanism for permits
	Permit for production, transportation, import of prohibited pesticides	Suspended	
Control of quality, packaging and labeling of pesticides	Pesticides should have Georgian inscription and have attached instruction and description in Georgian	Implemented voluntarily	No enforcement mechanism
Control of pesticides' suppliers	Safety rules established	Implemented voluntarily	No enforcement mechanism
	No requirements established for personnel qualification		
Ensure safe use of pesticides	Safety rules established	Implemented voluntarily	No enforcement mechanism
	Informing and training of pesticides' users is very weak		
Monitoring of negative impact of pesticides (evaluation of pollution of food and environment, statistics of poisoning)	Water pollution standards and an institution for its control are established. There is an institution in charge of statistics of diseases	Not implemented	Measurements of drinking water and foodstuffs to start in 2009. Environment monitoring sporadic. Poisoning statistics not reliable.

1.1.6 Chemical accidents

State of chemical accidents prevention, preparedness and response in Georgia is described below in the table. For details see Section 3.6.

Table 2. State of chemical accidents prevention, preparedness and response system in Georgia

Component of the system	State of implementation	Regulatory act	Comment
Control of placement, design and construction of dangerous enterprises	implemented	Law on "Safety of dangerous enterprises"	Technical expertise of design safety is conducted. Permits for operation of dangerous enterprises are issued
Registration of dangerous enterprises	Partially	Law "On dangerous chemical substances"	No registry developed
		Law "On safety of dangerous enterprises"	There is a database but it is not systemized and therefore unusable
			There is an out-of-date systemized

			database at the Department of Emergency Situations
Establishment of safety management systems in the enterprises	Weakly	Law "On safety of dangerous enterprises"	The law provides for internal safety control, but the rules for implementation of such control are not defined. Safety requirements are established for just some of types of enterprises.
Submission of safety declarations by enterprises	Not implemented	Law "On safety of dangerous enterprises"	Relative regulations not yet adopted
Emergency Response Plans and resources in enterprises	Weakly	Law "On dangerous chemical substances" Law "On safety of dangerous enterprises"	No instructions for developing the plans
Inspection of dangerous enterprises	Partially	Law "On safety of dangerous enterprises"	Implementation of safety requirements is checked. Inspection of preparedness for accidents not provided for.
External (territorial) Emergency Response Plans	None	None	Legislation does not stipulate for development of such plans

1.1.7 Labor health

Chemical safety at workplaces is provided with a general normative base, though no state enforcement of those norms exists.

ILO basic conventions which would ensure minimal level of protection of those working in the chemically unsafe working environment are not ratified by Georgia.

1.2 Institutional setup

This section is a brief summing up of the issues reviewed in detail in Chapter 5 below. Here are described only the basic problems revealed. For further details see Chapter 5.

State institutions participating in management of chemical substances, their competences in the field of management of chemical substances and state of implementation these functions are summed up in the Table below.

Table 3. State institutions participating in management of chemical substances, their competencies and state of implementation of those

Public Body	Competences in the field of management of chemical substances	Implementation level	Comment
Ministry of Environmental Protection and Natural resources (section 5.1.2)	Provision of Montreal Convention implementation	implemented	
	Provision of Basel Convention implementation	Partially	Normative act regulating export suspended
	Provision of Stockholm Convention implementation	Partially	National Action Plan not submitted to the Secretariat; Normative act regulating import suspended

	Organizing ecological expertise and issuing permit for environmental impact	Implemented	
	Control of implementation conditions of permits for environment impact	Implemented	
	Control of implementation environmental Technical Regulations	At the initial stage	The Technical Regulations developed and adopted
	Establishment of an unit for management of emergency situations (including, for management of chemical accidents) and its effective functioning	At the initial stage	The unit is being established at the Ministry
	Development of safety rules in case of chemical and radiation emergency situations	At the initial stage	Development started
Ministry of Labor, Health and Social protection (section 5.1.5)	Rotterdam Convention implementation provision	Transition stage	Official contact body abrogated, a new one is being appointed; export regulating normative act is temporarily suspended
	Unified National Register for Dangerous Chemical Substances (should include information about producer, keeper, transporter and user)	Not implemented	Register not yet created
Ministry of Economic Development (section 5.1.10)	Issuing permits for import-export of dual purpose substances	implemented	
Ministry of Defense (section 5.1.12)	Issuing permits or preparing recommendations for import-export of dual purpose substances	implemented	
Ministry of Foreign Affairs (section 5.1.7)	Ensuring implementation of Paris Convention in the country	partly	National legislation not yet elaborated
Customs Service of the Department of Revenues at the Ministry of Finances (section 5.1.8)	Registration and statistics of dangerous chemical substances and their wastes	implemented, but with problems	Old version of commodity nomenclature in force and lack of guidelines and information databases of chemicals and their codes makes identification of dangerous substances difficult. Customs offices suffer from deficit of qualified staff able to identify chemical substances and the relevant equipment and facilities
Department for Management of Emergency Situations of the Ministry of Internal Affairs (section 5.1.9)	Management of the unified system for prevention of emergency situations and liquidation of its results	At the initial stage	A number of normative acts are to be adopted (See Sections 3.6.7, 5.1.9, 6.2.17.5 and 6.3.6)
National Service for Food Safety, Veterinary and Plant Protection (section 5.1.1)	Implementation of registration of pesticides and agrochemicals and on its basis keeping a catalogue of admitted pesticides and agrochemicals	Being fulfilled	
	Control of meeting the safety rules of importation, labeling, storage, production (packing,) transportation, marketing of pesticides	Monitoring being carried out	Examined as far as possible. No procedures to respond to revealed violations
	Control of quality of pesticides on the market	Monitoring being carried out	

	Control of content of pesticides and other dangerous chemical substances in foodstuffs	Monitoring being carried out	To start in 2009
Oil and Gas National Agency (section 5.1.14)	Issuing of all licenses, permits and certificates, land tenure, necessary for extraction, processing and transportation of oil and gas	implemented	
United Transport Administration (section 5.1.13)	Development and adoption of technical regulations on transportation of dangerous goods	implemented	
	Enforcement/surveillance of compliance with the technical regulations on transportation of dangerous goods	partly	
National Inspection for Technical Supervision (section 5.1.11)	Expertise of technical safety of dangerous enterprises	Implemented	
	Issuing "Permits for operating dangerous enterprises"	Implemented	
	State supervision to be conducted to check up meeting safety rules in dangerous enterprises	Partially executed	Plan supervision performed. But a number of enterprises have no safety rules established
	Requiring safety declarations from dangerous enterprises	Not executed	Relevant governmental regulation not adopted
	To keep unified national register of dangerous enterprises	Partially executed	Registration of enterprises done. But data base is not systemized and therefore not usable by other institutions
Environmental Inspectorate (section 5.1.3)	Identification of noncompliance with and enforcement of the established environmental norms	implemented partly	Non-compliance is identified only in case of complaints. No emission measurement appliances
National Environmental Agency (section 5.1.4)	Monitoring of pollution of environment by dangerous chemical substances	Executed weakly	Small number of measurement points, no continuous (automotive) measurements
L. Sakavrelidze National Center for Disease Control and Public Health (section 5.1.6)	Monitoring and statistics of human poisoning by dangerous chemical substances. Study of environmental risks	Executed weakly	No studies/research of poisoning reasons/agents. No financing for environmental risks assessments.

1.3 Legislation

This section is a brief summing up of the issues reviewed in Chapter 6 in detail. Here only the basic problems are highlighted. For more details see Chapter 6.

Legal base for management of chemical substances in Georgia contains a great number of legal acts. These are International legal acts, Georgian laws and sub-laws. The major legal documents regulating chemical substances in Georgia are listed and shortly described in the Table below. There is also indication of the relevant section of Chapter 6, where the responsibilities and obligations defined by each particular law are described and mechanisms of their enforcement and state of implementation considered.

A number international documents of non-obligatory nature for Georgia are also considered in Chapter 6, implementation of which in Georgia would be advisable for sufficient management of chemical substances:

- UN FAO International Code of Conduct on the Distribution and Use of Pesticides (Section 6.1.6);
- Harmonized Commodity Description and Coding System (HS) of World Customs Organization (Section 6.1.7):
- UNECE Globally Harmonized System for Classification and Labeling of Chemicals (GHS) and UN Model Regulations on the Transport of Dangerous Goods (Section 6.1.8)
- Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorization and restriction of Chemicals (REACH) (Section 6.1.9);
- Conventions of the International Labor Organization (ILO) regulating chemical safety at workplaces (section 6.1.10);
- OECD Guiding Principles for Chemical Accident Prevention, Preparedness and Response (Section 6.1.9)

Table 4. Summary table: the international and national legal acts in the field of management of chemicals, which are in force in Georgia

Section of the Profile	Legal act	Group of chemicals regulated	Stage of management of chemicals regulated	Essence and purpose of regulating	responsible body	Financial resources	implementation
International Treaties							
6.1.1	The 1985 Vienna Convention for the Protection of the Ozone Layer and the 1987 The Montreal Protocol on Substances That Deplete the Ozone Layer	Ozone depleting refrigeration agents, laboratory substances, pesticide	production, import-export, consumption of substances	Precise time-table for phase-out of each substance	Ministry of Environment Protection and Natural Resources	Available (from MF of the Montreal Protocol)	implemented
6.1.2	1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal	Dangerous and other wastes	Import-export, transportation, disposal	Prohibition of waste export without consent of recipient country; permit for waste transportation; prohibition of transportation to non-Parties	Ministry of Environment Protection and Natural Resources	none	imperfect implementation
6.1.3	1993 Paris Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and of Their Destruction	Chemical weapons	Development, production, stockpiling, use, import, export, destruction	Control of turnover of chemical weapons and their precursors	Ministry of Foreign Affairs		partly
6.1.4	1998 Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals	Dangerous pesticides and industrial chemicals	Import-export,	Regulating export according to the importation rules of other countries communicated by the Secretariat. Preliminary notification of the recipient country on prohibited substances, not regulated under this Convention	Ministry of Labor, Health and Social protection	none	implemented with faults

Section of the Profile	Legal act	Group of chemicals regulated	Stage of management of chemicals regulated	Essence and purpose of regulating	responsible body	Financial resources	implementation
6.1.5	2001 Stockholm Convention on Persistent Organic Pollutants	Persistent organic pollutants	Import-export, transportation, disposal	Prohibition and phase-out of production, export-import, consumption; abatement of emission	Ministry of Environment Protection and Natural Resources	Partially (support from GEF, Netherlands assistance)	implemented with faults
Georgian National Laws							
6.2.1	Law on soil protection, 12.04.94	agrochemicals	Use, disposal	Regulation of agrochemicals use	Ministry of Agriculture	Partially	Partially
6.2.2	Law on plant protection from harmful organisms, 12.10.94	Pesticides and agrochemicals	Research, registration, production, import, export, storage, transportation, use, disposal, state phytosanitary supervision and control	Control of pesticides	Ministry of Agriculture	Partially	Partially, control of pesticides suspended until 2010
6.2.3	Law on transit and import of wastes on the territory of Georgia, 8.02.95	Chemical wastes	Import and export of wastes	Restricting import and export of wastes	Ministry of Environment Protection and Natural Resources, Ministry of Finances (Customs)	Available	Implemented
6.2.4	Law on environment protection, 10.12.96	Chemical substances in general	Use, transportation, storage	Every 5 years establishing norms and rules of use	Ministry of Environment Protection and Natural Resources, Ministry of Labor, Health and Social protection	None	Not implemented
6.2.5	Law on water, 17.10.97	Chemicals, wastes	Use, disposal	Restriction of water pollution	Environmental Inspectorate	Partially	Partially
6.2.6	Law on health protection, 10.12.97	Pesticides, fertilizers, disinfection means	use, residues, wastes	Establishment of sanitary norms for chemical safety	Ministry of Labor, Health and Social protection	partially	Implemented
6.2.7	Law on safety of dangerous industrial enterprises, 10.12.97	Industrial chemicals and other dangerous chemical substances	Production, industrial use, storage, transportation	Accidents prevention, preparedness, response			
6.2.8	Law on import-export control of ammunition,	Dual purpose chemicals	export, import, re-export, transit	allowed only on the basis of a permit	Ministry of Defense, Ministry of Economic		implemented

Section of the Profile	Legal act	Group of chemicals regulated	Stage of management of chemicals regulated	Essence and purpose of regulating	responsible body	Financial resources	implementation
	military techniques and dual purpose materials, 29.04.98				development		
6.2.8	Law on hazardous chemical substances, 12.06.98	Hazardous chemical substances	Development, testing, state expertise, standardization, recording, registration, production, packing, marking and labeling, import-export, transportation, processing, neutralization, disposal, restriction, supervision	Unified registry, obligatory registration, labeling rules, rules of transportation, storage and use, import-export special regime	Ministry of Labor, Health and Social protection, Ministry of Environment Protection and Natural Resources, Ministry of Economic Development	None	Not implemented
6.2.10	Law on pesticides and agrochemicals, 25.11.98	Pesticides and agrochemicals	Development, production, packing, import, export, storage, transportation, use, neutralization, disposal	Registration and recording of pesticides, control of consumption and use	Ministry of Agriculture, Ministry of Environment Protection and Natural Resources, Ministry of Labor, Health and Social protection	Partially	Partially
6.2.11	Law on atmospheric air protection, 22.06.99	Ozone depleting substances	Import-export, transportation	Limiting import and export	Ministry of Environment Protection and Natural Resources, Ministry of Finances (Customs)	Available from MF of Montreal Protocol	Implemented
6.2.12	Law on food and tobacco, 25.06.99	Pesticides, agrochemicals	use, residues	Control of pesticide residues in food and drinking water	Ministry of Agriculture, Ministry of Labor, Health and Social protection	None	Partially
6.2.13	Law on compensation of damage caused by hazardous chemical substances, 23.07.99	hazardous chemical substances	compensation for a damage caused by pollution/contamination	obligation of a polluter to compensate environmental damage to the state	Ministry of Environmental Protection and Natural Resources		implemented
6.2.13	Law on conservation of soil and rehabilitating-improving its productivity, 03.05.2003	Petroleum, chemical wastes	Use, disposal	Restoration of polluted soils	Ministry of Labor, Health and Social protection, Ministry of Agriculture	Partially	Partially
6.2.15	Law on licenses and permits, 24.06.2005	banned and severely restricted	Production, transportation, import and export	Limiting production, import, export, transportation	Ministry of Environment Protection and Natural	None	Permitting suspended

Section of the Profile	Legal act	Group of chemicals regulated	Stage of management of chemicals regulated	Essence and purpose of regulating	responsible body	Financial resources	implementation
		pesticides, industrial chemicals, chemical wastes			Resources, Ministry of Finances (Customs)		
6.2.16	Law on safety and quality of food, 27.12.2005	Pesticides, agrochemicals	use, residues	Establishment of allowed concentration of pesticide residues in food and drinking water and control of compliance	Ministry of Agriculture, Ministry of Labor, Health and Social protection	None	To start from 2010
6.2.17	Law on management and regulation of transport sector, 30.03,2007	Dangerous cargos	Transportation	Marking, requirements	Ministry of Internal Affairs		Not implemented
6.2.18	Law on protection of population and territories against natural and technogenic emergencies,08.06.2007		Chemical accidents	Prevention of accidents, preparedness, response, distribution of responsibilities	Emergency Department of the Ministry of Internal Affairs	insufficient	Initial stage
6.2.19	Law on public health, 27.06.2007	Chemical substances in general	use, residues	Ensuring safety of public health from harmful impact of chemical substances	Ministry of Labor, Health and Social protection, Ministry of Agriculture, Ministry of Environment Protection and Natural Resources	Nona	Norms partially established
6.2.20	Law on environment impact permit, 14.12.2007	Chemical substances in general	Environment pollution when performing activities	EIA environmental expertise, on the basis of its conclusion a permit on environmental impact is issued. For the rest of activities environmental technical regulations established.	Ministry of Environment Protection and Natural Resources	Available	Normal

Legal base listed and briefly described above and acting today in Georgia has a number of faults, namely:

1. The legal status of the so called "materials of limited turnover" is obscure. Under the law "On licenses and permits" of 2005 it is necessary to have a permit issued by the Ministry of Environment and Natural resources to produce, transport, import, export, re-export or transit these materials. But currently the legal act establishing the rule of issuing permits is suspended. This prevents the Ministry of Environment Protection and Natural Resources from issuing such permits but also makes it unclear whether the turnover of materials of limited turnover are temporarily completely free or completely banned. Georgian legislation does not provide a straightforward answer to this question. Situation is even more complicated as under the rest of Georgian legislation status of different parts of the materials of limited turnover is different: import and transit of some of them is permitted (e.g. the GA, GH, GI, GN, GL and GE categories of waste as per the Green List of the EC regulation 259/93, see the Section 6.2.3.3), import and transit of others are strictly prohibited (e.g. all types of other waste; the pesticides and industrial chemicals which are subject to prohibition for export-import on the territory of Georgia. See the Section 6.2.10.4 and the Table 39), import and export of some _ just regulated (e.g. ozone depleting substances or "strictly restricted" pesticides and industrial chemicals. See the Table 31). This obscure and also diverse status of the materials of limited turnover opens way to broad legal interpretations. **It is desirable**:
    - To divide the regulation on materials of limited turnover according to different status of substances and materials in it as defined by the International agreements and Georgian legislation (e.g. prohibited, restricted);
    - To validate the amended regulation timely as to eradicate improper implementation of requirements of the international agreements by Georgia (See below).
2. In the existing Georgian legislation the legal term „chemical substance" as established by the law "On hazardous chemical substances" is inappropriately broad and includes not only the chemical substances as such (as that is in EU for example, see section 6.1.9) but also all kinds of their compounds, mixtures and solutions. In such circumstances the requirement of the law on admission of all hazardous chemical substances onto the market only in case of their assessment and registration sounds extremely ambitious and not executable in reality. It is therefore **necessary**: to bring the definition of Georgia legal term „chemical substance" into compliance with the definition as per EU REACH Regulation (section 6.1.9).
3. Legislation of Georgia has established several different systems of definition, classification of dangerous chemical substances and waste containing them and labeling and marking the products containing them and of cargos. Namely, the Law on dangerous chemical substances and its sub-laws (see Section 6.2.8) defines dangerous chemical substances according to EC directives 67/548/EEC and 1999/45/EC, and establishes the relevant classification and marking/labeling rules. At the same time the technical regulation "Rule of cargo transportation by motor transport" (see Section 6.2.16.1) introduces classifications established by GHS and the UN Model Regulations on the Transport of Dangerous Goods (see the Section 6.1.8). The Law on safety of dangerous industrial enterprises provides the third different definition and classification of dangerous chemical substances (Section 6.2.7). All the three systems differ from one another, which creates misunderstanding with definitions of dangerous chemical substances as well as marking/labeling of the products and cargos containing them. It is necessary to eradicate the vagueness. **For this purpose it is required:**

- To have one and the same definition for dangerous chemical substances in the legal space of Georgia.
- To introduce one and the same classification and marking system for dangerous chemical substances for all the sectors (transport, consumption, industrial safety)

Giving consideration to the fact that EU is switching to the UN GHS system since 2010-2015 we consider it reasonable to base alterations to be made in the legislation of Georgia on this latest system.

4. Formally the legislation of Georgia sets forth requirement to the dangerous enterprises to develop and regularly submit "safety declarations" (see Section 3.6.4). But this requirement is impossible to actually implement due to absence of a sub-law establishing the form, content and preparation and submitting rules of such declarations (for details see Section 6.2.7.4).
5. The customs nomenclature of Georgia today does not allow proper identification of substances and cargos regulated by the Basel, Rotterdam, Paris and Stockholm conventions (see Section 6.1.5). The reason is that the commodity code system valid in Georgia is compliant with the 2002 version of the customs Harmonized System, which did not cover the needs of these Conventions then. The 2007 version of the customs Harmonized System covers the requirements of the environmental conventions wider.

   It should also be mentioned that as each of the codes of HS system covers a broad range of chemical substances, without proper explanatory materials and instructions the customs officers are unable to correctly define the code for each cargo or commodity.

   It is necessary:

   - To introduce 2007 Customs Harmonized System to sufficiently implement environmental conventions in Georgia
   - To develop guidelines and explanatory materials for correct identification of chemicals under the HS.
6. Legislation of Georgia is rather obscure in regard of emergency situations prevention and preparedness. Namely,
   - Legislation of Georgia requires from all the dangerous enterprises to have emergency response plans, emergency services, and the necessary resources for emergency response and results liquidation (see Section 3.6). However, the legislation does not stipulate for examination of fulfillment of these requirements by any state institution. Besides, these requirements are not defined detailed enough in the legislation. This requirements of legislation to be properly met **it is necessary**:
     - To define detailed rules of fulfillment and examination criteria of requirements for chemical accident/emergency preparedness;
     - To make some state institution responsible for state inspection of preparedness of the dangerous enterprises for accidents/emergencies.
   - Under the legislation among the tasks of "Unified System of emergency prevention, liquidation of results of emergencies" (see Section 6.2.18.4) are prognosis, prevention of emergencies and preparedness for them. But it is not précised which institutions and how should ensure implementation of such measures. Besides, under the legislation the National Emergency Response Plan is unity of emergency response plans of the institutions joined in

"Unified System". However, the legislation does not impose development of such plans on any state institution. **It is desirable**:

- To develop and adopt sub-laws which will assign activities required for emergency prevention and preparedness to relevant state institutions

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In addition to the above it is necessary to mention that as per the existing legislation today Georgia is in a state of insufficient implementation of a number of International Agreements. In particular:

- There are deficiencies in implementation of Basel Convention requirements (See Section 6.1.2.2), particularly:
  - There is no effective administrative procedure to prevent waste import-export between Georgia and the countries which are not Parties to the Convention (Basel Convention, article 4. p.5);
  - There is no effective procedure to prevent export of wastes without prior notification as per the Basel Convention (Basel Convention, article 6, p.3);
  - There is no administrative procedure to request from the waste transporters within Georgia to have sufficient permit or authorization (Basel Convention, article 4, p.7).
- There are deficiencies in fulfillment of requirements of the Rotterdam Convention (see Section 6.1.4) in Georgia. In particular:
  - No information is submitted to the Convention Secretariat whether import of chemical substances from Annex III of the convention are prohibited in Georgia;
  - There is no effective administrative procedure in place to ensure that Annex III chemical substances are not exported to the countries which have notified the secretariat of prohibition of the import of that substances;
  - There is no effective and reliable administrative procedure to ensure that no export of the non-Annex III chemical substances which are prohibited or restricted in Georgia will occur without prior notification of importing Party.
  - The official structure indicated in the Secretariat as Designated National Authority is liquidated. Appointment of a new Authority is being delayed.
- There are deficiencies in Georgia in fulfillment of requirements of the Stockholm Convention (see Section 6.1.5). In particular:
  - Georgia has not yet submitted National Implementation Plan to the Convention Secretariat;
  - There is no effective administrative mechanism in place to ensure prohibition/restriction of use in Georgia of the substances regulated by the Convention.
- No legislation is elaborated for implementation of Paris Convention (6.1.3) in the country.

To improve this situation **it is necessary:**

- To alter the regulation "On rules and conditions for issuing permits for production, transportation, import, export, re-export or transit of the materials of limited turnover" as to ensure meeting differing requirements and procedures of different conventions (it is desirable to divide the regulation into several regulations).

- To formally adopt the Stockholm Convention National Implementation Plan and submit it to the Secretariat.
- To officially appoint new body as Designated National Authority of Rotterdam Convention and properly notify the Secretariat about it.
- To appoint a state body for development of legislation for Paris Convention implementation.

1.4 Availability of resources for management of chemicals

This section is a short summing up of the issues discussed in the Chapter 4 in details. Hereby only the basic alleged problems are described. For further details see Chapter 4.

Georgia has enough laboratory and expert capacity for management of chemical substances. But, information needed for management of chemical substances is not available for decision makers.

Namely, recently in Georgia no information is collected on:

- Production of chemicals;
- Industrial, agricultural or domestic use of dangerous chemicals;
- Production of hazardous wastes;
- Disposal of hazardous wastes;

The following information exists but of insufficient quality:

- Register of the enterprises using dangerous chemicals;
- Data on import-export and transit dangerous chemicals;
- Data on pollution of environment and foodstuffs with dangerous (harmful) chemical substances and their impact on human health.

To improve the situation it is necessary:

- To create and introduce system for collection by the state of information on production and use of dangerous chemicals and on production and neutralization/ disposal of hazardous wastes. This system is to be effective and at the same time acceptable for enterprises.
- To establish a form of keeping the register of dangerous enterprises which will make it possible to effectively make use of the information (for each enterprise it should indicate which dangerous substances are used in it, its volume in the enterprise, speed of expenditure, use/storage technologies);
- To raise qualification of customs officers and provide them with sufficient software to identify and better record dangerous chemical substances; To build and equip at customs offices the facilities for safe inspection of dangerous goods.
- To improve monitoring of environment, food and drinking water as for dangerous chemical substances content and their impact on human health.

1.5 Conclusions and recommendations

To eradicate environmental problems related to accumulated wastes in Georgia it is necessary to continue:

- Conservation, protection and restoration of the territories polluted with accumulated wastes of chemicals;

Besides, it is necessary to improve the situation in regard of availability of the resources needed for management of chemicals. It is necessary therefore:

- To create and introduce effective and acceptable for business system for collection of information by the state on production and use of dangerous chemicals and on production and neutralization/ disposal of hazardous wastes.
- To raise qualification of customs officers and provide them with sufficient software to identify and better record dangerous chemical substances; To build and equip at customs offices the facilities for safe inspection of dangerous goods.
- To improve monitoring of environment, food and drinking water as for dangerous chemical substances content and their impact on human health.

In addition, it is necessary to improve the legislation regulating chemicals, namely:

- To improve and bring into effect legal acts regulating "materials of limited turnover";
- To unify definition of dangerous chemical substances in the legislation (based on definitions of EU REACH Regulation) as well as their classification and marking requirements;
- To introduce 2007 version of the international harmonized commodity nomenclature;
- To approve the Stockholm Convention National Implementation Plan;
- To develop and bring into effect legal acts to ensure prohibition/eradication of production and consumption of the substances regulated by the Stockholm Convention. (see Table 32)
- To appoint an acting public authority as a Rotterdam Convention National Designated Authority.
- To adopt the normative acts necessary for Paris Convention implementation
- To adopt Georgian language instruction explaining the UN four symbol code system for marking dangerous cargos.
- To improve legal acts regulating chemical accidents, namely:
    - To establish effective form of registering dangerous enterprises;
    - To develop:
        - safety rules for all types of dangerous enterprises in Georgia;
        - rules for internal safety control in enterprises (desirable by means of introducing enterprise safety management system);
        - safety declaration form, content, rules of development and submission;
        - instruction and rules as to how to develop emergency response plans of dangerous enterprises;
    - To impose on one of public institutions:
        - Control of preparedness of dangerous enterprises for accidents/emergency;
        - Development of territorial emergency response plans, in which disposition of enterprises to one another and possible cumulative effect and required resources available in enterprises and needed additionally will be considered.
- To provide for labor safety from chemicals and for this:
    - To appoint a public body (a new one or one of existing bodies) to inspect meeting of hygienic norms established for the workplaces;
    - Georgia to ratify and implement the following ILO conventions:
        - The Working Environment Convention, 1977 #148;
        - The Occupational Safety and Health Convention, 1981 #155 ;

- The Safety and Health in Agriculture Convention, 2001 #184.
- The Labor Inspection Convention, 1947 #81;
- The Labor Inspection (Agriculture) Convention, 1969 #129;
- The Chemicals Convention, 1990 # 170;

Specifically is to be mentioned necessity to eradicate deficiencies existing in the field of management of pesticides. Namely it is necessary:

- To develop a capable mechanism for eradication of import, distribution and consumption of unregistered pesticides;
- To activate strict control of quality, packing and marking of pesticides existing on the market;
- To establish minimal qualification requirement for pesticide distributors;
- To carry out a full scale campaign for raising awareness of farmers and train them in norms and rules for safe use of pesticides;
- To establish regular monitoring to examine how the pesticide use norms are met;
- To increase and regularly carry out monitoring or control of pesticide residues in foodstuffs;
- To regularly carry out monitoring of environment pollution by pesticides;
- To ensure investigation of every case of poisoning of farmers and foodstuff consumers with pesticides and keep relevant statistics.

Besides, to eradicate environment pollution with other chemical substances **it is desirable** to timely put in order control of observing the following requirements:

- conditions of environment impact permits,
- environmental technical regulations,
- motor vehicle emission norms,
- Standards of fuel quality and composition.

Chapter 2. Dangerous chemicals existing in Georgia

2.1 Production, import and export of dangerous chemicals

2.1.1 Pesticides

Neither production nor processing/packing of pesticides takes place in Georgia. Pesticides coming to Georgia are in the form of ready-for-use preparations.

In this section only the information about the agricultural pesticides is given. Pesticides for household uses are included in the data in section 2.1.3.

It is worth mentioning here that recording of pesticides of agricultural as well as of domestic use at Customs is difficult due to the identification problems which does not allow having consolidated information of proper quality (see Section 4.1)

Table 5. Types of agrochemical pesticides imported to Georgia in 2006

PESTICIDE TYPE	QUANTITY (Tons)	PERCENTAGE FROM TOTAL
Insecticide	144	14.28%
Insectoacaracide	0,853	0.08%
Acaracide	3	0.30%
Nematocide	0,305	0.03%
Rodentcide	22	2.18%
Fungicide (usually with copper)	729	72.31%
Herbicide	109	10.81%
Overall pesticides	1008,2	
Plant growth stimulators	0,034	

Import of biological means for plants protection is nowadays stopped[1].

Dynamics of pesticide import for last years is following:

Table 6. Agricultural pesticide import to Georgia in 1998-2007

YEAR	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Tones	1660	1890	940	450	1727	2083	1795	3756	1008	802

Every year more than half of imported pesticides are copper-containing fungicides.

Export and re-export of pesticides from Georgia is being held in insignificant amount. According to data from the year 2006, Georgia exported 20 tones of pesticides and re-exported 30 tones of fungicides, insecticides, and herbicides to Armenia.

Table 7. Production, import, export and use of agricultural pesticides in 2006 (physical tons)

[1] The biological means of plant protection are used by Plant Protection Service of the Ministry of Agriculture to fight against especially dangerous pests.

USE	PRODUCTION	IMPORT	EXPORT	RE-EXPORT
1800	Not produced	1008.2	20	30

2.1.2 Fertilizers

Out of mineral fertilizers the ammonia containing fertilizers are supplied from Rustavi "Energy Invest" factory, which produces ammonium nitrate. Supply of the country with phosphate and potassium containing fertilizers is provided through their import.

Table 8. Production, import, export and use of fertilizers in 2006 (physical tones)

USE	PRODUCTION	IMPORT	EXPORT
59427	295000	5227	240800

Table 9. Import of fertilizers in Georgia according to years (in tons of active substance)

YEAR	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Ton	1500	1800	1800	2100	2200	2600	3500	3800	2500	6900

In 2006, main imported fetrilizers were: Ammophos, Diammophoska, Nitroammophos, Nitrophoska, Crystalon, Nitrabor. These fertilizers are complex fertilizers, that are new-age, effective fertilizers with high-percentage content of the active substance and their per-hectare use limit is much lower than for simple fertilizers, which were imported and used in earlier years.

2.1.3 Means of disinfection, disinsection and deratization

From 122 disinfection means registered in Georgia, only 10 is produced locally, others are imported. From 15 disinsection means, registered in Georgia, only one is produced locally. For deratization means – there are 8 types registered in Georgia and all are imported.

Table 10. Production of means of disinfection, desinsection and deratisation in Georgia, 2006

CHEMICAL TYPE	ANNUAL PRODUCTION, T
Disinfection liquid	340
Chemicals against insects and rodents for household use	3.9

2.1.4 Other chemicals

Table 11. Import of other chemicals to Georgia, 2006

PRODUCT GROUP CODE	PRODUCT GROUP NAME	DESCRIPTION OF IMPORTED PRODUCTS	AMOUNT IMPORTED, TONS
2707	Oils and other products from coal tar.	Naphthalene, xylol, toluol, coal oil	380.03
2708	Pitch	Liquid pitch from electrode coal	234.65
2710	Petroleum oils obtained from bituminous minerals	Benzene, diesel, black oil, oils for vehicles, transformers and waxes.	716,174.46
2712	Vaseline and paraffin	Paraffin, protecting wax, petroleum Vaseline, paraplast	652.36
2713	Bitumen	Road bitumen	64,484.14

2714	Asphalt	Bore-well reagent	27.75
2715	Bituminous and asphalt mixtures	Bitumen putty	774.88
2801	Chlorine	Liquid chlorine in the containers	675.13
2802	Sulphur	Sulphur	0.09
2803	Carbon	Acetylene	6.93
2804	Other non-metals	Liquid nitrogen, ferrosilicium, argon, fridge gases, hydrogen	695.54
2806	Hydrochloric acid	Hydrochloric acid	322.42
2807	Sulphuric acid	Sulphuric acid	2,320.52
2808	Nitric acid	Nitric acid	12.02
2809	Phosphoric acid	Orthophosphoric acid	57.33
2810	Boric acids	Adipine acid and boric acid	3.15
2811	Other inorganic acids	Silicium dioxide	34.82
2812	Halides of non-metals	Sodium hypochlorite	48.96
2814	Ammonia	Ammonia	1,393.49
2815	Sodium hydroxide	Caustic soda, natrium hydroxide, solid potassium	6,112.86
2817	Zinc oxide	Zinc oxide	3.43
2818	Artificial corundum	Artificial corundum	10.81
2819	Chromium oxides	Chromium oxides	55.65
2820	Manganese oxides	Manganese dioxides	3.01
2821	Iron oxides	Iron oxides	34.62
2822	Cobalt oxides	Cobalt oxides	0.05
2823	Titanium oxides	Titanium oxides	33.33
2824	Lead oxides	Lead oxides	1.49
2826	Fluorides	Ammonium fluoride, boric trifluoride	0.54
2827	Chlorides	Calcium chloride, potassium chloride, aluminum hydrochloride, ammonium chloride	386.49
2828	Hypochlorites	Hypochlorites, chlorite	59.35
2829	Chlorates and perchlorates	Sodium perchlorate, sodium chloride	10.20
2830	Sulphides	Sodium sulphide, ammonium sulphide	39.28
2832	Sulphites	Sodium sulphite	7.42
2833	Sulphates	Sodium sulphate, aluminnium sulphate, copper sulphate, magnesium sulphate, chrome sulphate, alum.	1,360.05
2834	Nitrites, nitrates	Sodium nitrite	18.91
2835	Phosohates	Calcium phosphates, sodium phosphates	99.12
2836	Carbonates	Dynatricarbonate, sodium bicarbonate, calcium carbonate	11,011.78
2837	Cyanides	Sodium nitroprusside	0.03
2838	Cyanates	Sodiom thiocyanate	1.21
2839	Silicates	Liquid glass, potassium silicate, suprasil	67.75
2841	Oxymetallic acid salts	Potassium permanganate, potassium chromate	0.58
2842	Other salts of inorganic acids	Other salts of inorganic acids	6.26
2847	Hydrogen peroxide	Hydrogen peroxide	14.47
2849	Carbides	Carbides	1,145.18
2901	Acyclic hydrocarbons	Butylene, hexane	1,395.35

2902	Cyclic hydrocarbons	Xylole, toluole, benzole, styrole, naphthalene	1.18
2903	Halogenated hydrocarbons	Diclorethan, freons, Chladons, other fridge agents, Chloroform	77.01
2904	Sulphonated hydrocarbons	Toluene sylphic acid	0.30
2905	Acyclic alcohols	Propylenglicol, isopropyl alcohol, glycerin, ethylenglicol	127.14
2906	Cyclic alcohols	Benzol alcohol, camphor	0.08
2907	Phenols	Nonilphenol, Benzenetriol, phenol	19.01
2909	Ethers	Diisophropile ether, flotoreagent, anisol	252.97
2910	Epoxides	Epoxide liquid	0.04
2911	Acetals	Acetaldehyd	0.05
2912	Aldehydes	Formalin, vanillin	52.72
2914	Ketones	Acetone, butanone, ketone, benzoquinone	30.87
2915	Saturated acyclic acids and their salts	Acetamide, formic acid, Sodium and lead acetates, ethyl-, vinyl-, butyl-, methyl-acetates, caprylic acid, calcium propionate	215.12
2916	Desaturated acyclic acids and their anhydrides	Benzole acid, Sorbin acid, ethers of acryl acid	14.02
2917	Policarboxylic acids and their anhydrides	Dioctylphtalate, potassium phthalate	3.53
2918	Carboxylic acids with additional oxygen function	Citric acid, lactic acid, tartaric acid, acetylsalicylic acid, salicylic acid	167.52
2921	Amine-function compounds	Cyclanic, ezoprophilalcole	11.81
2922	Oxygen-function amino-compounds	Monoethanolamin, triethanolamin, lysine, caliumgluconate, amino-naphthole	39.81
2923	Quaternary ammonium salts	Lecithin, choline	16.88
2930	Organo-sulphur compounds	Dithiocarbamates, methionine, dithisone	40.98
2931	Other organo-inorganic compounds	Trimethylsilitrifluoroacetate	15.28
2932	Heterocyclic compounds	Methylfuran	4.99
3201	Tanning substances	Tanning substance	4.84
3202	Tanning substances	Tannin	1.93
3203	Paints of vegetable or animal origin	Paints of vegetable or animal origin	26.15
3204	Organic paints	Paints and pigments	84.86
3205	Color lakes	Cartridge ink	15.83
3206	Pigments	Paint pigments	243.50
3207	Pigments	Paint pigments	30.16
3208	Paints and polish	Oil paints and polish, solvents	4,267.45
3209	Paints and polish	Paints and polish	4,489.74
3210	Paints and polish	Paints and polish	2,637.93

3211	Ready dryers	Ready dryers	7.37
3212	Pigments	Pigments	59.80
3213	Artistic paints	Artistic paints	14.32
3214	Putty	Pinch concrete, soil-pressers	9,459.52
3215	Typographic inks	Typographic inks	145.82
3301	Essential oils	Essential oils, aromating substances.	1.59
3302	Odoriferous substances	Aromatic substances drink ingredients.	482.28
3305	Preparations for use on hair	Shampoos, balsams, wax	3,489.65
3401	Soap	Soaps	4,622.30
3402	Organic surface-active substances	Detergents, washing powder, whiteners	17,080.39
3403	Lubricating preparations	Lubricating preparations and oils	383.08
3405	Waxes, polish, creams	Rock polish paste, torpedo cleanser, furniture polish, shoe polish	814.35
3801	Artificial graphite	Electrode mass, electrode paste	803.11
3802	Activated carbon	Animal black, Activated carbon	177.99
3804	Residual lyes	astringent	16.60
3805	Gum	Gum	0.01
3806	Rosin	Rosin	0.50
3809	Dye accelerators	Leather dye accelerators, textile dye accelerators, dychlofos	87.69
3810	Pickling preparations for metallic surfaces fluxes.	Pickling preparations for metallic surfaces, fluxes	19.31
3811	Antiknock preparations	Antiknock and anticorrosive preparations	251.64
3812	Rubber plasticizers	Antioxidant, rubber stabilizator, rubber	29.79
3813	Fire-extinguisher compounds	Fire-extinguisher preparations	2.08
3814	Organic solvents	Organic solvents	268.24
3815	Catalytic preparations	Catalytic preparations	57.90
3817	Alkyl benzene	Alkyl benzene	19.12
3819	Brake fluids	Brake fluids	398.78
3820	Anti-freezing preparations	Anti-freezing preparations	692.72
3823	Industrial fatty acids	Industrial fatty acids	60.56
3824	Prepared binders	Solvent, Ionite, Butter emulator, accumulator cleanser.	819.84

Table 12. Production of industrial chemicals in Georgia, 2006

CHEMICAL TYPE	ANNUAL PRODUCTION, T
Copper concentrate	48677
Manganum ore	328643
Ammonia	1120
Ammonium nitrate	370829
Ammonium sulphate	2989
Sodium cyanide	3174.3

Nitric acid	233,3
Ferromanganum	5130
Siliconmanganum	116945
Petroleum	63500
Natural gas	15000
Asphalt-concrete	197207

Table 13. Production of detergents, paints, liquefiers in Georgia, 2006

CHEMICAL TYPE	ANNUAL PRODUCTION, T
Paints and lacquer	597.5
Soap	6.9
Detergents	622.6
Cleanser liquids and powder	43

2.2 Consumption of chemicals

2.2.1 Fertilizers

In 2006 the usage of fertilizers in Georgia was 59,427 tones. 54,820 tones from this amount were nitrate fertilizers. This quantity is 4-5 smaller than the average annual usage in 80-ies[2].

Table 14. Agricultural lands, treated with mineral fertilizers in 2006

AREA	ARABLE LAND		PERENNIAL PLANTATIONS	
	Thousand ha	% from total	Thousand ha	% from total
Total in the country	700	100%	150	100%
Fertilizers used	165.2	24%	33.4	22%

2.2.2 Pesticides

In comparison to 80-ies, the usage of pesticides is shortened more than 10%[3]. It is partially caused because of customers' low demand, resulted by hard economic condition of the country, but also by fact that a new age pesticides are more efficient and strong and need to be used in less quantities. It is also worth mentioning that such ecologically dangerous pesticides as chlorogenic or silver-containing pesticides and triazole group herbicides aren't used anymore in Georgia and use of phosphororganic insecticides significantly decreased.

[2] Average annual use of fertilizers used in 80-ies equalled to 200-250 thousand tons,

[3] In 80-ies Georgia was part of USSR and as everywhere is USSR the treatment of agricultural lands was undertaken on planned basis. For these purpose about 37 thousand tons of pesticides were imported annually.

Table 15. Use of Agricultural pesticides in 2006

PESTICIDE TYPE	TONES	% FROM TOTAL
Used pesticides (total)	1800[4]	100%
Including:		
Fungicides	1044	58%
insectoacaricides	630	35%
Herbicides	90	5%
Seed treatment preparations	36	2%

Table 16. Agricultural lands treated with pesticides in 2006

AREA	ARABLE LAND		PERENNIAL PLANTATIONS	
	Thousand ha	% from total	Thousand ha	% from total
Overall	700	100%	150	100%
Overall treated	52.3	7%	84.7	56%
Including:				
Fungicides	8.2	1%	73.5	49%
Insecticides	14.1	2%	9.6	6%
Herbicides, Rodenticides, Fumigants and seed treatment fungicides	30	4%	1.6	1%

Table 17. Agricultural lands treated with mineral fertilizers in 2006, according to regions

AREA	ARABLE LAND		PERENNIAL PLANTATIONS	
	Thousand ha	% from total	Thousand ha	% from total
Overall treated:	52.3	100%	84.7	100%
Including:				
Imereti	3.1	6%	12.1	14%
Shida Kartli	3.3	6%	10.6	13%
Kakheti	21	40%	53.3	63%
Adjara	2.8	5%	8.8	10%
Kvemo Kartli	12.4	24%		
Samtskhe-Djavakheti	8.8	17%		
Other regions	4.4	8%		

[4] This number is different from the imported pesticide number in 2006. Bad climate condition in 2005 explains the difference. Pesticides imported in 2005 were not used in that year, but used after, in 2006.

2.2.3 Industrial chemicals

The table contains summed up data recorded by the Department for Emergency Situations on industrial chemicals at the disposal of functioning enterprises.

Table 18. Use of dangerous Chemicals in Dangerous Enterprises

Substance	Total amount of substances
Liquid ammonia	251,27 t
Sulphur anhydride	20,9 t
Liquid chlorine	119,77 t
Dichloroethane	10 t
Cyanic acid	1 t
Caustic sodium	0,1 t
Sulphuric acid	0,771 t
Zink	0,012 t
Zoocumarin	0,012 t
Ratindan	0,04 t
Chloroform	0,005 t

2.3 Chemical accidents

The Department of Emergency Situations records in Georgia 1-3 chemical industrial accidents a year. Mainly, these are oil and oil products spills or liquidated ammonia leakage. The later has caused several mortal accidents.

2.4 Chemical wastes

2.4.1 Production of wastes

There is no precise information about the volume of production of wastes/residues of chemicals in the country. According to the information of the pesticide importers which they provide to the Ministry of Agriculture with annually, from the economical point of view owners of the substances do their utmost to make maximal use of their reserve and they regulate import volume for every following year taking into account the residue of the previous year. As a result, no considerable volumes of pesticide wastes are accumulated in the country.

The Ministry of Agriculture regularly carries out monitoring of warehouses keeping pesticides and agrochemicals. But identification or inventory of pesticides residues is never performed by them.

State recording of wastes produced by industrial enterprises is not performed in Georgia. Below is the existing information about wastes of the big industrial enterprises in Georgia:

- According to the information of the environmental service of the Rustavi Chemical Combine "Azoti", the enterprise only produces two types of waste today:
    a. Cellophane articles unused which are grinded and used for re-production of cellophane in the enterprise;
    b. Sulphuric acid treatment waste which by simple processing is transformed into sulphate and used in the enterprise for production of other chemical products.

Besides, there is waste of magnium containing slag accumulated in the Combine as a result of electrolytic magnium oxide production earlier. The enterprise makes use of it in construction work as filling material as well as pre-mixes in agriculture.

- The enterprise "Madneuli" Concentrating Combine includes a bronze ore concentrating factory and a quarry and an enterprise "Quarzite". All the three objects produce waste-water polluted with heavy metals and other toxic substances. The enterprises state that they treat water safe. Produced slag is accumulated in dripping pits, which are later covered with earth on the territory of the enterprises.

2.4.2 Accumulated wastes

2.4.2.1 Accumulated industrial wastes

In 2003 inventory of accumulated industrial waste was held in Georgia. 908 thousand tons of hazardous industrial wastes were identified. Mainly this consists of petroleum production and use wastes and chemical production and recycling wastes. However, 100 thousand tons of wastes containing arsenic (4%-9% arsenic content) accumulated on the territories of the Soviet enterprises producing arsenic concentrate in Soviet period in the villages Tsana and Urevi cause certain concern.

Table 19. Accumulated industrial chemical wastes according to regions

REGION	ACCUMULATED WASTE, TONS
Adjara, A.R.	22 ,520
Samegrelo-Zemo Svaneti	4,520
Imereti	768,010
Racha-Lechkhumi-Kvemo Svaneti	100,000
Kvemo Kartli	13,040
Tbilisi	660
Overall	**908,740**

In 2004-2005 inventory of polychlorinated biphenyls (PCB) was also conducted in Georgia. Oils containing polychlorinated biphenyl were identified in 15,757 active and 1,542 inactive transformers, 5,459 conductors and 3,200 power switches.

2.4.2.2 Pesticide and agrochemical waste

Outdated and obsolete pesticides are accumulated all over the territory of Georgia at former "Soflkimia" stocks and at soviet or collective farms depots. Most of depots are destructed. Some of the depots are being still destroyed by local people to get building materials. Pesticides lay in the open air and atmospheric sediments cause soil, groundwater and surface water pollution by these chemicals.

In order to deal with this problem in 2003 Georgia accomplished the program "Development of National Action Plan for Implementation of Stockholm Convention on Persistent Organic Pollutants in Georgia." The Program was financed by the Global Environment Facility (GEF) and implemented by Ministry of Environment Protection and Natural Resources of Georgia in partnership with the United Nations Development Program (UNDP). Persistent organic pollutants (including pesticides) were inventoried in the framework of this program in the years 2003-2004. In total 214 sites were identified, in 46 of them the pesticide wastes were actually found.

Table 20. Quantity of obsolete chemicals found in former depots according to regions

	NUMBER OF INSPECTED SITES	SITES WHERE PESTICIDES WERE FOUND	QUANTITY OF ACCUMULATED PESTICIDE WASTES	
			Solid, kg	Liquid, liters
Adjara, A.R	2	2	15000	
Imereti	23	9	10000	100
Samtskhe-Djavakheti	10	2	4200	
Shida Kartli	11	8	18500	100
Khashuri region	19	10	50500	
Kakheti	8	3	230000	
Guria	22	2		
Mtskheta-Mtianeti	8	5	23000	500
Samegrelo	87	-		
Kvemo-Svaneti, Letshkhumi	16	-		
Racha	1	-		
Kvemo Kartli	7	5	4500	500
Overall	**214**	**46**	**3570**	**1200**

Special disposal site for outdated pesticide burial was functioning in 1976-1985 years in Georgia (Eastern Georgia, Marneuli region, Mount Ielguji,). Approximately 2,700 tons of various types of chemicals (supposedly, high amount of chlorine containing pesticides) are buried in this site. Condition of the burial is not satisfactory – territory is not fenced and cattle can use it as a pasture. Several facts of digging out the buried pesticides for their metal tar by inhabitants took place. Packing tar of the pesticides (sacks, barrels) are partially visible on the surface. Pesticides are being washed out and uncontrolled pollution of environment takes place.

Part of expired pesticides were collected and safely disposed in 2007-2008. 2009 national budget provides additional 150 thousand GEL to continue this activity.

2.4.2.3 Military chemical wastes at former Soviet military bases

There were several military bases in Georgia in the period of soviet occupation. When the soviet troops left the bases they left behind great amount of dangerous chemicals. In particular, 700 tons of missile fuel acidifier “Mélange”, 350 ton of missile fuel “Samin”, 80 tons of useless incendiary napalm, 65 tons of smoke emitting containers, 20 tons of degasification and imitation liquids, 60 tons of aviation, medicinal and domestic military material of diverse use (including about 5 tons of highly toxic Chloropicrin) have been described and destroyed. But, tens of thousands of tons useless explosives, bombs and mines, 500 tons of solid missile fuel and 160 tons of gun-powder, about million of gas-masks and glass sets of imitative substances have to be destroyed. Part of the waste has been neutralized with international support, but greater part is still in need of neutralization.

2.5 Problems caused by dangerous chemicals

2.5.1 Food contamination

Unqualified and uncontrolled usage of pesticides by the private persons creates high risk of the food contamination. In the past few years there have not been done any measurements of pesticide or other chemical levels in the food products. Accordingly, there is no reliable data about food contamination.

2.5.2 Soil and ground-water pollution

No statistic information is available on groundwater and surface water pollution with pesticides or other chemicals. During some episodic researches, groundwater and surface water pollution were identified. Territories where pesticide residues are accumulated (see below) cause pollution of the nearby groundwater and surface water. Assessment, which took place in 2003 at former pesticide depots, showed that 3 samples from surface water were polluted by heptachlor and DDT, 5 samples of ground-water and 2 samples of fish were polluted with heptachlor. Ground-water pollution is also possible while preparing pesticide mixtures and operating with sprinkling facilities. Appropriate inspections have not taken place.

Soil pollution with pesticides is not measured.

As a result of insufficient management of drainage waters by the "Madneuli" enterprise in the past we have serious accumulated pollution of soil on the territory adjoining the Mashavera River. As for now, the enterprise states it is treating its polluted waters and uses water anew thus, neither the river nor the adjoining territory are polluted. There is information, however, not confirmed, that metal containing water leakage is not completely stopped from the enterprise tails to the natural water reservoirs. The problem of neutralization of the polluted soil on the territory adjoining the Mashavera River is still in place.

The most alarming out of the water polluted sites from the soviet period is in Racha and Qvemo Svaneti, in the villages of Tsana and Urevi with about 100 thousand tons of 4%-9% arsenic containing waste; the site is the basin of the rivers Tskhenistskali and Rioni. There are data, however unproved, about pollution of the Rioni River and the Black Sea as a result of washing over of this wastes.

The threat of environment pollution is great from municipal waste disposal sites as they are not protected against disposal of hazardous wastes there.

2.5.3 Poisoning

According to 2008 preliminary data 2093 cases of poisoning by non-medical substances were reported from medical stationars and 159 cases _ from ambulatories. 18 cases out of those are poisoning by pesticides.

Several facts of using pesticides for chemical suicide are known. No statistics is available in this field. Phosphogenic preparations, pyrethroids, copper anhydride, arsenic (used in households against rats) and DDT are used for this purpose.

Table 21. Numbers of poisoning in Georgia, 2000-2006

YEAR	2000	2001	2002	2003	2004	2005	2006
Overall	12.7	33.1	40.0	34.4	43.7	35.8	12.9
in children	16.5	39.7	51.5	43.8	59.3	45.1	13.7

2.5.4 Labor health

For more than 10 years no more regular studies of working conditions and labor health are carried out in Georgia. Accordingly no systematical information exists on impact of chemicals on labor and occurrences of the related professional diseases. Starting from 2007 JSC Makhviladze Scientific-Research Institute for labor Medicine and Ecology is implementing state-financed program: "Prevention and Monitoring of Professional Diseases" in the framework of which the impact of chemicals on labor of the major industries of Georgia is studied. The information collected within the project is on annual basis submitted to the Ministry of Labor, Social and Health Protection. The final results of the program are expected for 2011.

Chapter 3. State regulation of different stages of management of chemicals

3.1 Evaluation and Registration of Chemicals

In different countries the procedures for selective admission of the chemicals into the market differ. As Georgia is interested in harmonization with EU legislation it will be adequate to compare chemicals turnover control system of Georgia with that of the EU.

In EU today in place is the REACH system of regulation of chemicals. In short it could be described as such (for the details see section 6.1.9):

- All chemical substances which are produced or imported in EU (as such, as part of preparations or part of articles if during the normal consumption of such articles the substance will be released), in volumes exceeding 1 ton per year is subject to **registration**. For registration of the substance the interested person has to submit a technical dossier of the substance which should include full description of the physical-chemical properties of the substance, foreseen methods of its use and information on impact of such uses on humans health and environment which is to be based on testing results. The more the annual volume of production/import of the substance the more complicated testing are required. It is allowed that a substance is registered by several interested persons jointly. The registration body _ the European Chemicals Agency encourages such joint registrations by keeping a special internet-portal for easing a communication between the interested persons (the purpose of the Agency is to minimize the testing of chemical substances impact on animals).
- On the basis of the information submitted the Agency **evaluates** how dangerous the chemical is to decide on priority of its further assessment. The EU budget provides for further assessment of the priority substances. The assessment is performed by one of the member countries or, if there is no such country _ the Agency itself. During the assessment the registrants will be required to submit additional information.
- If after the assessment it is concluded that the substance causes a high concern, a deadline will be established after which it's free use will be prohibited. Although the interested persons will be given a possibility to request a permit for a specific use of the substance if based on relevant studies they will justify that such a use represents no or a small risk for the human health and environment and those risks are proved by the related social benefits.

The REACH Regulation was adopted in 2006 and is still in the initial stage if its implementation: a number of criteria and guidance are still under development. Though the obligation of testing the substances before letting it to the market and of presenting the testing results and all related information to the authorities is not new for the EU _ it is in force since 1979. But the "old" system had uneven approach towards "new" and "existing" substances which was decided to be irrational and the system changed by REACH approach which is similar for all the substances of the market and requires registration of all of them.

The law of Georgia "On hazardous chemical substances" (see section 6.2.9) also establishes a system of registration of chemicals requiring their testing. But the deficiencies of the law (see section 6.3.3) as well as closure of the relevant public institution (the Service of Sanitary-Hygienic Surveillance) does not allow the system to work. **It is desirable**: to explore possibilities of participation/inclusion of Georgia in REACH system; to bring a system of selective admission of the chemicals in Georgia closer

to the REACH system (or its simplified analogue, taking into account the capacities of the country and the transition stage of its economy).

3.2 Import-export and transit of chemicals

Under the international agreements Georgia must control import-export of a number of dangerous substances. Besides, legislation of Georgia also stipulates for restriction of number of dangerous chemical substances import-export or prohibition. These requirements are summed up in the table.

Table 22. Requirements of international agreements and national legislation on import-export of dangerous substances in Georgia

Legal document	Requirement
Montreal Protocol on Substances That Deplete the Ozone Layer (Section 6.1.1)	Volume of import-export of ozone depleting substances should not exceed established limits (See Table 28)
Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (Section 6.1.2)	To prohibit waste export to the non-Parties of the Convention
	To prohibit dangerous waste export without prior informed consent of the recipient country
Paris Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and of Their Destruction (Section 6.1.3)	To regulate, limit or prohibit import-export of the substances included in Convention annexes (see Table 30)
Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals (Section 6.1.4)	To prohibit export of substances indicated in the Convention annex (see Table 31) to the countries, which have notified the Convention Secretariat of prohibition of import of these substances.
	Prohibition of export of substances which are not indicated in the Convention annex but have status of "prohibited substances" in Georgia (Compare the Table 31 and the Table 39) without prior informed consent of the recipient party
Stockholm Convention on Persistent Organic Pollutants (Section 6.1.5)	Prohibition of import-export of a number of substances which have made the Convention annex (see Table 32)
Law on transit and import of wastes on the territory of Georgia (Section 6.2.2.1)	Prohibition of waste import of specific types of waste used for specific reasons
Law on hazardous chemical substances (Section 6.2.8)	Prohibition of import-export of unregistered dangerous chemical substances
	Prohibition of import of dangerous chemical substances from the countries which prohibit consumption of these substances
Law on pesticides and agrochemicals (Section 6.2.10)	Non admittance of import of unregistered pesticides and agrochemicals

Under the current legislation permits are needed for import, export or transit of the following types of commodities:

- Plants and animals, vegetarian and animal origin produces; endangered species of flora or fauna;
- Materials of limited turnover;
- Nuclear material, radiation substances, weapons and ammunition, production of dual destination;
- Medicinal means; narcotic substances, psychotropic substances and precursors;
- Cultural values;
- Uniodized salt;

Aforesaid purposes of regulation of chemical substances listed above are served only be the permits for materials of limited turnover (see Section 6.2.15.3) and the munitions. When performing import-

export and transit of these substances a person interested to undergo customs procedures must submit to the Customs office a permit on import, export or transit of materials of limited turnover or munitions.

Permits for import-export of the materials of limited turnover are issued by the Ministry of Environment Protection and Natural Resources (with consent of the Ministry of Agriculture and the Ministry o Labor, Heath and Social Protection). In case of the requirements established by a law (inter alia prohibitions established for particular substances) the Ministry is authorized not to issue such permit, which makes it possible to actually implement prohibition of relevant cargo import-export.

Validity of the legal act regulating permit for import-export of the materials of limited turnover has been suspended up to July 11, 2011. Requirements of the relevant customs normative acts to relevant commodity clearance being subject to submitting such permit have also been suspended, which means that clearance of these commodities is practiced today at the Georgian Customs offices without any hindrance (see also Section 6.2.15.4).

Noteworthy that despite the aforesaid, there are cases when an exporter himself requests to undergo the preliminary consent procedures to meet requirements of the recipient country. Analogously there are cases when prior to import of dangerous substances to Georgia, notification and preliminary consent of Georgia is requested by the importer. In similar cases meeting the request of the interested person, relevant governmental contact persons deliver formal notification or revise a formal notification received and produce positive or negative answer under the current laws. But this procedure is possible to perform without complications only in case of the Basel and Stockholm conventions, designated authority for which (as indicated in the secretaries of the relevant conventions) is the Ministry of Environment Protection and Natural Resources. In case of the Rotterdam Convention, the procedure is "stuck" as the designated authority (as per information of the Convention secretariat) is the head of the National Sanitation Service of the Ministry of Labor, Health and Social Protection of Georgia. This institution has been abrogated. At present procedure of appointment of a new designated authority is ongoing. Supposedly, it will be the Ministry of Environment and Natural resources.

The permit for import-export and transit of the munitions and arms is issued by the Ministry of Defense on the basis of conclusion of the Permanent Commission on Military-Technical Issues of the Ministry. Without such a permit the customs will not proceed with the customs clearance. It should be mentioned that according to the conditions set by Paris Convention the substances listed in the convention lists could be regarded as a chemical weapons. But according to the existing Georgian legislation no permit from the Ministry of Defense is required for import-export of those substances.

In the circumstances when the national legislation necessary for implementation of Paris Convention is not in place it is impossible to check whether the substances passing the customs correspond with those regulated by the Convention which increases risk of illegal movement of those substances. The Ministry of Foreign Affairs is the National Contact Point of the Convention, but no public body is nominated so far to elaborate the national legislation for implementation of the Convention.

As for the Montreal Protocol requirement on observing the established limits for ozone-depleting substances import-export, as real annual import-export does not exceed these limits (see Table 29) the country is in a state of meeting the Montreal protocol obligations. It is interesting that the country has achieved this state via strengthening of administrative procedure combined with the projects on support and demonstration of alternative substances and technologies (see Annex 1).

Apart from the above the customs of Georgia experience some other difficulties which impede effective control of the import-export of chemical substances. Namely:

- The customs lack information system which will allow an easy linkage between any of international names or codes (CAS, UN, EC codes) of the chemical substances as well as identification of the relevant customs codes and regimes. **It is necessary**: to create state register of the regulated chemical substances where the chemicals could be identified by any of their international name and code (CAS, UN, EC codes) _ from one side and by the HS 2007 commodity codes – from another side.
- The customs lack infrastructure and equipment for safe inspection and identification of the chemical substances. It is therefore **necessary:** to organize such inspection facilities where it would be possible to safely separate the chemically dangerous cargos, inspect them, localize the dangerous substances and temporarily isolate them in temporary storage facilities. The facility should also include units for decontamination and sanitary treatment.

3.3 Production, use and transportation of chemicals

A number of international agreements and national laws require regulation and control of production and transportation of dangerous chemicals and their wastes by the state (see Table 23).

One of the tools for regulating production and transportation of dangerous chemical substances and wastes in Georgia could be the permit for production and transportation of "materials of limited turnover". But, due to impossibility to merge different International Conventions and national requirements into one procedure, the relevant regulation has failed to work and is currently suspended (see Section 6.2.14.1).

As for prohibition of use certain substances, no mechanism for implementation of such requirement exists in Georgia today.

Consequently, despite requirements of a number of international agreements and national laws, regulation/control of production, transportation and use of chemicals could not be implemented at present in Georgia.

Table 23. Requirements of international agreements and national legislation on regulation of production and transportation of dangerous chemicals and wastes

Legal document	Requirement
Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (Section 6.1.2)	Prohibition of transportation and disposal of waste without authorization
Paris Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and of Their Destruction (Section 6.1.3)	To regulate, limit or prohibit production, use, transfer of the substances included in Convention annexes (see Table 30)
Stockholm Convention on Persistent Organic Pollutants (Section 6.1.5)	Prohibition or eradication of production and use of a number of substances entered in the Convention Annex (see Table 32)
Law on hazardous chemical substances (Section 6.2.8)	Prohibition of production and consumption of unregistered dangerous chemical substances
Law on pesticides and agrochemicals (Section 6.2.10)	Prohibition of production of unregistered pesticides and agrochemicals

As for safety of transportation of dangerous cargos, Georgian legislation defines rules of marking such cargos and motor transport means for their conveyance (see Section 6.2.16.1). But it is complicated to

meet these rules and control their implementation as the technical regulation defining obligatory marking UN four-symbol code to be indicated on particular cargo requires relevance with the UN Model Regulations on the Transport of Dangerous Goods which is not available in Georgian. That means that neither Georgian consumer not controlling bodies can check whether those requirements are met. As a result, implementation of the requirement is not properly controlled.

3.4 Management of pesticides

Agricultural and domestic use pesticides actually are "toxic matters of wide consumption" and for chemical safety, it is a very important issue to manage these substances.

The UN FAO International Code of Conduct on the Distribution and Use of Pesticides is a widely acknowledged international document for guidance on development of effective and safe management of pesticides in the country (Section 6.1.6). It defines recommended rules and standards of state management of pesticides.

According to the Code, pesticides as extremely dangerous product require state control. In particular, at least the following should be ensured:

- Selective admittance of pesticides onto the market taking into consideration possibility of their effective and safe consumption. As a rule, pesticide registration procedure is applied for this; at the same time, measures should be taken no to allow unregistered products to the market (control of import, inspection of the market);
- Establishment of requirements to the quality, packing and labeling of the marketed pesticides and control of meeting of those;
- Control over pesticide suppliers/distributors on the market, establishment of requirements to pesticide sellers (safety of storehouse, qualified personnel) and control of their implementation;
- Control or monitoring over pesticides buyers: establishment of norms of pesticide use and safety rules and control or monitoring/evaluation of their fulfillment; it is necessary to permanently keep pesticide consumers informed and trained to minimize use of pesticides and maximize safety;
- To check pesticide effectiveness through monitoring of agricultural pests and safety of the pesticides through monitoring of food contamination and environment pollution and human poisoning with pesticides;

Below is considered implementation of these requirements in Georgia (for further details see Section 6.2.9).

3.4.1 Selective admittance of pesticides to the market

Georgian legislation provides for two mechanisms for selective admittance of pesticides to the market: registration of pesticides and permits.

Under the law "On pesticides and agrochemicals" (section 6.2.10) for any agricultural pesticide to be produced, imported, sold, used or advertised in Georgia it is necessary to register them. Registration implies testing of the substance which is conducted at the initiative and at the expense of a registrant. In case of positive result of the tests, the registrant is issued a registration certificate for a fixed period. For re-registering of already registered substance (during the registration period) it is possible to avoided the testing and make use of the results of the previously conducted tests (if the first registrant gives his consent).

List of registered pesticides and information about them are to be entered into the periodically renewable catalogue of pesticides admitted for consumption in Georgia. Under the law marketing of pesticides, which are not included in the national catalogue of admitted pesticides and agrochemicals, is prohibited.

If the registration tests conducted reveal negative impact of a pesticide on human health and environment, the registration body produces a decision to prohibit it or subject to strict restriction. Registration certificate is not issued for such a pesticide. Import and turnover of such pesticides could only be allowed by the special permit issued by the Ministry of Environment Protection and Natural Resources (with consent of the Ministry of Agriculture). In particular, prohibited and strictly limited pesticides are on the list of the so called "materials of limited turnover" and the Ministry of Environment and Natural Resources is granted right to issue permits for production, transportation, import-export and re-export and transit of these materials (see Section 6.2.15.4).

Apart from this, according to a sub law of the law "On health protection" (section 6.2.6) the registration requirement for the disinfection, deratization and disinsection substances for medical uses is established. The registration is carried out by the National Centre for Diseases Control and Public Health (section 5.1.6). Import of unregistered means of disinfection and deratization is prohibited.

What comes to the pesticides, insecticides, fumigants and deratization means for use in households, nowadays no state body is entitled to register them or otherwise control.

Evidently, Georgian legislation partly regulates selective admission of the pesticides to the market. But, there are no sufficient mechanisms to meet these requirements in Georgia today. Namely, despite the fact that according to its own statute the National Service for Food Safety, Veterinary and Plant Protection is responsible to control the market of pesticides and agrochemicals, it has no mechanisms to react to violations revealed (see Section 6.2.10.5). Consequently no control of market of pesticides on existence of unregistered pesticides is performed.

3.4.2 Control of pesticide quality, packing, labeling

Georgian legislation determines specific requirements to pesticides admitted to the market. Namely:

- Pesticides should be attached recommendations agreed with registration organs on their transportation, storing, neutralization and use;
- Pesticides should be marked according to FAO instructions and inscriptions should be made in the Georgian language;

Control of meeting these requirements is placed on the National Service of Food Safety, Veterinary and Plant Protection. Quality control of pesticides and agrochemicals already placed on the market is also their responsibility. But, as the National Service of Food Safety, Veterinary and Plant Protection has no mechanism to react to revealed violations (see Section 6.2.10.5), for today there is no effective mechanism for enforcement of the above requirements in Georgia.

3.4.3 Control of pesticide suppliers

Georgian legislation determines safety requirements for pesticides packers and sellers. But the legislation of Georgia does not determine requirements to the personnel qualification of pesticides sellers.

Control of meeting the established requirements by pesticides packers and sellers is responsibility of the National Service of Food Safety, Veterinary and Plant Protection. But, as the National Service of

Food Safety, Veterinary and Plant Protection has no mechanism to react to revealed violations (see Section 6.2.10.5), for today there is no effective mechanism for enforcement of these requirements in Georgia.

3.4.4 Provision of safe use of pesticides

Legislation of Georgia determines rules of safe use of pesticides observation of which is obligatory. In particular, when making use of agricultural pesticides the rules established by an order of the Minister of Agriculture should be met. When making use of disinfection, disinsection and deratization means rules established by the order of the Minister of Labor, Health and Social Protection should be met.

One of the functions of the National Service of Food Safety, Veterinary and Plant Protection is control of safe consumption of pesticides. But this control is not effective as this service has not mechanism to react to revealed violations (see Section 6.2.10.5).

The law stipulates for responsibility for the violation of the rules of use of pesticides which may cause accumulation of pesticide residues in agricultural products higher than the allowed limits, but as well as in aforesaid cases, due to the deficiencies in the legislation (see Section 6.2.10.5) the National Service of Food Safety, Veterinary and Plant Protection has no authority to impose a payment when a violation is revealed.

It is worth of mentioning here that despite the fact that legal deficiency does not allow the National Service of Food Safety, Veterinary and Plant Protection to inspect the requirements of the law in the field of regulation of pesticides, the Service still may carry out monitoring of meeting the requirements of the law. But effectiveness of the monitoring fully depends on the resources allocated for its implementation by the state. Currently, no monitoring of complying of consumers with the established norms and rules of use of pesticides is performed by the Service.

3.4.5 Awareness and training of users

A basic component of safe application of pesticides is high enough awareness of the consumers of threats related to these substances and the rules as to how apply them. Unfortunately, situation is bad in this respect in Georgia. Notwithstanding the legal requirement, there are frequent cases when agricultural and domestic use chemicals are not provided with inscriptions and instructions in Georgian. Besides, frequently consumers are misled by unqualified distributors.

The National Service of Food Safety, Veterinary and Plant Protection makes some attempts to inform consumers of safe consumption of pesticides observing the norms of application. Particularly, periodically they issue informational brochures, posters as far as possible. The “Catalogue of permitted pesticides permitted for use in Georgia” actually is an informational reference book. It could be an important information source if available for consumers. Although the Catalogue is a legal act, it is not available in printed version due to its huge volume. Neither electronic version of the catalogue is available on web. Besides, the Catalogue is an extremely overloaded informational document rather difficult for use by an unprepared farmer.

No trainings are being conducted for farmers to inform them of the targeted use of pesticides, rules and norms of their application.

On contrary to the agricultural pesticides the list and short description of the substances for disinfection, deratization and disinsection registered for medical uses are available on the internet at the site of the National Centre for Diseases Control and Public Health www.ncdc.ge .

3.4.6 Monitoring of negative impact of pesticides

Georgian legislation defines limits of permitted content of pesticides in drinking water45, food and environment46. The National Service of Food Safety, Veterinary and Plant Protection is empowered to carry out state control of meeting the hygiene requirements and safety parameters in respect of water and food. Actually, it is done in the form of selective examination of products on the market via carrying out laboratory tests.

Monitoring of environment pollution, including soil pollution with pesticides is entrusted to the Environmental National Agency. Currently there are no resources allocated for monitoring of pollution of environment with pesticides.

Cases of human poisoning with pesticide wastes or contaminated food products are not studied in Georgia. The reason is lack of an appropriate toxicological facilities which would allow exact identification of poisoning agents in biological fluids of the people.

3.5 Environmental pollution

To prevent environmental pollution with dangerous chemical substances and damage to human health as a result of such, states usually undertake following measures:

- Prevention/minimization of pollutants emission by means of regulating and controlling activity of polluting enterprises;
- Assessment of environmental impact on human health, establishment of environmental "cleanness standards" and regular monitoring of the real state of environment.

There are three acting mechanisms to regulate environment pollution (emission of dangerous substances) in Georgia. These are:

- Permit of impact on environment[51] (for large stationary objects) which is issued on the basis of ecological expertise of environmental impact assessment. The permit may include additional conditions/ terms which are obligatory to observe (see Section 6.218.3).
- Technical regulations on environmental pollution. Including 2 environmental technical regulations for stationary resources and 1 – for motor transport:
    - Technical regulation for industrial and not industrial waste waters release to surface water objects;
    - Technical regulations for activities polluting atmosphere with harmful substances;
    - Technical regulation "Technical requirements to motor vehicles and testing methods for road worthiness test"
- Fuel quality standards:
    - For automotive petrol
    - For diesel fuel

Control of the listed norms/requirements fulfillment is as follows:

- One of the functions of the Environmental Inspection is to reveal activities carried out with violation of requirements of environmental regulations or without a permit for environmental impact or with violation of the terms of the permit. Though nowadays capacity of the Inspection to undertake all these tasks is rather insufficient.
- Legislation of Georgia stipulates for responsibility for exploitation of transport means exhaust of which exceeds the allowed limit of pollutants. But till January 1, 2013 in Georgia only large

and small busses and lorries are subject to obligatory regular testing (including tests of exhaust gases). No road testing of exhaust gases is allowed in Georgia

- Legislation of Georgia provides for responsibility for import and sale of leaded petroleum or import or sale of tetraethyl lead in Georgia. But, none of the institutions is responsible to reveal this violation.

As for the "standards of cleanness" of environment, in Georgia there are established allowed concentration of harmful substances in environmental factors, food and drinking water.

Monitoring of environment pollution is a function of the National Environment Agency (section 5.1.4). Performance of this function is still poor and its results are inaccessible for public.

State control on meeting the hygienic requirements and safety parameters is placed on the National Service of Food Safety, Veterinary and Plant Protection (section 5.1.1). Today selective examination of foodstuffs on the market is performed by this institution by means of laboratory research.

Research of cases of human poisoning with these substances or contaminated food is not carried out at present. The National Center for Control of Diseases and Public Health (section 5.1.6) keeps the medical statistics but the reliability of its data is low. The reason is a lack of laboratories for exact identification of poisoning agents in biological liquids of poisoned people. As a result the hospitals make conclusion on poisoning agents just based on the anamnesis and the clinical data _ the approach which could not be considered as reliable.

3.6 Chemical accidents prevention, preparedness and response

International document for guidance on prevention, readiness and adequate response to chemical accidents is the OECD Guiding Principles for Chemical Accident Prevention, Preparedness and Response of 2003 (see Section 6.1.9).Under this document, to ensure chemical accident safety in the country it is necessary to bring into force a system for chemical accidents prevention and preparedness. In the framework of such system all the enterprises should:

- Take into consideration issues of chemical safety at the stage of designing and placing the enterprise;
- Develop and introduce **safety management system**;
- Regularly produce and submit **safety declaration**;
- Make assessment of all possible accidents and develop **response plans** for them; to have ready all the resources required for implementation of the plan.

To enable such a system to function in the country it is necessary:

- The legislation to establish relevant requirements and contain detailed instructions for implementation of those;
- To have effective mechanism to control as to how the requirements are observed. This means:
    - All objects which may cause certain danger from point of view of chemical accidents, should be registered (for this purpose, an effective procedure of their identification should be in place);
    - There should be an institution which will inspect chemical safety with sufficient resources;
    - To carry out regular examination of meeting the safety requirements and preparedness to accidents and punish the violators.

Besides, on the basis of the information provided by the enterprises the government should develop plans (central and local level) for response to chemical accidents. This plans should take into account

territorial location of enterprises, disposition to one another and possible cumulative effect. This plan must be integrated with the plans of reaction to natural disasters as natural disasters also may become factors causing or empowering the chemical accidents. The state is responsible to ensure availability of necessary resources (or a mechanism for prompt mobilization of those) to implement those emergency response plans.

Below it is given the state of implementation of Guiding Principles for Chemical Accident Prevention, Preparedness and Response. These issues are regulated by several laws in Georgia: (for further details see the relevant Sections):

- Law on safety of dangerous industrial enterprises (Section 6.2.7)
- Law on hazardous chemical substances (Section 6.2.8)
- Law on protection of population and territories against natural and techno genetic emergencies (Section 6.2.18)

3.6.1 Design, placing and construction of dangerous enterprises

Precondition of building dangerous industrial enterprises (or implementing such activities) is technical safety expertise of its design, which is fulfilled by the National Inspection for Technical Supervision at the expense of the enterprise. In addition, to launch a dangerous enterprise it is necessary to have "permit of operation a dangerous industrial object". The permit is issued by two different institutions:

- For enterprises working in the field of oil and gas - Oil and Gas National Agency (on the basis of a conclusion by the National Inspection for Technical Supervision), which an institution under the Ministry of Fuel and Energy;
- For the rest of dangerous enterprises permits are issued by the National Inspection for Technical Supervision.

In both cases basis for a permit is a positive conclusion of the National Inspection for Technical Supervision.

Technical facilities used in a dangerous industrial enterprise must have a certificate of compliance to the technical safety requirements. Upon expire of the term established by the producer of the facility expertise of its technical safety is necessary to continue its use at the enterprise.

Decisions about sites for placing of enterprises are taken by local self-governance bodies. No land use regulating acts exist nowadays in Georgia which could serve as basis for such decisions.

3.6.2 Recording dangerous enterprises

Under the Law "On hazardous chemical substances" the Ministry of Health (Section 5.1.5) should keep united national register of dangerous chemical substances which should also contain list of the enterprises using these substances. There is no such register created yet.

Creation of the register for dangerous enterprises is stipulated for also in the Law "On safety of dangerous industrial enterprises", which establishes format and rule for recording enterprises for the purpose of keeping the register. But this law does not indicate precisely the form of keeping the register itself or the data-base. Accordingly the register is a collection of registration cards filled in by different enterprises. Processing and systematization of them is not performed. Consequently, the register actually is unusable.

The Department of Emergency Situations (see Section 5.1.9) has a listing of dangerous enterprises and dangerous chemical substances used by them as well as volume of consumption; but the listing is old

and it does not cover the real situation. The legislation does not request renewal of dangerous enterprises data base from the Department.

3.6.3 Safety management systems in enterprises

An analogue to the "safety management system" concept in Georgian legislation is an intra-enterprise safety control. All dangerous enterprises must have appointed a person authorized or a safety service conducting enterprise internal safety control.

Functions of the intra-enterprise safety control service are:

- To develop technological process safety measures, reveal circumstances affecting safe work of the object and reveal violations.
- To comply with requirements for safety in the enterprise, including ensuring awareness of workers on safety techniques and its control.

It is noteworthy that safety rules, implementation of which must be examined by the intra-enterprise safety control service, should be approved by the Georgian administrative or local self-governance bodies. By today these rules have been approved just for a few types of enterprises (see Section 6.2.7.3).

Besides, there is no established unified approach to intra-enterprise control and rules of performing such control, i.e. minimal requirements to the enterprises safety management system and their assessment criteria.

3.6.4 Safety declarations

Under the law "On safety of dangerous industrial enterprises", the dangerous enterprises are obliged to submit safety declaration on request from the National Inspection for Technical Supervision. The declaration from, content, preparation rules, periodicity and rules of submitting are to be defined by a resolution of the Government of Georgia which does not exist yet. Consequently, dangerous enterprises do not develop and submit such declarations at the moment.

3.6.5 "Intra-enterprise" accident response plan and resources for its implementation

The law "On hazardous chemical substances" requires all enterprises dealing with dangerous chemical substances production, transportation, consumption, storage, neutralization or phase-out to have the following:

- List of possible accidents and emergencies, including their results forecast;
- Plans of preparedness and response to accidents and emergencies and criteria for decisions; plan of activities in emergency situations;
- Schemes and method for safe removal and disposal of dangerous chemical substances;
- Emergency service.

Plan of activities in emergency situations should include:

- Listing of forces and means required to liquidate emergency;
- List of persons and contact information, of those responsible for liquidation of emergency;
- Order and character of intra-emergency service activities;
- Listing of other institutions which may be involved in liquidation of emergency, their function, tasks, awareness and rules and terms of relations with them;

It is interesting that under the law the enterprise emergency service has responsibility to take part in ensuring safety (Section 3.6.3) and also ensure preparedness for accidents and accident localization – liquidation. Under the latter the law implies:

- Prognostication of cases of emergency and threat;
- Trainings by means of simulation of localization – liquidation of emergencies;
- Provision of proper uniforms, masks and other technical and transport means;
- Establishment of contacts with the regional emergency services.

The law "On hazardous chemical substances" requests that the head of the emergency service should be the manager of the enterprise86. But, under the law "On dangerous industrial enterprises", the enterprise may also invite a contracted external emergency service, obligation of which will be liquidation and localization of accidents. According to the law "On protection of population and territories against natural and techno genetic emergencies", legal persons are obliged to form necessary forces for liquidation of results of emergencies (via the existing or additional forces) and ensure their readiness.

There is no legal act in the Georgian legislation, which would define form, content or development rules or unified criteria for assessment of emergency response plans. It makes quite unrealistic development of such plans by all the dangerous enterprises and puts a question mark to quality and effectiveness of such.

3.6.6 State inspection of dangerous enterprises

At the stage of operation dangerous enterprises are subject to regular supervision in respect of meeting enterprise safety requirements. The surveillance function is placed on the State Inspection for Technical Surveillance of Georgia. In case of revealing violation of safety rules the Inspection issues a requisition which is obligatory to fulfill. Besides, violation of safety rules is subject to fine sanctions (see Section 6.2.7.5).

As for the preparedness to chemical accidents (response plans, existence of resources needed, etc) Georgian legislation does not imply its inspection or supervision.

3.6.7 Territorial plans of emergency response

here are no local plans for reaction to accidents in Georgia. on August 26, 2008 in the framework of implementation of the law "On protection of population and territories against natural and techno genetic emergencies" the President of Georgia approved the "National plan for reaction to natural and techno genetic emergencies". This document gives a general scheme of state response to emergencies. It defines 17 functions of inter-support of state institutions, tasks to be fulfilled in the framework of these functions and responsible and auxiliary organs for each function. At the same time, the law implies that the National Response Plan must be a unity of the plans of state institutions involved in the "unified system". This implies that those institutions have to develop those plans.

The legislation also defines as tasks of the "unified system" prognostication of emergencies and provision of readiness to them. Accordingly those components are to be part of the emergency plan of each state body included in the unified system.

The state body responsible for chemical emergencies is the Ministry of Environmental Protection and Natural Resources. Accordingly the chemical emergency plan is to be developed by that ministry. Today this process is only at initial stage.

3.6.8 Liquidation of results of the accidents

Under the legislation of Georgia liquidation of the results of emergencies first and foremost must undertaken at the expense and with capacity of the legal or public persons, on the territories of which and as a result of activities of which the emergency has originated. In case if internal forces are not sufficient for to liquidate results of an emergency, the state "unified system" should get involved in the liquidation work.

"The unified system for prevention of emergency, liquidation of results of emergency" is actually a unified scheme of cooperation and mutual support of state institutions, defined in advance. Activity of the unified system is regulated by relevant level subdivisions of the Emergency Department (central, autonomous republic, local).

In the framework of the "Unified system" in emergency situations chemical and radiation safety is responsibility of the Ministry of Environment Protection and Natural Resources. Namely, it makes assessment of distribution capacity and threat of toxic and radioactive substances emitted as a result of accidents in the dangerous enterprises. The Ministry also has to elaborate measures to prevent distribution of such emissions and to protect population. It also has to organize actual implementation of those measures (in cooperation with other institutions).

3.7 Labor health and safety

The safety and health protection at workplaces is one of the spheres of work of the International Labor Organization (ILO). The acknowledged scheme of protection of people from impact of chemicals at workplaces consists establishment of obligatory norms for workplace safety (including safety for health), their implementation by industries and their enforcement by states.

There are number of norms for chemical safety of workplaces established in Georgia and the industries are obliged to meet them. But there is no state body in the country to control/enforce those requirements.

For work safety with regards to chemicals **it is necessary**:

- To appoint a public body (a new one or one of existing bodies) to inspect meeting of hygienic norms established for the workplaces;
- Georgia to ratify and implement the following ILO conventions:
    - The Working Environment Convention, 1977 #148;
    - The Occupational Safety and Health Convention, 1981 #155 ;
    - The Safety and Health in Agriculture Convention, 2001 #184.
    - The Labor Inspection Convention, 1947 #81;
    - The Labor Inspection (Agriculture) Convention, 1969 #129;
    - The Chemicals Convention, 1990 # 170;

3.8 Main deficiencies and recommendations to eradicate them

As it was mentioned above, a number of international agreements and national laws require regulation and control of import-export, production and consumption of dangerous chemicals and their wastes. But, there is no effective instrument to meet these requirements in Georgia yet. To improve this situation it is necessary:

- To adjust the act regulating the "materials of limited turnover" import-export, production and transportation so as it would fully take into consideration requirements and procedures

established by International Agreements and national laws (it is recommended to divide the act into several parts);

- To develop and validate normative base which will ensure prohibition/prevention of production and consumption of the substances regulated by Stockholm Convention (Table 31).
- To develop a national normative act which would ensure prohibition of production, consumption, transfer (import-export) of the substances regulated by Paris Convention (Table 30)

Apart from this, it is necessary to strengthen capacities of customs for proper and safe identification of chemicals. For this it is necessary: to develop relevant infrastructure at customs offices, equip them with the relevant special equipment for chemicals identification, provision of customs officers with the necessary information bases and trainings.

To ensure sufficient marking of dangerous cargos it is necessary to adopt a legal act, which will explain in Georgian the UN four-symbol code for dangerous cargos.

Main deficiencies revealed in the field of management of pesticides and measures for their eradication are as follows:

- Registration of pesticides has no enforcement mechanism. **It is required**: to develop a capable instrument for prevention import, distribution and use of unregistered pesticides.
- Monitoring of quality, packing, labeling of marketed pesticides is weak and control is suspended. At the same time, there are cases of improper informing or misleading consumers. **It is required:** to activate strict control on marketed pesticides quality, packing, labeling.
- There are no qualification requirements in regard of pesticide distributors to ensure higher safety for consumers. **It is required:** to introduce similar requirements and control their fulfillment;
- Inspection of meeting norms of pesticides use is not carried out. **It is required:** to introduce regular monitoring to check compliance with norms of pesticides use;
- Monitoring of pesticide residue in food in just at the starting stage. **It is required:** to enlarge these activities and regularly conduct them;
- Farmers' awareness is low on norms and rules for safe application of pesticides. **It is required:** to carry out a wide scale campaign to train and raise awareness of farmers;
- Monitoring of environment pollution with pesticides is not regular. **It is required**: to regularly carry out monitoring of pollution of environment with pesticides;
- No research is carried out to study poisoning of farmers and consumers with pesticides and food contaminated with it. **It is required:** to ensure investigation of each case of poisoning of farmers and consumers with pesticides and food and keep corresponding statistics.

In the field of eradication of environment pollution by other chemical substances the main faults revealed are related to weakness of the environmental control and monitoring. Namely:

- Environmental inspection control of meeting the terms of the environment impact permits needs reinforcement;
- Control of compliance with environmental regulations is not carried out;
- Control of car exhaust gases is suspended;
- Control of fuel quality and content is not carried out;
- Measurement of environmental pollution is insufficient;
- Researches are not carried out to study impact of environmental factors (and their pollution) on human health.

To prevent environment pollution **it is desirable** to carry out monitoring and control measures listed at proper level.

Main deficiencies revealed in the field of prevention, preparedness and adequate response to chemical accidents in Georgia and measures to eradicate them are the following:

- To keep dangerous enterprises register at the National Inspection of Technical Surveillance in a format which will enable other institutions to make use of it (inter alia for development of emergency response plans). **It is necessary:** to develop and approve legal act, which would make the format of the register more acceptable;
- Legislation of Georgia does not recognize the safety management systems. Instead, it stipulated for the intra-enterprise control by a special person or a service. But, detailed rules to carry out control are not established by the state. Besides, the safety rules fulfillment of which should be supervised by the enterprise control are established just for a few types of enterprises. **It is required:** to develop and approve legal acts which will define the safety rules of the intra-enterprise control (it is advisable by means of introduction of enterprise safety management system) and will define safety rules for all the types of enterprises in Georgia;
- The legislation does not define the form of safety declaration, its content, development and submitting rules. **It is required:** to develop and approve relevant legal act;
- The legislation does not include instructions and rules for developing action plans in accident and emergency situations. **It is required:** to develop and adopt relevant legal acts.
- The legislation does not stipulate for control of requirements for preparedness for accidents/emergency by the dangerous enterprises. **It is required:** to place responsibility on a public institution and develop and adopt legal acts regulating the control procedure;
- No national or administrative chemical emergency response plans have been developed, in which mutual dislocation of dangerous enterprises and possible cumulative effect as well as existing and additional resources needed for reaction to accidents will be given consideration to. **It is required**: to strengthen capacities of public institutions to develop chemical emergency response plans at national and regional levels.

For the labor safety with regards to chemicals **it is necessary**:

- To appoint a public body (a new one or one of existing bodies) to inspect meeting of hygienic norms established for the workplaces;
- Georgia to ratify and implement the following ILO conventions:
    - The Working Environment Convention, 1977 #148;
    - The Occupational Safety and Health Convention, 1981 #155 ;
    - The Safety and Health in Agriculture Convention, 2001 #184.
    - The Labor Inspection Convention, 1947 #81;
    - The Labor Inspection (Agriculture) Convention, 1969 #129;
    - The Chemicals Convention, 1990 # 170;

Chapter 4. Availability of resources for the management of chemicals

To correctly manage chemical substances it is very important to have sufficient recourses available. Namely, for decision-makers it is necessary:

- Availability of the following information and data:
  - Types and quantity of dangerous chemical substances existing (in turnover and consumption) in the country;
  - Consumers/users of these substances, forms of consumption/use of the substances and technologies;
  - State of meeting the use safety norms of these substances, preparedness for accidents and environments protection;
  - State of contamination of food and drinking water with dangerous chemical substances and impact of this on human health;
- Availability of the following technical and personnel capacity:
  - Laboratory infrastructure to identify and measure chemical substances and their residues;
  - Sufficient expertise to assess adequacy of technologies of use of chemicals;
  - Qualification of public administrators for formulation of legal requirements and their effective enforcement.
  - infrastructure and equipment at customs offices allowing safe identification of chemicals.

4.1 Data on existing dangerous chemicals and their users

4.1.1 Information about enterprises using dangerous chemicals

Under the law "On hazardous chemical substances" the Minister of health of Georgia must keep unified national register of dangerous chemical substances, which should also include a list of users of these substances. Such register is not yet developed.

Under the law "On safety of dangerous enterprises" the National Inspection for Technical Surveillance must keep the register of dangerous enterprises. The Inspection has developed a mechanism for collection of the information for such register: namely, when a dangerous enterprise is requesting a "Permit for operation of a dangerous enterprise" he is requested to fill in a registration card. But the collected data is not then collected into a more convenient form of database and consequently, the said register is not practically applicable (especially for other institutions).

4.1.2 Recording import-export and transit

There is a more convenient mechanism of data collection in the field of import-export of chemicals, as the customs offices record cargos according to the international Customs System and systemize information collected. But some problems are to be noted in this respect:

1. The Customs Code acting in Georgia is harmonized with the 2002 version of the International Customs Nomenclature and it, therefore, does not take into consideration requirements of a number of conventions regulating chemicals (see Section 6.1.7).
2. Capacity of Customs offices is rather low to properly identify chemical substances, therefore, the customs information collected is not reliable and is frequently not informative.
3. Lack of information databases does not allow the Customs officers to identify chemicals according to the international (UN, CAS, EC) codes.

It is worth of mentioning that in many cases ministries try to assist customs offices in identification of the substances of interest in their field by providing them with trade names of widely practiced products. Such information is regularly sent to the customs from the Ministry of Agriculture (concerning pesticides) and the Ministry of Environment and Natural Resources (concerning ozone depleting substances). However, as the information is fragmentary and insufficient, this does not considerably alter the quality of the information collected by the Customs offices. The situation is especially difficult with the pesticides, which are being registered by their trade names and the customs is not informed on names or (UN, CAS, EC) codes of the substances in it.

4.2 Data on properties of existing chemical substances and their impact

4.2.1 General information on dangerous chemical substances characteristics

Under the law "On hazardous chemical substances" the Minister of health must keep unified national register of dangerous chemical substances. The register should include a full "life cycle" data per dangerous chemical substance. Namely, there should be such information as:

- International identification of the substance;
- Substance properties and specifications, classification, harmful impact on human beings and health;
- Total volume of production of the substance and its turnover, information on import-export, transportation, storage;
- Fields of consumption of the substance, their description (inter alia harmful impact of the substance)
- Safety measures and conditions required during production, transportation, storage, consumption and any other form of use of the substance;
- Response measures in case of leakage, accident, intoxication or any other disaster related to the substance

No such register is created in the Ministry of Health so far.

Other state institutions do possess information about properties of a number of harmful chemicals. In particular:

- National Service for Food Safety, Veterinary and Plant Protection has information concerning all the specifications of registered and admitted for application pesticides (including, pesticide safety sheets (MSDS), including: threat posed by pesticides for human health and environment, safety measures for their storage, transportation, application, safety measures in case of extermination of fire or accident, first aid measures; methods for defining volume of active substance in pesticides preparations and content of their residues in agricultural products); this information is open and in case of request is given to anyone. However activity of the public in regard of requesting similar information is low.

- Emergency Department has information on properties of chemicals used at the dangerous enterprises, measures to neutralize them and first-aid. This information is not open.

The National Service for Food Safety, Veterinary and Plant Protection makes some attempts to inform consumers of safe consumption of pesticides and necessity of observing the norms of application. Periodically they issue informational brochures and posters as far as possible. The "Catalogue of permitted pesticides permitted for use in Georgia" actually is an informational reference book. It could be an important information source if available for consumers. Although the Catalogue is formally a legal act, it is not available in printed version due to its huge volume. Besides, the Catalogue is an extremely overloaded informational document rather unusable for an unprepared farmer. **It is required:** to elaborate more effective forms for providing farmers with information on pesticides.

At the same time Legislation of Georgia stipulates for a necessary information (in the Georgian language) to be attached to marketed packed pesticides about danger caused by the pesticide, prescription and safety rules of application. But as this requirement is not properly enforced, there are frequent cases of its violation (see Section 3.4.2)

It should be mentioned that pesticide distributors, of course, are the "natural" information source for pesticide consumers on specifications of pesticides. But the existing legislation does not stipulate for qualification requirements of the distributors (see Section 3.4.3). As a result, there are cases of providing consumers with incorrect information and misleading them by distributors. Consequently, this information source is not reliable for consumers.

4.2.2 Information about adverse impact of dangerous chemicals on environment and human health

Collection of information about pollution of environment and cases of poisoning of people as a result of such pollution is a competence of several state institutions. Namely:

- National Service for Food Safety, Veterinary and Plant Protection is responsible for the state control of hygiene requirements and safety parameters of food and drinking water;
- Monitoring of environment polluters is a task of the National Environment Inspection;
- Monitoring of diseases and medical statistics is placed on the National Center for Control of Diseases and Public Health.

After the breakdown of the Soviet Union all these types of monitoring practically halted. Nowadays, thanks to number of international assistance programs (see Annex 1) the National Environment Agency (section 5.1.4) revived monitoring of the state of environment, though frequency of the measurements, their reliability and accessibility of the data for the public is still quite low.

Starting from 2009 National Service for Food Safety, Veterinary and Plant Protection (section 5.1.1) started monitoring of chemical pollutants in foodstuffs, although a scale of such monitoring is still extremely limited.

What comes to impact of the polluted environment and food on human health _ no assessment of related risks are being performed in the country. The National Centre for Disease Control and Public Health (section 5.1.6) prepares regular statistical information on human poisoning and its reasons, though as due to lack of the relevant laboratory capacities the hospitals are unable to identify the real poisoning agents, their information submitted to the Centre is quite unreliable.

Concerning the impact of chemical substances at workplaces on human health of workers, since 2007 a JSC **N. Makviladze Labor Medicine and Ecology Scientific-Research Institute** is implementing state-

financed program: "Prevention and Monitoring of Professional Diseases." The information collected within the project is on annual basis submitted to the Ministry of Labor, Social and Health Protection. Although the limited financing of the program does not allow thorough toxicological research of the workers health.

Consequently, both decision-makers and public representatives while making or lobbying decisions related to management of dangerous chemicals are forced to lean on approximate, unreliable and imprecise data or assessments, which increases risks of wrong decisions. We consider that to allow correct decision-making it necessary to bring the monitoring of environment and health in the country at proper level.

4.3 Scientific-technical infrastructure and personnel

4.3.1 Laboratory resources

In Georgia today there is quite a solid laboratory infrastructure able to carry out measurements related to dangerous chemicals.

Georgian accreditation center has accredited 4 laboratories, which possess necessary resources (technical equipment, qualified personnel, testing methodologies) for qualitative and quantitative measurement of pesticide and agrochemical residues in food, vegetable products, soil, water. One more laboratory is accredited specialized on analysis of agrochemicals only. In total, 11 nominated tested laboratories have right to carry out laboratory analysis for the purpose of state control (see Table 25).

Also there are enough laboratory capacities (private as well as stat-owned) to measure content of dangerous substances in environmental factors (except for air quality automatic measurements and portable equipment for measurement of emissions. See also section 5.1.4).

Scientific-research Institutes have laboratories, which possess relatively older equipment and therefore not accredited, though the personnel working there is frequently highly qualified and experienced (see below).

Table 24. Capacity of accredited laboratories with reference to pesticides and agrochemicals

LABORATORY NAME	LABORATORY CAPABILITY
LTD "Multitest"	Measuring pesticide and agrochemical residues in food and agricultural products, soil. Assessment of pesticide quality.
LTD "Norma"	Measuring pesticide residues in food and agricultural products
LTD "Momavali Saukune"	Measuring pesticide residues in food and agricultural products
LEPL "Laboratory for Testing of food and chemical industry products and petroleum products of Georgian State Agency of Standards, Technical Reglaments and Metrology"	Defining quality of copper and sulfur containing pesticides
LTD Adam Beridze Diagnostic Center of Soil and Food Products "Anaseuli"	Agrochemical research
LTD "Scientific-Research Company Gamma", testing laboratory	Measurements of soil and water pollution by chemical substances

Table 25. "Designated" testing laboratories, which are granted the right to perform lab analysis for the purposes of state control

Name of laboratory	Laboratory profile	Address
LTD "Etaloni"	Testing food products	# 73, Chargali str., Tbilisi
LTD "Expertise"	Testing food products	#3, Sh. Iamanidze str., Tbilisi
LTD "Microbiology"	Testing food products	#15, Ganja str., Tbilisi
LTD "Momavali Saukune"	Testing food products	"A"Block of flats, Arbo str., Tbilisi
LTD "Multitesti"	Testing food products	#13, Didgori str. Didgori Village, Tbilisi
LTD "Arbitration laboratory"	Fruits-vegetables tests	#6, Kostava str., Batumi
JSC "Sanitary and Hygiene Scientific-Research Institute"	Testing food products	# 78, D. Uznadze str., Tbilisi
LEPL "Institute of Gardening, Wine-Growing and Wine-Making of Georgia"	Alcoholic and soft beverages tests	# 6, Gelovani ave., Tbilisi
LTD "Spektri"	Testing food products	Apart 3, #22 Agmashenebeli, Batumi
LTD "Wine Laboratory"	Alcoholic drinks tests	Section 4/60, Mainline from Digomi to Gldani, Tbilisi
LTD "Cito-2"	Microbiological tests	# 40, Paliashvili str. (#20, Arakishvili str.) Tbilisi

4.3.2 Scientific/expertise capacity

A number of Georgian scientific organizations have quite solid expertise in different issues of management of chemicals.

Table 26. Organizations, which conduct scientific researches on chemicals

ORGANIZATION NAME	RESEARCHES IN PROCESS
LEPL Levan Kanchaveli Plant Protection Institute	Laboratory and field researches of pesticides (biological and toxicological evaluation, control of pesticide wastes in agricultural products and soil)
Plant Protection Association	Field researches of pesticides (Biological and toxicological evaluation), Implementing chemical and biological means of plant protection from harmers.
LEPL Institute of Gardening, Wine-growing and Wine-making	Field researches of pesticides (Vine, Fruit)
LEPL Iulon Lomouri Institute of Farming	Field researches of pesticides (vegetable and crop)
Institute of Tea and Subtropical Cultures	Field researches of pesticides (citrus)
LEPL Institute of Agricultural Radiology and Ecology	Research of pesticides and other chemical pollutants in soil and agricultural products; Implementing methods of pesticide control
LEPL Petre Melikishvili Institute of Physical and Organic Chemistry	Laboratory research of chlororganic pollutants using the modern equipment.
Iv. Djavakhishvili Tbilisi State University	Laboratory research of chlororganic pollutants.
LEPL Mikheil Sabashvili Institute of Soil Science, Agrochemistry and Melioration	Agrochemical researches
JSC Makhviladze Institute of Labor Medicine and Ecology	Impact of pesticides on human health, aspects of labor medicine.
LEPL Raphiel Agladze Institute of Inorganic Chemistry and Electrochemistry	Research of chemical properties of different substances

LEPL Iovel Kutateladze Institute of Pharmacochemistry	Pharmacochemical researches
LEPL Sergi Durmishidze Institute of Biochemistry and Biotechnology	Biochemical researches
LEPL Pherdinand Tavadze Institute of Metallurgy and Science of Materials	Research of properties of different metals and materials
Association of Preventive Toxicologists	Impact of pesticides on human health, aspects of labor medicine
Georgian Environmental and Biological Monitoring Association (GEBMA)	Impact of chemicals on human health

4.3.3 Qualified personnel in public institutions

The branch ministries have enough qualified personnel who possess the general information about qualities of majority of dangerous substances.

Though qualification of public administrators concerning some of the issues with regards to management of chemicals require improvement. Namely, ability of customs officers to sufficiently identify chemical substances is limited. Apart of legislative deficiencies, the reason for that is also insufficiency of the required specific skills of the customs officers in the named field.

4.4 Main deficiencies and recommendations to overcome them

Georgia has enough laboratory and expert capacity for chemical substances management. But the necessary information for management of chemicals is not available for decision-makers in a systemized manner.

Namely, in Georgia the following information is not collected at all:

- On production of dangerous chemicals;
- On industrial, agricultural and domestic use of dangerous chemicals;
- On production of hazardous wastes;
- On disposal of hazardous wastes;

The following information is being collected but of insufficient quality:

- Register of enterprises using dangerous chemicals;
- Data on import-export and transit of dangerous chemicals;
- Data on pollution of environment and food with dangerous (harmful) chemical substances and state of impact of these pollution/contamination on human health.

To improve the situation it is necessary:

- To develop and introduce effective mechanism (acceptable for business) for state collection of information on production and use of dangerous chemicals, and on production and neutralization/disposal of hazardous wastes;
- To establish such a format of register of dangerous enterprises, which will enable effective use of this information (for each enterprise it should indicate the dangerous substance used, its volume, speed of consumption, technology of use/storage);
- To raise qualification of customs-officers and provide them with sufficient software as well as the infrastructure and equipment for identification and better recording of dangerous chemicals;

- To improve monitoring of environment, food and drinking water as for dangerous chemical substances content and their impact on human health.

Chapter 5. Institutional setup for management of chemicals in Georgia

5.1 Public institutions involved in management of chemicals

The following public institutions participate in the management of chemicals:

1. The Ministry of Environment Protection and Natural Resources (section 5.1.2) and the bodies in its system:
   - State Subordinate Body, the Environmental Inspectorate (section 5.1.3);
   - LEPL, the National Environment Agency (section 5.1.4)
2. The Ministry of Economic Development (section 5.1.10) and a body in its system:
   - LEPL, the National Inspection of Technical Surveillance (section 5.1.11);
3. The State Subordinate Body of the Ministry of Energy _ Oil and Gas National Agency (section 5.1.14);
4. The Ministry of Defense (section 5.1.12);
5. The State Subordinate Body of the Ministry of regional Development and Infrastructure _ United Transport Administration (section 5.1.13);
6. The Ministry of Foreign Affairs, Department of Security and Euro Atlantic Integration (5.1.7);
7. The State Subordinate Body of the Ministry of Agriculture: National Service of Food Safety, Veterinary and Plant Protection (section 5.1.1);
8. The Ministry of Labor, Health and Social Protection;
9. The Ministry of Finances, Service of Revenues, Customs Control Department (section 5.1.8);
10. The Department of Management of Emergencies of the Ministry of Internal Affairs (section 5.1.9);
11. The Ministry of Labor, Health and Social Protection (section 5.1.5) and a body in its system:
    - LEPL, L. Sakvarelidze National Center of Control of Diseases and Public Health (section 5.1.6).

5.1.1 National Service of Food Safety, Veterinary and Plant Protection

5.1.1.1 Competence in the field of management of chemicals

The State Subordinate Body of the Ministry of Agriculture, the National Service of Food Safety, Veterinary and Plant Protection is authorized:

- To implement registration of pesticides and agrochemicals (see also Sections 3.4.1 and 6.2.10.4), to organize registration tests, issue registration certificates, to keep the National Catalogue of Registered Pesticides and Agrochemicals;
- To control compliance with the rules of importing, labeling, storage, production (packing), transportation, selling and safe use of pesticides and agrochemicals;
- To control quality of pesticides and agrochemicals already on the market;

- Perform State Control of food safety, including control of compliance with hygienic requirements.

5.1.1.2 State of performance of the competences

At the request of any interested person, the Service organizes pesticides registration testing and in case the positive result registers the pesticide concerned. On the basis of the information obtained during the registration processes the Service regularly updates the "State Catalogue of Permitted Pesticides». The Service also keeps an internal register of importers-exporters, sellers, keepers and producers of pesticides and agrochemicals.

Besides, the Service carries out regular monitoring of the trade net; namely, they check state of meeting the established rules of packing, labeling, storage, selling and also quality and quantity of pesticides and agrochemicals on the market. The latter is tested in the form of observation, sampling and testing in the accredited laboratories. If expired or low quality pesticides are revealed, if they are still suitable for use, recommendations (regulations) are elaborated to correct norms of their use. If the pesticide is not suitable for use any more, the National Service makes decision to remove them from the market. Though the Service has no power to properly react to this or any other revealed violation (i.e. to issue a rapport on violation) – see for further details 6.2.10.5.

Since 2009 the Service has started control of food products on the market, including tests on residues of pesticides and agrochemicals. Control is fulfilled by means of selective purchase and laboratory analysis. 650 thousand GEL is allocated for this purpose in the National Budget in 2009, which will provide for analysis of about 3 thousand samples of foodstuff.

5.1.2 Ministry of Environment Protection and Natural Resources

5.1.2.1 Competence in the field of management of chemicals

The Ministry is responsible for implementation of several International Agreements in the field of management of chemicals undersigned by Georgia. Namely, these are:

- The 1985 Vienna Convention for the Protection of the Ozone Layer and the 1987 The Montreal Protocol on Substances That Deplete the Ozone Layer
- 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal
- 2001 Stockholm Convention on Persistent Organic Pollutants.

Apart of this, under the legislation of Georgia, competences of the Ministry in the field of management of chemicals are as follows:

- To ensure performance of environmental expertise and issue a permit for impact on environment on request of any interested person;
- To reveal the activities which are subject to environmental expertise but are performed without an environment impact permit, impose violators administrative payments, also perform laboratory analysis of the emissions and on their basis calculate a damage to the environment and submit to the violator request for compensation; in case of repeated violation – to qualify it as a criminal case, to investigate it and submit it to the court for consideration;
- To control compliance with terms of the environment impact permit (or environmental expertise conclusion), in case of breaching those, impose both the administrative payments and request a compensation for damage to the environment;

- To control compliance with the environmental technical regulations, in case of breaching those, impose both the administrative payments and request a compensation for damage to the environment;
- In case of request of an interested person to issue a permit for production, transportation, import, export, re-export or transit of materials of limited turnover – this function is suspended till July1, 2011 (see Section 6.2.7.3)
- To establish a unit for management of emergencies (including chemical accidents), to take part in the Unified System of Liquidation of Results of Emergencies (see Section 6.2.18.4).
- To develop "safety standards and rules for production technological processes, products, as well as safety standards for personnel working in such organizations" during chemical and radiation emergencies.

5.1.2.2 State of performance of competences

From the point of view of implementation of requirements of the International Agreements achievements of the Ministry are diverse. Namely:

- Georgia has ensured implementation of requirements of the Vienna Convention and the Montreal Protocol (see Section 6.1.1.4)
- Basel Convention requirements are being fulfilled with faults (see Section 6.1.2.2), namely:
    - There is no effective administrative procedure to prevent import-export of wastes between Georgia and the countries non-Parties of the Basel Convention (Basel Convention, Article 4.5)
    - There is no effective procedure to prevent export wastes without prior informed consent provided for in the Basel Convention (Basel Convention Article 6.3);
    - There is no effective procedure to request a permit or authorization from waste transporters within Georgia (Basel Convention Article 4.7).
- There are also deficiencies in fulfillment of Stockholm Convention requirements by Georgia (see Section 6.1.5). Namely:
    - Georgia has not yet submitted to the secretariat the National Implementation Plan of the Convention;
    - There is no effective administrative mechanism in Georgia today to ensure prohibition/restriction of consumption of substances regulated by the Convention.

On request of interested persons the Ministry timely organizes ecological expertise of the relevant activity and produces an environment impact permit. The responsibility of revealing the activities which are subject to the environmental permits but are implemented without those lays with the Environment Inspectorate. The Inspectorate is also responsible for control of compliance with the permit terms and fulfillment of environment technical regulations. At present institutional reinforcement is in progress in the Inspection to improve effectiveness of performance of its functions.

Despite the obligations defined by the law, there is no emergency management division related to chemicals in the Ministry yet. No development of the "safety standards and rules for production technological processes, products, as well as safety standards for personnel working in such organizations during chemical or radiation emergencies" is carried out.

5.1.3 Environmental Inspectorate

The Environmental Inspectorate is a State Subordinate Body of the Ministry of Environmental Protection and Natural Resources. The Inspection has 6 Services and 9 Territorial Units.

Inspection services are:

- Inspection;
- Urgent response;
- Analytical;
- Ecological Monitoring;
- Special Tasks
- Financial

The territorial units are:

- Eastern-Central Bureau;
- Qvemo Kartli Bureau;
- Kakheti Bureau;
- Samtskhe-Javakheti Bureau;
- Western-Central Bureau;
- Samegrelo-Zemo Svaneti Bureau;
- Adjara Bureau;
- Zemo Abkhazeti Bureau;
- Black sea Protection Conventional Inspection.

Around 100 environmental inspectors are working in the Inspectorate. There is operational telephone hotline which receives complaints of the citizens 24 hour a day.

5.1.3.1 Competence in the field of management of chemicals

The inspectorate is responsible for identification of incompliance with the established environmental pollution (emission) limits (including conditions of environment impact permits and environmental technical regulations) and adequate reacting to such facts.

5.1.3.2 State of performance

Due to number of obstacles the Inspectorate is performing the abovementioned duty with some deficiencies. Namely:

- Up to now the Inspection has no approved timeline for planned inspection of the enterprises. Accordingly no planned, regular inspections of the enterprises having impact on environment are performed. The inspection of enterprises only takes place if a complaint is received from a citizen or the regular report of the enterprise is incomplete. **It is necessary:** to develop and approve a timeline for planned inspection of the enterprises
- There is no systematic approach for identification by Inspection activities which are subject to environmental impact permitting but do not possess such permit, also activities breaching requirements of environmental technical regulations. Such activities are only accidentally discovered on the basis of complaints for the citizens. **It is necessary:** to develop systematic approach for identification of no permitted activities or activities carried out without meeting the environmental requirements.
- The existing data on enterprises with environmental permits and on their inspections is not systematized. The relevant database "Inspector" is under development. **It is necessary**: to

develop united database of dangerous enterprises and the enterprises having impact on environment; Necessary to cooperate with the National Inspection of Technical Surveillance (see section 5.1.11) on this issue.

- Inspection has no equipment for measurement of emissions while inspecting the enterprises. Usually it asks National Environment Agency (section 5.1.4) to assist with that by the later is mostly oriented towards monitoring of environment and also does not possess portable equipment for measurements of emissions. It is necessary: to equip the Inspection by the emission measuring portable equipment.
- Qualification of environmental inspectors is quite low with regards to checking/inspecting the emitting plants/technologies and compiling a warrant or providing recommendations/advice to the polluters. **It is necessary:** to provide permanent trainings of the inspectors on the issues of polluting technologies and pollution abatement/prevention approaches. It is desirable to establish special training center for the permanent trainings.

5.1.4 National Environment Agency

National Environment Agency is a legal person of public law in the system of the Ministry of Environment Protection and Natural resources. Apart of Administrative Department it consists of:

- Department of Hydrometeorology;
- Department of Environment Pollution Monitoring;
- Department of Spatial Information;
- Department of Geological Hazards and Geological Environment Management;
- Department of Coast Protection.

5.1.4.1 Competence in the field of management of chemicals

From the sphere of management of chemicals the Agency, namely its Department for Environment Pollution Monitoring, is authorized to monitor state of environment (including pollution of different factors environment with dangerous chemical substances) and pollution sources.

5.1.4.2 State of performance

Although after the breakdown of Soviet Union the environmental monitoring in Georgia was completely destroyed, the international assistance projects implemented in recent years (see Annex 1) allowed to re-equip the department laboratories with modern equipment. Recently equipping of the monitoring stations is underway. Though the problems still persist.

Apart from the central laboratories the department has laboratories in Kutaisi, Zestafoni and Rustavi, also the Black Sea Monitoring Center in Batumi and EMEP-station in Abastumani. Overall there are 38 permanent and 5 contractual staff employed.

5.1.4.2.1 Measurements of Quality of Atmospheric Air

Traditional measurements of air quality are performed 3 or 4 times a day and include measurements of concentration of CO, NOx, SO_2 and Dust in the air. Today there is one measurement station/hut in each of cities of Tbilisi, Zestafoni, Batumi and Kutaisi. The second hut for Tbilisi is being now installed and equipped as well as measurement huts for Kaspi and Rustavi.

In addition to traditional pollutants in Tbilisi the lead and in Zestafoni _ manganese concentrations are measured (monthly average). Although at the moment the measurement results are not reliable due to the spectrophotometer calibration problems.

The existing methods of air quality measurement are obsolete. There is an information on pollution of environment by industries in night times, when no measurements are performed. For proper air monitoring it is necessary to equip main cities of the country by automatic gazoanalising stations.

5.1.4.2.2 Water quality measurements

Department performs monthly measurements of 36 parameters of surface waters at 41 points of 22 rivers.

5.1.4.2.3 Measurement of emissions into the air and water

On request of the Ministry of Environmental Protection and Natural resources the Department performs measurement of emissions during the inspection of enterprises by the Environmental Inspectorate. Though department is in shortage of the portable equipment for emission measurements. Recently such equipment is under purchase.

5.1.4.2.4 Measurements of quality of soil

The Department has a laboratory for measurement of pollutants in the soil but no regular measurements are performed and the laboratory mainly serves the requests of the Environmental Inspectorate. Mostly the soil pollution in cases of oil spills are measured.

Regular measurements of pollutants in the soil are at a planning stage.

5.1.4.2.5 Processing and availability of information

The Department is regularly developing monthly report on state of environment and submits it to the Ministry of Environmental Protection and Natural resources. The public has no information on existence of such reports.

The information on state of environment collected by the Department is also included in the database of Department of Spatial Information. This base is also not publicly available yet.

Although as all environmental information in Georgia is public by law, in case of request the public will be provided with all the available data. But active distribution of information or easing the access of public to it does not take place.

5.1.4.2.6 Main obstacles

- Measurement of air quality is not in line with the modern requirements. It is necessary: purchase and install automatic air measurement stations (at least 5 in Tbilisi and at least 1 in each of Kutaisi, Zestafoni, Rustavi and Kaspi);

- Emission measurements are of a low quality due to insufficient equipment. It is necessary: to equip the department and its regional units by portable equipment for emission measurements;

- The personnel of the Department lacks knowledge and experience to properly use the newly received laboratory equipment (especially the new gas chromatograph-mass-spectrometer). It is necessary: to provide training of personnel in using this new equipment. It is desirable that several trainers are trained abroad which would then train the rest of the staff on-site;

- The laboratory reagents and standard substances as well as other expendable materials are in shortage in the Department. **It is desirable:** to regularly provide enough expendable materials for the measurements;

- Access of public to the information on data and results of the measurements is insufficient. It is necessary: to place the measurement data on the web in an easy-to-find, easy-to understand, user-friendly form.

5.1.5 Ministry of Labor, Health and Social Protection

5.1.5.1 Competence in the field of management of chemicals

In the field of management of chemicals the Ministry is responsible for implementation of the following international agreement by Georgia:

- 1998 Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals;

Apart of this, the Ministry has the following competences in the sphere of management of chemicals:

- Classification of chemical substances, establishment of the rules for assigning chemical substances classes of toxicity or hazard; to define requirements to the packing, marking and labeling of chemical substances; to define form of safety information sheets of chemical substances and type of information to be filled in the form.
- Defining the admitted volume of residues of pesticides and other agrochemicals in food and drinking water.
- Defining of the hygienic standards for chemical substances content in atmosphere (e.g. in the air of the working zone) and soil;
- Establishment of rules and norms for application of disinfection means and check compliance with them;
- Keeping Unified National Register of Hazardous Chemical Substances. The Register should include apart of description of properties of chemical substances, all natural and legal persons producing, keeping, transporting and using dangerous chemical substances.

5.1.5.2 State of performance of the competences

Requirements of Rotterdam Convention are implemented with faults in Georgia. Namely:

- No information has been officially submitted to the Secretariat whether import of chemicals listed in the Annex 3 to the Convention are prohibited in Georgia or not;
- No effective procedure is introduced to prevent export of the chemicals listed in Annex 3 of the Convention to the countries, which have notified the Convention Secretariat on prohibition of import of these substances;
- There is no effective administrative procedure to prevent export from Georgia of chemicals which are prohibited or restricted in Georgia but are not indicated in the Convention Annex 3, without prior informed consent of the importer country.

It should be mentioned that according to the information on the Convention official web-site, the Designated National Authorities for the Convention in Georgia is a Head of the Sanitarian Inspection of the Ministry of Labor, Health and Social protection. This institution has been annulled couple of

years ago and the procedure of appointment of a new DNA for the Convention is ongoing. Supposedly, it will be the Head of the Division of Management of Wastes and Chemical Substances of the Integrated Environment Management Department within the Ministry of Environment Protection and Natural Resources.

No Unified National Register of Chemical Substances has been created in the Ministry.

5.1.6 National Center of Control of Diseases and Public Health

L. Sakvarelidze National Center for Control of Diseases and Public Health is a legal person of public law in the system of the Ministry of Labor, health and Social Protection.

5.1.6.1 Competence in the field of management of chemicals

The National Center is authorized to carry out monitoring of diseases and keep medical statistics.

It is obligation of this institution to fulfill recording of cases of poisoning of humans with chemical substances and correspondingly systemize them.

Apart of this, on the basis of information on pollution of environment, food and drinking water the Center has to assess the health risks and perform ecological studies.

5.1.6.2 State of performance of the competences

The Center regularly elaborates information on quantities of cases of poisoning of people by chemical substances and its causes. But precision of this information depends on precision of the information held by the hospitals and quality of filling by them the statistical forms which are then submitted to the Center. Hospitals located in Tbilisi perform relatively better in that respect, while those in regions are quite weak. But more important is the fact that none of the hospitals (both in Tbilisi and in the regions) possess any means for exact identification of the poisoning substances. There is no one properly equipped toxicological laboratory in the country which would allow identification of poisoning substances in the biological fluids of a poisoned person. Therefore the hospitals make conclusions about the poisoning agents based just on anamnesis and clinical data, which could not be exact. **It is necessary:** to strengthen toxicological basis of the country by establishing and equipping at leas one toxicological laboratory; support strengthening of such NGOs as a **Toxicology National Informational-Advisory Center of Georgia** and **Georgian Association of Toxicologists**.

What comes to health risks assessment, the Center can not perform those or conduct the epidemiological studies as it possesses no information on pollution of environment, food or drinking water in the country. The serious obstacle is also lack of a database of existing and traded chemical substances in the country as well as deficiencies of classification of chemical substances (according to the classes of hazard). **It is necessary**: to establish/develop register of existing and traded chemical substances in the country; regular collection and making available of information on pollution of the environment, food and drinking water in the country.

5.1.7 Ministry of Foreign Affairs

5.1.7.1 Competence in the field of management of chemicals

The Department of Security and Euro Atlantic Integration of the Ministry of Foreign Affairs of Georgia has a function in the state management of chemicals. Namely it is responsible for implementation in Georgia of the 1993 Paris Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and of Their Destruction.

5.1.7.2 State of performance of the competences

At the moment the Paris Convention implementation in Georgia is not full. Namely:

- No body is selected so far which will be in charge of development of the legislation necessary for implementation of the Convention;
- No administrative mechanism is established for banning/restriction of production, use, transfer (including import-export) and destruction of the regulated substances.

5.1.8 Customs

Customs in Georgia are part of regional organs of the Service of Revenues of the Ministry of Finances of Georgia. The Service of Revenues is a State Subordinate Body of the Ministry of Finances.

5.1.8.1 Competence in the field of management of chemicals

Functions of Customs institutions are to carry out customs supervision and customs control of import-export of goods.

In particular, in the filed of management of chemicals the Customs are to prevent import-export and transit of "materials of restricted turnover" (see Section 6.2.15.4.1) unless relevant permit is submitted together with the customs declaration. This requirement though is suspended till July 1, 2011. The only customs restriction valid today concerning these materials is their not admittance to the simplified Customs regime (except the cases when recipient is a ministry).

The Service of Revenues must keep on the basis of generalization of the information received in the process of customs operations the customs statistics of foreign trade and the special customs statistics.

But the capacities of the customs offices with regards to correct identification of goods (especially the chemical substances) are quite limited, which impacts the quality of the collected information. Namely the customs have the following informational and technical problems with chemicals identification:

- The customs lack information system which will allow an easy linkage between any of international names or codes (CAS, UN, EC codes) of the chemical substances as well as identification of the relevant customs codes and regimes. **It is necessary**: to create state register of the regulated chemical substances where the chemicals could be identified by any of their international name and code (CAS, UN, EC codes) _ from one side and by the HS 2007 commodity codes – from another side.
- The customs lack infrastructure and equipment for safe inspection and identification of the chemical substances. It is therefore **necessary:** to organize such inspection facilities where it would be possible to safely separate the chemically dangerous cargos, inspect them, localize the dangerous substances and temporarily isolate them in temporary storage facilities. The facility should also include units for decontamination and sanitary treatment.

5.1.8.2 State of performance of the competences

On the basis of generalization of the information received in the process of customs operations the Service of Revenues keeps the customs statistics of foreign trade and the special customs statistics.

But, capacity of Customs institutions to correctly identify commodities (especially the chemicals) are very limited, which affects the quality of the collected information.

5.1.9 Department of Management of Emergencies

5.1.9.1 Competence in the field of management of chemicals

The competences of the Department of Management of Emergencies of the Ministry of Internal Affairs and its territorial subdivisions in the field of management of chemicals are related to management of the "Unified system of prevention of emergencies and liquidation of results of such emergencies".

There are defined tasks of the "United system" as during the emergencies as well as prior to them. Namely, until the emergency occurs the "Unified system" should ensure:

- To make forecast of emergencies and make assessment of expected social-economic impact;
- To develop norms ensuring protection of population and territories against emergencies and implement them;
- To implement target and scientific-technical programs:
    - For timely revealing a risk of the emergency and for preventing it;
    - For the purpose of ensuring stable functioning of industrial and social objects during emergencies;
- To ensure readiness of forces and means for emergency response as well as special bodies authorized for this purpose (e.g. training of the emergency response forces);
- To form material values reserve for the purpose of liquidation of results of emergencies;

In case of an emergency situation a task of the 'Unified system" is to liquidate results of the emergency.

5.1.9.2 State of performance of the competences

Functioning of the "Unified system" is at the initial stage. None of the tasks set in the field of management of chemical substances are fulfilled yet.

5.1.10 Ministry of Economic Development

The function of the Ministry of Economic Development in the sphere of chemicals management is issuing of a permit on import-export or transit of dual purpose materials (see section 6.2.8) on request of an interested person. For a number of such substances (see Table 36) issuing of such a permit is only allowed on the basis of relevant recommendation of a Permanent Commission on Military-Technical Issues of the Ministry of Defense of Georgia (see section 5.1.12).

5.1.11 National Inspection of Technical Surveillance

National Inspection of Technical Surveillance is a legal person of public law in the system of the Ministry of Economic Development of Georgia.

5.1.11.1 Competence in the field of management of chemicals

Competence of the Inspection in management of chemical substances include:

- To keep a register of dangerous industrial enterprises.
- To carry out technical safety expertise of dangerous enterprises;
- To issue "permit of operating dangerous enterprises";
- To request safety declarations from dangerous enterprises;
- To carry out supervision of compliance with the safety rules in the dangerous enterprises.

In the field of management of dangerous chemicals the Inspection conducts technical supervision in the following enterprises and settings:

- Mining and mining-chemical, chemical and oil-chemical, metallurgic, biological, microbiological, chemical-pharmaceutical, vegetation raw processing and storing, explosive-flammable enterprises discharging air-fission products, refrigeration plants working on ammonia;
- Oil-products storages and terminals , mainline oil and oil-products pipelines;
- Mainline gas-pipes and gas-supply systems, liquid gas (propane-butane) transportation and storage-consumption, gas fuelling stations, enterprises producing and assembling gas appliances;
- Railway conveyance of dangerous cargos; corresponding systems and appliances, special containers and carriages; railway cargo reception, sending, forwarding, repairment and diagnostic installations;

5.1.11.2 State of performance of the competencies

The Inspection implements its competences in respect of carrying out safety expertise of dangerous enterprises and issuing "dangerous enterprises operating permits". Besides, the Inspection regularly carries out planned examination of compliance with the safety requirements in the recorded dangerous enterprises.

Noteworthy that the safety rules, implementation of which the Inspection is checking, must be defined by the government of Georgia or self-governance bodies. By now such rules are determined only for a few types of enterprises (see Section 6.2.7.3) which considerably limits both inspectors' and enterprises' capacities to ensure enterprise safety.

The Inspection cannot carry out the function imposed legally on it with regards to requesting the safety declarations from dangerous enterprises as there is no resolution issued by the government concerning the form and rules of submission of the declaration.

As for development of the register of dangerous enterprises, this requirement is fulfilled by the Inspection formally but in a rather peculiar way. The thing is that the legal act which determines enterprises registration card form and rules to fill for keeping the register, does not make it precise what is the form of keeping the register itself, i.e. the data-base format. Apart from this, the capacities of the Inspectorate in terms of development of digital information bases are extremely limited. So, the register today is kept in the form of collection of registration cards filled by different enterprises and submitted to the Inspection. Their processing and systematization could not be completed by the Inspection. Consequently, the register is practically inapplicable for other institutions.

5.1.12 Ministry of defense

The function of the Ministry of Defense in the sphere of chemicals management is a consideration of requests for import-export or transit permits for number of dual purpose materials (see Table 36) and development of recommendations on issuing or not issuing those permits for the Ministry of Economic Development (see section 5.1.10). This function is carried by the Permanent Commission on Military-Technical Issues of the Ministry. Logistical and technical support to the Commission is provided by the Military-Technical Issues Department of the Ministry.

Apart of this, if the import-export of the dual purpose materials is related to production or maintenance of arms, the permit is issued by the Ministry itself.

5.1.13 United Transport Administration

The function of the State Subordinate Body of the Ministry of Regional Development and Infrastructure _ the United Transport Administration in the sphere of chemicals management is development, adoption and supervision of compliance with the technical regulations on transportation of dangerous goods.

The Administration has adopted a technical regulation "Rule of cargo transportation by automotive means, which is based on modern GHS system of classification and labeling of chemicals (see section 6.1.8). Although the regulation lacks the important part of the UN Model Regulations on the Transport of Dangerous Goods – the list of dangerous goods, according to which the four-symbol code of the cargo and the appropriate cargo-label and truck-plate is to be selected. As this list does not exist in Georgian and is not available to both transporter and regulation compliance supervisor, the regulation can not be properly implemented and enforced.

Accordingly, no control and supervision of the labeling requirements for the dangerous cargo transported by automotive means exists at the moment in Georgia.

5.1.14 Oil and Gas Agency

The State Subordinate Body of the Ministry of Energy of Georgia _ the National Oil and Gas Agency is in charge of state management of oil and gas sector in the country. Namely it supervises production, processing and transportation of oil products. Its functions are:

- Issuing all licenses, permits, certificates, land necessary for extraction, processing and transportation of oil and gas (inter alia issuing a permit for "operation of dangerous industrial enterprises" in the sphere of oil and gas, see section 3.6.1);
- State registration of relevant activities and development of an information bank.

5.2 Interministerial bodies related to the management of chemicals

Two interministerial bodies have been established related to chemical management in Georgia:

12. The State Committee for Elaboration of National Program of Infrastructure of Chemical Substances Management. Created on 17 March, 1998 by the order #82 of President of Georgia;
13. Interdepartmental Council of Regulation of Safe Use of Dangerous Chemical Substances. Created by Ordinance of President of Georgia #307 of June 21, 2002.

5.2.1 The State Committee for Elaboration of National Program of Infrastructure of Chemical Substances Management

The State Committee for Elaboration of National Program of Infrastructure of Chemical Substances Management consisted of Minister of Healthcare (chairman of the Committee), Minister of Environment Protection and Natural Resources, Minister of Industry, Minister of Agriculture and Food. Committee included also other officials of those ministries, representatives of State Academy of Sciences and a representative of a state company (JSC Saqagroservisi).

The function of the Committee was elaboration of a National Program suggested by IOMC and UNITAR. For this purpose each of participating ministries had to create working groups. The Ministry of Healthcare was responsible for overall coordination of those working groups.

The aimed Program has not been elaborated by the Committee. Nowadays the Committee does not function any more (though it is not abolished formally).

5.2.2 Interdepartmental Council of Regulation of Safe Use of Dangerous Chemical Substances

Interdepartmental Council of Regulation of Safe Use of Dangerous Chemical Substances was established in accordance to the article 9 of the law "On hazardous chemical substances", with the purpose of coordinating the activities necessary for management of safe use of hazardous chemical substances. The Council was chaired by the Minister of Labor, Health and Social Protection. The Council consisted of the First Deputy Ministers of Economy, Industry and Trade, Deputy Minister of Environment and Nature Protection, as well as officials and specialists of those ministries, as well as the Ministry of Agriculture and Food, Ministry of Internal Affairs, State Inspection of Technical Surveillance, State Department of Standardization, Metrology and Certification, also a representative of the state research institution (N. Makhviladze Labor Medicine and Ecology Scientific Research Institute).

According to its statute the Council is a consultative body. With the purpose of coordinating the activities necessary for management of safe use of dangerous chemical substances, the Council can:

- Take part in considerations of the relevant international contracts, agreements and national projects;
- Prepare the recommendations;
- Organize the conferences and trainings;
- Invite and consult necessary external specialists;

According to the statute the Council meetings have to be held at least once a quarter. Since its establishment the Council have only held two meetings, though the Council is still not formally abolished.

It is to be noted that the composition of the Council does not correspond to the current structure of the Government. For example, the Council includes Deputy Minister of Economy, Industry and Trade, although no such ministry exists in Georgia any more. It is worth mentioning also that the Customs (Service of Revenues of the Ministry of Finances) are not represented in the Council, while their participation in the work of the Council would be essential (for ex for development of customs control mechanisms for implementation of international conventions).

5.3 Non-governmental and other scientific organizations involved in management of chemicals

Number of state functions and activities in the field of management of chemicals are performed by contracting legal persons of private or public law on tender basis. For example:

- Precondition of the state registration of pesticides and agrochemicals (Section 3.4.1) is expertise of these substances (and of the results of expert examination). For this purpose 5 types of expert examination is carried out: biological, hygiene-toxicological, environmental, ichtyo-toxicological and veterinary-sanitarian (documentary, laboratory and field

examinations). These expert examinations are performed by specialists of scientific institutions having sufficient resources. (see Table 27).

- Ecological expertise of activities (Section 6.2.20.3) is carried out by the Ministry of Environment Protection and Natural Resources by employing independent experts of the relevant fields. Expert examination expenses are covered by the person interested (according to the established price list).
- Neutralization of dangerous chemicals at the disposal of the state, funded from the State Budget is being implemented by a relevant scientific or non-governmental organization selected on the basis of tender. For ex. the 2007 State Budget provided for collection and neutralization of part of obsolete pesticides from the destroyed storehouses of former "kolkhozes" and "sovkhoses". **The Peter Melikishvili Physical and Organic Chemistry Institute** won the relevant tender and performed the stipulated works. In 2009 an analogous tender is to be held.

There are other examples of governmental and non-governmental organizations successful cooperation in the field of management of chemicals in Georgia:

- Cooperation of the Ministry of Health with the **Association of Environmental and Biological Monitoring of Georgia (GEBMA)** during work on the first Chemical Profile of Georgia (1998-1999); this non-governmental organization was also represented in the State Commission working on development of the National Program for the Chemicals Management (see Section 5.2.1).
- Cooperation of the Ministry of Environment with the **Association of Refrigeration Technicians of Georgia** on the issues related to phase out of ozone depleting refrigeration agents and with the **Association – Civil Society in the Village** on the issues related to phase out of ozone-depleting pesticides (methyl bromide) (for the list of related projects see Table 41);
- Cooperation of the Ministry of Environment with the representation of the non-governmental organization **Milieukontakt International** in Georgia in the field of inventory and neutralizing obsolete pesticides (for the list of related projects see Table 41);
- Cooperation of the Ministry of Environment with the non-governmental organization "**Monitoring"** on the issues of collecting and neutralizing missile fuel and other chemical substances left behind on the former soviet military bases;
- Current cooperation of the Ministry of Environment with the non-governmental organization **Center for Strategic Research and Development of Georgia** on update of the Chemical Profile of Georgia and development of National SAICM Plan of Priorities, and with the non-governmental organization **Caucasus Environmental NGO Network** on the issues of development of pollutants release and transfer register for SAICM implementation.
- Regular cooperation of the National Center for Disease Control and Public Health with the **Toxicology National Information-Advisory Center of Georgia** and **Georgian Toxicologists Association.**

Table 27. Scientific institutions, where State Expertise of chemicals is regularly conducted

NAME OF INSTITUTION	CAPABILITY	LOCATION, CONTACT DETAILS
LEPL Levan Kanchaveli Plant Protection Institute	Biological evaluation (documentary, laboratory, field)	Chavchavadze ave. 82, Tbilisi, Tel: 230388

LEPL Institute of Gardening, Wine-growing and Wine-making	Biological evaluation (documentary, field)	Marshal Gelovani 6, Tbilisi. Tel: 523011
LEPL Iulon Lomouri Institute of Farming	Biological evaluation (documentary, field)	Tserovani, Mtskheta, tel: 265256
LEPL Institute of Subtropical Cultures and Tea Production	Biological evaluation (documentary, field)	Anaseuli, Ozurgeti region, Tel: (296)74600
JSC Makhviladze Institute of Labor Medicine and Ecology	Hygienic-toxicological evaluation (documentary, laboratory, epidemic)	Agmashenebeli 60, Tbilisi
LEPL Institute of Agricultural Radiology and Ecology	Ecological evaluation of environment, Ecotoxicologic evaluation (laboratory, documentary, field)	Zahesi, Tbilisi, Tel: 658033
LEPL Institute of Zoology	Ichtio-toxicologic evaluation and evaluation of the affect on fauna (documentary, laboratory)	Chavchavadze 31, Tbilisi, tel: 223353
LEPL Institute of Bee-keeping	Veterinary-sanitary and ecological evaluation (bee-keepers, farmers) (Documentary, laboratory, field)	Okrokana, Tbilisi, tel: 932363

Chapter 6. Legislative basis for management of chemicals in Georgia

The text of this chapter has not been translated. Only titles of subchapters and tables are provided.

6.1 International instruments in the field of management of chemicals, which are in force in Georgia

6.1.1 Vienna Convention on Protection of the Ozone Layer

6.1.1.1 Dates of signature and coming into force, the Protocol

6.1.1.2 The obligations of Georgia under the Convention and the Protocol and international mechanism of implementation

Table 28. Montreal Protocol obligations of the country acting under article 5

6.1.1.3 National mechanisms of implementation

6.1.1.4 Status of implementation

Table 29. Consumption of ODSs in Georgia in 2007 and Georgia's obligations under the Montreal Protocol

Name of the substance	Chemical formula	Level of consumption in the base year	Obligation for 2007	Real consumption in 2007
CFC-12	CF_2Cl_2	22,480 kg	reduction by 85%, not to exceed 3,372 kg	2,700 kg
HALON 1211	$CBrClF_2$	4,400kg	reduction by 50% not to exceed 2,200 kg	0
HALON 1301	$CBrF_3$	2,920 kg	reduction by 50% not to exceed 1,460 kg	0
HCFC-22	CHF_2Cl	-	-	32,500 kg
Methyl bromide	CH_3Br	22,750kg	reduction by 20% not to exceed 18,200 kg (plus essential use exemptions)	3,000 kg

6.1.2 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal

6.1.2.1 Dates of signature and coming into force

6.1.2.2 The international procedure established under the Convention

6.1.2.3 National mechanism for implementation of the Convention

6.1.3 Paris Convention on the Prohibition of Chemical Weapons

6.1.3.1 Dates of signature and coming into force

6.1.3.2 Obligations of Georgia under the Convention

Table 30. Paris Convention regulated substances

6.1.3.3 Convention implementation in Georgia

6.1.4 Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals

6.1.4.1 Dates of signature and coming into force

6.1.4.2 Obligations of Georgia under the Convention and international mechanism for implementation

Table 31. Rotterdam Convention Annex III substances

6.1.4.3 National mechanism for implementation of the Convention

6.1.5 Stockholm Convention on Persistent Organic Pollutants

Table 32. Stockholm Convention regulated substances and regulation measures

6.1.5.1 Dates of signature and coming into force

6.1.5.2 Obligations of Georgia under the Convention and international mechanism for implementation

6.1.5.3 National mechanism of implementation

6.1.6 International Code of Conduct on the Distribution and Use of Pesticides

6.1.6.1 International status of the Code

6.1.6.2 Status of the Code in Georgia

6.1.6.3 Main requirements of the Code

6.1.6.4 Implementation of Code requirements in Georgia

6.1.7 Conventions regulating Customs systems

6.1.7.1 Dates of signature and coming info force, statute of Georgia

6.1.7.2 Requirements of the Conventions

6.1.7.3 Implementation of HS in Georgia (with regards to dangerous chemicals)

Table 33. Internationally regulated chemicals which could be identified under the commodity identification system of Georgia and their codes

Name of the substance	Commodity Code under the Georgian system	Regulating convention
Tetrachlorocarbon	2903 14 000 00	Montreal Protocol, Annex B, II
1,2-dichloroethane	2903 15 000 00	Rotterdam Convention
1,1,1trichloroethane	2903 19 100 00	Montreal Protocol, Annex B, III
Methyl bromide	2903 30 330 00	Montreal Protocol, Annex E
CFC-11	2903 41 000 00	Montreal Protocol, Annex A, I
CFC-12	2903 42 000 00	Montreal Protocol, Annex A, I
CFC-113	2903 43 000 00	Montreal Protocol, Annex A, I
CFC-114	2903 44 100 00	Montreal Protocol, Annex A, I
CFC-115	2903 44 900 00	Montreal Protocol, Annex A, I
CFC-13	2903 45 100 00	Montreal Protocol, Annex B, I
CFC-111	2903 45 150 00	Montreal Protocol, Annex B, I
CFC-112	2903 45 200 00	Montreal Protocol, Annex B, I
CFC-211	2903 45 250 00	Montreal Protocol, Annex B, I
CFC-212	2903 45 300 00	Montreal Protocol, Annex B, I
CFC-213	2903 45 350 00	Montreal Protocol, Annex B, I
CFC-214	2903 45 400 00	Montreal Protocol, Annex B, I
CFC-215	2903 45 450 00	Montreal Protocol, Annex B, I
CFC-216	2903 45 500 00	Montreal Protocol, Annex B, I
CFC-217	2903 45 550 00	Montreal Protocol, Annex B, I
Halon-1211	2903 46 100 00	Montreal Protocol, Annex A, II
Halon-1301	2903 46 200 00	Montreal Protocol, Annex A, II
Halon-2402	2903 46 900 00	Montreal Protocol, Annex A, II
HCFCs	2903 49 100 00	Montreal Protocol, Annex C, I
HBFCs	2903 49 300 00	Montreal Protocol, Annex C, II
HCH	2903 51 000 00	Rotterdam Convention
HCB	2903 62 000 00	Rotterdam Convention
DDT	2903 62 000 00	Rotterdam Convention Stockholm Convention

6.1.8 Globally Harmonized System for Classification and Labeling of Chemicals (GHS) and UN Model Regulations on the Transport of Dangerous Goods

6.1.8.1 Development of GHS and UN Model Regulations on the Transport of Dangerous Goods

6.1.8.2 Requirements of GHS and UN Model Regulations on the Transport of Dangerous Goods

6.1.8.3 Implementation in Georgia

6.1.9 European system of registration, evaluation, authorization and restriction of chemicals REACH

6.1.9.1 Short history

6.1.9.2 Description of the system

6.1.9.3 Attempts of transposition of the system into Georgian legislation

6.1.10 International documents regulating chemical safety at work places

Table 34. ILO conventions ratified by Georgia

6.1.11 International documents on chemical accident prevention, preparedness and response

6.1.11.1 Main requirements

6.1.11.2 Implementation in Georgia

6.2 National laws and sub-laws in the field of management of chemicals

6.2.1 Law "On soil protection"

6.2.1.1 Regulated chemicals

6.2.1.2 Dates of adoption and changes

6.2.1.3 Obligations, responsibilities and administrative procedures set by the Law

6.2.1.4 Enforcement means

6.2.2 Law "On plant protection from harmful organisms"

6.2.2.1 Regulated chemicals

6.2.2.2 Dates of adoption and changes

6.2.2.3 Obligations, responsibilities and administrative procedures set by the Law

6.2.2.4 Enforcement means

6.2.3 Law "On transit and import of wastes on the territory of Georgia"

6.2.3.1 Regulated chemicals

6.2.3.2 Dates of adoption and changes

6.2.3.3 Obligations, responsibilities and administrative procedures set by the Law

6.2.3.4 Enforcement means

6.2.4 Law "On environment protection"

6.2.4.1 Regulated chemicals

6.2.4.2 Dates of adoption and changes

6.2.4.3 Administrative procedures in the field of management of chemicals set by the law

6.2.4.4 Sub laws issued of the basis of the law

6.2.4.5 Enforcement means

6.2.4.6 Databases created under the law

6.2.5 Law "On water"

6.2.5.1 Regulated chemicals

6.2.5.2 Dates of adoption and changes

6.2.5.3 Obligations, responsibilities and administrative procedures set by the Law

6.2.5.4 Enforcement means

6.2.6 Law "On health protection"

6.2.6.1 Regulated chemicals

6.2.6.2 Dates of adoption and changes

6.2.6.3 Sub laws issued of the basis of the law

6.2.6.4 Administrative procedures set by the Law

6.2.6.5 Enforcement means

6.2.6.6 Databases created under the law

6.2.7 Law "On safety of dangerous industrial enterprises"

6.2.7.1 Regulated stage of management of chemicals

6.2.7.2 Dates of adoption and changes

6.2.7.3 Sub laws issued of the basis of the law

6.2.7.4 Administrative procedures set by the Law

Table 35. Hazardous chemical substances as per the law "On safety of dangerous enterprises"

Class of substances	Definition
Flammable substances	gases, which become flammable while mixing with air under normal pressure
Oxidizing substances	substances, which support or induce combustion of other substances
combustible substances	liquids, gases or dust, which is: • self-flammable;

	• flammable from external source and continues combustion after removal of such
explosives	substances which under certain influence undergo self-distribution and quick chemical conversion with emission of heat and gases
toxic substances	chemical or biological substances, their compounds or mixtures, which can adversely impact health of humans due to its physic-chemical properties
radioactive substances	substances with nuclear, radioactive or other harmful ionizing radiation

6.2.7.5 Enforcement means

6.2.8 Law "On import-export control of ammunition, military techniques and dual purpose materials"

6.2.8.1 Regulated chemicals

6.2.8.2 Dates of adoption and changes

6.2.8.3 Sub laws issued of the basis of the law

6.2.8.4 Obligations, responsibilities and administrative procedures set by the Law

Table 36. Dual purpose materials from commodity codes groups 28 and 29

6.2.9 Law "On hazardous chemical substances"

6.2.9.1 Regulated chemicals

6.2.9.2 Dates of adoption and changes

6.2.9.3 Sub laws issued of the basis of the law

6.2.9.4 Obligations, responsibilities and administrative procedures set by the Law

Table 37. Comparison or REACH regulation terminology with that of the law "On hazardous chemical substances"

6.2.9.5 Enforcement means

Table 38. Classes of hazard and their marks according to the law "On hazardous chemical substances" and its sub-laws.

Class of hazard	marking
Explosive	**E**
Oxidizing	**O**
Extremely Flammable	**F+**
Highly Flammable	**F**
Flammable	**R10**
Very Toxic	**T+**
Toxic	**T**
Harmful	**Xn**

Corrosive	**C**
Irritant	**Xi**
Sensitizing	**R42, R43**
Carcinogenic	**Carc. Cat.**
Mutagenic	**Muta. Cat.**
Toxic for Reproduction	**Repr. Tac.**
Dangerous for the Environment	**N, R52, R53, R59**

6.2.9.6 Databases created under the law

6.2.10 Law "On pesticides and agrochemicals"

6.2.10.1 Regulated chemicals

6.2.10.2 Dates of adoption and changes

6.2.10.3 Sub laws issued of the basis of the law

6.2.10.4 Obligations, responsibilities and administrative procedures set by the Law

6.2.10.5 Enforcement means

6.2.10.6 Databases created under the law

6.2.11 Law "On atmospheric air protection"

6.2.11.1 Regulated chemicals

6.2.11.2 Dates of adoption and changes

6.2.11.3 Sub laws issued of the basis of the law

6.2.11.4 Obligations, responsibilities and administrative procedures set by the Law

6.2.11.5 Enforcement means

6.2.11.6 Databases created under the law

6.2.12 Law "On food and tobacco"

6.2.12.1 Regulated chemicals

6.2.12.2 Dates of adoption and changes

6.2.12.3 Sub laws issued of the basis of the law

6.2.12.4 Administrative procedures set by the Law

6.2.12.5 Enforcement means

6.2.13 Law "On compensation of damage caused by chemical substances"

6.2.13.1 Regulated chemicals

6.2.13.2 Dates of adoption and changes

6.2.13.3 Administrative procedures set by the Law

6.2.14 Law "On conservation of soil and rehabilitating-improving its productivity"

6.2.14.1 Regulated chemicals

6.2.14.2 Dates of adoption and changes

6.2.14.3 Sub laws issued of the basis of the law

6.2.14.4 Administrative procedures set by the Law

6.2.15 Law "On licenses and permits"

6.2.15.1 Regulated chemicals

6.2.15.2 Dates of adoption and changes

6.2.15.3 Sub laws issued of the basis of the law

6.2.15.4 Administrative procedures set by the Law

6.2.15.4.1 Materials of limited turnover

Table 39. List of materials of limited turnover in Georgia, Annex 1 (defined per Annex III of the Rotterdam Convention and the order (N 133/n, 26.03.2001) of the Minister of Labor, Health and Social Protection (on dangerous chemical substances subject to prohibition and strict limitation in Georgia with regards to production, use and import-export,)

N	Chemical substance	International registration number (CAS)	Category	Decision	Included in Annex III of Rotterdam Convention	Regulated by Stockholm Convention
1	Mercury compounds		Pesticides	Prohibited	+	
2	Aldrin	309-00-2	Pesticides	Prohibited	+	+
3	Chloridan	57-74-9	Pesticides	Prohibited	+	+
4	Dieldrin	60-57-1	Pesticides	Prohibited	+	+
5	DDT	50-29-3	Pesticides	Prohibited	+	+
6	Endrin	72-20-8	Pesticides	Prohibited		+
7	Hexachlorocyclohexane (HCH)	608-73-1	Pesticides	Prohibited	+	
8	Heptachlor	76-44-8	Pesticides	Prohibited	+	+
9	Hexachlorobenzene	118-74-1	Pesticides	Prohibited	+	+
10	Toxaphene	8001-35-2	Pesticides	Prohibited	+	+
11	Nitrofen	1836-75-5	Pesticides	Prohibited		
12	1,2-dibromoethane (EDB)	106-93-4	Pesticides	Prohibited	+	

13	1,2-Ethylene dichloride	107-06-2	Pesticides	Prohibited	+	
14	Pentachlorophenol	87-86-5	Pesticides	Prohibited	+	
15	Ethylene oxide	75-21-8	Pesticides	Prohibited	+	
16	Dinoseb and dinoseb salts	88-85-7	Pesticides	Prohibited	+	
17	Binapacryl	485-31-4	Pesticides	Prohibited	+	
18	Captafol	2425-06-1	Pesticides	Prohibited	+	
19	Kvintozan	82-68-8	Pesticides	Prohibited		
20	2, 4, 5 T and its salts and esters	93-76-5	Pesticides	Prohibited	+	
21	Lindan	58-89-9	Pesticides	Prohibited	+	
22	Fluoroacetamide	640-19-7	Pesticides	Prohibited	+	
23	Chlordimeform]	6164-98-3	Pesticides	Prohibited	+	
24	Chlorobenzilate	510-15-6	Pesticides	Prohibited	+	
25	Marex	2385-85-5	Pesticides	Prohibited		+
26	Chloropicrin	76-06-2	Pesticides	Prohibited		
27	Monocrotophos (Soluble liquid formulations of the substance that exceed 600g active ingredient/l)	6923-22-4	Severely hazardous pesticide formulation	Prohibited	+	
28	Methamidophos (Soluble liquid formulations of the substance that exceed 600 g active ingredient/l)	10265-92-6	Severely hazardous pesticide formulation	Prohibited	+	
29	Phosphamidon (Soluble liquid formulations of the substance that exceed 1000 g active ingredient/l)	13171-21-6	Severely hazardous pesticide formulation	Prohibited	+	
30	Methyloparathion (Emulsive concentrations containing 19.5%, 40%, 50%, 60% of the ingredient and powder consistence of 1.5%-2% and 3% of active ingredient)	29988-00-0[5]	Severely hazardous pesticide formulation	Prohibited	+	
31	Parathion (all formulations - aerosols, dustable powder (DP), emulsifiable concentrate (EC), granules (GR) and wettable powders (WP) - of this substance are included, except capsule suspensions (CS))	56-38-2	Severely hazardous pesticide formulation	Prohibited	+	
32	Dicofol	115-32-2	Pesticides	Strict limitation		
33	Maleic hydrazide	123-33-1	Pesticides	Strict limitation		
34	Polychlorinated biphenyls (PCB)	1336-36-3	Industrial	Prohibited	+	+
35	Polychlorinated terphenyls (PCT)	61788-33-8	Industrial	Prohibited	+	
36	Preparations containing more than 0.005% of PCB or PCT		Industrial	Prohibited		
37	Polybrom biphenyls (PBB) Hexa	59080-40-9 27858-07-7	Industrial	Prohibited	+	

[5] wrong number; should be 298-00-0

	Octa Deca	13654-09-6 36355-06-8				
38	Asbestos compounds Chrysotile Amosite Anthrophyllite Actinolite tremolite	 12001-28-4 12172-73-5 77536-67-5 77536-66-4 77536-68-6	Industrial	Prohibited	+	
39	Ugilec 121		Industrial	Prohibited		
40	(DBBT)	99688-47-8	Industrial	Prohibited		
41	2-Naphthylamine	91-59-8	Industrial	Strict limit		
42	Benzidine	92-87-5	Industrial	Strict limit		
43	4-Nitrobiphenyl	92-93-3	Industrial	Strict limit		
44	4-Aminobiphenyl	92-67-1	Industrial	Strict limit		
45	Tris (2,3-dibromopropyl) phosphate	126-72-7	Industrial	Strict limit		
46	Tris (1-aziridinyl) phosphine oxide	545-55-1	Industrial	Strict limit		
47	Ugilec 141	76253-60-6	Industrial	Strict limit		
48	Dnoc and its salts (amonnium, potassium and sodium salts)	534-52-1, 2980-64-5, 5787-96-2, 2312-76-7	Pesticides	Prohibited		
49	Tetraethyl lead	78-00-2	Industrial	Prohibited		
50	Tetramethyl lead	75-74-1	Industrial	Prohibited		
51	Dichloroethane[6]	107-06-2	Pesticides	Prohibited		
52	Powder substances, which consist of: Benzomele, concentration of 7 or more percentages, carbofuran, concentration of 10 or more percentages, Tyram, concentration of 15 or more percentages.	 17804-35-2 1563-66-2 137-26-8	Severely hazardous pesticide formulation	Prohibited		
53	Methamidophos	6923-22-4	Severely hazardous pesticide formulation	Prohibited		

6.2.15.4.2 Dual purpose materials

6.2.15.4.3 Dangerous industrial enterprises

6.2.15.4.4 Activities having impact on environment

6.2.15.5 Enforcement means

[6] repetition. It s the same as number 13, 1,2-Ethylene dichloride

6.2.16 Law "On safety and quality of food"

6.2.16.1 Regulated chemicals

6.2.16.2 Dates of adoption and changes

6.2.16.3 Sub laws issued of the basis of the law

6.2.16.4 Administrative procedures set by the Law

6.2.16.5 Enforcement means

6.2.17 Law "On management and regulation of transport sector"

6.2.17.1 Regulated chemicals

6.2.17.2 Dates of adoption and changes

6.2.17.3 Normative documents issued of the basis of the law

6.2.17.4 Administrative procedures set by the technical regulation

Table 40. Classes of hazard of dangerous cargos established by technical regulation "Rules of transportation of cargos by automotive vehicles"

Number of class of hazard	subclasses	Name of the class
1	1.1, 1.2, 1.3, 1.4, 1.5, 1.6	**Explosives**
2		**Gases**
	2.1	Flammable gases
	2.2	Non-flammable, non-toxic gases
	2.3	Toxic gases
3		**Flammable liquids**
4		**Flammable solids**
	4.1	Flammable solids, self-reactive substances and solid desensitized explosives
	4.2	Substances liable to spontaneous combustion
	4.3	Substances which in contact with water emit flammable gases
5		**Oxidizing substances and organic peroxides**
	5.1	Oxidizing substances
	5.2	Organic peroxides
6		**Toxic and infectious substances**
	6.1	Toxic substances
	6.2	Infectious substances
7		**Radioactive material**
8		**Corrosive substances**
9		**Miscellaneous dangerous substances and articles**

6.2.17.5 Enforcement means

6.2.18 Law "On protection of population and territories against natural and techno genetic emergencies"

6.2.18.1 Regulated chemicals

6.2.18.2 Dates of adoption and changes

6.2.18.3 Sub laws issued of the basis of the law

6.2.18.4 Administrative procedures set by the Law

6.2.19 Law "On public health"

6.2.19.1 Regulated chemicals

6.2.19.2 Dates of adoption and changes

6.2.19.3 Sub laws issued of the basis of the law

6.2.19.4 Administrative procedures set by the Law

6.2.19.5 Enforcement means

6.2.20 Law "On environment impact permit"

6.2.20.1 Regulated chemicals

6.2.20.2 Dates of adoption and changes

6.2.20.3 Sub laws issued of the basis of the law

6.2.20.4 Administrative procedures set by the Law

6.2.20.5 Enforcement means

6.3 Main deficiencies of the legal basis for management of chemicals in Georgia

6.3.1 Insufficient implementation of conventions

6.3.2 Deficiencies of commodity nomenclature system

6.3.3 Deficiency of the legal term „chemical substance"

6.3.4 Obscure regulation of "materials of limited turnover"

6.3.5 Classification and labeling of chemicals

6.3.6 Prevention and preparedness to chemical accidents

Annex 1. Assistance received by Georgia in the sphere of management of chemicals

The table below lists the internationally financed projects related to management of chemicals which have been or are being implemented in Georgia.

Table 41. Projects related to the management of chemicals

PROJECT NAME	IMPLEMENTING ORGANIZATION	DATES	FINANCING INSTITUTION
Development of Montreal Protocol Implementation National Action Plan	Ministry of Environment	1997	Montreal Protocol Multilateral Fund, UNEP
Preparation of National Profile of Chemical Substances	Ministry of Healthcare, Nikoloz Shavdia	1998-1999	United Nations Institute for Training and Research (UNITAR)
Institutional Strengthening for Montreal Protocol Implementation (phases I, II, III, IV, V)	National Ozone Unit, Ministry of Environment of Georgia; later _ "Association of Refrigerator Technicians"	1998-2009	Montreal Protocol Multilateral Fund, UNEP, UNDP
Implementation of Refrigerant Collection and Recycling Plan	"Association of Refrigerator Technicians" Contact person: Sulkhan Suladze Tel: 99532232689, email: gra@post.ge	1998-2000	Montreal Protocol Multilateral Fund, UNDP
Training of Refrigeration Technicians	National Ozone Unit, Ministry of Environment of Georgia; later _ "Association of Refrigerator Technicians"	1999-2001	Montreal Protocol Multilateral Fund, UNEP
Water Management in Caucasus (Armenia, Azerbaijan, Georgia)	Zurab Jincharadze (Leader of Georgian Team), mob: +99599 728768, e-mail: zjincharadze@immap.org	2000-2004-2008	USAID
Program for Joint River Management for Transborder Rivers Monitoring and Evaluation (Armenia, Azerbaijan, Georgia)	Anatoly Pichugin, mob:+99597 073354, e-mail: pichuginaa@fastmail.fm	2002-2003	EU TACIS
Demonstration program for Industrial and Transport Sector refrigeration technicians	"Association of Refrigerator Technicians" Contact person: Sulkhan Suladze Tel: 99532232689, email: gra@post.ge	2002-2004	Montreal Protocol Multilateral Fund, UNDP
Science for Peace Program, Monitoring of the South Caucasus Rivers (Armenia, Azerbaijan, Georgia)	Nodar Kekelidze (National Director), mob: +995 98 186645, e-mail: nnkekelidze@geo.net.ge	2002-2008	OSCE-NATO
Training Program for Customs Officers for Ozone Depleting Substances Control	National Ozone Unit, Ministry of Environment of Georgia	2003-2005	Montreal Protocol Multilateral Fund, UNEP
Preparation of National Action Plan of Stockholm Convention	National Director of Project: Alverd Chankseliani, Project Manager: Givi Kalandadze, Department of Management of Wastes and Chemical Substances, Ministry of	2003-2005	United Nations Development Program (UNDP), Global Environment Facility (GEF), Government of

	Environment Protection, tel: 99532275727.baselpops@internet.ge		Georgia
Phasing out Methyl bromide in Soil Fumigation Sector	Project coordinator: "Association – Civil Society in the Village", President – Koba Khutsishvili tel: 99532569338; fax: 99532221965, email: koba_csp@yahoo.com	2003-2006	Montreal Protocol Multilateral Fund, UNIDO
Reducing Transboundary Pollution in the Kura-Aras Basin (Armenia, Azerbaijan, Georgia)	Malkhaz Adeishvili (National Coordinator), mob: +995 99 531427, e-mail: madeishvili@caucasus.net	2003-2005-2007	UNDP, SIDA, GEF
Waste and Waste Management (training of environmental inspectors)	Contact person: Kate Mumladze, Environmental Inspectorate, tel: 99532275764, email: k.mumladze@yahoo.co.uk	2006-2007	Ministry of Urbanization, Spatial Planning and Environmental Protection of Netherlands
Prevention and Abatement of Non-Pipeline Oil Leakage into the Sea and Land	Contact person: Medgar Tchelidze, tel:99599162221 email: info@royalhaskoning.com	2006-2007	World Bank (WB)
Minimizing Risks of Obsolete Pesticides in Georgia (Kakheti region) Moldova and Kyrgyzstan	Executing organization: NGO– Milieukontakt International representatives in Georgia, Project coordinator: Khatuna Akhalaia, Ministry of Environment Protection, Department of Integrated Environmental Management tel: 995 32 275727, email: khatunaakhalaia1@yahoo.com	2006-2008	International NGO of Netherlands - Mileukontact, Ministry of Foreign relations of Netherlands
Preparation of National Profile on Halon Management	"Association of Refrigerator Technicians", Contact person: Sulkhan Suladze Tel: 99532232689, email: gra@post.ge	2006-2008	Montreal Protocol Multilateral Fund, UNIDO
Phasing out Methyl bromide in Mills	Project coordinator: "Association – Civil Society in the Village", President – Koba Khutsishvili tel: 99532569338; fax: 99532221965, email: koba_csp@yahoo.com	2006-2009	Montreal Protocol Multilateral Fund
Project for Support of Montreal Protocol Implementation	"Association of Refrigerator Technicians", Ministry of Environment Protection and Natural Resources	2006-2010	UNDP
Preparation for Terminal Phase-out of CFCs	"Association of Refrigerator Technicians", Tel: 99532232689, email: gra@post.ge	2007-2009	Montreal Protocol Multilateral Fund, UNDP
Updating a National Chemicals Management Profile, Development of a National SAICM Capacity Assessment, and Holding of a National SAICM Priority Setting Workshop in Georgia	Center for Strategic Research and Development of Georgia, Contact person: Lia Todua, Tel: 995 32 250711/399019, e-mail: liatodua@csrdg.ge web-page: http://csrdg.ge	2007-2009	SAICM's Quick Start Program, UNITAR
Promotion of Kura Basin	Anatoly Pichugin (Team Leader),	2007-	EU TACIS

Transboundary management (Armenia, Azerbaijan, Georgia)	mob:+995 97 073354, e-mail: pichuginaa@fastmail.fm	2009	
Development of Environmental Monitoring and Management System in Georgia	Karri Eloheimo, mob: +995 93 407130	2008	Government of Finland

Annex 2. Country background information

Physical and demographic context

- Total area of Georgia – 69,700 km^2.
- Form of Government: Presidential republic.
- Official language: Georgian.
- Total resident population: 4394.700 (2007 est.)
- Urban population: 2,472,100
- Rural population: 1,912,600
- Average age of population: 35.2 (1994)
- Population of working age (15-65): 2021.800
- Birth rate: 10.7 per 1000 population (1997)
- Life expectancy: 74.3 years (2006)
- Death rate: 7.5 per 1000 population (1997)
- Unemployment rate: 13.6% (2006)
- Number of women employed outside the home - 987,300 (1997)

Political and Geographic structure of the country

Georgia is located at the east coast of the Black Sea. It is bordered on the north by Russia, on the south by Turkey and Armenia, and on the east by Azerbaijan. It is a transcontinental country, located at the juncture of Eastern Europe and Western Asia - in the transitional, mountainous Caucasus region of Eurasia.

Georgia's demographics are characterized by a high degree of ethnic diversity. Ethnic Georgians form a majority, about 83.8%, Other major ethnic groups include Azeri, who form 6.5% of the population, Armenians - 5.7%, Russians - 1.5%, Abkhazians, and Ossetians. Numerous smaller groups also live in the country, including Assyrians, Chechens, Chinese, Georgian Jews, Greeks, Kabardins, Kurds, Tatars, Turks and Ukrainians.

Georgia is divided into 11 administrative-territorial units. Two of them are autonomous republics: Apkhazia and Adjara. The rest are regions such as: Guria, Imereti, Kakheti, Mtskheta-Mtianeti, Ratcha-Lechkhumi and Kvemo Svaneti, Samegrelo and Zemo Svaneti, Samtskhe-Javakheti, Kvemo Kartli, Shida Kartli. The territory of Georgia is divided into 69 Self-governing Units. 5 of those are Self-governing Cities, the rest _ Raion Municipalities.

Industrial and agricultural sectors

Table 42. Overview of the industrial and agricultural sectors

Sector	Contribution to the Gross Domestic Product (%)	Number of employees	Major products in each sector
Industrial/ manufacturing	16%	141.7	mechanical engineering, metallurgy, chemical industry, timber work, plural energetic
Mining and extraction		9.8	Coal mining, metallurgy
Agricultural	32%	1305.0	Wine-grapes, cereal, potato, vegetables, citrus, tea
Total	48%	1455.5	

Table 43. Structure of the manufacturing/agricultural sectors

SECTOR	TOTAL	SMALL FACILITIES/FARMS		MEDIUM FACILITIES/FARMS		MAJOR FACILITIES/FARMS	
		number	% from total	number	% from total	number	% from total
Number of employees (2007)	324 366	71 293	22	69 142	21	183 931	57
Total number of enterprises	4632	3943	85	497	11	192	4
enterprises of processing industry			16.2		60		23.75
Agricultural enterprises	691 500[7]	525 540	76[8]	159 045	23	6 915	1

Notes:

1. in agricultural sector small are considered the enterprises using 1 ha agricultural land, medium _ 1-5 ha agricultural land, major _ more than 5 ha arable land.
2. Industrial sector in Georgia is divided into small, medium and major enterprises.

[7] In total in 2004 there was 730,000 agricultural enterprises/farms in the country, 691,500 from this possessing agricultural lands (including pastures). Only 18 % of enterprises produce products for sale. The rest consumes its own production itself.

[8] Share of small farms among those producing vegetables, fruits, grapes, citruses constitutes 98-99%.

Table 44. Agricultural Production

Major crops	Total value of crop (t)	Total number of employees	Size of productive areas (hectares)
Cereal	901.9		437.2
Potato	350.0		27.1
Vegetables	513.9		32.3
Fruits	299.4		85.3
Citrus	57.1		11.4
Grapes	309.1		81.2
Tea	33.2		34.7
Total	2464.5	1305000	709.2

Table 45. Breakdown of industrial production by region

Region	Major product	Total value of production (mln. $)	Number of industrial facilities	Number of employees
Tbilisi	Drugs, color paints, weaving, washing facilities, mechanical engineering, machine-tool construction	200.0	1012	57671
A.R. Abkhazia	Tool construction	10.0		424
A.R. Adjara	Shipbuilding	30.0	201	8373
Tskhinvali				
Samegrelo	Timber work, shipbuilding	20.0	446	7246
Guria	Ascanite	7.5	161	3175
Imereti	Color paints, Manganum, coal, barite, metal	75.0	679	24547
Racha-Lechkhumi	arsenic	4.1	40	860
Shida Kartli	Ceolite, concrete, andesite	31.0	183	6250
Mtskheta-Tianeti	Timber work	12.0	162	2063
Kakheti	drugs	15.0	197	5085
Kvemo Kartli	Metal, steel, rolled metal, fertilizers, chemical fibber	130.0	188	18501
Samtskhe-Djavakheti	Nutrition	14.0	130	3193
Total		644.0	3399	151500

Employment in the industrial sectors dealing with chemicals

Table shows main industrial sectors of economy having to do with different dangerous chemicals.

Table 46. Industrial employment by economic sector

Description	Number of facilities	Number of employees (thousand)	Output value (annual) (mln $)	Major emission (type)
Food industry	2038	31.2	17.7	ammonia, chloride lime, formaldehyde, ethyl, methanol, nicotine
Textiles/Clothing and Leather Goods	180	11.3	5.7	Organic paints, acetic acid, alkali, chromium boride, sulphure acid, monomers, organic and non-organic admixtures
Wood and Wood Products, Printing Paper and Paper Products	277	4.1	4.5	Organic mixtures, paints, stains, aromatic hydrocarbons(benzene, toluole, xylole, stirole), formaldehydride, acetone, sulphurous acid, acetic acid, acetic anhydride
Chemical/Coal/Petrol/ Plastic Products	87	8.2	3.5	Nitric alkali, hydrogen sulphuride, cuanamides, hydrocarbon – saturated and desaturated, aromatic hydrocarbons, formaldehydride, fenol, benzene, whitespirit, naphthalene
Non-metallic Mineral Products	264	6.2	11.0	Dust (rock, road metal, sulphate, calcite)
Basic Metals Industry	19	12.8	3.4	manganum, manganum oxid, sulphate anhydrid, iron admixtures, hydrogen sulphuride, fenol, benzpyrene, saturated and desaturated hydrocarbons, quicksilver air, copper
Fabrication of Machinery and Equipment	239	35.8	41.0	manganum, chrom, iron, acids, alkali, cyane admixtures
Other Manufacturing Industries	171	23.7	-	
Mining and Extraction (Coal/Oil/Natural/ Minerals/Metals)	11	9.8	35.1	Nitric, alkali, sulphateand sulfurous anhydride, hydrocarbons, hydrogen sulphuride, aromatic hydrocarbons
Electric generation	113	7.4	164.0	nitric alkali, sulphate and sulfurous anhydride
TOTAL	3399	151.5	186.3	

Annex 3. Georgian terminology in the field of management of chemicals

Not translated

Annex 4. Used abbreviations

DDT – **D**ichlorod**i**phenyltr**i**chloroethane

EIA – Environment Impact Assessment

EU TACIS – European Union Technical Assistance to the Commonwealth of Independent States

FAO - Food and Agriculture Organization of the United Nations

GEF – Global Environmental Facility

GHS - Globally Harmonized System of Classification and Labeling of Chemicals

ILO – International Labor Organization

IOMC - Inter-Organization Program for the Sound Management of Chemicals

JSC – Joint Stock Company

LEPL - Legal Entity of Public Law

NLE - Non-profit Legal Entity

OECD – Organization for Economic Cooperation and Development

POPs - Persistent Organic Pollutants

SIDA- Swedish International Development Cooperation Agency

UN – United Nations

UNITAR - United Nations Institute for Training and Research

UNCTAD - United Nations Conference on Trade and Development

UNEP – United Nations Environmental Program

UNDP – United Nations Development Program

UNIDO - United Nations Industrial Development Organization

USAID – United States Agency for International Development

WHO – World Health Organization

Annex 5. Profile development process participants

National Coordination Team

Process of elaboration of the Profile has been supervised by the National Coordination Team comprised of the representatives of following organizations:

- Ministry of Environmental Protection and Natural Resources of Georgia, Integrated Environmental Management Department;
- Ministry of Internal Affairs, Department of Management of Emergency Situations;
- Ministry of Economic Development, State Subordinated Body: United Transport Administration;
- Ministry of Economic Development, State Subordinated Body: Department of Statistics;
- Ministry of Energy;
- Ministry of Agriculture and Food, National Service for Food Safety, Veterinary and Plant Protection;
- Ministry of Labor, Health and Social Protection, Department of Health Protection;
- Ministry of Finances, Service of Revenues;
- LEPL, I. Kutateladze Institute of Pharmochemistry;
- LEPL, R. Agladze Institute for Inorganic Chemistry and Electrochemistry;
- JSC, N. Makhviladze Scientific Research Institute of Labor Healthcare and Ecology;
- NLE, Georgian Environmental and Biological Monitoring Association (GEBMA)
- NLE, Caucasus Environmental NGO Network
- NLE, Association for Protection of Landowners' Rights
- NLE, Georgian Landowners Union
- NLE, Greens Movement of Georgia _ Friends of the Earth-Georgia
- NLE, United Professional Union of Georgia

Table 47. Participants of public discussions organized during the Profile development

Organization	sub-division	Representatives	e-mail
Ministry of Environmental Protection and Natural Resources	Department of Integrated Environmental Management	Ms. Nino Tkhilava	ntkhilava@moe.gov.ge
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		Mr. Janri Karchava	
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		Ms. Khatuna Akhalaia	khatunaakhalaia@yahoo.com
		Mr. Aleksander Mindorashvili	a.mindorashvili@mail.ru
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	National Environment Agency	Ms. Marine Arabidze	marabidze@environment.ge
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	Department of Statistics	Mr. Giorgi Kvinikadze	gkvinikadze@statistics.gov.ge
	National Inspection of Technical Surveillance	Mr. Irakli Balarjishvili	
Ministry of Energy	Department of Energetics	Mr. David Sharikadze	dato.shariqadze@minenergy.gov.ge
		Mr. Dimitri Kurdovanidze	
		Mr. Tamaz Mukhuradze	
	Georgian Oil and Gas Corporation	Mr. Gigla Tamazashvili	g.tamazashvili@gogc.ge
		Mr. Irakli Kesetelidze	
Ministry of Defense	J-4 Department	Ms. Natela Arabuli	
		Ms. Maia Jamburia	
		Mr. Nikoloz Kariauli	
	J-3 Department	Mr. Tamaz Jamatashvili	
		Mr. Vakhtang Kekelia	
	Legal Department	Mr. Avtandil Dvalishvili	
Ministry of Justice	Law Drafting Department	Mr. Lasha Inauri	linauri@justice.gov.ge
Ministry of Regional Development and Infrastructure	Automotive Transport Department	Mr. Zaza Avaliani	z.avaliani@uta.gov.ge
	United Transport Administration	Mr. Giorgi Mzhavanadze	g.mzhavanadze@uta.gov.ge
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		Mr. Zurab Marshania	z.marshania@mof.ge
Ministry of Internal Affairs	Department of Management of Emergencies	Mr. Jojik Tabatadze	jojik-8@mail.ru
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	Mr. Djansug Nadiradze	

Appendix: Georgia Capacity Assessment for SAICM Implementation

The assessment was carried out in the framework of the project "Updating a National Chemicals Management Profile, Development of a National SAICM Capacity Assessment, and Holding of a National SAICM Priority Setting Workshop" of the United Nations Institute for Training and Research (UNITAR). The project has been financed by the Quick Start Program Trust Fund of the Strategic Approach to International Chemicals Management (SAICM). In Georgia the project was implemented by Georgian NGO "The Centre for Strategic Research and Development of Georgia". The National Coordinator of the project was the Head of the Department of Integrated Environmental Management of the Ministry of Environmental Protection and Natural Resources of Georgia, Ms. Nino Tkhilava. The process of development of the assessment was supervised by Coordination Committee comprised of representatives of the following institutions:

- Department of Integrated Environmental management of the Ministry of the Environmental Protection and Natural Resources of Georgia;
- Department of Emergency Situations of the Ministry of Internal Affairs of Georgia;
- Division of Environmental Protection of the Ministry of Defense of Georgia;
- State Subordinated body of the Ministry of Economic Development, United Transport Administration;
- State Subordinated body of the Ministry of Economic Development, Department of Statistics;
- Ministry of Energy of Georgia;
- State Subordinated Body of the Ministry of Agriculture, the National Service for Food Safety, Veterinary and Plant Protection;
- Department of Health Protection of the Ministry of Labor, Health and Social protection of Georgia;
- Service of Revenues of the Ministry of Finances of Georgia;
- LEPL, I. Kutateladze Institute of Pharmochemistry;
- LEPL, R. Agladze Institute for Inorganic Chemistry and Electrochemistry;
- JSC, N. Makhviladze Scientific Research Institute of Labor Healthcare and Ecology;
- NLE, Georgian Environmental and Biological Monitoring Association (GEBMA)
- NLE, Caucasus Environmental NGO Network
- NLE, Association for Protection of Landowners' Rights
- NLE, Georgian Landowners Union
- NLE, Greens Movement of Georgia _ Friends of the Earth-Georgia
- NLE, United Professional Union of Georgia

1. Assessment Methodology

A special methodology developed by the United Nations Institute for Training and Research was used to assess the capacities of Georgia for SAICM implementation. The general methodology was

considered by participants of SAICM Capacity Assessment Planning National Seminar on 18-19 June 2008 and was slightly modified to address the specifics of the country. The final methodology was as follows:

1. In the process of development of the National Chemical Profile of Georgia and on the basis of the Profile important and urgent issues of current management of chemicals in Georgia;
2. With participation of the national stakeholders the capacity constraints related to the important and urgent chemicals management issues were identified and the ways of their overcoming formulated; The actors for implementation of suggested activities named.
3. The proposed activities were prioritized at the national meeting of the stakeholders.

Apart of this in number of cases specific project ideas were formulated for overcoming the identified capacity constraints related to important and urgent issues of chemicals management. The list of such ideas is attached to the assessment.

2. Important and Urgent Issues of Chemicals Management

In the process of development and on the basis of the Chemicals Profile of Georgia the following important and urgent chemicals management issues were identified:

1. Ineffective coordination of state management of chemicals;
2. Lack of information and data on chemicals (including data on impact on pollution of environment and food and health implications) and access to it;
3. Insufficient implementation of the international conventions on chemicals;
4. Inefficient prevention of illegal import-export of toxic and hazardous goods;
5. Inconsistent approach to classification of chemicals and distribution of the information on hazards; Necessity of introduction of GHS;
6. Inefficient management of pesticides and related health risks;
7. Inefficient management of hazardous wastes (including accumulated wastes);
8. Insufficient preparedness to chemical accidents;
9. Insufficient control of environmental performance.

Below each of the important and urgent issues is considered in detail, together with the related capacity gaps/needs and ways and possibilities to overcome those.

2.1 Governance of chemicals

In the process of development of the National Chemical profile of Georgia it was several times noted by participants of the process that the basic constraint for the proper management of chemicals in Georgia as a lack of a common **state policy on chemicals management**.

Several governmental institutions are involved in state management of chemicals in Georgia:

1. The Ministry of Environment Protection and Natural Resources and the bodies in its system:
   - State Subordinate Body, the Environmental Inspectorate;
   - LEPL, the National Environment Agency.
2. The Ministry of Economic Development and a body in its system:

- LEPL, the National Inspection of Technical Surveillance;

3. The State Subordinate Body of the Ministry of Energy _ Oil and Gas National Agency;
4. The Ministry of Defense;
5. The State Subordinate Body of the Ministry of regional Development and Infrastructure _ United Transport Administration;
6. The Ministry of Foreign Affairs, Department of Security and Euro Atlantic Integration;
7. The State Subordinate Body of the Ministry of Agriculture: National Service of Food Safety, Veterinary and Plant Protection;
8. The Ministry of Labor, Health and Social Protection;
9. The Ministry of Finances, Service of Revenues, Customs Control Department;
10. The Department of Management of Emergencies of the Ministry of Internal Affairs;
11. The Ministry of Labor, Health and Social Protection and a body in its system:
    - LEPL, L. Sakvarelidze National Center of Control of Diseases and Public Health.

Coordination between those bodies in the field of chemicals management is quite weak. During past 10 years 2 interministerial bodies were created with specific purpose of improvement of coordination in the field of management of chemicals:

- The State Committee for Elaboration of National Program of Infrastructure of Chemical Substances Management (Created on 17 March 1998 by the order #82 of President of Georgia);
- Interdepartmental Council of Regulation of Safe Use of Dangerous Chemical Substances (Created by Ordinance of President of Georgia #307 of June 21, 2002).

None of these bodies though succeeded in improvement of coordination in the sphere of management of chemicals. The reasons were lack of clear aim and work plan, vague structure, procedures and responsibilities, lack of financing.

The proposed activities for the improvement of general governance in the field of state management of chemicals are:

1. Development and official approval (as a normative act) of national Action Plan for SAICM Implementation. The plan should specify the functions and responsibilities of specific state bodies, indicators of success and procedure for reporting.
2. Establishment of coordination interministerial body for management of chemicals and insurance of its effective functioning. It is necessary that:

- There is a supervisory level of the coordination body, comprising of the premier-minister and the ministers;
- There is established work plan of the coordination body and a clearly established procedure for reporting on success to the supervisory level;
- The secretary functions of the coordination body are with one of the ministries (it is desirable that the Ministry of Environmental Protection and Natural Resources bears this function) and the relevant resources provided;

- Specialists of the chemicals sphere from each authority are represented in the coordinating body (experts working group) and their proper participation ensured;
- Transparent working regime of the coordination body and participation of civil society ensured (ex: the secretariat could make accessible through internet schedule of meetings of the body and results/reports of the meetings, encouraging interest of NGOs and private sector and their participation).

2.2 Information and Data

As it is stressed in the National Chemical Profile of Georgia the main problem of the management of chemicals in Georgia is lack of data and information resources necessary for such management.

Namely at the moment no information is collected in the country on:

- Production of hazardous chemical substances (types of substances and volumes);
- Industrial and domestic use of hazardous chemical substances (types of substances and volumes);
- Production of hazardous and other wastes (types of wastes and volumes);
- Disposal (incl. temporary storage) of hazardous wastes (location, types of wastes, volumes, treatment/disposal technologies and conditions) ;

The following information does exist but of insufficient quality:

- list (register) of dangerous enterprises and types and volumes of hazardous substances used or produced in those _ several bodies have such information but it is not consistent and not systematized and thus unusable.
- Data on export-import if hazardous substances _ the information is regularly recorded and processed but due to lack of databases and explanatory materials/guidelines as well as a personnel of sufficient quality and the relevant equipment the probability of wrong codification of goods is quite high.
- Data on pollution of food and drinking water with hazardous/toxic substances – such measurements are undertaken by the National Service of Food Safety, Veterinary and Plant Protection, but quite rarely, irregularly and in limited volumes.
- Data on adverse effects of the pollution on human health _ the National Center of Control of Diseases and Public Health regularly collects and publishes statistical information on existing cases of human poisoning, but due to the lack of toxicological laboratories in the country information on causes/agents of poisoning is unreliable. What comes to analysis of health risks related to pollution of environment, food and drinking water, such analysis and research is not carried out due to unavailability of information on such pollution.
- Data on pollution of environment _ the National Environmental Agency currently restarted environmental monitoring measurements, but frequency of measurements, number of measuring points and quality of measurements, as well as accessibility of the results is quite low.

Apart of that no database of chemicals (formula, names, codes, characteristics of each chemical substance, safety data) is available for decision makers in the country

In order to provide decision makers with the information and data for management of chemicals it is necessary:

1. Provide access of all relevant decision makers to the international databases of chemicals, specifying all characteristics and safety data and emergency rules for each chemical substance. It is desirable to provide Georgian translation of the important parts of the information (information on chemicals which are widely available in the country)
2. Develop a system for collection of information on volumes an location of hazardous chemicals in the country:
    - Establish the information system for "tracking" imported hazardous chemicals;
    - establish obligatory reporting requirements for entrepreneurs on production, purchasing, sale, storage, use of chemicals, production of their wastes and their treatment/processing or disposal. Link the collected information to the information collected through the "tracking" system
    - Develop common system of registration of dangerous enterprises and enterprises subject to ecological expertise. Systematize the relevant register and make it available to all relevant decision makers (the register should include information on types of used/produced chemicals, their volumes and speeds).
    - Learn from the experiences of the EU mew members (ex: pribaltics) on organization and enforcement of information collection system on chemicals marketed/used in the country.
3. Develop and introduce PRTR for Georgia.
4. Improve monitoring of state of environment and availability of the information about it. For that:
    - Provide intensive training/practicing he personnel of the national Environmental Agency on use of the modern laboratory measuring equipment. Better to provide training of trainers within well-known laboratories followed by the national trainings of the rest of the personnel;
    - Equip the National Environmental Agency and its regional departments with additional apparature and maintenance parts. Namely: automatic stations for measurements of air pollution (at least 5 for Tbilisi, at least 1 for Kutaisi, Batumi, Zestafoni, Rustavi and Kaspi); portative emission measurement devices; spare and maintenance parts for the existing laboratory equipment (reactive, standards of substances etc).
    - To ensure access of the public to the data on pollution of environment place the information on the web-site of the Agency in user-friendly, easy-to-find and understandable form.
5. Improve monitoring of pollution of food and drinking water by the chemical substances. For this:
    - Develop and implement effective scheme of monitoring of pollution of food and drinking water;
    - Support NGOs performing independent monitoring of safety and quality of food and drinking water (ex: Federation of Georgian Consumers, Association for Protection of Consumers of Georgia)
6. Improve statistical reporting and research of cases of human poisoning. For that:

- Build and equip a laboratory for toxicological studies (desirable 2 laboratories, in east and west Georgia);
- Support NGOs working on toxicology issues (ex: Toxicology National Information-Advisory center of Georgia, Association of Toxicologists of Georgia, Institute for Labor, Medicine and Ecology)

7. Improve analysis of health risks associated with pollution of environment, food and drinking water. For that:
    - Provide trainings on modern methodologies of risk assessment for staff of the National Center of Control of Diseases and Public Health and other relevant stakeholders;

2.3 Implementation of Conventions

As it is described in the National Profile, today a state implementation of a number of International Agreements Georgia is in of insufficient. In particular:

- There are deficiencies in implementation of Basel Convention requirements, particularly:
    - There is no effective administrative procedure to prevent waste import-export between Georgia and the countries which are not Parties to the Convention;
    - There is no effective procedure to prevent export of wastes without prior notification as per the Basel Convention;
    - There is no administrative procedure to request from the waste transporters within Georgia to have sufficient permit or authorization.
- There are deficiencies in fulfillment of requirements of the Rotterdam Convention in Georgia. In particular:
    - No information is submitted to the Convention Secretariat whether import of chemical substances from Annex III of the convention are prohibited in Georgia;
    - There is no effective administrative procedure in place to ensure that Annex III chemical substances are not exported to the countries which have notified the secretariat of prohibition of the import of that substances;
    - There is no effective and reliable administrative procedure to ensure that no export of the non-Annex III chemical substances which are prohibited or restricted in Georgia will occur without prior notification of importing Party.
    - The official structure indicated in the Secretariat as Designated National Authority is liquidated. Appointment of a new Authority is being delayed.
- There are deficiencies in Georgia in fulfillment of requirements of the Stockholm Convention. In particular:
    - Georgia has not yet submitted National Implementation Plan to the Convention Secretariat;
    - There is no effective administrative mechanism in place to ensure prohibition/restriction of use in Georgia of the substances regulated by the Convention.
- There are deficiencies in implementation of Paris Convention in Georgia, particularly:

- There is no national legislation in place for proper implementation of the Convention.

The deficiencies regarding inefficiency of administrative procedures are mostly linked to the fact that Georgia tried to unite implementation of requirements of several conventions dealing with the chemicals and wastes in one regulation: "On rules and conditions of permitting the production, transportation, import, export, re-export and transit of materials of limited turnover", approved by Government decree #184 of 28 September 2006. The regulation though failed to work and in 1,5 month from coming into force was suspended which made implementation of the requirements of the relevant conventions quite difficult.

To improve this situation **it is necessary:**

- To alter the regulation "On rules and conditions for issuing permits for production, transportation, import, export, re-export or transit of the materials of limited turnover" as to ensure meeting differing requirements and procedures of different conventions (it is desirable to divide the regulation into several regulations).
- To formally adopt the Stockholm Convention National Implementation Plan and submit it to the Secretariat.
- To officially appoint the Ministry of Environmental Protection and Natural resources as a Designated National Authority of Rotterdam Convention and properly notify the Secretariat about it. It is desirable to appoint the Ministry of Agriculture as one of the official contact points of the Convention in Georgia.
- Develop national legislation for implementation of the Paris convention in Georgia.

2.4 International Transportation of Chemical Substances

In the National Chemical Profile of Georgia number of problems are described related with insufficient control and registration of import-export and transit of chemical substances. The main reason of that is improper identification of regulated chemical substances at Georgian customs. The reason for that is

- outdated customs code system (HS 2002)
- insufficient training of customs officers
- lack of convenient information resources and software for customs officers which would ease identification of regulated substances by their different characteristics (formula, chemical name, CAS, UN, EC numbers, trade name, title of formulation, brand name, etc).
- lack of infrastructure for safe inspection and technical means for identification of chemical substances at customs offices.

To improve identification of chemicals at customs it is necessary

- Introduce HS 2007 in Georgia;
- Provide trainings of customs officers in identification and registration of regulated chemical substances;
- develop information materials and software to assist the customs officers in identification of the regulated substances by any of its characteristics (chemical formula/name CAS, UN, EC numbers, name of formulation, trade name, brand name etc);
- Build and equip inspection points of chemical substances at customs offices where it will be possible to separate dangerous chemical goods and safely inspect them, localize hazardous

substances and temporary store them in safe storage facilities, also to decontaminate and provide sanitary treatment if necessary.

- Equip the customs offices with personal protection equipment and equipment for identification of chemical substances.

2.5 Classification and Labeling

As it is described in details in the National Chemical Profile of Georgia several different systems of classification and labeling of chemicals are today in force in Georgia. Differ also the labeling requirements. Even more _ even the legal term "chemical substance" appeared to be quite vague and obscure. This situation makes recording and registration of chemical substances impossible. It also makes difficult to enforce the labeling requirements of chemicals and in general to ensure the chemical safety in the country. It is therefore necessary to establish in the country a common modern system of classification and labeling of chemicals.

It is necessary:

- To introduce into Georgian legislation the legal term "chemical substance" defined in a way compatible with such acknowledged international systems as the REACH Regulation of EU.
- To harmonize the Georgian legislation with GHS; For that, as a minimum, the laws "On hazardous chemical substances", "On dangerous enterprises" and relevant regulations are to be amended.
- To build knowledge of Georgian civil servants from all relevant governmental bodies on REACH and GHS and their implementation modalities.

2.6 Pesticides

Pesticides represent one of the most important classes of the chemicals. Special attention to pesticides in the national profile is determined by the fact that those dangerous substances are easily available to everybody in Georgia in fact representing "wide consumption poisons".

The priority problems with regards to pesticides are the following:

- Inconsistencies in national legislation result in impossibility of proper state control of the quality and labeling of the pesticides on the market and prevention of falsifications. As a result the users of pesticides are not protected from purchasing of the falsified, low quality or wrongly labeled pesticides.
- All farmers in Georgia have right and possibility to buy and use the pesticides most of them having extremely bad knowledge of norms and safety rules of use of those substances. As a result they often use wrong pesticides or violate the norms of their use causing pollution of agricultural products, soils and environment. There are also cases of poisoning of pesticide user as they do not follow the safety rules and do not use the personal protection equipment.

In order to solve the priority problems related with pesticides, it is necessary:

- Amend the national legislation in a way that would allow to prevent:
    a. possible import and sale of unregistered pesticides;
    b. sale of low quality and falsified pesticides;
    c. sale of pesticides without proper labeling and instructions

- Organize broad information-education campaign for farmers on safe and efficient methods of pest management, pesticides and other technologies to be used for each crop, norms of use of pesticides and safety rules:
    a. develop relevant materials and make them available through internet, also widely distribute as leaflets, brochures, posters, guidebooks;
    b. develop training courses for farmers and conduct regular trainings
- Provide farmers with private safety equipment for free or at low prices

2.7 Management of Hazardous Wastes (including accumulated wastes)

In Georgia management of hazardous wastes is explicitly problematic as the country has no capacities for proper treatment or disposal of such wastes. The only landfill for hazardous wastes is almost completely devastated and represents a serious threat for the environment. At the same time industries, agriculture, medical and veterinary services continuously produce hazardous wastes which could not be treated or disposed of properly. There are few small medical waste incinerators in the country _ one of them serves Adjara AR, the rest _ the big private hospitals. The rest of the medical wastes, also veterinary and industrial wastes, as well as hazardous agricultural wastes (ex. used packaging of pesticides) are disposed at municipal landfills with minimal or no treatment at all.

Apart of this, large amount of hazardous industrial wastes are accumulated on the territories of the former soviet plants. The most dangerous of them are 100 thousand tons of wastes containing arsenic (4%-9% arsenic content) on the territories of the villages Tsana and Urevi. Georgia has no technologies for treatment of those wastes or for safe temporary storage of such a big volumes of hazardous wastes.

To solve the described problems it is necessary:

- To build a modern state facility of sufficient capacity for treatment and disposal of hazardous wastes; the facility should include also capacities for treatment and incineration of hazardous medical and veterinary wastes;
- Establish a system of recording and control of hazardous wastes to ensure that none of them are disposed on municipal or illegal landfills.

2.8 Chemical Accidents

Three state bodies are dealing with the issue of chemical accidents in Georgia:

1. The Ministry of Environmental Protection and Natural Resources is in charge of planning chemical emergency response activities and coordination of their implementation;
2. The State Subordinate Body of the Ministry of Economic Development _ State Inspection for Technical Supervision is in charge of registering dangerous enterprises and prevision of safety requirements in them (safety expertise, operational permits, supervision, safety declarations);
3. Department of Management of Emergency Situations of the Ministry of the Internal Affairs is responsible for preparedness of the forces and equipment for response to the chemical accidents and provision of operative response measures to the accidents.

At present all three bodies have capacity constraints for proper implementation of their responsibilities with regards to safety, preparedness and response to chemical accidents. Namely:

1. Division of Management of Chemicals and Wastes of the Ministry of Environmental Protection and Natural Resources does not possess enough personnel with the necessary

qualification and skills for planning and coordination of emergency responses of chemical accidents

2. Technical capacity of State Inspection of Technical Supervision is extremely weak (computer system, automobiles)
3. Emergency response brigades (especially those in the regions of Georgia) of the Department of Management of Emergency Situations have limited equipment and insufficient training to provide proper response to the chemical accidents.

To improve the situation it is necessary:

1. Strengthen the Division of Management of Chemicals and Wastes of the Ministry of Environmental Protection and Natural Resources by hiring the personnel of necessary qualification and experience for planning and coordination of emergency responses of chemical accidents; training of existing staff on principles of chemical accident prevention, preparedness and response.
2. Strengthen the capacities if the State Inspection of Technical Supervision by provision of sufficient number of computers and automobiles.
3. Conduct detailed needs assessment of the emergency response brigades (especially those in the regions of Georgia) of the Department of Management of Emergency Situation with regards to their ability to provide adequate response to possible chemical accidents and provision of necessary personal protection equipment, equipment for detection and identification of poisonous substances etc.; Conduct training of the brigades on response measures to the chemical accidents.

2.9 Environmental Inspection and Control

State control of environmental performance and enforcement of environmental requirements is a responsibility of the State Subordinate Body of the Ministry of Environmental protection and Natural Resources, _ the Environmental Inspectorate. Number of constraints does not allow the Inspectorate to perform this duty properly. Namely:

- The Inspectorate does not have approved timeline of the planned inspections of enterprises. Accordingly the enterprises having impact on environment are not inspected on regular basis. The inspections only take place in case of complaints of citizens or incomplete reporting of the enterprise.
- There is no systematic approach for identification of the activities subject to ecological expertise with no environmental permits or the activities not complying with the environmental technical regulations. Such activities are only identified on the basis of the relevant complaints from the public.
- Inspection has no portative equipment to measure emissions during the inspections;
- Qualification of inspectors is insufficient to properly check the emitting processes and provide the polluter with recommendations for abatement/prevention of the pollution.

To overcome the described constraints the following activities are to be undertaken:

- Develop and approve the plan for regular inspection of the enterprises subject to ecological expertise;
- Develop systemic approach for identification of activities carried out in violation of environmental laws and regulations;

- Equip the Inspectorate with necessary portative equipment for measurement of emissions during the inspection;
- Provide permanent trainings of environmental inspectors on polluting technologies and measures for prevention and abatement of pollution of environment. It is desirable to create a special educational centre where the inspectors could upgrade their knowledge on regular basis.

Table 48. Summary table of important and urgent issues of the management of chemicals in Georgia, related capacity gaps and possible actions to address those.

	Important and urgent issue	capacity weaknesses	possible activities	actors	Prioritization results[9]	
					scores[10]	priority[11]
1	State governance of chemicals	lack of coordination of state institutions involved in the management of chemicals	Establishment of interministerial coordination body and provision for its effective functioning (Ministry of environment – secretariat, working group of experts, high-level supervision)	Government	9	medium
		Lack of state policy of management of chemicals	Development of SAICM Implementation National Action Plan/Strategy	Government	8.5	medium
2	availability of information and data	No access to international databases on chemicals	Provide access to international databases on chemicals; translate important parts	Ministry of Environmental Protection and Natural Resources	8	medium
		lack of reliable and consistent information on hazardous chemicals existing in the country and wastes	Establish system for collection of information on existing chemicals and wastes: • tracking of imported chemicals • obligatory reporting on production, use, storage of chemicals, production, treatment, disposal of wastes • learn from foreign experience about enforcement • Introduction of PRTR		16.5	high
		limited data on pollution of environment. Reasons:	Improve environmental monitoring	National Environmental	11	medium

[9] Results of prioritization exercise conducted at the prioritization national seminar on 2 July 2009

[10] The methodology of calculation of scores was as following: the participants of the seminar could give a score to each proposed activity. There were 38 participants and each of them could distribute 15 scores (giving ½ score an more than 1 score to the activity was allowed)

[11] Maximal score received by an activity was 17.5, minimal score – 3. Activities with scores 3-7,5 were considered low priority , scores 7,5-12,5 – medium priority, scores above 12,5 – high priority

		• Insufficient measurement stations • Qualification of staff • Access to data not provided	• NEA personnel training/practicing on use of modern equipment • additional measuring stations, equipment and maintenance parts • placing data on web	Agency		
		Lack of data on pollution of food and drinking water	Develop and implement effective scheme of state monitoring of pollution of food and drinking water	National Service of Food Safety, Veterinary and Plant Protection	14	high
			Support NGOs performing independent monitoring			
		lack of reliable information on human poisoning and health risks	Build and equip 1-2 toxicological laboratories	National Centre of Control of Diseases and Public Health	10.5	medium
			Support NGOs working on toxicology issues			
			Trainings on modern methodologies of risk assessment			
3	Implementation of International Conventions	Inconsistency/lack of national legislation for implementation of the conventions	Develop/update legislation for proper implementation of the conventions, dealing with chemicals	Ministry of Environmental Protection and Natural Resources	11	medium
		Not proper DNAs for the conventions nominated	Nominate the Ministry of Environmental Protection and Natural Resources and a DNA for Rotterdam Convention; Nominate the Ministry of Agriculture as a secondary contact point for Rotterdam Convention; select proper contact person for Paris Convention	Government	7	low
4	International trade of chemicals	old version of HS in use	Introduction of HS 2007	Ministry of Finances	10	medium
		insufficient qualification of the customs officers	training of customs officers		11	medium
		lack of supportive information materials and software	develop information materials and software to assist the customs officers in identification of the regulated substances by any of its characteristics (chemical formula/name CAS, UN, EC numbers, name of formulation, trade name, brand name etc)		11.5	medium

		lack of infrastructure for safe inspection of cargo	establish/equip inspection points for inspection/identification of chemicals		16	high
5	GHS introduction	Inconsistency of legislation	Harmonize national legislation with GHS	Ministry of Environmental Protection and Natural Resources	5.5	low
		Low knowledge/awareness of civil servants on GHS	Train civil servants on GHS	All ministries	6.5	low
6	Safe management of pesticides	legislation does not allow proper control of pesticide market	amend the legislation in a way to allow proper control of pesticide market	Parliament	9.5	medium
		very low awareness of farmers on pesticide use rules and norms, other methods of pest control	organize awareness-raising / education campaign for farmers on norms and rules of use of pesticides and alternative technologies of pest management	National Service of Food Safety, Veterinary and Plant Protection	6	low
		farmers can not afford buying personal safety equipment	Provide farmers with private safety equipment for free or at low prices		3	low
7	Hazardous wastes (including accumulated wastes)	Insufficient capacity for treatment/disposal of hazardous wastes	Build modern state facility for treatment and disposal (storage) of all necessary types of hazardous wastes	Ministry of Environmental Protection and Natural Resources	17.5	high
		Insufficient control of production, transportation, disposal of hazardous wastes	Establish system for efficient control of production, transportation and disposal of hazardous wastes		12.5	high
8	Chemical accidents	Insufficient staffing for chemical accidents response planning and coordination	Provide qualified staff	Division of Management of Chemicals and Wastes of the Ministry of Environmental Protection and Natural Resources	6.5	low
			Train the existing staff on principles of chemical accident prevention, preparedness and response			
		Insufficient technical capacity of the State Inspection of Technical Supervision	Strengthening the Inspection by: • providing computers • providing automobiles	State Inspection of Technical Supervision	15	high

		limited capacity (equipment, skills) of the emergency response brigades in regions	Train and equip the emergency response brigades in regions with the equipment	MIA Department of Management of Emergency Situations	11,5	medium
9	Environmental control and enforcement	No approved plan for inspection of enterprises	develop and approve enterprise inspection plan	Environmental Inspectorate	8.5	medium
		No approach for identification of illegal/violating activities	Develop systematic approach for identification of illegal/violating activities		5	low
		No portative equipment for measurement of emissions	Equip inspectors with the portative equipment for measurement of emissions		8.5	medium
		Insufficient knowledge/qualification of inspectors	Regular professional trainings of inspectors on emission prevention/abatement technologies		11.5	medium

3. Possible project ideas for improvement of chemicals management in Georgia

1. **Development of SAICM Implementation National Plan**

   Short description: On the basis of National Chemical Profile and SAICM Implementation Capacity Assessment develop SAICM Implementation National Plan; Organize broad public discussions with participation of stakeholders (especially the business); It is desirable that the final document is formally approved as a normative document.

   Executing agency/beneficiary: Ministry of Environmental Protection and Natural Resources.

   project duration: 1 year.

   Approximate budget: 20,000 USD

   Partnership opportunities: cooperation of the Ministry with NGOs is desirable

2. **Creation of the interministerial body for management of chemicals**

   Short description: Establishment of a coordination interministerial body for implementation of SAICM; Development of comprehensive structure and procedures; Provision of financing for effective functioning of the body.

   Executing agency/beneficiary: Government of Georgia

   Project duration: 3-5 years.

   Approximate budget: 70,000-100,000 USD

3. Development of a conceptual model of information collection on existing chemicals.

   Short description: Development of a model of collection of information on existing substances (information on volumes, persons involved in turnover, methods of use) which would provide the decision makers with enough information on chemicals and at the same time will not create unnecessary barriers for development of businesses.

   Project duration: 1,5 years.

   Approximate budget: 30,000USD.

   Partnership opportunities: participation of relevant business representatives is crucial.

4. **Capacity building of the staff of the National Environmental Agency**

   Short description: The staff of the agency will have opportunity to practice in the experienced laboratory in order to acquire knowledge and skills necessary to work with the modern mass-spectrometers and chromatographs.

   Project duration: 3-4 months.

   Approximate budget: 30,000USD.

   Partnership opportunities: cooperation with private laboratories and educational centers locally and abroad.

5. **Equipping the National Environmental Agency with automotive measuring stations for air measurements**

   Approximate budget: 300,000USD per station. 5-6 stations are needed.

6. **Trainings in modern methodology of environmental risk assessment.**

   Short description: the stakeholders are provided with the trainings on modern methodology of environmental risk assessment.

   Executing agency/beneficiary: National Center for Disease Control and Public Health

   Project duration: 6 months.

   Approximate budget: 15,000 USD

7. **Upgrade of national legislation on chemicals**

   Aim: Bring the Georgian legislation into compliance with REACH, GHS systems and Basel, Rotterdam, Stockholm and Paris Conventions.

   Short description: Amend the existing legislation regulating chemicals: the laws "On hazardous chemical substances", "On safety of dangerous enterprises", "On transit and import of wastes on the territory of Georgia", sub law on materials of restricted turnover, etc.

   Project duration: 8 months.

   Approximate budget: 40,000 USD

   Partnership opportunities: possible cooperation with consultative companies locally and abroad.

8. **Development of database of regulated chemicals**

   Short description: Development of electronic database of all substances/preparations regulated in Georgia where all possible names and codes (CAS, UN, EC etc) for each substance will be presented together with information on class of danger, labels, possible uses.

   Project duration: 6 months

   Approximate budget: 10,000 USD

   Partnership opportunities: the database could be developed by local NGO or commercial organization.

9. **Development of software to assist the customs officers in identification of chemicals, selection the correct commodity code and regulatory regime.**

   Short description: Development of easy-to-use electronic database on all chemicals (open list) allowing identification of substances by all possible international names and codes, suggesting the goods/articles where the chemical is usually presented together with the relevant commodity code.

   Project duration: 8 months

   Approximate budget: 25,000 USD

Partnership opportunities: the database could be developed by local NGO or commercial organization.

10. Strengthening capacities of customs officers in chemicals identification

Short description: Training of customs officers in identification of chemicals and providing the identification equipment.

Project duration: 1,5 years

Approximate budget: 100,000 USD

11. Educational program for farmers on safe use of pesticides

Short description: Development and distribution of reference and educational materials for farmers on safe use of pesticides, also on prescription of each of pesticide and its norms of use.

Project duration: 2-3 years

Approximate budget: 100,000 USD

12. Strengthening capacities of the Ministry of Environment with regards to planning the national system of chemical accidents prevention and readiness.

Short description: training of the ministry staff on international principles of chemical accidents prevention, preparedness and response.

Project duration: 1 year

Approximate budget: 40,000 USD

Partnership opportunities: participation of representatives of other state organizations involved in chemicals management as well as relevant industries is highly desirable.

13. Strengthening capacities of the Emergency Response Brigades of the Department of Management of Emergency Situations

Short description: Equip the emergency brigades with personal protection equipment, equipment for detection and identification of hazardous chemicals and other necessary accoutrements.

Project duration: 1,5 year

Approximate budget: 100,000 USD

14. Strengthening capacities of the Environmental Inspectorate

Short description: Equip the Inspectorate with portable emission analyzers and train the staff in their use

Project duration: 1 year.

Approximate budget: 70,000 USD.