



REPUBLIC OF ARMENIA

**NATIONAL CHEMICALS
MANAGEMENT PROFILE**

Yerevan 2009

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The project “Updating a National Chemicals Management Profile, Development of a National SAICM Capacity Assessment, and Holding of a National SAICM Priority Setting Workshop” in Armenia was developed with the technical assistance of the United Nations Institute for Training and Research (UNITAR) and the financial support of the Strategic Approach to International Chemicals Management (SAICM) Quick Start Programme Trust Fund.



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ABBREVIATIONS AND ACRONYMS

AMD	Armenian Drams
BAT	Best Available Techniques/ Technology
BEP	Best Environmental Practice(s)
CIS	Commonwealth of Independent States
CJSC	Closed Joint Stock Company
Co.	company
CO₂	Carbon oxide
CC FEA	Codes of Commodity Classification for Foreign Economic Activity
CS	capsule suspensions
DDD	dichlorodiphenyldichloroethane
DDE	dichlorodiphenyldichloroethylene
DDT	dichlorodiphenyltrichloroethane (1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane)
DP	dustable powder
EC	emulsifiable concentrate
EPAC	Environmental Public Advocacy Center
etc.	<i>et cetera</i> (and so forth)
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FY	Fiscal Year
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GEF	Global Environment Facility
GINC	Global Information Network on Chemicals
GR	granules
HCH	Hexachlorocyclohexane
i.e.	<i>id est</i> (that is)

ABBREVIATIONS AND ACRONYMS

IFCS	Intergovernmental Forum on Chemical Safety
ILO	International Labour Organization
IPCS/EC	International Programme on Chemical Safety/ Commission of the European Union
IRPTC	International Register of Potentially Toxic Chemicals
ISIC (code)	International Standard Industrial Classification (of Economic Activity)
JSC	Joint Stock Company
MACs	Maximum Allowable Concentrations
mln	million
mlrd	milliard
NATO	North Atlantic Treaty Organization
NATO SfP	NATO Science for Peace Programme
NEAP	National Environmental Action Plan of the Republic of Armenia
NGO	Non-Governmental Organization
NIP	National Implementation Plan
NIS	Newly Independent States
NO	Nitrogen oxide
NO₂	Nitrogen dioxide
OCP	Organochlorine Pesticide
ODSs	Ozone Depleting Substances
OECD	Organization for Economic Co-operation and Development
OJSC	Open Joint Stock Company
OPP	Organophosphorus Pesticide
PCBs	Polychlorinated Biphenyls
PIC	Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade
POPs	Persistent Organic Pollutants
PRTR	Pollutant Release and Transfer Register
RA	Republic of Armenia

ABBREVIATIONS AND ACRONYMS

R&D	Research and Development
QSP	Quick Start Programme
SAICM	Strategic Approach to International Chemicals Management
SAEFL	Swiss Agency for the Environment, Forests and Landscapes
SCJSC	State Closed Joint Stock Company
SI	International System of Units
SNCO	State Non-Commercial Organization
SO₂	Sulphur dioxide
STN	Scientific and Technical Information Network
TACIS	Technical Aid to the Commonwealth of Independent States
thsd	thousand
TPP	Thermal power plant
UN	United Nations
UNDP	United Nations Development Programme
UNECE	United Nations Economic Committee for Europe
UNEP	United Nations Environment Programme
UNEP DTIE	UNEP Division of Technology, Industry and Economics
UNEP IE/PAC	UNEP Industry and Environment Programme Activity Centre
UNIDO	United Nations Industrial Development Organization
UNITAR	United Nations Institute for Training and Research
US	United States
USD	United States dollar
USSR	Union of Soviet Socialistic Republics
WHO	World Health Organization
WP	wettable powders
WTO	World Trade Organization
WWF	World Wildlife Fund
2,4,5-T	2,4,5-Trichlorophenoxyacetic acid (a synthetic auxin, herbicide)

SI Units

cm	centimeter
g	gram
g/sec	gram per second
kg	kilogram
ha	hectare
m	meter
m²	square meter
m³	cubic meter
sq. km	square kilometer
L	liter
mcg/kg	microgram per kilogram
mcg/L	microgram per liter
mg/L	milligram per liter
mg/m³	milligram per cubic meter

EXECUTIVE SUMMARY

The Republic of Armenia endeavours to develop effective sound management of chemicals through the implementation of the Strategic Approach to International Chemicals Management (SAICM) of which the country is signatory.

Armenia is committed to the implementation of SAICM, and as one of the stage of the required actions the National Profile on Chemicals management has been prepared and tby data available for 2004-2008 to provide a comprehensive review of the capacities required for implementing SAICM.

The National Profile is an output 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” developed by the Environment and Health “EcoTox” NGO under the supervision of the Ministry of Nature Protection due to technical assistance of the United Nations Institute for Training and Research (UNITAR) and financial support of the Strategic Approach to International Chemicals Management (SAICM) Quick Start Programme Trust Fund.

The revised and updated National Profile is a sound basis for a more complete evaluation of the national infrastructure and capacity needs for Armenia to implement the 2020 goal enshrined in SAICM and to define those priorities considered particularly important and urgent for Armenia.

Joint efforts of stakeholders allowed to improve and validate the National Profile and to advance the process of evaluating the capacities required for Armenia to implement SAICM; this latter contributed to sustainable economic and social development for the benefit of the whole population of the country and the protection of human health and the environment. The up-dated/revised Profile was endorsed by concerned parties as a very useful document.

The Profile got a high evaluation of the Republic of Armenia Government and was approved by the Protocol Decision on February 19, 2009.

As a specific document on chemicals management related issues the “National Chemicals Management Profile” was compiled in accordance with the Guidance provided by UNITAR, comprises above 300 pages and is currently available in Armenian and English.

The Profile embraces the “Introduction”, 13 Chapters and List of References, particularly:

- Chapter 1: National Background Information;
- Chapter 2: Chemical Production, Import, Export and Use;
- Chapter 3: Priority Concerns Related to Chemical Production, Import, Export and Use;
- Chapter 4: Legal Instruments and Non-Regulatory Mechanisms for Managing Chemicals;
- Chapter 5: Ministries, Agencies and Other Institutions Managing Chemicals;
- Chapter 6: Relevant Activities of Industry, Public Interest Groups and the Research Sector;
- Chapter 7: Inter-ministerial Commissions and Coordinating Mechanisms;
- Chapter 8: Data Access and Use;
- Chapter 9: Technical Infrastructure;
- Chapter 10: Emergency Preparedness;
- Chapter 11: International Linkages;
- Chapter 12: Awareness / Understanding of Workers and the Public;
- Chapter 13: Resources Available and Needed for Chemicals Management.

The importance of the new Chapter 10 “Emergency Preparedness” should be especially emphasized.

The concerned stakeholders expressed their appreciation for preparation of the updated version of the National Profile, as new information and amendments were considered highly valuable: it allows to have a general overview in the area of

chemicals management embracing the entire chemical life-cycle, a List embracing 354 enterprises of Armenia and the structure of chemical use according to branches of industry and according to geographic criteria by marz (provinces) and regions of the country. The Profile provides with information on organizations, enterprises and entities currently function in Armenia and chemicals used/produced.

The problem and challenges relevant to management on dangerous chemicals, including pesticides and PCBs is emphasized because of the proved adverse impact to human health.

The presented version is the second edition of the Profile translated into English. “EcoTox” NGO performed comprehensive activity on Profile up-dating, revision, re-compilation, taking into account comments of the stakeholders and UNITAR, as well as translation of the National Profile into English.

The National Profile presents itself a successful summary of available in-country information and comprises a good basis for initiating activities on capacities enhancement, priority areas identification and further intervention in the sphere of chemicals management. Hence, the up-dated National Chemicals Management Profile is a good basis for the SAICM Capacity Assessment.

Introduction

The Republic of Armenia has ratified a number of International Conventions regulating sound management of chemicals and wastes with the aim to protect human health and the environment against the harmful impact of chemicals and wastes, as well as in order to implement environmentally sound management (ESM) on toxic substances and to prevent illegal trafficking of toxic and hazardous substances.

Issues of chemicals and wastes management are also regulated by the Intergovernmental Forum on Chemical Safety (IFCS) that was established in 1994 in order to unite and consolidate international efforts for regulation of issues on chemical safety. In 2000, IFCS adopted Bahia Declaration that embraced first-priority trends of activity in the area of chemicals and wastes ESM, amongst which importance and attention were given to strengthening the national capacity and extending the potentialities for chemicals sound use.

It should be mentioned that the key goal of such a priority trend as “Strengthening the national capacity and extending the potentialities for chemicals sound management” is to develop country “National Profile for Chemicals Regulation/ Management”.

Profile development is an efficient tool for assessment of the existing country-specific national infrastructure on chemicals and wastes management, for revealing the problems related to management of these substances, as well as determination of mechanisms for their solution.

The National Profile embraces:

- country geographic, demographic, socioeconomic data;
- information on legal regulation on chemicals and waste management,
- information on chemicals production, import/export, and use;
- information on wastes generation, use, and disposal;
- data on releases/emissions of the most common spread pollutants;
- legislative and certain other mechanisms of management on chemicals and wastes, etc.

Bodies of state governance and organizations involved in this sphere took participation in updating of the “National Profile to Assess the National Infrastructure for Management of Chemicals and Wastes”.

Data presented in the National Profile is regularly revised, up-dated and amended.

Chapter 1: National Background Information

1.1. PHYSICAL AND DEMOGRAPHIC CONTEXT

Country name: conventional long form: the Republic of Armenia;

conventional short form: Armenia

local long form: Hayastani Hanrapetutyun

local short form: Hayastan

- Total area of the Republic of Armenia RA): 29,740 sq km.
- Form of Government: Republican; Presidential system of government is accepted in the Republic of Armenia.
- Official/State Language: Armenian
- Local/ National Language: Armenian
- Total resident population: 3,222,900 (January 1, 2007 est.)
- Urban Population: 2,065,900 or 64.1 % of total population (January 1, 2007 est.)
- Rural Population: 1,157,000 or 35.9% of total population (January 1, 2007 est.)
- Average Age of the Population (years): 34.1 (January 1, 2007 est.)

Females: 35.6

Males: 32.5

Average Age of Urban Population: 34.7

Average Age of Rural Population: 39.9

- Population of Working Age (years): 16-63
- Birth Rate: – 11.7 births/1,000 population; 37,500 births (January - December 2006 est.)
- Life Expectancy (years):

Total Population: 73.3 (2006 est.)

Females: 76.4

Males: 70.0

- Literacy Rate: 99.4 % (as of Population Census in 2001)
 - Urban Population: 99.7%
 - Rural Population: 99.9%
- Average Education Level of Population (at the age of 15 and above) as of Population Census in 2001:
 - 16.7% of population at the age of 15 and above have obtained post-higher education and higher special education ; males:16.9%, females: 16.6%.
 - Females: 21.7 % urban and 6.3 % of rural population (at the age of 15 and above) have high education and higher special education;
 - Males: 22.5% of urban and 8.2% of rural population (at the age of 15 and above) have high education
- Unemployment Rate: 7.4 % (January - December 2006 est.)

As of December 2006 the gender bias of unemployment rate was:

Females: 10.8%; males: 3.8%.

- Percentage of Women Employed Outside the Home:

In January – December 2006, 88,900 persons were unemployed and registered at the “State Employment Service of the Republic of Armenia” Agency of the Ministry of Labour and Social Issues, thus acquiring the official status of the unemployed. During the FY 2006, in different months since January to December 2006 the number of unemployed women varied in the range of 60,700 – 65,000 persons. As of December 2006 the unemployment rate in women made 10.8%.

1.2. POLITICAL AND GEOGRAPHIC STRUCTURE OF THE COUNTRY

1.2.1. Political System, Official Language, and Administrative Division

The Republic of Armenia is a sovereign, democratic, social, rule of law state. In the Republic of Armenia power lies with the people. The state power is administered pursuant to the Constitution and the laws based on the principle of separation of the legislative, executive and judicial power.

The Constitution of the Republic of Armenia was adopted on July 5, 1995 as a result of nation-wide referendum. Constitution is the main Law of the Republic of Armenia, and is the guarantee of independent democratic society, based on the supremacy of social justice and law.

Later on a draft was prepared with the proposed changes and amendments to the Constitution in effect that was adopted at the Referendum on May 25, 2005. The new version of the Republic of Armenia Constitution was approved on November 27, 2005.

The RA has a system of presidential rule. In accordance with the Constitution, the President ensures compliance with the Constitution, the normal operation of the legislative, the executive and the judiciary systems, and serves as the guarantor of sovereignty, territorial integrity and security of the RA. The President is elected by the citizens of the RA for a five-year term. Every citizen of Armenia over the age of 18 acquires a right for universal suffrage: the right to elect or to be elected.

Legislative power in the Republic of Armenia belongs to the National Assembly or a one-chamber Parliament: a 131-seat body with 75 deputies elected from the majority electoral districts/single-mandate districts and 56 elected according to party listings. As a result of nation-wide elections Deputies of the National Assembly (Parliament members) are elected for a 4-year term.

The executive power in the Republic of Armenia belongs to the Government of the Republic. The Government is composed of the Prime Minister and the Ministers. The President of the Republic appoints and removes the Prime Minister of the Republic. The President also approves the structure of the Government, appoints and removes all members of the Government nominated by the Prime Minister.

Judicial (legal) authority in the Republic of Armenia.

The justice is carried out only by the courts in accordance with the Constitution and the Laws. The courts of first instance (original jurisdiction courts), appeals courts and the courts of review/cassation function as the courts of general jurisdiction in the Republic of Armenia. There are also the economic court, the martial-law court, as well as some others presupposed by the law.

The state language of the Republic of Armenia is Armenian.

The Republic of Armenia ethnic breakdown: 96% of population is Armenians. Minorities: Russians, Yezides, Kurds, Assyrians, Greeks, Ukrainians, Jews and others. The majority of population in Armenia practices Christianity and is headed by the Armenian Apostolic Christian Church

In the Republic of Armenia the Church is separated from the State. The Republic of Armenia acknowledges the unique mission of the Holy Armenian Apostolic Church for the spiritual life of the Armenian people, for the progress of the national culture and preservation of the national distinctive character. In the Republic of Armenia the liberty is secured for all religious organizations functioning in accordance with the procedure established by the law.

The basis for territorial and administrative division is the Law of the Republic of Armenia "On the Territorial Administrative Division of the Republic of Armenia" adopted on December 5, 1995 in accordance with which the entire territory of Armenia is divided into 11 marzes (regions), including the capital city of Yerevan that has a status of a marz (with 12 districts/circuit communities), 48 urban and 866 village communities (as of January 1, 2007).

1.3 GEOGRAPHIC, DEMOGRAPHIC, AND ECONOMIC DATA

1.3.1 Geographic structure of the Republic of Armenia

The Republic of Armenia is a small mountainous country; the 90% of its territory is at the height of 1,000 m above the sea level and higher.

Armenia is situated in the South-Western Asia and borders Georgia in the North, Azerbaijan in the North-East, East, and South-West, Iran in the South; in the West Turkey is the neighbouring country.

The territory of the Republic of Armenia makes only the small part (10%) of the large Armenian Highland and has a complex geological structure and a diverse relief. Total area of the country makes 29.74 thousand sq km: 46.8% agricultural lands, 12.7% - forests and 5.6% - surface waters; 34.9% - other types of lands. The overall extension of the Republic of Armenia from North-East up to the southern borderline comprises 360 km; the extent from East to West makes 200 km.

The largest lake in Armenia is Sevan, the fresh waters of which are considered a natural reservoir of drinking water for the entire region in future. Sevan Lake is located at the height of 1,897 m above the sea level; its surface area makes 1,260 sq km. The rivers of Armenia are mountainous and shallow; their annual runoff achieves 7.187 milliard m^3 , while in low-water years it makes 5.2 milliard m^3 . Due to the geographical situation of the Republic, waters of almost all the rivers flow outside Armenia. By its extent, Arax is the longest river with the total length of 1,072 km.

Armenia is a typically mountainous country: the lowest level is in the North, the Canyon of Debed River (380 m); the highest elevation is the northern peak of mount Aragats

(4,090 *m* above the sea level). Relative heights range from 1,500-2,000 *m* up to 3,700 *m*. Average height is 1,850 *m* above the sea level. Such variation of heights is the main factor in formation of climate and landscape high-altitude zones.

Ruggedness and peculiarity of the relief create great diversity of climatic conditions and form local micro-climatic sub-regions, differing from one another by the thermal regimen, amount of precipitations and humidity.

Armenia is characterized by the mountainous continental climate, remarkable for its dryness. By the geographic zone, Armenia belongs to the northern latitudes of subtropics. During the year, continental air masses of mean latitudes prevail in Armenia. In winter and summer, anticyclone type of weather predominates; as a result, the winter in Armenia is cold, while the summer is dry and torrid.

1.3.2 Social and Demographic Status

According to the 2001 Census, total population of the Republic of Armenia made **3 212 900** (as of late 2001 est.); urban population achieved **2 061 700** and rural population reached **1 150 700**.

The permanent population as of January 1, 2007 made **3 222 700** persons, of which urban population made 2 065 800 and rural - 1 156 900.

Compared to data of January 2006, in January 2007 the index of permanent population increased by 3500 persons, while 77% of natural increase was registered due to the increase of rural population.

As of January 1, 2008 the permanent population made 3 229 900 persons: urban - 2 069 300 and rural - 1 160 600.

In January – December 2007, the on-going increase of the number of permanent population of the Republic of Armenia compared to January-December 2006 was ensured due to the natural increase in population (25.9%) and decrease of the negative index of balance of migration (8.5%).

In January-December 2006 the natural increase index in Armenia made 3.3‰. In 2006 the number of births made 37568, the birth rate per 1000 made 11.7 pro mil. In January-December 2007 the number of registered births made 40142; as compared with the same period of FY 2006 it was by 6.7% more, while the overall birth rate per 1000 increased correspondingly by 0.7 per mil points and made 12.4‰.

In January – December 2006 there were registered 663 cases of stillbirths; it was 1.9-fold above the indices of FY 2006. The number of births in 2006 exceeded the number of deaths 1.4-fold. In January – December 2007 there were 558 registered cases of stillbirths or by 15.7% less than in the corresponding period of 2006.

Life expectancy at birth is a significant index of reproduction in population. As to data of 2005, in total population it made 73.5 years (males: 70.3; females: 76.5). In 2004, these indices were 73.4, 70.3 and 76.5 years, appropriately.

Death rate is one of the most important indices of natural processes in population. Thus, in January – December 2006, total number of deaths in Armenia made 27149 (8.4 pro mil) or 2.9% higher than in the same period of 2005 (8.8 pro mil) In January – December 2007 there were registered 27004 cases of deaths; compared to data of the same period of 2006 the number of deaths decreased by 0.7%. In January – December 2007 the overall death rate per 1,000 population made 8.4%; compared to January – December 2006 a decrease of 0.1 per mil point is observed.

The number of births in January – December 2007 exceeded the number of deaths 1.5 times. In January – December 2007 the total coefficient of the natural increase per 1000 population made 4%; compared to January – December 2006 this index increased by 0.8 pro mil points.

In the entire structure of mortality causes in 2006, there was a prevalence of deaths due to the diseases of blood circulation system: 49.9 (13558 cases of death). In January – December 2006 the number of deaths due to neoplasms made 19.1%; accidental deaths, poisonings, and traumas – 4.8%; deaths caused by diseases of respiratory organs – 7.4% and those of alimentary (digestion) organs – 5.8 % of all cases of deaths.

In January – December 2007, as compared to the same period of the previous year an increase was registered in specific gravity of the number of deaths due to diseases of blood circulation system (by 0.2%), deaths due to malignant neoplasms (by 0.5%), and other diseases (0.6%); there was a decrease of the specific gravity of accidental deaths, poisonings, and traumas (by 0.2%). A decrease was also registered in concern of death due to diseases of alimentary (digestive) organs (by 0.6%), as well as infectious and contagious/parasitical diseases (by 0.1 percent point).

In January – December 2007, as compared to FY 2006 there was registered a 18% decrease of deaths of children under 1 year of age; the infant mortality coefficient per 1000 live births made 10.7% vs. 13.9 in the same period of 2006. As to the structure of death causes in children aged 0-1 year, 76.2% made cases due to some states occurring in perinatal period and due to congenital anomalies, deformations and chromosome disorders vs. 79.9% of the appropriate period of the previous year.

In January – December 2007, 494 cases of deaths were registered in Armenia in children at the age of 0-4 years, of which 86.8% made cases of deaths in children under 1 year of age. The death rate in children under 5 (per 1000 of live births) made 12.3%; in boys this index made 13.4%, while in girls it was 11.0%.

Due to pregnancy related complications

in partum and post partum in January – December 2007 6 case of maternal death were registered; the rate of maternal mortality (per 100000 live births) made 15.0.

In January – December 2006 the number of marriages registered in Armenia increased by 1.6% compared to the same period of the year and made 5.2% per 1000.

The number of divorces also increased (by 14.3 %) and made 1,987. There were 166 divorces per 1,000 newly married couples in January – December 2006. In January – December 2007 the number of registered marriages increased by 7.4% and made 18145, while the total nuptiality coefficient per 1000 population increased by 0.4 pro mil points, as compared with January – December 2006, and made 5.6%.

In January – December 2007 the number of divorces increased by 4.8% and made 2931, while the index of divorces per 1000 population remained at the same level and made

0.9%. In January – December 2007 per 1000 registered married couples there were 162 cases of divorces compared to 166 cases in January – December 2006.

Changes of economic situation in Armenia due to the transition from previously existing system of centralized planned economy towards the new market relations brought forth a decrease of general well-being of population, polarization of certain layers of the society by their income, as well as unemployment.

The “Republic of Armenia Employment/Placement State Service” Agency at the Ministry of Labour and Social Issues performs registration and record keeping of the unemployment. However, the real number of unemployed exceeds the number of those officially registered.

In Armenia activity is still performed to develop programmes and actions aimed to the progress of small and medium-sized business, as well as to encourage self-employment of those unemployed, for their private economic activity in agriculture, trade, servicing of car repair, household devices and personal belongings, as well as their retraining for professions of greater demand. It is rather difficult to evaluate the level of unemployment amongst the rural population, because, due to land reform in the Republic of Armenia, agricultural production turned to be entirely private-ownership.

On the average, in 2006 the level of officially registered unemployment in Armenia made 7.4%. At the end of FY 2006, 88,900 unemployed persons were registered; females made 71.7 %.

According to data provided by the “Republic of Armenia State Employment/Placement Service” Agency at the Ministry of Labour and Social Issues the situation with the officially registered unemployed according to age/gender and education by the end of December 2004 was as reflected in Table 1.1.

Table 1.1

Distribution of Officially Registered Unemployed in the Republic of Armenia, 2004-2006
(by gender, age and education)

Years	Age and education groups	Entire, thousand people	Unempl oyed in % of total number	Females, thousand people	including: Unemplo yed females in % of total	Rural population, thousand people	Rural population, in % of total
2004	Entire number by:	108.6	100	76.3	100	6.9	100.0
	<i>Age:</i>						
	Below 18 years old	0.1	0.1	0.1	0.1	0.0	0.0
	18-22	1.7	1.6	1.1	1.4	0.3	4.3
	23-30	20.2	18.6	12.4	16.3	1.2	17.4
	31-50	73.0	67.2	54.6	71.6	4.6	66.7
	51 and above	13.6	12.5	8.1	10.6	0.8	11.6
	<i>Education:</i>						
	higher	14.4	13.3	9.1	11.9	0.5	7.2
	technical	27.7	25.5	18.2	23.9	1.6	23.2
	secondary	60.8	56.0	45.8	60.0	3.8	55.1
	incomplete secondary	5.7	5.2	3.2	4.2	1.0	14.5
2005	Entire number by:	89.0	100.0	63.0	100.0	6.3	100.0
	<i>Age:</i>						
	Below 18 years old	0.1	0.1	0.0	0.0	0.0	0.0
	18-22	1.0	1.1	0.6	1.0	0.1	1.6
	23-30	12.2	13.7	8.1	12.9	0.9	14.3
	31-50	62.7	70.4	45.6	72.4	4.5	71.4
	51 and above	13.0	14.6	8.7	13.8	0.8	12.7
	<i>Education:</i>						
	higher	12.5	14.0	8.1	12.9	0.5	7.9
	technical	23.0	25.8	16.1	25.6	1.4	22.2
	secondary	48.0	53.9	35.8	56.8	3.4	54.0
	incomplete secondary	5.5	6.2	3.0	4.8	1.0	15.9
2006	Entire number by:	84.6	100.0	60.7	100.0	6.1	100.0
	<i>Age:</i>						
	Below 18 years old	0.1	0.1	0.1	0.2	0.0	0.0
	18-22	2.1	2.5	1.4	2.3	0.2	3.3
	23-30	13.2	15.6	9.4	15.5	1.0	16.4
	31-50	55.2	65.2	39.6	65.2	4.1	67.2
	51 and above	14.0	16.5	10.2	16.8	0.8	13.1
	<i>Education:</i>						
	higher	12.2	14.4	8.4	13.8	0.4	6.6
	technical	21.5	25.4	15.6	25.7	1.3	21.3
	secondary	46.0	54.4	33.9	55.8	3.6	59.0
	incomplete secondary	4.9	5.8	2.8	4.6	0.8	13.1

In 1996 and 1999, the National Statistical Service (Armenia) with the technical support of the World Bank performed researches aimed at qualitative and quantitative analysis of the social state of population in Armenia in order to study the level of living standard in a period of transition and to identify the structure of poverty (*who is poor? what are the reasons of poverty?*). In 2001-2006, World Bank methodic procedure was applied to perform integrated survey in households

Since April 1, 2004 to March 31, 2005 surveyed 6816 households, in 2005 - 5187, while in 2006 – 5184 households, with the use of sampling stratified according to marzes (administrative regions of Armenia) on the basis of the new Address Base compiled according to data of Census 2001 (Statistical Year Book, Armenia 2007).

Inasmuch as the population is, generally, inclined to conceal the real incomes, the calculations are done in international indices for consumer goods, which include the price of food-stuffs (bought, produced and processed at private farms, gifted or granted, obtained in exchange for labour), the cost of purchased industrial goods, the price of paid services or goods and services obtained free of charge.

On the basis of results obtained due to survey in households (1996, 1999, and 2001) the structure of a minimal basket of food, the energetic value of which equaled 2,100 kilocalories, was drawn. The actual cost of the minimal basket of food was calculated/composed at the average prices obtained from household surveys in a.m. years.

Relying on the analysis of results obtained due to surveys in households there were defined such groups of population as “poor” and “very poor”; the poverty line and food line were estimated, data was summarized on absolute poverty line, as well as poverty incidence by location of households.

Poverty indicators were calculated with the use of the minimal basket of food and estimation of the share of non-foods for FY 2004. Poverty lines were recalculated taking into account the inflation. In 2004 the general and food lines made, appropriately, 19,373 and 12,467 Armenian Drams (AMD), while in 2005 it was 20,289 and 13,266 AMD. Poverty intensity (“depth”) making 5.4% indicates that if the country will be able to mobilize resources equal to 5.4% of the entire poverty line value for each citizen (both poor and non-poor) and if these resources be distributed among the poor, then, in theory (in ideal) the poverty will be eradicated in case the support will be directed to poor population only (Statistical Yearbook, 2007).

In accordance with the results of integrated researches performed by the National Statistical Service (Armenia), the social status of population was as presented in Tables 1.2-1.5.

Table 1.2

Poverty indices (in %)						
Years	Location of Households	Very poor	Poor	Share in total number of population	Depth of poverty	Severity of poverty
1998/	Urban area	26.2	62.1	57.1	20.1	8.7
1999	Countryside	14.1	48.2	42.9	13.3	5.1
	Total	21.0	56.1	100.0	17.2	7.2
2004	Urban area	7.5	36.4	62.4	8.4	2.8
	Countryside	4.4	31.7	37.6	5.7	1.6
	Total	6.4	34.6	100.0	7.4	2.4
2005	Urban area	5.3	30.7	63.5	5.9	1.9
	Countryside	3.2	28.3	36.5	4.6	1.2
	Total	4.6	29.8	100.0	5.4	1.6

Poor: monthly expenditures (consumer aggregate) per capita are exceeding the food line, but are below the poverty line;

very poor monthly expenditures (consumer aggregate) per capita is below the food line

poverty line: in 1996 was at 10,784AMD (Armenian drams);
in 1999 = 11,735AMD;
in 2001 = 12,012 AMD;
in 2002 = 12,261 AMD;
in 2003 = 12,629 AMD;

food line: in 1996 equaled 6,612 AMD;
in 1999 = 7,194 AMD;
in 2001 = 7,368 AMD;
in 2002 = 7,516 AMD;
in 2003 = 7,742 AMD.

Table 1.3

Poverty lines (in AMD)			
	1998/1999	2004	2005
Extreme (food) poverty line	11,210	12,467	13,266
Total poverty line	17,663	19,373	20,289

Table 1.4

Poverty by size of Households (in %)					
years	Number of members of a household	Very poor	Poor	Share in poor population	Share in total population
1998/ 1999	1	6.8	43.7	-	-
	2	16.5	49.8	-	-
	3	14.8	49.0	-	-
	4	17.0	50.1	-	-
	5	17.7	54.1	-	-
	6	26.3	63.1	-	-
	7 and more	29.0	63.8	-	-
	Total	21.0	56.1	-	-
2004	1	1.6	13.2	-	-
	2	3.9	20.3	-	-
	3	3.8	25.3	-	-
	4	5.3	28.5	-	-
	5	5.2	36.3	-	-
	6	7.7	39.7	-	-
	7 and more	11.9	52.8	-	-
	Total	6.4	34.6	-	-
2005	1	1.9	15.7	1.9	3.7
	2	2.1	18.7	6.0	9.5
	3	3.2	18.9	8.5	13.4
	4	4.0	25.0	18.6	22.2
	5	4.7	34.8	24.9	21.4
	6	6.1	34.0	17.7	15.5
	7 and more	7.2	46.8	22.4	14.3
	Total	4.6	29.8	100.0	100.0

Table 1.5

Poverty by standard of education (in %)

Years	Education	Very poor	Poor	Share in poor population	Share in total number of population
1998/ 1999	Primary and lower	23.7	62.3	-	-
	Basic (incomplete secondary)	27.8	63.3	-	-
	Secondary	24.0	58.9	-	-
	Technical	19.4	55.6	-	-
	Higher	13.4	44.9	-	-
	Total	21.6	56.4	-	-
2004	Primary and lower	7.2	37.4	-	-
	Basic (incomplete secondary)	8.7	42.6	-	-
	Secondary	7.2	38.2	-	-
	Technical	5.6	31.9	-	-
	Higher	2.6	19.5	-	-
	Total	6.1	33.5	-	-
2005	Primary and lower	4.6	29.9	2.7	2.6
	Basic (incomplete secondary)	6.7	37.0	10.8	8.5
	Secondary	5.3	34.4	55.6	46.7
	Technical	3.8	26.1	20.3	22.4
	Higher	1.9	15.4	10.6	19.8
	Total	4.4	28.9	100.0	100.0

Tabulated data signify that poverty differs in a number of factors: locality of households, number of family members, and level of education. High poverty percent is observed in households having 5 and more family members with incomplete secondary and secondary education.

Proceeding from these, since 1999 special family allowances system has been implemented.

With the aim of poverty reduction both development and implementation of the active state policy is carried out to mitigate social disparity of population and eradicate the poverty in Armenia, including elaboration of a number of programmes and implementation of appropriate actions.

1.3.3 Economic situation

In the Republic of Armenia there are substantial resources of such natural fossils and minerals as tuff (tufa), marble, pumice, perlite, limestone, basalt, and salt. Coal, iron, bauxites, molybdenum, gold, silver, lead, and zinc are also extracted. There is a great diversity of precious and semi-precious stones.

The economic development in Armenia tends towards formation and sustaining free market economic relations.

During 1990-1993, an extreme decrease of Gross Domestic Product (GDP) was registered, making more than 53%. The most abrupt decrease of GDP that more than 6-fold exceeded the corresponding index in NIS/CIS countries was registered in 1992: 42%.

The revival of national economy and GDP growth began to be observed only since 1994, when the GDP level was the lowest and made 44.3 % of 1989 GDP.

In 2004-2006 the tendency of GDP increase retained. Thus, in January-December 2006, the volume of GDP production in current prices made 2,665,036.6 AMD, while the rate of its growth as compared to the same period of FY 2005 made 113.4% vs. 114.0 in January- December 2005. In January – December 2006 the GDP made 827,394 AMD (USD 1,989 or EURO 1,587).

The processes of economy revival are mainly ensured by the growth of five key branches of economy: industry, agriculture, construction/civil engineering, transport and communications, trade and catering system, which in total provide the significant share of country GDP. Main indices of macroeconomics and the characteristic changes are presented in Table 1.6.

Table 1.6

Major Characteristic Changes of Macroeconomics

Economic Indices	1998	1999	2000	2001	2002	2003	2004	2005	2006
GDP, actual prices, billion AMD	995.4	987.4	1031.3	1175.9	1362.5	1624.6	1907.9	2242.9	2657.1
GDP, actual prices (mln US\$)	1892.3	1845.5	1911.6	2118.4	2376.3	2807.1	3576.6	4900.4	6386.7
Deflator, as % to previous year	110.7	100.1	98.6	104.1	100.7	104.6	106.3	103.2	104.6
GDP per capita, US\$	498.7	485.6	502.7	659.1	739.9	874.1	1112.8	1523.0	1982.8
GDP per capita, thousand AMD	251.8	259.8	271.2	309.3	424.2	505.9	593.6	697.1	824.9
GDP volume index per capita, as % to previous year	107.1	103.1	105.8	109.6	113.3	114.1	110.4	113.7	113.1
Dollar rate, AMD for 1 US\$	504.89	535.06	539.53	555.07	573.35	578.77	533.45	457.69	416.04

In the period of establishing free-market relations, the conditions were formed in Armenia, which brought to private sector priority in economy. Since 1995, the process began for privatization of enterprises by means of free subscription for shares/stock as the basis of privatization in Armenia. The dynamics of private sector development in 1990-1999 signifies to the increase of its contribution to the GDP (Table 1.7).

Table 1.7

Years	Share of Private Sector in GDP (1990-1999)	
	Overall GDP (in %)	Specific gravity of private sector in the GDP (in %)
1990	100	11.7
1991	100	32.7
1992	100	36.7
1993	100	46.2
1994	100	49.7
1995	100	51.7
1996	100	63.3
1997	100	67.9
1998	100	74.5
1999	100	79.0

Since 1991 the privatization of agriculture has began in Armenia.

In 1985, there were 285 collective farms, 513 state farms, 72 inter-organizational entities serving for different enterprises and 135 enterprises for processing of food and meat-and-milk produce. In 2005, the number of rural economies achieved 339174 with agricultural lands of 469,700 ha. In 2006 (est. as of July 1, 2006) of total lands making 2 974,300 ha, 2 129,600 ha were grounds of agricultural indication, of which 21.3% made tillage, 52.8% - pastures, 1.3% - perennial plants; 6.0% - hayfields and 18.6% - other types of lands.

The share of private sector in the area of agriculture and trade made 98% and 97%, appropriately.

Structural changes in economy dealt with all its branches and affected the activity of transport and communications systems, civil engineering, and trade.

Thus, in January-December 2006, compared to January – December 2005 the scope of goods transported only by the transport in general use increase by 16.6%.

In January – December 2006 the situation was as follows: 59.3% of goods were carried by motor transport; 28.2% - by railway transport; 0.1% by air transport, and 12.4 % by pipelines. In January-December 2006 the entire flow of cargo traffic increased compared to January-December 2005, the flow of transportation of goods by transport means of general use increased by 1.9 % and made 2345.500 mln. ton/km

In 2006 bulk passenger transportation by vehicles of general use increased in Armenia by 12.7% compared to 2005. In the structure of passengers/public conveyance according to certain types of transport vehicles in January – December 2006 the specific gravity of railway transportation made 0.1% of total transportation, motor transport – 90.6%, air transport – 0.5%, electrical transport – 8.60%.

Activity revival of economy was also observed in concern of the rates of civil engineering/construction works in Armenia. During January – December 2006 construction work was performed to the sum of 623 111.5 mln AMD, thus by 37.1% exceeding the same indicator of 2005, while the increase of building-and-assembly jobs made 37.2 %.

788 new residential buildings with 365721 m² of total floor area were put in commission, making 106.6% of that for the period of 2005. Construction works were performed on the state budget (113 apartment buildings with total area of 9430 m²), thanks to humanitarian support (6 apartment buildings with total area of 2677 m²), due to funds of organizations (12 residential buildings with total area of 51115 m²), due to personal savings of inhabitants (657 apartment buildings with the area of 302499 m²). 76.8% of overall area of residential houses put in commission in December 2006 was done due to financial resources of population (vs. 39.7% in 2005).

In January – December 2006 there were constructed and put into commission due to the state budget - 4 new secondary schools for 700 pupils (1 school for 200 pupils) and due to credits provided by the World Bank 3 secondary schools for 500 pupils.

1.4 INDUSTRIAL AND AGRICULTURAL SECTORS

1.4.1 Industrial Sector

Previously, Armenia was famous by its developed industry and agriculture. The leading part belonged to machine-building industry; metal processing, chemical, and petrochemical industry, ferrous and non-ferrous metallurgy, as well as industry of building materials. There functioned major enterprises for production of calcium carbide, hydrate of sodium, chlorine, hydrochloric acid, sulphuric and nitric acids, chloroprene rubber and latexes, production sites for nitrous fertilizers, glass, chemical fibre, and plastics (see Table 1.8).

Table 1.8

Allocation of direct funds in Armenia (FY 1969)

Branches of industry	Direct funds, %
Electroenergetics	24.6
Non-ferrous metallurgy	12.3
Chemical and petrochemical industry	16.7
Machine building industry and metal working	18.9
Timber industry, woodworking industry, pulp-and-paper industry	1.2
Industry of building materials	7.4
Glass industry and industry of porcelain /faience goods	0.5
Light industry	7.5
Food industry	9.4

The cities of Yerevan and Vanadzor were great centres of chemical industry. Major mining and metallurgical enterprises were located in towns of Alaverdi and Zangezur. Non-ferrous metallurgy was one of important branches of industrial development. Since early 1970s the development of ferrous metallurgy has began in Armenia. The plant of “Pure Iron” was established in Yerevan and the “Centrolit” plant in Charentsavan. In 1980s Armenia exported ample quantities of synthetic rubber, carbon acids, concentrates of molybdenum and copper, motor-vehicles, etc.

Such non-metal consuming branches as industry of electronics and radioindustry, motorcar construction, instrument-making and machine tool construction developed in Armenia thanks to highly qualified specialists. Development of radio-technical and electronic industry was characterized by the highest rates, especially – the branches for creation of mathematical machines, production of mobile/portable electrical power plants, alternating current generators, engines of various caliber, compressors, hydro pumps, passenger elevators, wires, cables, electric bulbs, various electrical-type measuring instruments, automobiles, automated lift trucks, etc.

There was an intense development of mechanical engineering, specialized for production of devices required for machine-tool construction and automation. There was an increase in number of enterprises producing milling, grinding machines, metal-cutting, stone-processing and other types of equipment, compressors and pumps, presses, clocks and watches, gems for precise devices, artificial corundum, artificial diamonds for tools, and jewelry.

Major plants were located:

- in Yerevan: “Armelectro” plant, Machine-tools plant, Electric bulbs plant, Cables plant, automobile plant “ErAz”,
- in Gyumri: Micro-electro motors plant, Grinding machines plant, Forge-and-press plant,
- in Charentsavan: Boring machines plant, Toolmaker, “Centrolit” plant,
- in Vanadzor: Precision tools plant.

Chemical industry of Armenia involved, in the main, the following industrial complexes:

1. acetylene production complex (production of chloroprene rubber and latexes, production sites for hydrate of sodium, hydrochloric, acetic, formic, and propionic acids, vinyl acetate, polyvinyl alcohol, acetyl cellulose, mechanical rubber goods);
2. production complex of calcium cyanamide, ammonia for nitrous fertilizers, melamine, carbamide;
3. industrial complex based on utilization of sulphur dioxide of copper-smelting production (production of sulphuric acid)

Non-ferrous metallurgy involved, mainly, production of copper and aluminum, concentrates of molybdenum, copper, lead, zinc, as well as gold-mining and extraction of raw material for Dore metal.

Major ore-mining and processing enterprises, mining-and-smelting plants were located in:

1. Alaverdi (copper-chemical industrial complex);
2. Kadjaran and Agarak (copper-and-molybdenum industrial complex);
3. Kapan (copper-ore processing industrial complex);

4. Yerevan (aluminium production plant; “Pure Iron” plant);
5. Vardenis (gold-mining industrial complex);
6. Ararat (gold-enriching factory).

Armenia has at its disposal great resources of various building materials of unique volcanogenic types: tufa, pumice-stone, perlite, limestone, granite, marble, basalt, etc.). Due to availability of such a basis, the industry of building materials developed very intensely in Armenia. The production involves building blocks, lightweight fillers, cement, marble, flame-resistant products, asbestos-cement pipes and plates/slabs, perlite, bentonite. Main industrial capacities are located in towns of Artik, Ararat, Hrazdan, Aragats, Toumanyan, and Idjevan.

Wide-scale production of glass, crystal, and flame-resistant bricks was established and operated in Toumanyan, Yerevan, Byureghavan, Armavir, and Arzny.

Significant part belonged to the light industry, as in Armenia 70 major enterprises functioned for production of cotton, woolen and silk clothes, production of textiles (knitted wear), clothes/garments, shoe-wear, leather goods, carpets, and a variety of other consumer goods. The plants were located in Yerevan, Gyumri, Vanadzor, Goris, Stepanavan, Gavar, and Idjevan.

Due to cardinal socio-economic changes the industry of Armenia also underwent crucial changes, the deep economy decrease and crisis. Resulting from the disintegration of coherently functioning planned economy and well-established economic relations of former USSR, many large and small enterprises ceased their activity. The emigration of the considerable proportion of able-bodied citizens enhanced and this latter also affected the economic situation of the country.

However, since 1994 there began to be registered a step-wise economy revival.

At present, the industry of the Republic is based on its own mineral products, treasures of the soil, and agricultural raw materials. Fuel, ferrous metals and auxiliary raw materials are imported.

The overview of general industrial indices is presented below (Tables 1.9-1.13).

Table 1.9

Major Indices of Industry according to Types of Economic Activity									
	1998	1999	2000	2001	2002	2003	2004	2005	2006
Share of industry in added cost ¹ , %	21.9	23.1	24.1	22.3	20.9	21.2	20.8	23.8	19.5
Number of industrial organizations ² /unit	1050	1177	1234	1713	1816	2053	2195	2270	2335
Industrial output, billion AMD	261.2	283.5	300.5	309.3	341.1	426.1	535.3	651.9	644.9
Volume index per capita of industrial production, as % to previous year	97.9	105.3	106.4	105.3	114.6	115.1	102.4	107.6	99.1
Price index of producer	113.4	102.3	100.8	99.6	102.5	108.9	121.7	107.7	100.9

¹ Without indirect taxes

² Number of organizations that have presented statistical report

	1998	1999	2000	2001	2002	2003	2004	2005	2006
organizations, as % to previous year									
Basic/fixed production assets (at the end of year, by initial cost), billion AMD	1156.3	1138.2	1171.3	1205.4	1202.5	1313.6	1345.7	1291.1	1403.3
Mean number of employees of industrial enterprises, persons	160.0	143.8	124.1	109.1	72.2	78.9	77.3	80.8	78.9
as % to previous year	92.3	89.9	86.3	87.9	96.9	109.3	98.0	104.5	97.6
Average monthly nominal wage, AMD	21634	23434	29064	35822	40362	53048	60727	67967	77633

Table 1.10

Volume of Industrial Production according to Sectors of Economic Activity
(in current prices, mln AMD)

	1998	1999	2000	2001	2002	2003	2004	2005	2006
Overall volume of industrial production	261167.6	283484.8	300549.7	309310.9	341065.4	426053.5	535263.7	651919.6	644862.5
Mining industry	10222.7	11037.5	16058.6	20230.6	30820.8	46654.7	97098.9	113328.0	113458.9
Manu facturing industry	163580.8	181843.0	193821.8	201429.0	227249.0	285337.7	336703.8	424361.7	419212.0
Production and distribution of electric energy, gas and water	87364.1	90604.3	90669.3	87651.3	82995.6	94061.1	101461.0	114229.9	112191.6

Table 1.11

Branches of industry	Volume of Industrial Production by Branches (in current prices, mln AMD)							
	1998	1999	2000	2001	2002	2003	2004	2005
Overall volume of industrial production	261167.6	283484.8	300549.7	309310.9	341065.4	412564.8	517108.1	628748.3
Including:								
Electroenergetics	87364.1	90604.3	90669.3	87651.3	82995.6	80572.4	83305.4	91058.6
Ferrous metallurgy	181.6	274.8	216.8	187.3	176.5	120.2	1463.9	53.5
Non-ferrous metallurgy	14151.7	17018.6	31806.3	42252.5	57342.1	89441.0	160335.4	233787.9
Chemical and petrochemical industry	6675.3	8076.9	10268.7	8572.8	7361.4	8147.0	12456.1	19103.4
Machine building industry and metal working	12268.8	8758.8	11090.6	14200.5	14468.3	19672.5	22596.8	25516.6
Timber industry, woodworking industry, pulp-and-paper industry	820.0	896.0	1821.3	2442.7	3136.3	4259.3	4738.2	4687.5
Industry of building materials	9141.6	9082.3	6613.9	7543.4	10196.5	13726.3	17825.4	23648.2
Glass industry and industry of porcelain /faience goods	890.9	666.1	646.6	917.2	966.9	1264.2	1387.6	1745.6
Light industry	4495.4	3812.1	3919.7	4226.0	4168.3	4817.8	5487.8	4818.8
Food industry	100125.1	111530.0	115772.7	114874.5	126666.2	150829.8	161921.8	185397.1
Flour-and-cereals and feed mill industry	13099.4	11918.7	6852.9	4839.1	8003.3	10614.7	21162.4	16660.1
Printing industry	1796.8	3258.9	4129.3	4702.1	4316.2	6276.4	7159.4	8300.7

Table 1.12

Structure of Industrial Output according to Sectors of Economic Activity

	(in % of total)								
	1998	1999	2000	2001	2002	2003	2004	2005	2006
Overall volume of industrial production	100	100	100	100	100	100	100	100	100
Mining industry	3.9	3.9	5.3	6.6	9.1	10.9	18.1	17.4	17.6
Manufacturing industry	62.6	64.1	64.5	65.1	66.6	67.0	62.9	65.1	65.0
Production and distribution of electric energy, gas and water	33.5	32.0	30.2	28.3	24.3	22.1	19.0	17.5	17.4

Table 1.13

Structure of industrial production by branches

	(in % of total)							
Branches of industry	1998	1999	2000	2001	2002	2003	2004	2005
Overall volume of industrial production	100	100	100	100	100	100	100	100
Including:								
Electroenergetics	33.5	32.0	30.2	28.3	24.3	19.5	16.1	14.5
Ferrous metallurgy	0.1	0.1	0.1	0.1	0.1	0.0	0.3	0.0
Non-ferrous metallurgy	5.4	6.0	10.6	13.7	16.8	21.7	31.0	37.2
Chemical and petrochemical industry	2.6	2.9	3.4	2.8	2.2	2.0	2.4	3.0
Machine building industry and metal working	4.7	3.1	3.7	4.6	4.2	4.8	4.4	4.1
Timber industry, woodworking industry, pulp-and-paper industry	0.3	0.3	0.6	0.8	0.9	1.0	0.9	0.7
Industry of building materials	3.5	3.2	2.2	2.4	3.0	3.3	3.4	3.8
Glass industry and industry of porcelain /faience goods	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3

Branches of industry	1998	1999	2000	2001	2002	2003	2004	2005
Light industry	1.7	1.3	1.3	1.4	1.2	1.2	1.1	0.8
Food industry	38.3	39.4	38.5	37.1	37.1	36.6	31.3	29.5
Flour-and-cereals and feed mill industry	5.0	4.2	2.3	1.6	2.3	2.6	4.1	2.6
Printing industry	0.7	1.1	1.4	1.5	1.3	1.5	1.4	1.3

As obvious from tabulated data above, manufacturing industry is the most developed type of economic activity in Armenia; amongst the numerous branches of industry the highest input have energy production, non-ferrous metallurgy and food industry.

It should be mentioned that, for the most part, 44.5% of country overall industrial production is manufactured in Yerevan; 18.8% was produced in Syunik marz and 10.2 % in Kotayk marz (Table 1.14).

Table 1.14

Volume of Industrial Production by regions of Armenia
(in current prices, mln AMD)

Marz (region)	1999	2000	2001	2002	2003	2004	2005	2006
<i>Republic of Armenia, total</i>	283484.0	300549.7	309310.9	341065.4	426053.5	530156.1	651919.6	644862.5
Yerevan city	130579.9	138840.8	152490.5	159718.9	209633.8	239465.5	307688.8	287530.0
Aragatsotn	4913.9	4553.5	3160.2	5002.2	7778.9	6323.9	7972.7	7278.0
Ararat	17507.9	17496.6	15722.9	31305.3	38028.9	39555.6	46277.8	54015.8
Armavir	31168.8	25603.4	21901.6	24231.2	20999.8	26594.8	28274.2	28914.1
Gegharkunik	7958.1	8635.3	5267.8	8247.6	13255.3	16501.8	14835.4	11810.0
Lory	11817.2	17248.5	15321.9	16579.6	18756.5	32240.8	36159.9	45997.5
Kotayk	46808.6	49798.9	55101.5	49294.2	57369.5	58203.6	67160.9	65390.6
Shirak	10679.3	10581.2	9548.7	10825.3	11637.8	13070.3	13437.8	13385.0
Syunik	15604.3	20937.6	25121.5	29402.5	41517.1	89212.8	120357.0	121270.0
Vajots Dzor	2387.4	3052.2	2882.4	3196.2	3496.6	4733.1	5059.3	5066.0
Tavush	4059.4	3801.7	2791.9	3262.4	3579.3	4306.9	4695.8	4205.5

Table 1.15 reflects specific gravity of marzes in industrial production. Recently, a shift of industrial production is observed towards the regions of Armenia, - Syunik, Kotayk, Ararat, and Lori marzes, as well as a decrease of specific weight of the industrial production in the capital of Armenia, in Yerevan.

Table 1.15

Structure of industrial production by regions of Armenia
(in % of total)

Marz (region)	1998	1999	2000	2001	2002	2003	2004	2005	2006
<i>Republic of Armenia, total</i>	100	100	100	100	100	100	100	100	100
Yerevan city	43.5	46.1	46.2	49.3	46.8	49.2	44.7	47.2	44.6
Aragatsotn	1.6	1.7	1.5	1.0	1.5	1.8	1.2	1.2	1.1
Ararat	5.0	6.2	5.8	5.1	9.2	8.9	7.8	7.1	8.4
Armavir	9.3	11.0	8.5	7.1	7.1	4.9	5.0	4.3	4.5
Gegharkunik	3.1	2.8	2.9	1.7	2.4	3.1	3.6	2.3	1.8
Lory	5.1	4.2	5.7	5.0	4.9	4.4	6.0	5.5	7.1
Kotayk	20.7	16.5	16.6	17.8	14.4	13.5	10.9	10.3	10.1
Shirak	3.9	3.8	3.5	3.1	3.2	2.7	2.4	2.1	2.1
Syunik	5.5	5.5	7.0	8.1	8.6	9.8	16.7	18.5	18.8
Vajots Dzor	0.9	0.8	1.0	0.9	0.9	0.8	0.9	0.8	0.8
Tavush	1.4	1.4	1.3	0.9	1.0	0.9	0.8	0.7	0.7

In January – December 2006, compared to the same period of 2005 there was observed an increase of industrial production at the industrial enterprises of 5 marzes of Armenia according to the understated key industries.

In Yerevan there was an increase of industrial production by 2.5 %, mainly due to production of miscellaneous non-metallic mineral products (119.7%), machines and equipment (118.7%), production of rubber and plastic goods (117.2%), publishing and printing (114.7%), production of finished/final metallic goods (114.0%), metallurgic industry (111.9%), tobacco goods (105.7%) and food, including drinks (103.7%).
textile (194.9 %), chemical industry (159.8), production of rubber and plastic goods (131.9%), finished/final metallic goods (115.4%), machines and equipment (114.5%), miscellaneous non-metallic mineral products (110.4%), (104.8 %) and (104.6%).

In Tavoosh marz the increase of 8.8 % was observed, in the main, due to production of energy (194.0%), branches of minerals mining industry (178.2%), and production of food, including beverages (104.6%).

In Syunik marz the increase of industrial production made 7.6% mainly due to extraction of metallic ore (108.6%), production of machines and equipment (144.8%) and miscellaneous non-metallic mineral products (124.6%).

In Ararat marz the increase made 7.2 %, mainly due to branches of minerals mining industry (2.6-fold), cellulose, paper and paper articles (149.4%), wood, and woodwork, (126.9%), metallurgic industry (126.3%), production of food, including drinks (113.3%), chemical industry (108.2%) and production of miscellaneous non-metallic mineral products (105.6%).

In Shirak marz the increase of industrial production made 4.1%, mainly due to production of branches of mining industry (167.6%), textiles, (133.4%), miscellaneous non-metallic mineral products (127.2%) and machines and equipment (117.7%).

Figure 1.1. Structure of Industrial Production in Yerevan and Regions of Armenia
(January-December 2006)

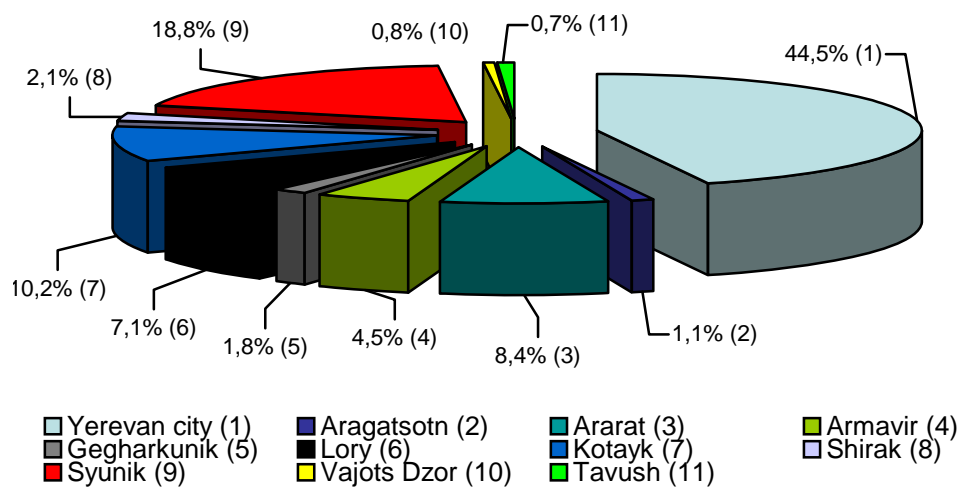


Figure 1.2. Structure of Industrial Output according to Production Sectors
(January-December 2006)

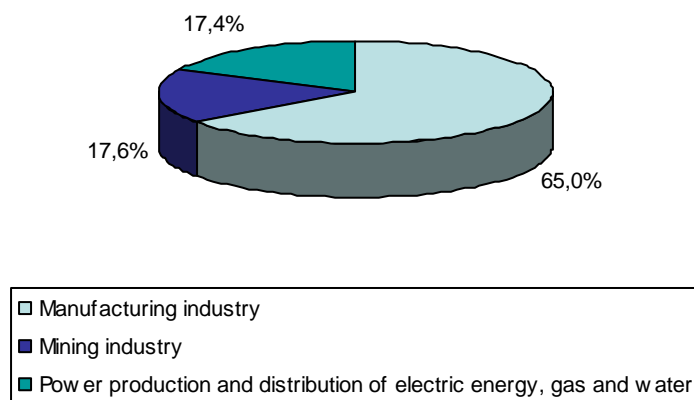


Figure 1.3. Mining industry
(January –December 2006)

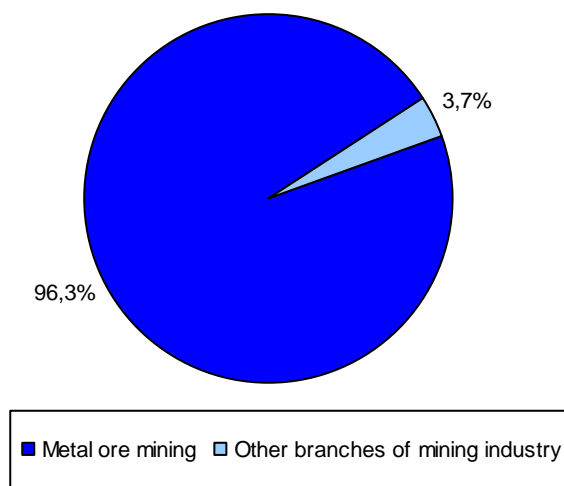
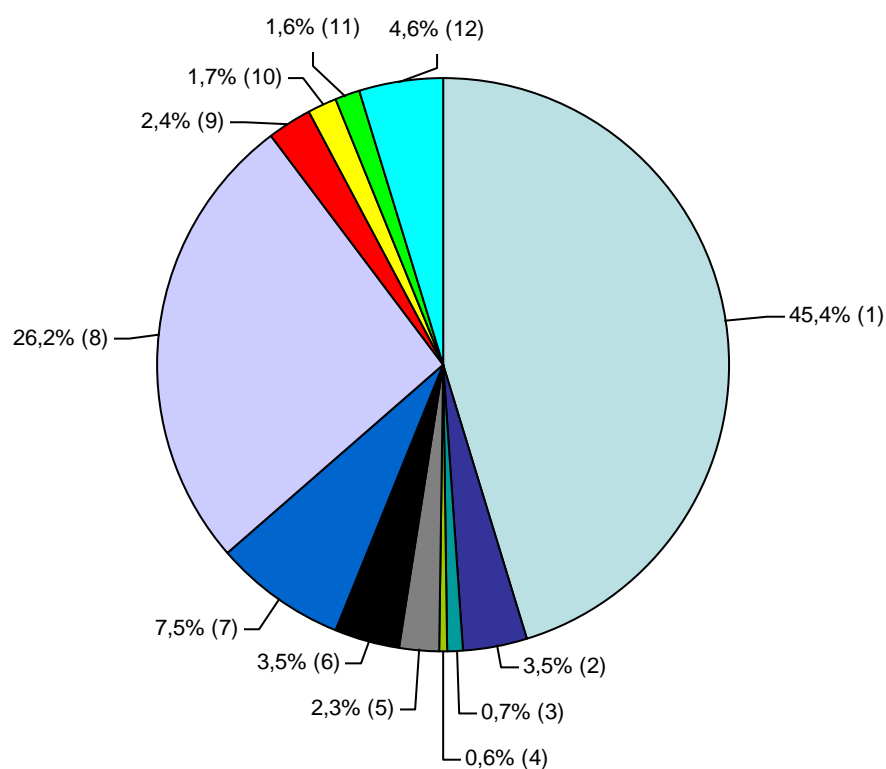


Figure 1.4. Manufacturing Industry



- Production of food, including beverages (1)
- Production of tobacco goods (2)
- Production of textile (3)
- Production of clothes; dressing/dying of furs (4)
- Printing Industry; replication of recorded information-carrying media (5)
- Chemical industry (6)
- Production of other non-metallic /mineral products (7)
- Metallurgical industry/ metal manufacture (8)
- Production of ready-made metallic goods (9)
- Production of machines and equipment (10)
- Production of jew ellery (11)
- Other types of activity (12)

According to data available from the Ministry of Economy of the Republic of Armenia by estimations of FY 2002 there were 352 functioning enterprises in Armenia (Table 1.16).

Of these 352 industrial enterprises state establishments made 27, while partially privatized ones made 34; 20 companies were declared bankrupt or liquidated. Some of these latter were open or closed joint stock ventures.

The list of enterprises does not involve small industrial sites, as a rule those of private ownership, which specialized in production of paper (toilet paper), asphalt, as well as dry cleaner's, enterprises of food industry (poultry farms, smoke-houses).

Table 1.16

Republic of Armenia: List of Industrial Enterprises
(according to data provided by the Ministry of Trade and Economic Development, 2002)

NN cont.	Part/ NN	Name	Location
	I	CHEMICAL INDUSTRY	
1.	1.	Nairit -1 Closed Joint Stock Company (CJSC) (caoutchouc/ synthetic rubber production)	Yerevan
2.	2.	Polyvinylacetate Joint Stock Company (JSC)	Yerevan
3.	3.	Vanadzor chemical plant	Vanadzor
4.	4.	Doghagorts -1 CJSC (Tyres factory)	Yerevan
5.	5.	Prometheus Chimprom CJSC	Vanadzor
6.	6.	Vanadzor Chemical Fibre CJSC	Vanadzor
7.	7.	Vanadzor heating and power plant	Vanadzor
8.	8.	Yerevan Vitamin Plant Open Joint Stock Company (OJSC)	Yerevan
9.	9.	Abovyan plant of medical produce JSC	Abovian
10.	10.	Yerevan Research Institute of Chemical Technology, CJSC	Yerevan
11.	11.	Yerevan Plastpolymer Research Institute, CJSC of "Plastpolymer", CJSC	Yerevan
12.	12.	Ariak (Research Institute of Applied Chemistry) CJSC	Yerevan
13.	13.	Chemical Trade-industrial Centre, CJSC	Yerevan
14.	14.	Elastic firm (proprietary) shop CJSC	Yerevan
15.	15.	Yerevan administration of special constructing-and-mounting/building installation, CJSC	Yerevan
16.	16.	Vanadzor Research Institute Armkhimproekt (Armenian chemical project) , CJSC	Vanadzor
17.	17.	Armnerk (Armenian dyes/paints), CJSC	Yerevan
18.	18.	Yerevan Company "Khimpharmaseft" (Chempharmasist), OJSC	Yerevan
19.	19.	Polyplast, OJSC	Yerevan
20.	20.	Khimreactive (Chemical reagents), OJSC	Yerevan
21.	21.	Mechanic Rubber goods plant, CJSC	Yerevan
22.	22.	Lisin, CJSC	Charentsavan
23.	23.	Shinuair, CJSC	Goris

NN cont.	Part/ NN	Name	Location
24.	24.	Domestic Chemistry, CJSC	Yerevan
25.	25.	Glass isolation, OJSC	Sevan
26.	26.	Polymer, CJSC	Aparan
27.	27.	Polymerglue, CJSC	Vanadzor
28.	28.	Research Institute “Polymerglue”, OJSC	Vanadzor
	II	WOOD-WORKING ENTERPRISES	
29.	1.	Yerevan furniture, OJSC (Arabkir factory, CJSC)	Yerevan
30.	2.	Soft furniture, CJSC	Yerevan
31.	3.	Paper production, CJSC	
32.	4.	Armavir furniture factory	Armavir
33.	5.	Idjevan wood-working factory	Idjevan
34.	6.	Zeytoon furniture factory, OJSC	Yerevan
35.	7.	Factory of School furniture, OJSC	Yerevan
36.	8.	Armavir furniture factory, CJSC	Armavir
37.	9.	“Gofrotara”, OJSC (goffer/ corrugated crates/containers)	Masis
38.	10.	“Furniture”, OJSC	Vanadzor
39.	11.	“Furniture”, OJSC	Dilidjan
40.	12.	“Argos”, OJSC	Stepanavan
41.	13.	Gyumri furniture factory, OJSC	Gyumri
42.	14.	Kapan furniture factory, OJSC	Kapan
43.	15.	Gavar furniture factory, OJSC	Gavar
44.	16.	Artashat furniture factory, OJSC	Artashat
45.	17.	Wooden slabs factory, OJSC	Masis
46.	18.	Shinmontazh	Gyumri
	III	MINING AND SMELTING INDUSTRY	
47.	1.	Zangezur copper-molybdenum combinat, CJSC (integrated group of enterprises)	Kadjaran
48.	2.	Agarak copper-molybdenum combinat, CJSC (industrial complex , integrated group of enterprises)	Syunik region
49.	3.	Kapan ore mining and processing enterprise, SCJSC	Kapan
50.	4.	JSC “Gold”	Yerevan
51.	5.	Akhtala ore mining and processing enterprise	Tumanyan region, massif Akhtala
52.	6.	“Kanaz”, CJSC	Yerevan
53.	7.	Research Institute Armtsvetmet (Armenian non-ferrous metals), SCJSC	Yerevan
54.	8.	Head-quarters of militarized emergency team of Armenia, SCJSC	Yerevan
55.	9.	MetallurgImpex, SCJSC	Yerevan
56.	10.	Centre of Scientific organization of work, CJSC	Yerevan
57.	11.	Dvin-Concern, CJSC	Yerevan

NN cont.	Part/ NN	Name	Location
58.	12.	Magnon, CJSC	Gyumri
59.	13.	Charb, CJSC	Charentsavan
60.	14.	Alaverdi powder metallurgy, OJSC	Alaverdi
61.	15.	Zulakentron (Centre of smeltery/fusion), OJSC	Charentsavan
62.	16.	“Pure iron”, OJSC	Yerevan
63.	17.	Manes (Valex), OJSC	Alaverdi
64.	18.	Bentonit, OJSC	Idjevan
65.	19.	Hajdzul (Armenian smeltery/fussion), OJSC	Charentsavan
66.	20.	Thermoresistant goods plant, OJSC	Tumanyan
67.	21.	High-temperature heaters plant, OJSC	Vanadzor
68.	22.	Akson, OJSC	Yerevan
69.	23.	Vtortsvetmet (Secondary non-ferrous metals), OJSC	Yerevan
70.	24.	Vtorchernet (Secondary ferrous metals), OJSC	Yerevan
	IV	BUILDING MATERIALS	
71.	1.	Ararat-cement , CJSC	Ararat
72.	2.	Cement-1, SCJSC	Ararat
73.	3.	Asbocement (Asbestos cement), CJSC	Ararat
74.	4.	Hrazdan cement Ltd.	Hrazdan
75.	5.	Artik tufa (tuff), CJSC	Artik
76.	6.	Pemzashen enterprise of building materials	Shirak region, Pemzashen
77.	7.	Ani- Pemza (Ani pamice-stone), SCJSC	Shirak region
78.	8.	Enterprise of ceramics	Yerevan
79.	9.	Armenian glass, CJSC	Byreghavan
80.	10.	Gyumri- Glass, CJSC	Gyumri
81.	11.	Armavir-Glass, CJSC	Armavir
82.	12.	Karakhatmekena (Stone/rock-cutting machine), CJSC	Gyumri
83.	13.	Granite, CJSC	Yerevan
84.	14.	Diatamit, CJSC	Ararat region
85.	15.	Kapan building materials, CJSC	Kapan
86.	16.	Karnoot, CJSC	Akhuryan region,Karnoot
87.	17.	Aran tufa/ tuff, CJSC	Armavir
88.	18.	Perlit, Ltd.	Aragats
89.	19.	Vanadzor Stone-working plant	Vanadzor
90.	20.	Armnerud Ltd. (non-metallic)	Yerevan
91.	21.	Jeraber Ltd.	Jerber
92.	22.	Research and Development Institute of stones and silicates, CJSC	Yerevan
93.	23.	Vernorokshin (Repair building materials), SCJSC	Yerevan

NN cont.	Part/ NN	Name	Location
94.	24.	Office of geological exploration and land measuring works, SCJSC	Kotayk region, Mayakovski
95.	25.	Vayki-figit, JSC	
96.	26.	Taron JSC	Hoktemberyan
97.	27.	ArmMarbleGranite Ltd.	Byureghavan
98.	28.	ArmMarble, CJSC	Yerevan
99.	29.	Norshinireri (New building materials), CJSC	Yerevan
100.	30.	Gikar Ltd.	
101.	31.	Armstroi-remont (Arm building and repair), CJSC	Yerevan
102.	32.	Shinaniut (Building materials), OJSC	Armavir
103.	33.	Basalt Ltd.	Yerevan
104.	34.	Kanazgit, CJSC	Charentsavan
105.	35.	Karakert stone-working plant, OJSC	Armavir
106.	36.	Maisyan plant of mechanic repair works, OJSC	Shirak region Maisyan
107.	37.	Sisyan building materials, OJSC	Sisyan
108.	38.	Armavir industrial complex of building materials	Armavir
109.	39.	Ani building materials, OJSC	Ani
110.	40.	Travertine, CJSC	
111.	41.	Artavazd, CJSC	
112.	42.	Smbatamerd, CJSC	
113.	43.	Abovian industrial complex of building materials	Abovyan
114.	44.	Echmiadzin building materials, OJSC	Echmiadzin
115.	45.	Kar (Stone), OJSC	
116.	46.	Vardenis industrial complex, OJSC	Vardenis
117.	47.	Amasiai building materials, OJSC	Amasia
118.	48.	Bagramyan building materials, OJSC	Bagreanyan
119.	49.	Tufa-blocks Artik, OJSC	Artik
120.	50.	Akhurian building materials, OJSC	Akhurian
121.	51.	Vanshik, OJSC	
122.	52.	Pambak granite, OJSC	
123.	53.	Noemberyan OJSC	
	V	LIGHT INDUSTRY	
124.	1.	Gyumri textile, CJSC	Gyumri
125.	2.	Gyumri plant of (raw) yarn, thread	Gyumri
126.	3.	ArmGorg (Armenian Carpets), CJSC	Yerevan
127.	4.	Makhud, CJSC	Yerevan
128.	5.	Metaks (Silk factory), CJSC	Yerevan
129.	6.	Anoosh Tricotage (knitted wear/ garments), CJSC	Yerevan

NN cont.	Part/ NN	Name	Location
130.	7.	Vanadzor tricotage (knitted wear/ garments), CJSC	Vanadzor
131.	8.	Gyumritricotage (knitted wear/ garments) “Narek”, CJSC	Gyumri
132.	9.	Ashtarak tricotage (knitted wear/ garments), CJSC	Ashtarak
133.	10.	Ararat knitting factory, CJSC	Ararat
134.	11.	Davit-1 legwear factory, CJSC	Gavar
135.	12.	Lmbat-65 legwear factory, CJSC	Artik
136.	13.	“Efar” clothes/garment factory, CJSC	Gyumri
137.	14.	“Vanui” clothes/garment factory, CJSC	Spitak
138.	15.	Alaverdi clothes/garment factory, CJSC	Alaverdi
139.	16.	Davit clothes/garment factory, CJSC	Gavar
140.	17.	Charentsavan clothes/garment factory, CJSC	Charentsavan
141.	18.	Gugark clothes/garment factory, CJSC	Vanadzor
142.	19.	Kumajri clothes/garment factory, CJSC	Gyumri
143.	20.	Child clothing, CJSC	Yerevan
144.	21.	Kanaker clothes/garment factory, CJSC	Yerevan
145.	22.	Kars clothes/garment factory, CJSC	Vanadzor
146.	23.	Noj (Noah) clothes/garment factory, CJSC	Vanadzor
147.	24.	Voske Geghm (“Golden Fleece” factory fur coats) CJSC	Vanadzor
148.	25.	Idjevan domkhoz CJSC (Armenian Carpets)	Idjevan
149.	26.	“Masis” shoe factory, CJSC	Yerevan
150.	27.	“Araks” shoe factory, CJSC	Yerevan
151.	28.	Fashionable foot-ware, CJSC	Yerevan
152.	29.	“Kotajk-kosh”, CJSC	Abovian
153.	30.	Talin foot-ware, CJSC	Talin
154.	31.	Garnahovit shoe factory, CJSC	Aragatsotn region, Garnahovit
155.	32.	Scientific-industrial community/integration	Yerevan
156.	33.	“Ateks” fasion centre	Yerevan
157.	34.	“Bazum” clothes/garment factory, CJSC	Vanadzor
158.	35.	“Aragats” OJSC	Yerevan
159.	36.	“Decorative” OJSC	Yerevan
160.	37.	“Malange” OJSC	Vanadzor
161.	38.	“Ani”, OJSC	Marmarik village
162.	39.	Gordzwatskain (Textile), OJSC	Stepanavan
163.	40.	Gordzwatskain (Textile), OJSC	Abovyan
164.	41.	Shushan-textile, OJSC	Yerevan
165.	42.	“Shirak”, OJSC	Gyumri
166.	43.	Ertex (Yerevan textile) OJSC	Yerevan

NN cont.	Part/ NN	Name	Location
167.	44.	Waste treatment site, OJSC	Yerevan
168.	45.	“Tosp”, OJSC	Yerevan
169.	46.	Knitted gloves, OJSC	Yerevan
170.	47.	Knitted garments OJSC	Nubarashen
171.	48.	Sisakan, OJSC	Sisian
172.	49.	Knitted garments OJSC	Goris
173.	50.	Sona OJSC (knitted garments)	Kapan
174.	51.	Erebouni OJSC (knitted garments)	Yerevan
175.	52.	Nork OJSC (knitted garments)	Yerevan
176.	53.	Tricotage (knitted garments) OJSC	Toumanyanyan
177.	54.	Elen Tricotage (knitted garments) OJSC	Dilijan
178.	55.	Hayas Tricotage (knitted garments)	Yerevan
179.	56.	Sharon Tricotage (knitted garments) OJSC	Eghegnadzor
180.	57.	Tricotage (knitted garments) OJSC	Tsakhnahovit
181.	58.	Kaputchugh OJSC	Kadjaran
182.	59.	Mikga Tricotage (knitted garments) OJSC	Hrazdan
183.	60.	Arshaluys legwear factory, OJSC	Gyumri
184.	61.	Tricotage (knitted garments) OJSC	Vardenis
185.	62.	Artex OJSC	Gavar
186.	63.	Hosiery factory, CJSC	Algabac
187.	64.	Sport factory OJSC	Yerevan
188.	65.	Tricotage (knitted garments) OJSC	Talin
189.	66.	Tricotage (knitted garments) OJSC	Hrazdan
190.	67.	Galanterea (haberdashery) OJSC	Yerevan
191.	68.	Galanterea-Tricotage OJSC	Artashat
192.	69.	Aintap curtains OJSC	Aintap village
193.	70.	Garun clothing manufacture OJSC	Yerevan
194.	71.	Haik clothing manufacture OJSC	Yerevan
195.	72.	“Renaissance” fashionable clothes OJSC	
196.	73.	Tiknajak clothing manufacture OJSC	Akhuryan
197.	74.	Alashkert clothing manufacture OJSC	Stepanavan
198.	75.	Ani clothing manufacture OJSC	Tashir
199.	76.	Lory clothing manufacture OJSC	Vanadzor
200.	77.	Arevshogh clothing manufacture OJSC	Arevshogh
201.	78.	Anoush clothing manufacture OJSC	Yerevan
202.	79.	Noj (Noah) clothing manufacture OJSC	Artashat
203.	80.	Oshakan clothing manufacture OJSC	Oshakan

NN cont.	Part/ NN	Name	Location
204.	81.	Ashotsk clothing manufacture OJSC	Amasia
205.	82.	Aaren clothing manufacture OJSC	Yerevan
206.	83.	Vahagn clothing manufacture OJSC	Pemzashen
207.	84.	Rada clothing manufacture OJSC	Metsamor
208.	85.	Vanadzor clothing manufacture OJSC	Vanadzor
209.	86.	Lmbon (millinery, hats) OJSC	Yerevan
210.	87.	Arin-Berd clothing manufacture OJSC	Yerevan
211.	88.	Sharon clothing manufacture OJSC	Yerevan
212.	89.	Ashtarak clothing manufacture OJSC	Ashtarak
213.	90.	Vagharshapat clothing manufacture OJSC	Echmiadzin
214.	91.	Sharon clothing manufacture OJSC	Vardenis
215.	92.	Jermuk clothing manufacture OJSC	Jermuk
216.	93.	Syunik clothing manufacture OJSC	Sisian
217.	94.	Vardanank clothing manufacture OJSC	Eghegnadzor
218.	95.	Zangezur OJSC	Goris
219.	96.	Azatamut OJSC	Akhuryan
220.	97.	Hairivank OJSC	Airivan
221.	98.	Parvana OJSC	Aparan
222.	99.	Plastic OJSC	Yerevan
223.	100.	Plastic goods OJSC	Echmiadzin
224.	101.	Plastic goods OJSC	Vajk
225.	102.	Urartu OJSC	Yerevan
226.	103.	Folk art OJSC	Yerevan
227.	104.	Lyusin OJSC	Yerevan
228.	105.	Anahit (pilot crystal production) OJSC	Yerevan
229.	106.	Pilot crystal production OJSC	Artashat
230.	107.	Karin OJSC	Echmiadzin
231.	108.	DomKhoz (“Household”) OJSC	Yerevan
232.	109.	“Anna DomKhoz” private household OJSC	Echmiadzin
233.	110.	Metallogorc (Metall-worker, metallist) OJSC	Nairi
234.	111.	“Spask” (Utensils) OJSC	Tashir
235.	112.	Argelskij OJSC	Argel
236.	113.	“Droshm” technical equipment OJSC	Yerevan
237.	114.	Aniv (bicycles) OJSC	Gyumri
238.	115.	Gyumri-toys OJSC	Gyumri
239.	116.	Vaspyurakan OJSC	Vanadzor
240.	117.	Consumer goods OJSC	Mousaler

NN cont.	Part/ NN	Name	Location
241.	118.	Consumer goods OJSC	Zovuni
242.	119.	Production for electric power stations, OJSC	Talin
243.	120.	Illuminating glass goods, OJSC	Eghward
244.	121.	Artistic goods, OJSC	Sevan
245.	122.	Colours/paints, OJSC	Nairi
246.	123.	Industrial OJSC	Idjevan
247.	124.	Industrial OJSC	Mantash
248.	125.	Accessories/fittings, OJSC	Armavir
249.	126.	Mechanic OJSC	Yerevan
250.	127.	Glazor OJSC	Yerevan
251.	128.	Printed matter, OJSC	Yerevan
252.	129.	Ishtikuni OJSC	Lchashen
253.	130.	Kashi (leather) OJSC	Yerevan
254.	131.	Leather/ haberdashery haberdashery OJSC	Yerevan
255.	132.	Luxe foot-wear OJSC	Yerevan
256.	133.	Van foot-wear OJSC	Yerevan
257.	134.	Garni foot-wear OJSC	Abovian
258.	135.	Lenkosh foot-wear OJSC	Gyumri
259.	136.	Shavros foot-wear OJSC	Gyumri
260.	137.	Vanadzor foot-wear OJSC	Vanadzor
261.	138.	Andok foot-wear OJSC	Yerevan
262.	139.	Kanaker foot-wear OJSC	Yerevan
263.	140.	Kamo foot-wear OJSC	Kamo
264.	141.	Kapan foot-wear OJSC	Kapan
265.	142.	Spitak foot-wear OJSC	Spitak
266.	143.	Aparan foot-wear OJSC	Aparan
267.	144.	Kars foot-wear OJSC	
268.	145.	Production of shoe soles, OJSC	Yerevan
269.	146.	N 5 foot-wear OJSC	Yerevan
270.	147.	Foot-wear OJSC	Nubarashen
271.	148.	Foot-wear OJSC	Eghward
272.	149.	Foot-wear OJSC	Eghegnadzor
273.	150.	Semicommercial (experimental industrial) foot-wear OJSC	Yerevan
274.	151.	Idjevan Carpets OJSC	Idjevan
	VI	MACHINE(-BUILDING) INDUSTRY, ELECTRO- TECHNICAL SECTOR, INSTRUMENT-MAKING INDUSTRY	
275.	1.	Relay actuator OJSC	Yerevan
276.	2.	Relay actuator CJSC	Eghegnadzor

NN cont.	Part/ NN	Name	Location
277.	3.	Relay actuator CJSC	Kapan
278.	4.	Nejron CJSC	Yerevan
279.	5.	Aragats OJSC	Artik
280.	6.	Anush OJSC	Alaverdi
281.	7.	Impuls CJSC	Dilijan
282.	8.	Rastr OJSC	Echmiadzin
283.	9.	Konnent CJSC	Yerevan
284.	10.	Research Institute “Erebouni”	Yerevan
285.	11.	Sirius CJSC	Abovian
286.	12.	Resistor OJSC	Echmiadzin
287.	13.	Omega SCJSC	Gyumri
288.	14.	Kars OJSC	Artik
289.	15.	Dinol CJSC	Gavar
290.	16.	Electron CJSC	Echmiadzin
291.	17.	Araks CJSC	Yerevan
292.	18.	Sigma SCJSC	Yerevan
293.	19.	Contact OJSC	Yerevan
294.	20.	Buzhteknika (Medical equipment) OJSC	Sisian
295.	21.	Selena OJSC	Yerevan
296.	22.	Hrazdanmash CJSC	Hrazdan
297.	23.	Instrument-making OJSC	Echmiadzin
298.	24.	Air-craft industrial site OJSC	Yerevan
299.	25.	Dvin OJSC	Artashat
300.	26.	Kechark OJSC	Hrazdan
301.	27.	Bazalt OJSC	Yerevan, Djervezh
302.	28.	“Clocks” OJSC	Yerevan
303.	29.	“Decorative clocks” OJSC	Yerevan
304.	30.	“Adamand” (diamond) OJSC	Yerevan
305.	31.	“Analytical instrumentation” CJSC	Gyumri
306.	32.	“Electrotochpribor” (Electric precision devices) OJSC	Yerevan
307.	33.	Measuring devices OJSC	Abovian
308.	34.	Avtomatika (Automatics) CJSC	Vanadzor
309.	35.	“Electroizmeritpribor”(Electric measuring devices) OJSC	Yerevan
310.	36.	“Instrument-maker”	Echmiadzin
311.	37.	“Marc” SCJSC	Yerevan
312.	38.	“Ferrit” OJSC	Yerevan
313.	39.	“Electron”	Vanadzor

NN cont.	Part/ NN	Name	Location
314.	40.	“Vita” CJSC	Yerevan
315.	41.	“Design” SJSC	Yerevan
316.	42.	Machine-tool plant CJSC	Charentsavan
317.	43.	Machine-tool plant CJSC	Gyumri
318.	44.	Forge-and-press plant	Gyumri
319.	45.	“Almaz” (diamond) CJSC	Yerevan
320.	46.	“Powder metallurgy” OJSC	Yerevan
321.	47.	“Aragats” SCJSC	Aparan
322.	48.	Toolmaker	Artashat
323.	49.	“ErAz” (Yerevan automobile plant) OJSC	Yerevan
324.	50.	“Arm Auto” OJSC	Charentsavan
325.	51.	“Auto-aggregates/ installations” Plant OJSC	Yerevan
326.	52.	“Hydraulic apparatus” OJSC	Yerevan
327.	53.	“Autoloader/ fork-lift truck”	Yerevan
328.	54.	“Agricultural machinery” OJSC	Eghward
329.	55.	Compressors plant JSC	Yerevan
330.	56.	“Autogenmash” CJSC	Vanadzor
331.	57.	“Pumps” OJSC	Yerevan
332.	58.	“Glass machinery” OJSC	Artik
333.	59.	“ Zwartnots” CJSC	Echmiadzin
334.	60.	“Tranzistor” CJSC	Yerevan
335.	61.	“Armelectromash” CJSC	Yerevan
336.	62.	“Arm cable” OJSC	Yerevan
337.	63.	“Armenmotor” CJSC	Yerevan
338.	64.	“Armelectroapparatus” OJSC	Yerevan
339.	65.	“Electrodwigatel” (Electromotor) OJSC	Yerevan
340.	66.	“Progress” CJSC	Yerevan
341.	67.	“Swetotechnik” (lighting technology plant) CJSC	Vanadzor
342.	68.	“Swetotechnik” (lighting technology plant) CJSC	Maralik
343.	69.	“Plastpolymer” OJSC	Echmiadzin
344.	70.	Lift-constructing plant	CJSC
345.	71.	“Iskra” (Sparkle)	Charentsavan
346.	72.	“Elpribory” (electric appliances)	Gyumri
347.	73.	“Swetotechnik” (lighting technology plant) CJSC	Alaverdy
348.	74.	“Micromotor” CJSC	Gyumri
	VII	MISCELLANEOUS	
349.	1.	“Grand- tobacco” joint venture	Yerevan

NN cont.	Part/ NN	Name	Location
350.	2.	“Grand-sun” joint venture	Yerevan
351.	3.	“Cigaronne” joint venture	
352.	4.	“ArmenAl” joint venture	
353.	5.	“Mika-cement” OJSC	Hrazdan
354.	6.	“Stones and sand” (not from the mines or deposits)	
355.	7.	“Kharnurd” (Mixture)	

As a result of privatization of industrial enterprises, beginning with 1995 the relation of private and state sectors had changed due to the increase of the private sector share. In Armenia, as to 2006, there functioned 2335 industrial enterprises, amongst which according to their size, determined by the number of employees, micro- and small entities prevailed. The specific gravity of micro- and small enterprises made 46.0 and 42.6%, appropriately. Noteworthy is the fact that shares of micro- and small enterprises, which comprise 88.6% of all entities embraced by statistical monitoring, made 13.8 % of total industrial output, whereas the share of large enterprises making 7.7 % of total number . achieved almost 83.3 % of total industrial output (Table 1.17).

In January – December 2006 there was an established production of 124 main types of products (in natural values), of which for 72 types of produce the level of corresponding period of FY 2005 was achieved or surpassed, including 41 of 71 products of industrial-and-technical indication and 31 of 53 types of consumers’ goods.

In 2006, considering by the main types of chemical production, the manufacture of varnish-and-paints increased by 34.7%, production of plastic goods increased by 19.1%, scoring, washing, and starching compositions – by 11.0%, while the production of caoutchouc (synthetic rubber)and caustic soda (hydrate of sodium) decreased by 29.8 and 32.8% , appropriately.

Table 1.17

**Grouping of Industrial Enterprises in the Republic of Armenia according to
Number of Employees (2004-2006)**

Years	Enterprise size	Number of organiza tions	Mean number of employees of industrial enterprise (persons)	Production volumes (activity, services), million AMD	Realiza tion of products in current prices, million AMD	Index of physical volume of production (activity, services) FY 2004 in comparable prices of 2003, in %
2004	Total: including:	2192	76187	466787.3	465787.8	102.4
	Up to 5 employees (micro)*	1141	2666	8986.0	8802.0	57.9
	6-50 employees (small)*	770	12542	53242.1	55394.9	115.1

Years						
	Enterprise size	Number of organizations	Mean number of employees of industrial enterprise (persons)	Production volumes (activity, services), million AMD	Realization of products in current prices, million AMD	Index of physical volume of production (activity, services) FY 2004 in comparable prices of 2003, in %
	51-100 employees (medium)*	97	7104	32032.7	30995.4	146.9
	101 employees and above (large)*	184	53875	372526.5	370595.5	100.1
2005	Total:	2271	80516	575033.9	571932.7	108.3
	including:					
	Up to 5 employees (micro)	990	2523	6655.9	7085.6	96.5
	6-50 employees (small)	990	16004	59929.3	60441.1	98.8
	51-100 employees (medium)	102	7448	22512.7	22457.8	97.4
	101 employees and above (large)	189	54541	485936.0	481948.2	110.3
2006	Total:	2335	78038	567510.5	580644.8	99.0
	Including:					
	Up to 5 employees (micro)	1075	2770	9060.0	9031.9	64.4
	6-50 employees (small)	995	15686	69336.1	70501.5	106.4
	51-100 employees (medium)	86	6176	16430.9	16871.6	115.9
	101 employees and above (large)	179	53406	472683.5	484239.8	98.4

* Grouping and distribution is done in accordance with the Law of the Republic of Armenia “On development of small and medium-size business”; detailed information is available from the Statistical Bulletin “Main Indices of Industrial organizations by types of economic activity and size of the enterprises as defined by the number of employees (Bulletin Code: 1210-205).

Of main types of products of metallurgical industry in January-December 2006, as compared to the appropriate period of 2005, the production of molybdenum concentrate increased by 34.9%, copper (of copper concentrate) by 10.7%, while the production of ferromolybdenum and converter (blister) copper decreased by 12.6 and 11.0%, appropriately. Table 1.18 presents the indices of industrial production in 2004-2006 according to types of economic activity.

Table 1.18

**Industrial Output according to Types of Economic Activity in Armenia
(2004-2006)**

Branches of Industry	2004			2005			2006		
	Volume of production (activity, services) in current prices, million AMD	Realization of produce in current prices, million AMD	Index of physical volume of production, in %	Volume of production (activity, services) in current prices, million AMD	Realization of produce in current prices, million AMD	Index of physical volume of production, in %	Volume of production (activity, services) in current prices, million AMD	Realization of produce in current prices, million AMD	Index of physical volume of production, in %
Overall Industry	530156.1	529156.6	102.1	651393.0	648291.8	107.5	643503.7	656638.0	99.1
<i>including:</i>									
<i>Production and distribution of electric energy, gas and water</i>	101461.0	101461.0	109.9	114234.2	114234.2	110.7	112191.6	112191.6	97.8
<i>Mining industry</i>	94242.1	79921.4	108.7	113207.4	106193.3	95.6	113456.4	112891.7	106.9
<i>incl.:</i>									
extraction of metallic ore	91757.0	77426.4	108.8	110379.4	103446.8	95.4	109304.8	108816.7	105.4
other branches of mining industry	2485.1	2495.0	104.3	2828.0	2746.5	104.8	4151.6	4075.0	129.6
<i>Manufacturing/processing industry,</i>	334453.0	347774.2	99.3	423951.4	427864.3	109.7	417855.7	431554.7	97.9
<i>Incl.:</i>									
Production of food, including beverages	164829.3	164693.5	101.0	182980.4	185686.3	104.1	189413.3	187191.8	104.2
Production of tobacco goods	14798.1	15348.2	118.5	16317.0	17179.9	114.0	14766.7	17051.8	94.9
Production of textile	2888.3	2961.0	167.3	2286.9	2428.1	74.8	2805.4	2868.2	97.5
Production of clothes; dressing/dying of furs	2238.1	2232.7	96.6	2136.8	2149.1	72.3	2320.5	2300.9	96.4
Production of leather, leather goods and shoe-wear	334.2	309.6	98.1	333.6	348.8	97.8	517.8	522.7	161.9
Production of timber/wood and wooden products	1740.8	1769.6	96.6	1185.0	1214.0	83.8	1427.2	1548.5	122.7

Branches of Industry	2004			2005			2006		
	Volume of production (activity, services) in current prices, million AMD	Realization of produce in current prices, million AMD	Index of physical volume of production, in %	Volume of production (activity, services) in current prices, million AMD	Realization of produce in current prices, million AMD	Index of physical volume of production, in %	Volume of production (activity, services) in current prices, million AMD	Realization of produce in current prices, million AMD	Index of physical volume of production, in %
Printing Industry; replication of recorded information-carrying media	7125.9	6736.3	109.6	8260.6	8696.1	115.6	9629.6	9313.0	113.9
Chemical industry	10567.2	10390.8	154.9	15663.7	9642.3	157.1	14493.8	18403.7	87.6
Production of rubber and plastic goods	2696.3	2699.5	137.2	4132.8	3982.4	137.1	3884.5	4154.4	117.6
Production of other non-metallic mineral products	17924.5	17048.1	124.9	23845.1	22802.6	126.1	31388.4	31165.6	109.6
Metallurgic industry	68397.8	81909.0	102.1	126288.4	129519.4	134.9	109331.4	114957.1	104.8
Production of ready-made metallic goods	4752.2	4722.8	121.0	6501.1	6513.0	133.1	10062.1	10243.0	127.1
Production of machines and equipment	6484.9	7329.0	114.2	6641.0	6410.7	88.6	6951.7	8030.2	104.6
Production of jewellery	16436.2	16085.1	84.7	13967.8	15672.8	97.4	6493.6	9198.7	75.7
Other types of activity	13239.2	13539.0	110.8	13411.2	15618.8	96.4	14369.7	14605.1	109.0

Industrial enterprises of Yerevan and marzes (regions) Kotayk, Armavir, Syunik, and Ararat have the greatest input in the overall turnover of industrial production. Data on the overall turnover of industrial production is reflected according to regions and employment, as well as main activity indices of certain sectors of the national economy (Tables 1.19-1.20).

Table 1.19

Turnover of Industrial Production of regions (marzes) of the Republic of Armenia according to sectors of Economic Activity (in current prices, mln AMD)						
Region/marz	Sector	2002	2003	2004	2005	2006
Republic of Armenia	Industry, entire	341065.4	426053.5	535263.7	651919.6	644862.5
	<i>including:</i>					
	Mining industry	30820.8	46654.7	97098.9	113328.0	113458.9
	Manufacturing industry	227249.0	285337.7	336703.8	424361.7	419212.0
	Production and distribution of electric energy and water	82995.6	94061.1	101461.0	114229.9	112191.6
Yerevan city	Industry, entire	159718.9	209633.8	239126.0	307688.8	287530.0
	<i>including:</i>					
	Mining industry	1349.7	1480.5	1491.8	1898.2	2285.2
	Manufacturing industry	131360.2	173428.8	200601.1	269535.6	250215.0
	Production and distribution of electric energy and water	27009.0	34724.5	37033.1	36255.0	35029.8
Aragatsotn	Industry, entire	5002.2	7778.9	6323.0	7972.7	7278.0
	<i>including:</i>					
	Mining industry	121.1	164.9	42.1	84.5	263.7
	Manufacturing industry	4070.5	6773.1	5184.6	6604.0	5522.3
	Production and distribution of electric energy and water	810.6	840.9	1097.2	1284.2	1492.0
Ararat	Industry, entire	31305.3	38028.9	41783.8	46277.8	54015.8
	<i>including:</i>					
	Mining industry	75.4	132.6	103.1	122.6	506.6
	Manufacturing industry	28607.6	34079.5	37986.0	41476.6	47152.9
	Production and distribution of electric energy and water	2622.3	3816.8	3694.7	4678.6	6356.3
Armavir	Industry, entire	24231.2	20999.8	26792.5	28274.2	28914.1

Region/marz	Sector	2002	2003	2004	2005	2006
Gegharkunik	<i>including:</i> Mining industry	16.7	16.5	39.5	0.8	-
	Manufacturing industry	5528.2	7166.1	9349.9	10582.7	9931.4
	Production and distribution of electric energy and water	18686.3	13817.2	17403.1	17690.7	18982.7
	Industry, entire	8247.6	13255.3	19369.9	14835.4	11810.0
	<i>including:</i> Mining industry	3620.7	8066.3	11937.3	6123.0	3258.2
Lory	Manufacturing industry	3559.3	3512.2	5305.2	6128.5	5896.4
	Production and distribution of electric energy and water	1067.6	1676.8	2127.4	2583.9	2655.4
	Industry, entire	16579.6	18756.5	32246.3	36159.9	45997.5
	<i>including:</i> Mining industry	270.8	185.0	1008.8	840.6	1325.9
	Manufacturing industry	14073.6	15980.4	28594.3	32394.9	40342.8
Kotayk	Production and distribution of electric energy and water	2235.2	2591.1	2643.2	2924.4	4328.8
	Industry, entire	49294.2	57369.5	58293.9	67160.9	65390.6
	<i>including:</i> Mining industry	3086.9	2258.4	1488.1	1092.8	1047.7
	Manufacturing industry	24165.3	27604.8	29300.0	35522.3	38454.5
	Production and distribution of electric energy and water	22042.0	27506.3	27505.8	30545.8	25888.4
Shirak	Industry, entire	10825.3	11637.8	13000.2	13437.8	13385.0
	<i>including:</i> Mining industry	179.6	410.4	457.3	273.1	464.7
	Manufacturing industry	7664.6	8099.9	9252.6	9846.8	9867.0
	Production and distribution of electric energy and water	2981.1	3127.5	3290.3	3317.9	3053.3
	Industry, entire	29402.5	41517.1	89245.9	120357.0	121270.0
Syunik	<i>including:</i> Mining industry	22005.2	33833.0	80452.5	102756.8	104082.6

Region/marz	Sector	2002	2003	2004	2005	2006
Vajots Dzor	Manufacturing industry	3067.4	3015.9	4026.1	4750.5	5046.8
	Production and distribution of electric energy and water	4329.9	4668.2	4767.3	12849.7	12140.6
	Industry, entire	3196.2	3496.6	4714.6	5059.3	5066.0
	<i>including:</i>					
	Mining industry	1.8	2.2	2.5	3.3	23.6
	Manufacturing industry	2705.3	2899.2	3571.6	3837.9	3915.6
Tavush	Production and distribution of electric energy and water	489.1	595.2	1140.5	1218.1	1126.8
	Industry, entire	3262.4	3579.3	4366.7	4695.8	4205.5
	<i>including:</i>					
	Mining industry	92.9	104.9	75.9	132.3	200.7
	Manufacturing industry	2447.0	2777.8	3532.4	3681.9	2867.3
	Production and distribution of electric energy and water	722.5	696.6	758.4	881.6	1137.5

Table 1.20

Main Indices of Activity by Branches of National Economy

Years	Branches of Economy	Food Industry (31)*	Light Industry (32)*	Wood and wood products, pulp-and-paper industry (33, 34)¹	Chemical and Petrochemical industry (35)¹	Industry of building materials (36)¹	Fabrication of machinery and metal working (38)¹	Electro-energetics
1998	Number of Facilities/units	259	153	44	43	101	253	92
	Volume of production, billion AMD	100.1	4.5	0.8	6.7	9.1	12.3	87,4
	Physical volume index of production, as % to previous year	107.4	105.5	101.2	87.1	104.9	74.4	100.5
	Mean number of employees of industrial enterprises, persons	16.0	27.8	2.0	7.9	6.8	63.6	20.3
	as % to previous year	105.3	87.4	66.7	76.7	88.3	90.2	112.3
1999	Number of Facilities/units	329	159	50	43	123	249	92
	Volume of production, billion AMD	111.5	3.8	0.9	8.1	9.1	8.8	90.6
	Physical volume index of production, as % to previous year	107.0	89.8	106.5	115.7	95.5	71.4	94.6

Years	Branches of Economy	Food Industry (31)*	Light Industry (32)*	Wood and wood products, pulp-and-paper industry (33, 34)¹	Chemical and Petrochemical industry (35)¹	Industry of building materials (36)¹	Fabrication of machinery and metal working (38)¹	Electro-energetics
	Mean number of employees of industrial enterprises, persons	14.3	22.8	3.3	9.3	6.9	54.1	18.8
	as % to previous year	89.4	82.0	165.0	117.7	101.5	85.1	92.6
2000	Number of Facilities/units	359	159	54	43	128	256	93
	Volume of production, billion AMD	115.8	3.9	1.8	10.3	6.6	11.1	90.7
	Physical volume index of production, as % to previous year	109.7	80.4	162.6	118.7	72.6	123.3	102.6
	Mean number of employees of industrial enterprises, persons	13.9	16.4	2.0	7.7	6.1	44.9	17.8
	as % to previous year	97.2	71.9	60.6	82.8	88.4	83.0	94.7
2001	Number of Facilities/units	593	177	90	86	160	268	91
	Volume of production, billion AMD	114.9	4.2	2.4	8.6	7.5	14.2	87.7
	Physical volume index of production, as % to previous year	108.5	130.4	112.4	83.5	109.0	126.8	92.7

Years	Branches of Economy	Food Industry (31)*	Light Industry (32)*	Wood and wood products, pulp-and-paper industry (33, 34)¹	Chemical and Petrochemical industry (35)¹	Industry of building materials (36)¹	Fabrication of machinery and metal working (38)¹	Electro-energetics
	Mean number of employees of industrial enterprises, persons	12.1	14.7	2.0	6.4	5.2	35.0	17.9
	as % to previous year	87.1	89.6	100.0	83.1	85.2	78.0	100.6
2002	Number of Facilities/units	670	137	99	92	171	269	97
	Volume of production, billion AMD	126.7	4.2	3.1	7.4	10.2	14.5	83.0
	Physical volume index of production, as % to previous year	109.3	94.5	124.4	82.5	132.7	97.5	85.6
	Mean number of employees of industrial enterprises, persons	10.8	12.1	1.5	5.4	4.5	27.2	16.8
	as % to previous year	89.3	82.3	75.0	84.4	86.5	77.7	92.8
2003	Number of Facilities/units	769	163	121	94	184	291	99
	Volume of production, billion AMD	150.8	4.8	4.3	8.1	13.7	19.7	80.6
	Physical volume index of production, as % to previous year	114.7	124.9	129.5	90.7	127.5	127.6	101.6

Years	Branches of Economy	Food Industry (31)*	Light Industry (32)*	Wood and wood products, pulp-and-paper industry (33, 34)¹	Chemical and Petrochemical industry (35)¹	Industry of building materials (36)¹	Fabrication of machinery and metal working (38)¹	Electro-energetics
	Mean number of employees of industrial enterprises, persons	11.6	10.0	1.4	4.3	4.5	19.0	14.9
	as % to previous year	107.4	82.6	93.3	79.6	100.0	69.9	93.7
2004	Number of Facilities/units	786	165	147	111	201	301	103
	Volume of production, billion AMD	161.9	5.5	4.7	12.5	17.8	22.6	83.3
	Physical volume index of production, as % to previous year	98.7	112.1	111.9	153.6	126.5	119.1	111.2
	Mean number of employees of industrial enterprises, persons	11.6	6.8	1.2	4.3	4.4	16.2	13.7
	as % to previous year	100.0	68.0	85.7	100.0	97.8	85.3	91.9
2005	Number of Facilities/units	782	168	191	124	204	317	105
	Volume of production, billion AMD	185.4	4.8	4.7	19.1	23.6	25.5	91.1
	Physical volume index of production, as % to previous year	108.1	73.4	93.9	157.2	124.3	97.0	110.9

Years	Branches of Economy	Food Industry (31)*	Light Industry (32)*	Wood and wood products, pulp-and-paper industry (33, 34) ¹	Chemical and Petrochemical industry (35) ¹	Industry of building materials (36) ¹	Fabrication of machinery and metal working (38) ¹	Electro-energetics
	Mean number of employees of industrial enterprises, persons	14.3	5.7	1.2	4.3	4.8	13.2	13.3
	as % to previous year	123.3	83.8	100.0	100.0	109.1	81.5	97.1
2006	Number of Facilities/units	823 ⁸	106 ⁷	87 ²	66 ³	235 ⁴	339 ⁶	111 ⁵
	Volume of production, billion AMD	204.6	5.2	1.4	14.5	35.5	27.2	112.2
	Physical volume index of production, as % to previous year	103.1	97.2	123.1	87.6	111.3	115.6	97.8
	Mean number of employees of industrial enterprises, persons	17.1	3.5	1.1	3.9	6.5	9.7	20.1
	as % to previous year	100.0	76.1	110.0	102.6	106.6	96.0	96.6

¹ - ISIC Code (International Standard Industrial Classification of all Economic Activities)

² - Main indices of chemical industry

³ - Main indices of production of timber/wood and wooden products

⁴ - Main indices of production of other non-metallic mineral products and mining industry

⁵ - Main indices of production and distribution of electric energy, gas and water

⁶ - Main indices of production of ready-made metallic goods, machines and equipment and electrical and electronic and optical facilities

⁷ - Main indices of production of textile clothes; dressing / dying of furs

⁸ - Main indices of production of food, including beverages and tobacco goods

1.4.2 Agricultural Sector

Armenia was always characterized by a highly developed agricultural production. Till mid 1980s the Republic was amongst the regions characterized by intense application of chemical plant protection means, including organochlorine pesticides.

Pesticides and fertilizers were also widely applied in the basin of Sevan Lake. Thus, during the period of 1980-1986 the amount of applied hexachlorocyclohexane (HCH) made 12.5 tons. In 1980-1986 and 1990 the use of metal-containing pesticides made 26.2 tons. Overall amount of pesticides applied in the basin of Sevan Lake made approximately 837 tons. During the period of 1980-1988 application of 34 different types of mineral fertilizers in Sevan Lake basin achieved 800,000 tons.

Total/summary area load of pesticides averaged 9 kg/ha, while in some years it amounted 35.5 kg/ha. By the estimations of 1988-1991, the List of used agrochemicals involved more than 50 items belonging to 7 chemical classes: organochlorine pesticides (OCPs), organophosphorus pesticides (OPP), carbamates, nitrophenolic compounds, compounds of copper, sulphur and a group of preparations classified as “miscellaneous”. During the above-mentioned years the volume of application of these pesticides according to classes made:

- organochlorine pesticides (OCP) – 41.1 tons;
- organophosphate pesticides (OPP)– 607.8 tons;
- carbamates – 90.1 tons;
- nitrophenols – 157.3 tons;
- compounds of copper – 5 523 tons;
- compounds of sulphur – 7 147 tons;
- “miscellaneous” – 364.8 tons.

Data on application of organochlorine pesticides are presented in Table 1.21.

Table 1.21

Amounts of Applied Organochlorine Pesticides in the Republic of Armenia by regions (as of 1983)		
Region	Amount, ton	Of total amount of used pesticides, %
Abovyan	8.88	5.9
Azizbekov	0.4	0.5
Amasia	0.4	6.7
Ararat	17.2	1.2
Artashat	50.5	4.7
Ashtarak	0.35	0.03
Akhuryan	2.3	3.4

Region	Amount, ton	Of total amount of used pesticides, %
Gugark	0.7	9.7
Eghegnadzor	0.75	0.1
Idjevan	7.06	1.18
Masis	1.67	0.6
Nairi	2.3	0.2
Noemberyan	6.0	0.5
Hoktemberyan	13.0	0.3
Sisyan	0.1	0.1
Spitak	0.1	0.2
Talin	1.4	0.3
Tumanyan	0.85	0.2
Shamshadin	12.8	1.2
Shaumyan	0.6	0.3
Etchmiadzin	2.3	0.1
Total	129.66	

In 1992 land reform was implemented and, as a result, the agricultural production in Armenia became private. Currently, both crop production and cattle-breeding turned to be maintained at small, medium and large farms belonging to natural persons and commercial organizations.

Total ground area in Armenia makes 2974.3 thsd ha. Data on land balance and distribution/allocation of croplands by types of their application are presented in Table 1.22.

Table 1.22

Distribution of Agricultural Lands by Types				
Type of land area	Land balance (1997)		Land balance (01.07.2006)	
	Area, in 1000 ha	as % to agricultural lands	Area, in 1000 ha	as % to agricultural lands
Total land area	2974.3		2974.3	
incl:				
Agricultural lands	1391.4	100	2129.6	100
incl:				
Arable land	494.3	35.5	452.9	21.3
Perennial plants	63.8	4.6	27.3	1.3
Fallow lands	0.4	0.0	-	-
Hayfields	138.9	10.0	127.5	6.0
Pastures	694.0	49.9	1125.0	52.8
Other lands	-	-	396.9	18.6

According to data available on the 1st of January 2001, in Armenia 334759 farms and collective farms were formed, to which by the right of property, 460,100 ha of agricultural lands were allotted, making 66% of the entire area of agricultural lands of the Republic (exclusive of pastures).

Out of privatized agricultural lands the private farms were allotted:

- 353,200 ha of arable lands, making 71.5% of entire arable lands of Armenia;
- 38,300 ha of long-term / perennial lands (60%);
- 67,200 ha of meadows (48.4 %).

On average 1.38 ha of agricultural lands accounted per each farm, 1.06 ha thereof made arable lands, 0.12 ha – perennial plants and 0.20 ha – meadows.

The input of agricultural sector in national produce is significant and in different years makes from 25 to 30%. Main indices of farms and the entire picture of agricultural gross output are presented in tables 1.23-1.24 and Figure 1.5.

As obvious from tabulated data, in Armenia year in year out there is an increase in number of farms that in 2005 made 339174 units with the total area of 469.7 thsd ha. The increase of gross agricultural output is also registered.

Table 1.23

Gross Agricultural Output by Types of Farms
(in current prices, milliard AMD)

Types of farms	1998	1999	2000	2001	2002	2003	2004	2005	2006
Farms of all types									
Agriculture	402.1	311.7	281.2	351.0	377.6	410.1	504.1	493.0	555.9
Grop production	245.6	180.0	136.2	208.0	226.6	228.7	283.9	288.0	356.2
Animal husbandry	156.5	131.7	145.0	143.0	151.0	181.4	220.2	205.0	199.7
Commerstial organizations									
Agriculture	3.6	4.8	7.0	10.9	12.1	15.5	19.2	13.8	13.4
Grop production	2.5	2.6	2.1	2.4	2.8	4.2	2.3	0.2	0.1
Animal husbandry	1.1	2.2	4.9	8.5	9.3	11.3	16.9	13.6	13.3
Private farms									
Agriculture	398.5	306.9	274.2	340.1	365.5	394.6	484.9	179.2	542.5
Grop production	243.1	177.4	134.1	205.6	223.8	224.5	281.6	287.8	356.1
Animal husbandry	155.4	129.5	140.1	134.5	141.7	170.1	203.3	191.4	186.4

Figure 1.5. Output of plant/crop production
(January –December 2006-2007)

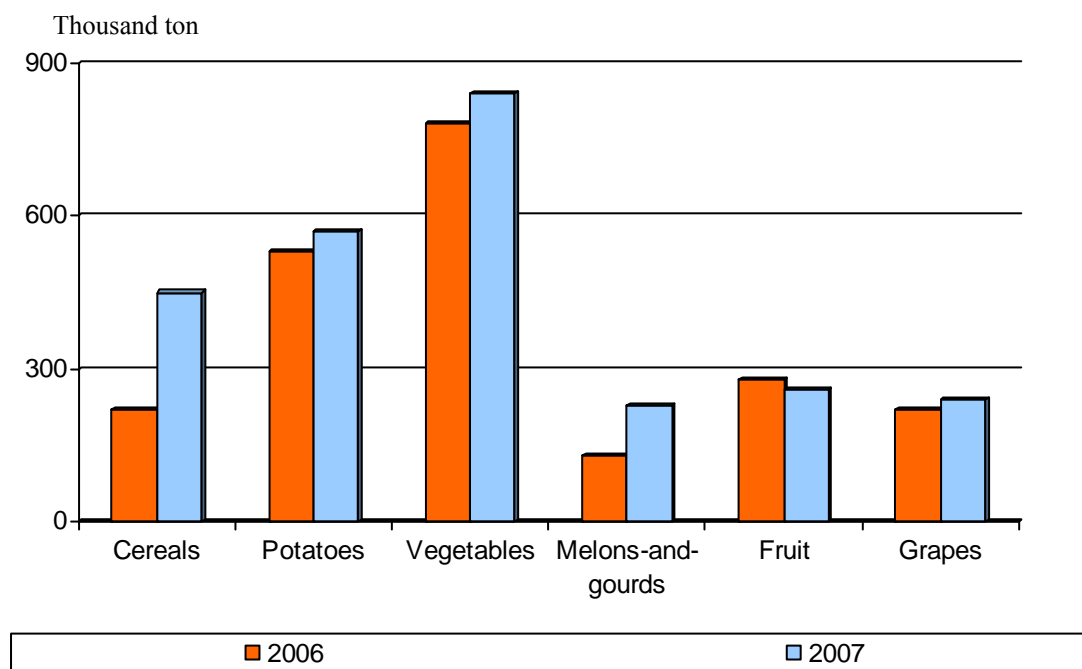


Table 1.24

Main Indicators of Agricultural Farms (households) in the Republic of Armenia

Indicators	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Number of farms, units	321125	333820	335086	332608	334759	334688	337906	338502	339174	
Area of agricultural lands, 1000 ha	452.5	447.0	460.4	460.1	458.6	453.1	461.3	468.6	469.7	
Availability of livestock and poultry (at the end of year), 1000 heads										
- cattle	430.9	435.2	448.4	462.9	478.4	465.0	493.9	523.1	540.2	
- sheep and goats	488.2	510.9	516.8	507.2	558.9	541.1	563.2	563.5	549.3	
- pigs	49.6	76.3	61.7	60.2	87.1	85.4	65.0	82.5	118.2	
- poultry	2768.5	2962.6	3598.6	2931.2	1520.7	1696.3	1777.4	2011.5	2045.4	
Agricultural output, 1000 t										
- grain	214.1	278.6	258.9	193.3	307.2	335.5	244.1	359.6	302.4	
- vegetables, melons-and-gourds	386.1	408.4	481.6	383.9	434.2	445.7	573.3	597.4	671.6	
- potatoes	321.8	408.0	383.9	269.1	316.9	337.2	444.4	504.9	455.0	
- meat (slaughter weight)	45.9	47.7	45.0	49.0	47.5	47.0	48.3	48.7	50.4	
- milk	401.3	416.0	425.9	449.1	462.7	486.7	510.5	513.5	548.2	
- eggs, mln pieces	180.6	202.7	234.3	230.7	224.4	224.7	245.7	238.3	254.4	
- wool (physical weight), t	1227.0	1209.0	1231.0	1229.0	1073.0	1108.0	1171	1123	1209	

Main crops cultivated in Armenia include grains, vegetables, potatoes, melons-and-gourds, fruits and berries, grapes (table 1.25).

Table 1.25

Gross Output and Sown Areas under Main Agricultural Crops by Marzes

Marz	Main crop	Gross yield (tons)					Sown area (ha)				
		2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
Yerevan	grains/cereals	1082	1152	735	590	9292	358	375	267	232	257
	potatoes	1541	1100	1365	1150	9440	104	83	106	113	67
	vegetables	6181	6615	6220	6981	91952	426	539	597	623	578
	melons-and-gourds	70	125	100	114	2240	4	9	4	11	8
	fruits	910	704	5690	2706	39193	-	-	-	-	-
	grapes	924	2900	1940	2866	46370	-	-	-	-	-
Aragatsotn	grains/cereals	27833	51294	40829	28592	586953	21790	22061	23065	22056	23011
	potatoes	32296	40848	40550	33466	335601	1850	1960	1894	1851	1855
	vegetables	21039	19436	23306	21784	267158	1174	1100	1015	904	1066
	melons-and - gourds	1656	1440	1940	2394	62150	187	144	149	97	215
	fruits	28400	40344	63989	52044	456706	-	-	-	-	-
	grapes	1404	7002	9990	8931	94751	-	-	-	-	-

Marz	Main crop	Gross yield (tons)					Sown area (ha)				
		2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
Ararat	grains/cereals	36717	45070	42842	29533	260058	11848	12483	12481	9408	6516
	potatoes	23800	25392	24549	26640	267760	955	911	843	881	840
	vegetables	221356	206543	207889	253573	2732171	6158	5660	5751	6214	6815
	melons-and-gourds	26227	28298	28972	32851	418324	792	899	869	858	1113
	fruits	13752	22277	91908	86807	642059	-	-	-	-	-
	grapes	45139	56182	65651	75456	804832	-	-	-	-	-
Armavir	grains/cereals	58028	60377	55341	36415	286931	18597	18473	18351	12406	8348
	potatoes	42880	57071	52820	47060	535543	1854	1822	1464	1475	1423
	vegetables	192827	238452	277808	348852	3589061	7308	6952	7104	8321	8723
	melons-and-gourds	86292	82308	85321	98077	1563743	3010	2887	2718	2919	4456
	fruits	10810	10791	80082	84724	557309	-	-	-	-	-
	grapes	23989	71247	72616	98839	1050882	-	-	-	-	-
Gegharkunik	grains/cereals	61189	95614	96585	34954	1144649	40842	43918	45941	42972	42130
	potatoes	207910	254906	248970	260045	2713024	13050	15042	15093	15133	15582
	vegetables	35218	38655	48493	50544	558620	1498	1603	1743	1948	2068
	melons-and-gourds	-	-	-	-	-	-	-	-	-	-

Marz	Main crop	Gross yield (tons)					Sown area (ha)				
		2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
Lory	fruits	10979	10071	149.4	16458	219223	-	-	-	-	-
	grapes	-	-	-	-	-	-	-	-	-	-
	grains/cereals	15411	25031	24881	12872	278000	14785	14740	14790	12073	13157
	potatoes	74998	55369	63873	43535	569523	6259	6966	6462	5488	4252
	vegetables	21078	14670	19056	16402	250997	1342	1271	1299	1292	1253
	melons-and-gourds	24	46	32	86	1190	6	10	9	13	14
Kotayk	fruits	6503	1139	6356	4471	114655	-	-	-	-	-
	grapes	347	65	124	385	5213	-	-	-	-	-
	grains/cereals	12590	27128	24377	9314	243316	14547	14900	16577	13163	13146
	potatoes	25715	21966	12932	13473	181911	1206	999	701	773	811
	vegetables	21572	24575	23387	17979	298319	1366	1356	1150	1209	1380
	melons-and -ourds	-	-	-	-	-	-	-	-	-	-
Shirak	fruits	18349	19847	16270	12549	191067	-	-	-	-	-
	grapes	180	995	1110	842	5242	-	-	-	-	-
	grains/cereals	42145	82079	50112	36947	1024737	43027	44399	40759	39935	39263
	potatoes	39960	60308	56468	72467	680547	2452	3335	3060	2942	3012
	vegetables	22328	25715	25499	36365	356232	1235	1397	1267	1524	1456

Marz	Main crop	Gross yield (tons)					Sown area (ha)				
		2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
Syunik	melons-and-gourds	-	-	-	-	-	-	2	-	-	-
	fruits	1052	2550	2082	4967	28060	-	-	-	-	-
	grapes	-	-	-	-	-	-	-	-	-	-
	grains/cereals	30453	42745	32765	12348	451616	20545	21120	21508	19422	19933
	potatoes	25983	32422	33250	27374	312822	1986	1987	1899	1822	1806
	vegetables	14332	14217	17013	16513	166257	952	957	896	884	887
	melons-and-gourds	30	24	12	2	20	2	1	1	1	1
	fruits	3243	273	16780	13859	197476	-	-	-	-	-
	grapes	375	246	945	897	12732	-	-	-	-	-
Vajots Dzor	grains/cereals	3715	5051	3886	1099	22112	3135	3190	3261	2187	1838
	potatoes	4608	3926	3997	3471	34952	261	213	233	231	210
	vegetables	5960	5654	7316	5514	62257	501	460	484	464	462
	melons-and-gourds	332	131	271	225	3095	28	15	18	16	20
	fruits	1859	2873	9473	4098	55151	-	-	-	-	-
	grapes	773	3199	3424	2896	31701	-	-	-	-	-

Marz	Main crop	Gross yield (tons)					Sown area (ha)				
		2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
Tavush	grains/cereals	20848	20643	23827	9881	217558	11350	10774	11325	8551	8614
	potatoes	27826	23119	25438	10795	198217	2309	2417	2684	2336	1816
	vegetables	7494	6218	7784	5388	79827	1169	978	1081	978	919
	melons-and-gourds	786	736	1168	1186	12189	54	68	96	110	57
	fruits	5859	2709	7483	3450	101491	-	-		-	-
	grapes	8469	7056	8553	10260	137106	-	-		-	-
Total	grains/cereals	310011	456184	396180	212545	452	200824	206433	208325	182405	176213
	potatoes	507517	576427	564212	539476	5839340	32286	35735	34439	33045	31674
	vegetables	569385	600750	663771	779895	8452851	23129	22273	22387	24361	25607
	melons-and-gourds	115417	113108	117816	134935	2062951	4083	4035	3864	4025	5884
	fruits	101716	113578	315308	286133	2602390	-	-	-	-	-
	grapes	81600	148892	164353	201372	2188829	-	-	-	-	-

In 2007, the increase of overall crop production compared to the appropriate period of 2006 was conditioned by the increase of amounts of overall yield of grains and leguminous plants (more than 2-fold), melons-and-gourds (52.9%), feed crops (hey: 52.4%), grapes (8.7 %), vegetables (8.4 %) and potatoes (8.2 %). During the same period the decrease of overall yield of berries and fruits was observed by 25.8 thsd tons or 9.0% in Armenia.

The agricultural production of Armenia is entirely private. Both crop production and animal husbandry production originate from small, medium-sized and large farms, at which the owner of a farm and all the member of his/her family work. Therefore, it is difficult to consider the employment in agriculture. Random study on human resources, performed in the Armenia revealed that the highest specific value of engagement was registered in agriculture, hunting, and forestry – 22.3%. At the moment of inquiry/questioning 45.3% of employed population was involved in state sector of national economy, while 53.4% belonged to private sector.

Statistical data signify that the most part of agricultural output is produced at private farms, to which belong homestead lands, collective gardens/orchards, summer-house plots, farms, etc. Data on structure of agricultural output by types/categories of farms is presented in Table 1.26.

Table 1.26

Structure of Agricultural Output by Types of Farms
(in current prices, %)

Types of farms/years	1999	2000	2001	2002	2003	2004	2005	2006	2007
Farms of all types	100	100	100	100	100	100	100	100	100
including:									
Commercial organizations	1.5	2.5	3.1	3.2	3.8	3.8	2.8	2.4	
Private farms	98.5	97.5	96.9	96.8	96.2	96.2	97.2	97.6	

According to reporting materials obtained from all communities and organizations engaged in agriculture and preliminary calculation data obtained from Questionnaires for random trials held at 7638 farms, in January – December 2007 the gross agricultural output (in comparable prices) made 633.9 mlrd AMD, thus exceeding the appropriate level of FY 2006 by 9.6%. The economic indices of agriculture in the Republic of Armenia by marzes (regions) are presented in Tables 1.27-1.29.

Table 1.27

Gross Output in Agriculture by marzes

Marzes	Gross output, in mlrd AMD					Specific gravity, %				
	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
Yerevan	5.7	6.5	5.9	5.5	5.7	1.4	1.3	1.2	1.0	0.9
Aragatsotn	30.3	36.3	35.5	41.1	48.1	7.4	7.2	7.2	7.4	7.6
Ararat	54.2	66.1	64.7	72.3	82.4	13.2	13.1	13.1	13.0	13.0
Armavir	58.5	74.6	74.9	83.5	96.4	14.3	14.8	15.2	15.0	15.2
Gegharkunik	59.1	71.6	69.5	80.0	90.0	14.4	14.2	14.1	14.4	14.2
Lory	43.9	55.4	51.8	58.4	64.0	10.7	11.0	10.5	10.5	10.1
Kotayk	36.9	44.4	45.3	50.0	63.4	9.0	8.8	9.2	9.0	10.0
Shirak	40.2	48.4	49.3	56.7	63.4	9.8	9.6	10.0	10.2	10.0
Syunik	39.4	49.4	46.8	53.4	57.7	9.6	9.8	9.5	9.6	9.1
Vajots Dzor	18.4	23.7	22.2	24.4	27.3	4.5	4.7	4.5	4.4	4.3
Tavush	23.5	27.7	27.1	30.6	35.5	5.7	5.5	5.5	5.5	5.6
Total:	410.1	504.1	493.0	555.9	633.9	100.0	100.0	100.0	100.0	100.0

Table 1.28

Production of Livestock Products in the Republic of Armenia by Marzes

Indices		Yerevan	Aragatsotn	Ararat	Armavir	Gegharkunik	Lory	Kotayk	Shirak	Syunik	Vajots Dzor	Tavush	Total:
Slaughter of cattle and poultry (live weight, thsd tons)	2003	1.4	9.5	8.0	8.4	14.4	9.0	11.0	13.4	7.0	3.3	6.6	92.0
	2003 as % of 2002	82.4	104.4	109.6	106.3	100.7	105.9	100.9	101.5	106.1	103.1	104.8	103.4
	2004	0.4	10.3	8.4	10.0	14.9	9.5	9.8	13.1	7.7	3.3	7.2	94.6
	2004 as % of 2003	28.6	108.4	105.0	119.0	103.5	105.6	89.1	97.8	110.0	100.0	109.1	102.8
	2005	0.5	10.8	8.8	10.9	15.7	9.9	10.0	13.7	7.8	3.5	7.5	99.1
	2005 as % of 2004	125.0	104.9	104.8	109.0	105.4	104.2	102.0	104.6	101.3	106.1	104.2	104.8
	2006	0.6	13.0	10.6	11.1	18.7	11.9	12.3	16.5	9.2	4.2	9.0	117.1
	2006 as % of 2005	120.0	120.4	120.5	101.8	119.1	120.2	123.0	120.4	117.9	120.0	120.0	118.2
	2007	1.0	13.3	10.8	11.7	19.1	12.6	14.0	16.8	9.4	4.3	9.2	122.2
	2007 as % of 2006	166.7	102.3	101.9	105.4	102.1	105.9	113.8	101.8	102.2	102.4	102.2	104.4
Milk (thousand tons)	2003	3.4	59.4	38.4	33.2	91.5	60.4	52.8	76.6	43.4	19.4	35.2	513.7
	2003 as % of 2002	109.7	107.4	100.8	106.8	101.8	110.6	108.0	105.5	103.6	102.1	100.6	104.9

Indices		Yerevan	Aragatsotn	Ararat	Armavir	Gegharkunik	Lory	Kotayk	Shirak	Syunik	Vajots Dzor	Tavush	Total:
Milk (thousand tons)	2004	3.6	64.1	41.4	35.9	98.7	65.4	56.9	83.0	47.1	21.0	38.1	555.2
	2004 as % of 2003	105.2	107.9	107.8	108.1	107.9	108.3	107.8	108.4	108.5	108.2	108.2	108.1
	2005	3.6	68.6	44.5	38.4	105.8	69.9	61.2	88.8	50.5	22.5	40.8	594.6
	2005 as % of 2004	100.0	107.0	107.5	107.0	107.2	106.9	107.6	107.0	107.2	107.1	107.1	107.1
	2006	3.5	71.5	46.4	40.2	110.2	73.0	63.8	92.6	52.5	23.4	42.9	620.0
	2006 as % of 2005	97.2	104.2	104.3	104.7	104.2	104.4	104.2	104.3	104.0	104.0	105.1	104.3
	2007 2007 as % of 2006	3.5 100.0	74.0 103.5	48.0 103.4	41.5 103.2	114.0 103.4	76.2 104.4	66.0 103.4	95.8 103.5	54.4 103.6	24.3 103.8	44.3 103.3	642.0 103.5
Eggs (million pieces)	2003	55.5	26.2	38.8	37.4	35.2	23.0	200.6	35.2	15.1	11.6	23.6	502.2
	2003 as % of 2002	106.1	116.4	122.4	115.8	114.7	134.5	95.1	108.3	110.2	110.5	100.9	105.1
	2004	46.9	27.3	41.4	39.9	41.0	29.2	251.6	38.1	14.6	12.5	20.5	563.0
	2004 as % of 2003	84.5	104.2	106.7	106.7	116.5	127.0	125.4	108.2	96.7	107.8	86.9	112.1

Indices		Yerevan	Aragatsotn	Ararat	Armavir	Gegharkunik	Lory	Kotayk	Shirak	Syunik	Vajots Dzor	Tavush	Total:
Eggs (million pieces)	2005	38.6	27.4	42.9	41.0	43.4	27.7	206.6	40.3	15.5	13.1	21.7	518.2
	2005 as % of 2004	82.3	100.4	103.6	102.8	105.9	94.9	82.1	105.8	106.2	104.8	105.9	92.0
	2006	28.0	23.8	37.3	34.9	37.8	25.7	108.1	35.1	13.5	10.6	18.9	463.7
	2006 as % of 2005	72.5	86.9	86.9	85.1	87.1	92.8	95.9	87.1	87.1	80.9	87.1	89.5
	2007	31.9	28.8	45.2	84.9	46.6	29.4	161.0	42.5	16.4	15.8	22.9	525.4
	2007 as % of 2006	113.9	121.0	121.2	243.3	123.3	114.4	81.3	121.1	121.5	149.1	121.2	113.3

Table 1.29

Sowing of Winter Crops in the Republic of Armenia by marzes (in hectares)												
Years	Yerevan	Aragatsotn	Ararat	Armavir	Gegharkunik	Lory	Kotayk	Shirak	Syunik	Vajots Dzor	Tavush	Total:
2003	210	8724	9940	15000	11343	9675	9130	23000	13355	1777	6858	109012
2003 as % of 2002	84.0	129.6	112.4	120.1	82.1	84.2	112.4	115.6	89.0	81.2	82.3	101.7
2004	80	10600	10945	17000	15800	10913	9664	21381	18549	1918	6962	123812
2004 as % of 2003	38.1	121.5	110.1	113.3	139.3	112.8	105.8	93.0	138.9	107.9	101.5	113.6
2005	180	8000	7143	14300	12048	8177	5357	17268	12362	1173	4604	90612
2005 as % of 2004	225.0	75.5	65.3	84.1	76.1	74.9	55.4	80.8	66.6	61.2	66.1	73.2
2006	150	10813	3800	5955	12668	9161	5615	20699	15041	920	4234	89056
2006 as % of 2005	83.3	135.2	53.2	41.6	105.1	112.0	104.8	119.9	121.7	78.5	92.0	98.3
2007	120	8560	4895	4601	14987	7027	5814	20523	14422	933	4255	86137
2007 as % of 2006	80.0	79.2	128.8	77.3	118.3	76.7	103.5	99.2	95.9	101.4	100.5	96.7

Chapter 2: Chemical Production, Import, Export and Use

2.1 CHEMICAL PRODUCTION, IMPORT AND EXPORT

Data on dynamics of the volumes of chemical production as a whole and by major branches, as well as production of the most important types of industrial produce, indices of physical volumes and structure of industrial production by branches are presented in tables 2.1-2.10.

Table 2.1

**Volume Indices of production by branches of industry
(in % to previous year)**

Branches of industry	1997	1998	1999	2000	2001	2002	2003	2004	2005
Overall industry	101.0	97.9	105.3	106.4	105.3	114.6	115.6	102.4	107.5
Incl.:									
Power industry	97.1	100.5	94.6	102.6	92.7	85.6	101.6	111.2	110.9
Ferrous metallurgy	46.5	292.6	123.6	80.5	86.4	76.5	83.5	119.8	125.3
Non-ferrous metallurgy	83.6	146.5	126.8	163.0	133.5	121.5	109.5	104.9	112.9
Chemical and petrochemical industry	98.3	87.1	115.7	118.7	83.5	82.5	90.7	153.6	157.2
Fabrication of machines and equipment; metal working	70.0	74.4	71.4	123.3	126.8	97.5	127.6	119.1	97.0
Timber industry; wood working industry; pulp-and-paper industry	223.3	101.2	106.5	162.6	112.4	124.4	129.5	111.9	93.9
Industry of building materials	115.4	104.9	95.5	72.6	109.0	132.7	127.5	126.5	124.3
Glass and porcelain /faience industry	125.3	91.7	74.1	97.1	139.9	104.5	132.5	108.5	139.5
Light industry	153.8	105.5	89.8	80.4	130.4	94.5	124.9	112.1	73.4
Food industry	120.6	107.4	107.0	109.7	108.5	109.3	114.7	98.7	108.1
Flavoring industry; processed foods	120.5	107.2	106.8	110.0	108.0	109.4	113.2	97.7	108.3
Meat and dairy industry	132.5	114.4	116.1	104.5	111.3	109.2	135.8	112.4	106.1
Fish industry	62.0	61.5	60.1	111.1	196.0	85.4	178.4	65.7	107.1
Flour-and-cereals industry and feed-mill industry	91.7	64.2	129.4	72.2	78.6	133.8	117.0	162.3	87.2
Printing/polygraphic industry	96.4	102.8	137.0	115.8	95.5	88.1	114.9	109.7	116.4

Table 2.2

Volume Indices of Production by Types of Economic Activity
(in % to previous year)

Types of activity	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Overall industry	47 (1990= 100%)	97.9	116.2	124.7	119.7	114.6	115.1	102.4	107.6	99.1
Mining industry, total	94.9	129.9	116.2	124.7	119.7	119.6	111.9	110.5	95.4	106.2
Extraction of metallic ores	85.3	135.7	113.7	128.5	121.0	119.7	111.6	110.6	95.2	105.4
Other branches of mining industry	149.9	94.8	136.1	95.6	106.2	117.7	119.1	104.2	105.7	129.4
Manufacturing industry, total	102.9	95.3	110.5	106.9	109.6	125.3	119.2	99.4	109.9	98.0
Production of foodstuffs, including alcoholic beverages	112.6	95.5	107.4	104.7	109.6	107.8	114.1	102.4	105.3	103.8
Production of tobacco goods	723.1	263.0	159.4	101.6	77.4	159.6	124.5	118.5	114.0	94.9
Production of textiles	48.1	106.9	94.8	123.9	101.8	108.1	145.1	164.7	74.6	98.0
Production of wearing apparel; dressing and dyeing of furs	242.1	103.0	93.1	73.6	141.1	90.9	122.9	95.6	71.6	96.7
Production of leather, leather goods and foot-wear	46.2	171.8	30.6	132.9	79.0	119.6	70.6	97.9	97.7	162.0
Timber production / wood and wooden goods	367.6	97.6	83.4	204.7	98.8	125.4	10.4	96.7	84.3	123.1
Production of paper and paperboard /carton	103.8	131.9	242.8	148.6	112.6	112.2	226.8	121.4	97.7	117.7
Publishing, printing industry, reproduction of printed materials	96.4	102.8	137.0	114.6	95.5	88.3	114.6	109.3	116.6	113.9
Chemical industry	93.2	77.9	119.2	118.2	83.9	80.3	80.5	154.6	157.2	87.6
Production of rubber and plastics	34.9	336.0	51.1	83.0	94.0	124.0	180.4	136.9	136.3	117.6
Production of other non-metallic mineral products	109.4	103.4	91.6	98.0	109.4	131.1	126.6	125.4	126.9	109.3
	44.5	284.7	151.3	210.2	144.7	123.2	107.9	98.0	133.1	104.7

Types of activity	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Metallurgical industry										
Production of ready-made metallic goods	82.7	99.2	100.0	77.3	111.4	142.4	127.7	125.1	132.7	127.4
Fabrication of machinery and equipment	86.9	61.7	64.4	127.0	147.1	76.3	115.3	132.4	89.2	113.7
Production of office facilities and computer techniques	91.4	32.2	44.6	92.8	83.5	990.1	143.9	136.5	68.3	91.2
Production of electric machines and equipment	38.7	76.4	58.3	158.4	97.1	101.4	129.1	102.3	105.4	108.4
Production of radio-, TV- and communication equipment and appliances	67.1	73.8	73.5	115.4	154.6	76.4	203.2	57.8	126.2	114.8
Production of medical equipment: precision and optic instruments/tools	72.9	78.8	103.4	107.6	155.8	90.9	139.2	103.7	94.4	108.0
Production of cars, trailers and semi-trailers	64.3	150.0	6.9	781.2	31.9	49.0	120.7	201.8	253.6	105.9
Production of other transport equipment	30.9	30.4	370.8	32.5	85.6	161.0	130.9	402.4	35.8	97.8
Production of furniture; Production of goods that are not included in other groupings	70.3	67.6	170.5	92.0	104.3	179.9	129.3	85.0	97.6	76.7
Secondary processing/recycling	147.1	64.8	28.1	129.9	88.2	65.7	86.1	76.2	87.5	68.6
Production and distribution of electricity, gas and water	97.1	100.5	94.6	102.6	92.7	85.6	101.3	109.9	110.7	97.8
Production and distribution of electricity, gas and hot water and steam	-	-	-	-	92.7	85.6	102.5	114.0	113.8	99.4
Collecting, purification and distribution of water	-	-	-	-	-	-	87.2	75.8	83.0	82.4

Table 2.3

Branches of Industry	Volumes of Industrial Production by Branches (in current prices, million AMD)									
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Overall industry	254315.6	261167.6	283484.8	300549.7	309310.9	341065.4	412564.8	517108.1	628748.3	
incl.:										
Power industry	68367.6	87364.1	90604.3	90669.3	87651.3	82995.6	80572.4	83305.4	91058.6	
Ferrous metallurgy	60.0	181.6	274.8	216.8	187.3	176.5	120.2	1463.9	53.5	
Non-ferrous metallurgy	9020.5	14151.7	17018.6	31806.3	42252.5	57342.1	89441.0	160335.4	233787.9	
Chemical and petrochemical industry	7774.2	6675.3	8076.9	10268.7	8572.8	7361.4	8147.0	12456.1	19103.4	
Machine building industry and metal working	16642.2	12268.8	8758.8	11090.6	14200.5	14468.3	19672.5	22596.8	25516.6	
Timber industry, wood and woodworking industry	2354.7	820.0	896.0	1821.3	2442.7	3136.3	4259.3	4738.2	4687.5	
pulp-and –paper industry										
Industry of building materials	10178.4	9141.6	9082.3	6613.9	7543.4	10196.5	13726.3	17825.4	23648.2	
Glass and porcelain/ faience industry	628.4	890.9	666.1	646.6	917.2	966.9	1264.2	1387.6	1745.6	
Light industry	3901.8	4495.4	3812.1	3919.7	4226.0	4168.3	4817.8	5487.8	4818.8	
Food industry	93685.9	100125.1	111530.0	115772.7	114874.5	126666.2	150829.8	161921.8	185397.1	
Flour-and-cereals industry and feed-mill industry	25495.6	13099.4	11918.7	6852.9	4839.1	8003.3	10614.7	21162.4	16660.1	
Printing industry	1272.2	1796.8	3258.9	4129.3	4702.1	4316.2	6276.4	7159.4	8300.7	

Table 2.4

Volumes of Industrial Production according to Sectors of Economic Activity
(in current prices, million AMD)

Sectors of Production	1998	1999	2000	2001	2002	2003	2004	2005	2006
Overall industry	261167.6	283484.8	300549.7	309310.9	341065.4	426053.5	535263.7	651919.6	644862.5
Mining and extraction industry	10222.7	11037.5	16058.6	20230.6	30820.8	46654.7	97098.9	113328.0	113458.9
Manufacturing industry	163580.8	181843.0	193821.8	201429.0	227249.0	285337.7	336703.8	424361.7	419212.0
Production and distribution of electric energy, gas and water	87364.1	90604.3	90669.3	87651.3	82995.6	94061.1	101461.0	114229.9	112191.6

Table 2.5

Structure of Industrial Output according to Sectors of Economic Activity
(in % of total)

Sectors of Production	1998	1999	2000	2001	2002	2003	2004	2005	2006
Overall industry	100	100	100	100	100	100	100	100	100
Mining and extraction industry	3.9	3.9	5.3	6.6	9.1	10.9	18.1	17.4	17.6
Manufacturing industry	62.6	64.1	64.5	65.1	66.6	67.0	62.9	65.1	65.0
Production and distribution of electric energy, gas and water	33.5	32.0	30.2	28.3	24.3	22.1	19.0	17.5	17.4

Table 2.6

Structure of Industrial Production by Branches									
(in % of total)									
Branches of Industry	1997	1998	1999	2000	2001	2002	2003	2004	2005
Overall industry	100	100	100	100	100	100	100	100	100
incl.:									
Power industry	26.9	33.5	32.0	30.2	28.3	24.3	19.5	16.1	14.5
Ferrous metallurgy	0.02	0.1	0.1	0.1	0.1	0.1	0.0	0.3	0.0
Non-ferrous metallurgy	3.5	504.	6.0	10.6	13.7	16.8	21.7	31.0	37.2
Chemical and petrochemical industry	3.1	2.6	2.9	3.4	2.8	2.2	2.0	2.4	3.0
Machine building industry and metal working	6.5	4.7	3.1	3.7	4.6	4.2	4.8	4.4	4.1
Timber industry, wood and woodworking industry pulp- and –paper industry	0.9	0.3	0.3	0.6	0.8	0.9	1.0	0.9	0.7
Industry of building materials	4.0	3.5	3.2	2.2	2.4	3.0	3.3	3.4	3.8
Glass and porcelain/ faience industry	0.2	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3
Light industry	1.5	1.7	1.3	1.3	1.4	1.2	1.2	1.1	0.8
Food industry	36.8	38.3	39.4	38.5	37.1	37.1	36.6	31.3	29.5
Flour-and-cereals industry and feed-mill industry	10.0	5.0	4.2	2.3	1.6	2.3	2.6	4.1	2.6
Printing industry	0.5	0.7	1.1	1.4	1.5	1.3	1.5	1.4	1.3

Table 2.7

Output in Physical Terms by Branches of Industry

Branches of industry	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Non-ferrous metallurgy:										
Rolled aluminum, tons	187	387	105	294	91	132	10880	7726	-	4
Aluminum foil, tons	128	87	4	473	2699	5240	9317	193	-	945
Rolled copper, tons	6	1	-	-	-	-	-	-	-	-
Copper of copper concentrate, tons	6770	9158	9830	12234	16460	16641	18068	17700	16256	-
Copper concentrate, tons	-	-	-	-	-	62985	66829	64629	62843	68179
Zinc of zinc concentrate, tons	610	827	879	528	745	782	2065	1927	3196	-
Zinc concentrate, tons	-	-	-	-	-	1335	3666	3641	6110	4454
Molybdenum concentrate, tons	3273	4567	5403	6044	5770	5654	5418	5784	5942	8016
Chemical industry:										
Synthetic rubber, thsd tons	3.8	2.2	3.6	5.6	4.0	3.0	1.5	3.7	7.7	5.4
Tyres, thsd pieces.	0.1	16.9	5.0	-	0.07	-	4.1	0.2	8.4	0.3
Varnish-and-paints, tons	94	53	69	130	442	1079	1367	1453	1533	2062

Branches of industry	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Hydrate of sodium (caustic soda), thsd tons	4.3	3.8	5.0	6.2	4.9	3.6	1.8	2.8	6.2	4.2
Synthetic washing detergents, tons	56	25	87	21	509	486	327	366	2033	2200
Industry of building materials										
Cement, thousand tons	293	314	287	219	275	355	384	501	605	625
Clinker, thousand tons	278	347	284	236	246	155	104	256	331	-
Non-metallic building materials, thousand m ³	-	175	161	77	144	298	336	459	402	452
Gadj (gypsum), thsd tons	18.2	15.2	11.7	9.6	12.8	44.9	57.8	51.4	44.2	43.7
Precast constructions and items, 1000 m ³	-	35	42	19	23	26	31	35	40	46
Constructions and items made of aluminum alloys, tons	-	61.3	28.1	0.9	-	-	-	-	-	-
Aluminum and metalloplastic items, 1000 m ³	-		-	-	13	18	57	79	64	70
Asbestos cement slabs (cipher), mln. conditioned slabs/sheets	4.5	4.3	3.7	0.4	0.3	1.2	1.2	2.7	3.0	3.0

Table 2.8

Main Indices of Chemical and Petrochemical Industry

Indices	1997	1998	1999	2000	2001	2002	2003	2004	2005
Number of organizations/ entities/ units	28	43	43	43	86	92	94	111	124
Volume of production, mlrd. AMD	7.8	6.7	8.1	10.3	8.6	7.4	8.1	12.5	19.1
Volume index of industrial production as % to previous year	98.3	87.1	115.7	118.7	83.5	82.5	90.7	153.6	157.2
Employment in industrial production (thsd)	10.3	7.9	9.3	7.7	6.4	5.4	4.3	4.3	4.3
In % of previous year	90.4	76.7	117.7	82.8	83.1	84.4	79.6	100.0	100.0

Table 2.9

Main Indices of Chemical Industry

Indices	2002	2003	2004	2005	2006
Number of organizations/ entities/ units	49	50	58	59	66
Volume of production, mlrd. AMD	7.2	7.0	10.6	15.6	14.5
Volume index of industrial production as % to previous year	80.3	80.5	154.6	157.2	87.6
Employment in industrial production (thsd)	3.6	3.5	3.6	3.8	3.9
In % of previous year	81.8	97.2	102.9	105.6	102.6

Table 2.10

Output of main production of chemical and petrochemical industry

Main types of production	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Synthetic rubber, tons	3846	2238	3563	5567	3970	3035	1518	3693	7676	5386
Hydrate of sodium (caustic soda), thsd tons	4.3	3.8	5.0	6.2	4.9	3.6	1.8	2.8	6.2	4.2
Tyres, thsd pieces.	0.1	16.9	5.0	-	0.07	-	4.1	0.2	8.4	0.3
Synthetic detergents, tons	56	25	87	21	509	486	327	366	2033	2200
Varnish-and-paints, tons	94	53	69	130	442	1079	1367	1453	1533	2062

In previous years there functioned such organizations as ArmSelKhozKhimia (Armenian Agricultural Chemistry) and the centralized distribution and account /registration of pesticides and mineral fertilizers was performed according to regions and farms. Thus, there was functioning a well-coordinated system for strict control on use/application of pesticides (incl. the quality control and assortment) in the country as a whole and in regions, districts, farms (table 2.11).

Table 2.11

Volumes of Pesticides Imported to and Used in Armenia (1985-1994)

Years	Import (tons)					Application/use (tons)				
	Herbicides	Insecticides	Fungicides	Zoocides	Disinfectants/ protectants/ seed dressers	Herbicides	Insecticides	Fungicides	Zoocides	Disinfectants/ protectants/ seed dressers
1985	203	879	3180	70	11	-	-	-	-	-
1986	241	1352	7745	65	1.0	-	-	-	-	-
1987	364	1310	9310	65	11.0	-	-	-	-	-
1988	290	659	2468	40	36	183	535	5523	39.5	14.2
1989	322	891	8110	-	23.3	247	779	6145	30	17.4
1990	105	639	7063	24	1.0	183	510	4590	37	13.0
1991	143	604	4657	24	27	113	536	2838	28	13.9
1992	-	125	119	-	1.0	16	61	928	1.9	7.0
1993	-	13	1.4	-	-	17	50	504	5.0	1.6
1994	7.3	11	67.3	-	-	7.3	60	340	1.0	3.2

In Armenia, under conditions of new socioeconomic relations and private-ownership based agricultural production both import and trade of chemical plant protection means is performed by various commercial organizations and private owners. The production and trade of chemical and biological plant protection means as a type of economic activity performed by legal entities or private entrepreneurs is subject to obligatory licensing in accordance with the Decision of the Government of the Republic of Armenia “On approval of the order on licensing and license type for production and/or trade of chemical and biological plant protection means” (No.1902-N dated December 14, 2006).

In accordance with the approved order for License obtaining it is necessary to have at least specialized secondary education in agronomy, to have industrial premises which comply with the sanitary norms and standards approved by the Order of the Minister of Health of the Republic of Armenia “On approval of sanitary norms and standards for storage, transportation, use and trade of agrochemicals (pesticides)” (No.790-N dated August 30, 2005). In addition, proceeding from Clause 9 of the Law of the Republic of Armenia “On trade and services”, the Decision of the Government of the Republic of Armenia “On

establishing specificity in trade of agrochemicals (pesticides) and mineral fertilizers” (No.1899-N of November 3, 2005) sets forth requirements for realization of trade on farm chemicals (pesticides) and mineral fertilizers. In accordance with the above mentioned regulatory document at the territory of the Republic of Armenia it is allowed to produce and/or sell/trade only those plant protection means, which are included in the “List of chemical and biological plant protection means allowed for use/application in the Republic of Armenia” (Decision No.14-N of February 5, 2007) that is approved by the Minister of Agriculture of the Republic of Armenia.

The foreign-economic activity in the Republic of Armenia is done according to classification of commodities nomenclature in foreign-economic activity developed on the basis of 6-digit encoding of commodity classification harmonized system and 8-digit combined nomenclature. Both import and export according to certain groups and structure, as well as certain commodities and chemicals are presented as tables 2.12-2.14 based on customs-house data.

Table 2.12

Export and Import of the Republic of Armenia by Commodity Groups, Countries of NIS/CIS and other Countries of the World (thsd US\$)

Commodity groups	1998		1999		2000		2001		2002		2003	
	exports	imports	exports	imports	exports	imports	exports	imports	exports	imports	exports	imports
Mineral fuels, petroleum and petroleum products, bituminous substances, mineral waxes, total	10235.2	203043.3	19154.1	175037	20657.9	178515.6	17158.0	187200.8	13431.1	170236.4	11005.5	178582.2
NIS/CIS countries	6892.0	126336.9	8168.6	92457.3	10978.3	98178.4	7680.0	86921.1	6174.9	101883.3	6725.7	74956.7
Other countries	3343.2	76706.4	10985.5	82579.7	9679.6	80337.2	9478.0	100279.7	7256.2	68353.2	4279.8	103625.5
Inorganic chemicals; organic and inorganic compounds of precious metals and rare-earth metals	391.6	3982.4	179.0	5366.1	59.6	4523.6	221.7	6370.4	63.6	7774.3	974.4	6411.7
NIS/CIS countries	127.6	977.8	145.1	2060.6	53.2	1255.3	200.3	1698.7	62.7	2238.4	53.3	1976.0
Other countries	264.0	3004.6	33.9	3305.5	6.4	3268.3	21.4	4671.7	0.8	5535.9	921.1	4435.8
Organic chemicals	138.7	1439.2	359.2	3370.0	796.0	1699.8	367.9	2254.9	389.7	2011.1	285.5	2827.0
NIS/CIS countries	68.5	689.0	286.8	1805.9	631.1	681.8	280.8	533.0	270.6	759.0	87.0	755.3
Other countries	70.2	750.2	72.4	1564.1	164.9	1018.0	87.1	1721.9	119.1	1252.1	198.5	2071.7
Fertilizers:	53.1	5155.6	33.0	3249.6	48.4	2643.8	4.8	3378.4	13.0	5170.9	2.5	4017.0
NIS/CIS countries	23.4	1679.9	0.0	3109.0	-	1605.6	1.7	1953.4	-	5137.8	0.0	202.1
Other countries	29.7	3475.7	33.0	140.6	48.4	1038.2	3.1	1425.0	13.0	33.1	2.5	3814.9
Other chemicals/Miscellaneous	292.4	2487.5	140.6	2410.3	87.1	3700.9	68.2	3521.1	56.9	3745.4	65.3	4155.8

Commodity groups	1998		1999		2000		2001		2002		2003	
	exports	imports	exports	imports	exports	imports	exports	imports	exports	imports	exports	imports
NIS/CIS countries	224.2	868.5	119.9	717.1	51.9	976.8	38.1	1161.6	10.9	1234.0	61.0	1255.5
Other countries	68.2	1619.0	20.7	1693.2	35.2	2724.1	30.1	2359.5	45.9	2511.4	4.3	2900.0
Synthetic rubber and industrial rubber products	7681.8	10013.7	8897.6	3533.8	8801.5	4942.0	12405.3	5384.6	5290.0	5481.0	3982.4	7277.8
NIS/CIS countries	7526.6	5764.2	8552.1	2223.3	8172.8	3359.7	11408.4	3503.2	4334.6	3768.5	1707.5	4817.7
Other countries	155.2	4249.5	345.5	1310.5	628.7	1582.3	996.9	1881.4	955.4	1712.5	2274.9	2460.1
Pharmaceuticals	1169.7	34190.5	858.4	32441.4	1242.5	42290.1	1608.1	28945.2	800.4	24058.4	1122.2	38128.4
NIS/CIS countries	1129.2	4221.7	836.4	2956.5	1168.5	3349.4	989.1	3077.3	734.4	4256.7	865.1	3995.7
Other countries	40.5	29968.8	22.0	29484.9	74.0	38940.7	619.0	25867.9	66.0	19801.7	257.1	34132.6
Plastics and articles thereof:	368.6	17295.4	212.6	19991.1	247.3	18081.6	663.0	17093.8	1030.4	16664.3	824.6	21427.9
NIS/CIS countries	338.8	1499.7	183.6	7234.9	185.8	1621.7	418.9	1964.8	675.6	1511.1	489.5	1804.5
Other countries	29.8	15795.7	29.0	12756.2	61.5	16459.9	244.1	15129.0	354.8	15153.2	335.1	19623.4
Tanning and dyeing extracts; tannins and their derivatives; dyes, pigments and other colouring matter; paints and varnishes	48.7	4885.8	171.9	5665.8	1014.5	6671.7	57.2	4170.3	73.4	3370.8	40.0	4027.5
NIS/CIS countries	38.2	406.2	160.8	655.5	993.0	665.0	49.3	285.7	59.8	235.7	40.0	490.9
Other countries	10.5	4479.6	11.1	5010.3	21.5	6006.7	7.9	3884.6	13.6	3135.2	0.0	3536.5
Essential oils and retinoids, perfumery, cosmetics and toiletry	6.4	7441.6	34.4	7420.2	34.3	7454.4	42.1	7485.8	15.1	7922.1	78.1	10187.2

Table 2.12 (cont.)

Export and Import of the Republic of Armenia by Commodity Groups, Countries of NIS/CIS and other Countries of the World (2004-2006) (thsd US\$)

Commodity groups	2004		2005		2006	
	exports	imports	exports	imports	exports	imports
Mineral fuels, petroleum and petroleum products, bituminous substances, mineral waxes, total:	19827.4	207295.2	27187.3	264366.4	19646.0	350855.9
NIS/CIS countries	11376.6	113525.7	17390.9	148545.7	9463.5	217024.4
Other countries	8450.8	93769.5	9796.4	115820.7	10182.6	133831.5
Products of inorganic chemistry; radioactive elements and isotopes:	458.8	7115.8	391.0	10942.6	749.5	10595.5
NIS/CIS countries	76.1	3009.6	219.9	2762.5	371.0	2466.3
Other countries	382.7	4106.1	171.1	8180.1	378.5	8129.2
Organic chemicals:	363.1	3122.4	441.3	4583.6	644.2	5729.7
NIS/CIS countries	95.4	932.9	167.7	1563.8	110.8	1596.2
Other countries	267.7	2189.5	273.6	3019.8	533.4	4133.5
Fertilizers:	0.0	6314.5	0.0	6227.4	0.1	10711.5
NIS/CIS countries	0.0	5412.0	0.0	6065.5	0.0	10457.8
Other countries	0.0	902.5	0.0	161.9	0.1	253.7
Other chemicals/ Miscellaneous:	63.2	4996.1	71.8	7888.6	77.4	11529.9
NIS/CIS countries	59.0	959.4	66.2	1879.8	64.2	5060.8
Other countries	4.2	4036.6	5.6	6008.8	13.2	6469.1
Synthetic rubber and industrial rubber products	9495.1	13304.3	7621.8	17554.1	24480.5	23083.2
NIS/CIS countries	5346.2	10434.6	6211.7	12998.5	8796.1	16893.8
Other countries	4148.9	2869.7	1410.1	4555.6	15684.4	6189.4
Pharmaceuticals	881.5	37074.0	1359.3	49413.5	2431.2	60146.5
NIS/CIS countries	714.2	3949.4	1161.9	3972.2	2157.8	4484.2
Other countries	167.4	33124.5	197.4	45441.3	273.4	55662.3
Plastics and articles thereof:	651.5	22201.1	1054.3	30745.7	3582.9	55502.3
NIS/CIS countries	332.1	1639.0	644.4	2135.9	3268.7	3027.6
Other countries	319.4	20562.1	409.9	28609.8	314.2	52474.7

Commodity groups	2004		2005		2006	
	exports	imports	exports	imports	exports	imports
Dyes, pigments and other colouring matter; varnishes and ink	44.2	4517.9	80.0	7119.3	161.5	10007.9
NIS/CIS countries	36.3	259.8	79.7	493.4	144.5	664.0
Other countries	7.9	4258.1	0.3	6625.9	17.0	9343.9
Essential oils, perfumery, cosmetics and toiletry	1.5	11538.8	401.8	15233.2	117.2	19385.8
NIS/CIS countries	0.5	1467.9	219.8	2002.9	26.0	2375.9
Other countries	1.0	10071.0	182.0	13230.3	91.2	17009.9
Soap, surface-active organic agents, washing detergents, greasing substances/lubricants, candles and other similar articles/goods	98.0	6792.0	221.8	10737.0	232.8	14675.4
NIS/CIS countries	97.8	972.3	166.9	2148.1	226.8	2847.0
Other countries	0.2	5819.7	54.9	8588.9	6.0	11828.4

Table 2.13

Structure of Export and Import in the Republic of Armenia in 1998-2003 (in % of total)

Commodity groups	1998		1999		2000		2001		2002		2003	
	exports	imports	exports	imports	exports	imports	exports	imports	exports	imports	exports	imports
Mineral fuels, petroleum and petroleum products, bituminous substances, mineral waxes	4.6	22.5	8.3	20.8	6.9	20.2	5.0	21.3	2.7	17.2	1.6	14.0
Inorganic chemicals; organic and inorganic compounds of precious metals and rare-earth metals	0.2	0.4	0.1	0.7	0.0	0.5	0.1	0.7	0.0	0.8	0.1	0.5
Organic chemicals	0.1	0.2	0.2	0.4	0.3	0.2	0.1	0.3	0.1	0.2	0.0	0.2
Fertilizers	0.0	0.6	0.0	0.4	0.0	0.3	0.0	0.4	0.0	0.5	0.0	0.3
Miscellaneous chemicals	0.1	0.3	0.1	0.3	0.0	0.4	0.0	0.4	0.0	0.4	0.0	0.3
Rubber and industrial rubber goods	3.5	1.1	3.8	0.4	2.9	0.6	3.6	0.6	1.0	0.6	0.6	0.6
Pharmaceuticals	0.5	3.8	0.4	3.8	0.4	4.8	0.5	3.3	0.2	2.4	0.2	3.0
Plastics and articles thereof	0.2	1.9	0.1	2.4	0.1	2.0	0.2	1.9	0.2	1.7	0.1	1.7
Essential oils and retinoids, perfumery, cosmetics and toiletry	0.0	0.8	0.0	0.9	0.0	0.8	0.0	0.9	0.0	0.8	0.0	0.8
Soap, surface-active organic agents, washing detergents, greasing substances/lubricants and other similar articles/goods	0.0	1.2	0.0	0.9	0.0	1.1	0.0	0.7	0.0	0.6	0.0	0.4

Table 2.13 (cont.)

Structure of Export and Import in the Republic of Armenia in 2004-2006 (in % of total)

Commodity groups	2004		2005		2006	
	exports	imports	exports	imports	exports	imports
Mineral fuels, petroleum and petroleum products, bituminous substances, mineral waxes	2.7	15.3	2.8	14.7	2.0	16.0
Products of inorganic chemistry; radioactive elements and isotopes:	0.1	0.5	0.0	0.6	0.1	0.5
Organic chemicals:	0.1	0.2	0.0	0.3	0.1	0.3
Fertilizers:	0.0	0.5	0.0	0.3	0.0	0.5
Miscellaneous chemicals	0.0	0.4	0.0	0.4	0.0	0.5
Rubber and industrial rubber goods	1.3	1.0	0.8	1.0	2.5	1.1
Pharmaceuticals	0.1	2.7	0.1	2.7	0.2	2.7
Plastics and articles thereof	0.1	1.6	0.1	1.7	0.4	2.5
Красители, пигменты и прочие красящие вещества, лаки; чернила	0.0	0.3	0.0	0.4	0.0	0.5
Essential oils, perfumery, cosmetics and toiletry	0.0	0.9	0.0	0.8	0.0	0.9
Soap, surface-active organic agents, washing detergents, greasing substances/lubricants, candles and other similar articles/goods	0.0	0.5	0.0	0.6	0.0	0.7

Table 2. 14

List of Commodities and Chemicals Imported to and Exported from the Republic of Armenia

Codes	Name /description
252000	Gypsum/plaster, alabaster
271000	machine oil, engine oil, lubricating oils
271000	diesel oil
271000	lead-free gasoline/ unleaded gasoline / Non-ethylated
271100	Natural gas and liquefied gas
271500	Bituminous paste
281119	Nitrotrimethylphosphonic acid
281500	Sodium hydroxide, potassium hydroxide
281700	Zinc oxide
281810	Manufactured /artificial corundum
281900	Oxides, hydroxides of chrome
282100	Oxides, hydroxides of iron
282300	Titanium oxide
282400	Lead monoxide/ plumbic ochre
282700	Oxides and hydroxides of chlorine, bromine and iodine
283329	Ferric sulfate
283700	Cyanides
290300	Halogenated industrial hydrocarbons
290311	chloroethane
290900	Ether, ether alcohol, ethers of carboic acid
291500	Formic acid
291600	Acrylic acid, oleic acid
291700	Polycarbonic acid
291800	Carbonic acid
292111	Methyl pyramidon
310110	Mineral fertilizers
320200	Synthetic tanning substances, organic and inorganic
321200	Other dyeing/colouring substances
340200	Washing detergents
340300	Greases/ lubricants
350600	Rubber glues and articles thereof
370700	Photochemicals
380800	Insecticides, herbicides, fungicides, rodenticides
381400	Complex organic solvents; solvents
381400	Paints, varnishes
381500	Catalysts
382300	Industrial monocarbonic fatty acids
400200	artificial rubber, latex
740300	Copper alloys

2.2. CHEMICALS USE IN THE REPUBLIC OF ARMENIA

There is a developed production of industrial chemicals in the Republic of Armenia. In addition, the country performs an active/foreign trade activity on industrial and household/consumer chemicals, pesticides of agricultural and household application, fertilizers, petrochemicals, mineral fuels, greases/lubricants and other chemicals, as well as attending goods. Imported chemicals of industrial and household application are intended for both internal use within the country and for re-export/foreign exports. Records and calculations of export/ import on goods are done according to the Nomenclature of Foreign Economic Activity for the CIS countries and EU combined nomenclature.

In compliance with the Law of the Republic of Armenia “On approval of the 3-yaer Programme of State Statistical Activity for 2004-2006” (Annex 3.3, clause 7), based on outcomes of discussions held with the State Customs Committee at the Government of the Republic of Armenia concerning the possibility to define the signs (indications) of partner countries by the customs declarations, as well as recognizing as the basis methodology proposed by the UN for International Merchandise Trade Statistics, since January 2005 the National Statistical Service of the Republic of Armenia performs the geographical “breakdown” of imports according to the sign of the country of commodity origin.

According to UN developed methodology of statistics for foreign economic activity (International Merchandise Trade Statistics, Concept and Definitions, New York, 2000), UN partner countries are proposed to determine /define the partner: a) by the country that concluded the agreement, b) by the country that sells (delivers the commodity) and c) by the sign of the country of origin; the preference should be given to the sign of the country of origin.

Armenia exercises foreign trade activity with the CIS countries, neighbouring countries of the region, EU countries, and other countries of the outer world. Dynamics of the export/ import volumes is presented according to information of banking and financial systems, statistical surveys performed at enterprises and in households, as well as customs statistics (declarations). Tables 2.15 – 2.18 reflect volumes of export and import presented in physical value (tons) and, for comparison, in cost values (thsd US\$).

Table 2.15

Export and Import of Mineral Fuels, Greases/Lubricants and Attending Goods

Year	Export		Import	
	Volume (tons)	Cost (thsd USD)	Volume (tons)	Cost (thsd USD)
1998	80.0	10208.4	1529541.3	201750.7
1999	12.7	19153.1	1281511.9	174580.8
2000	254.6	20640.8	1279316.7	174376.6
2001	2009.4	17158.0	1357178.8	186314.4
2002	2.1	13431.1	1158652.2	168773.7
2003	26.2	11005.2	1203163.3	167076.6
2004	8908.1	19822.9	1353878.9	206863.2
2005	11407.8	27184.9	1588684.2	264062.6
2006	15760.0	19646.0	1601107.1	350741.7

Table 2.16

Export and Import of Mineral oil, Petrochemicals and Attending Goods

Year	Export		Import	
	Volume (tons)	Cost (thsd USD)	Volume (tons)	Cost (thsd USD)
1998	80.0	22.0	469511.2	97467.3
1999	12.7	6.4	407950.9	86099.9
2000	254.6	89.2	298223.8	77546.6
2001	2009.4	525.0	354586.4	92662.2
2002	2.1	4.0	383554.8	99313.0
2003	26.2	21.8	343469.4	91818.5
2004	170.2	62.0	388598.3	123748.6
2005	643.9	199.3	389134.4	161516.9
2006	473.4	98.7	367901.1	180023.3

Table 2.17

Export and Import of Articles of Chemical Industry and Attending Goods

Year	Export		Import	
	Volume (tons)	Cost (thsd USD)	Volume (tons)	Cost (thsd USD)
1998	1095.7	2068.3	73301.4	73910.2
1999	1314.8	1807.6	79113.4	82251.4
2000	1960.8	3451.7	75982.8	90647.2
2001	2211.7	2943.2	78306.4	72025.8
2002	2087.9	2148.5	104134.8	70411.0
2003	2125.9	2956.7	110967.6	89057.8
2004	1716.3	2174.8	136297.9	98202.0
2005	2745.2	3367.0	161448.9	136528.3
2006	4004.3	4987.3	187276.7	187426.6

Table 2.18

Export and Import of Chemical Produce

Year	Export		Import	
	Volume (tons)	Cost (thsd USD)	Volume (tons)	Cost (thsd USD)
1998	219.5	308.6	1810.2	2880.3
1999	46.6	150.9	3691.1	3350.7
2000	427.3	89.4	2866.8	4957.1
2001	265.6	399.4	3607.5	4512.8
2002	49.1	396.3	4747.4	4984.7
2003	207.9	178.5	7816.0	6060.9
2004	192.7	140.3	13042.5	7662.3
2005	336.3	150.1	23711.5	12906.8
2006	153.2	126.0	26572.5	14478.9

Data on import and export of chemical plant protection means, fertilizers and other chemical produce is presented in table 2.19 according to customs statistics (declarations).

Table 2.19

Export and Import of Pesticides, Mineral Fertilizers and Other Chemical Produce

Year	Name /description	Export		Import	
		Volume (tons)	Cost (thsd USD)	Volume (tons)	Cost (thsd USD)
1996	Other chemicals/ chemical goods	288.0	480.1	779.7	1202.5
	herbicides, fungicides, insecticides, rodenticides	-	-	-	-
	mineral fertilizers	0.1	8.2	9615.7	1322.7
1997	Other chemicals/ chemical goods	537.8	406.0	1864.3	2547.0
	herbicides, fungicides, insecticides, rodenticides	-	-	-	-
	mineral fertilizers	5689.8	851.5	35071.0	4630.6
1998	Other chemicals/ chemical goods	229.9	292.4	1816.0	2487.5
	herbicides, fungicides, insecticides, rodenticides	-	-	-	-
	mineral fertilizers	270.2	53.1	38266.2	5155.6
1999	Other chemicals/ chemical goods	60.4	140.6	3269.6	2410.4
	herbicides, fungicides, insecticides, rodenticides	18.0	96.3	296.46	381.9
	mineral fertilizers	0.3	33.0	38510.6	3249.5
2000	Other chemicals/	425.8	87.0	2041.0	3701.0

Year	Name /description	Export		Import	
		Volume (tons)	Cost (thsd USD)	Volume (tons)	Cost (thsd USD)
	chemical goods				
	herbicides, fungicides, insecticides, rodenticides	3.6	3.7	216.9	548.0
	mineral fertilizers	0.3	48.4	31210.9	2643.8
2001	Other chemicals/ chemical goods	95.3	68.2	2577.2	3521.1
	herbicides, fungicides, insecticides, rodenticides	1.1	9.1	247.5	738.1
	mineral fertilizers	16.7	4.8	27714.4	3378.4
2002	Other chemicals/ chemical goods	85.3	56.8	2830.3	3745.4
	herbicides, fungicides, insecticides, rodenticides	0.6	3.9	208.5	1174.7
	mineral fertilizers	0.1	13.0	45198.3	5170.8
2003	Other chemicals/ chemical goods	91.7	65.3	4694.9	4155.8
	herbicides, fungicides, insecticides, rodenticides	1.5	6.8	278.3	637.8
	mineral fertilizers	0.0004	2.5	39449.6	4017.0
2004	Other chemicals/ chemical goods	72.7	63.0	4260.7	4865.9
	herbicides, fungicides, insecticides, rodenticides	2.1	15.2	457.2	1526.4
	mineral fertilizers	0.0	0.0	51055.8	6313.9
2005	Other chemicals/ chemical goods	176.7	66.0	5550.2	7601.4
	herbicides, fungicides, insecticides, rodenticides	0.7	1.3	536.8	1580.3
	mineral fertilizers	0.0	0.0	46452.3	6227.2
2006	Other chemicals/ chemical goods	80.0	77.3	7945.5	11406.1
	herbicides, fungicides, insecticides, rodenticides	1.6	18.1	537.8	1548.0
	mineral fertilizers	0.0	0.0	58393.1	10711.5

In 1980s great quantities of mineral fertilizers such as ammonium nitrate, superphosphate, as well as urea and potash fertilizers were applied. Table 2.20 reflects quantities of applied mineral fertilizers by types

Table 2.20

Years	Quantities of Mineral Fertilizers Used (1985-1994 est.) (thousand tons)			
	Ammonium Nitrate (34-36% N)	Urea	Superphosphat	Potash Fertilizers (40% K ₂ O)
1985	125.6	40.7	155.3	28.8
1986	132.9	38.9	168.2	29.6
1987	103.9	40.2	149.4	24.9
1988	91.6	32.4	115.8	21.4
1989	98.8	8.6	84.7	11.1
1990	62.4	8.4	32.0	16.9
1991	35.9	22.8	26.1	1.9
1992	3.2	0.6	-	-
1993	2.7	-	-	-
1994	2.8	-	-	-

In 2006, the Parliament of the Republic of Armenia approved the new “Law on Plant Protection and Quarantine” instead of the earlier adopted one. The registration of chemical and biological plant protection means is done according to provisions set forth in the Law (Article 7 “State registration of plant protection means”) and the Decision of the Government of the Republic of Armenia “On endorsement of the order for state registration of plant protection means (No.1039-N dated August 30, 2007).

In order to coordinate the activity of different state structures relevant to chemicals management and in accordance with the provisions of the “Law on Plant Protection and Quarantine” (Article 7 “State registration of plant protection means”) on the base of the Decision of the Government of the Republic of Armenia the “Membership of the Commission for registration of plant protection means was re-approved, as well as the Regulations for the Commission for registration of plant protection means and biologically active substances” (No. 908 of July 26, 2007).

The Commission of 13 members embraces representatives from the Ministry of Agriculture, Ministry of Health and Ministry of Nature Protection, the National Academy of Sciences, Armenian State Agrarian University, Research Center of Agriculture and Plant Protection, Scientific-Reserch Center of the Yerevan State Medical University after M. Heratsi, etc.

According to the established regulation the main goal of activity performed by the Commission is drawing conclusions on registration of plant protection means and their submission to the Ministry of Agriculture, an authorized body in this area.

In accordance with the “Order of State registration of plant protection means” approved by the Decision of the Government of the Republic of Armenia (No.1039-N dated August 30, 2007) the authorized body, Commission for registration of performs the state registration of plant protection means. In case of a positive conclusion on registration of new plant protection means the Ministry of Agriculture makes a decision on registration and inclusion of means into the “List of chemical and biological plant protection means allowed for application in the Republic of Armenia” The Commission is authorized to issue negative conclusion in the following cases:

- Data submitted for consideration does not comply with the established hygienic standards (allowably daily intake, maximum admissible concentration in soil, surface water, or workin area air, maximum allowable levels in food studffs);
- Proposed plant protection means contains a chemical banned by international agreements/conventioned signed by the Republic of Armenia.

The “List of chemical and biological plant protection means allowed for application in the Republic of Armenia”. The approved List embraced over 200 names of chemical and biological plant protection means of different indication: fungicides, herbicides, insecticides, rodenticides, nematocides, etc (Order No.301-N of December 28, 2007). The List contains no chemicals under Rotterdam and Stockholm Conventions (Table 2.21).

In Armenia there is no domestic manufacturing of pesticides. The main part of agrochemicals used in Armenia is brought by numerous commercial organizations and private persons.

Table 2.21

**“List of chemical and biological plant protection means allowed for use
in the Republic of Armenia”**

(Order of the Minister of Agriculture of the Republic of Armenia: No. 301-N of December 28, 2007)

NN	Trade name	Active ingredient
1. INSECTICIDES		
1.001	Alistin	triflumuron
1.002	Adonis	fipronil
1.003	Agrofos	chlorpyrifos
1.004	Agrofos super	chlorpyrifos + cypermethrin
1.005	Agor	dimethoate
1.006	Actara	thiamethoxam
1.007	Actellic	Pirimiphos-methyl
1.008	Akarin	avertin N
1.009	Anthio	formothion
1.010	Anomethrin	permethrin
1.011	Apollo	clofentezine
1.012	Arrivo	cypermethrin
1.013	Arvilmek	abamectin
1.014	Alpak	alfa-cypermethrin
1.015	Alexander	cypermethrin
1.016	Basudin	diazinon
1.017	Bazultra	diazinon
1.018	BI 58 new	dimethoate
1.019	Buldok	betacyfluthrin

NN	Trade name	Active ingredient
1.020	Grand D	chlorpyrifos + cypermethrin
1.021	Danitol	fenpropathrin
1.022	Danadim	dimethoate
1.023	Demetan	fenazachin
1.024	Decis	deltamethrin
1.025	Decibel	deltamethrin
1.026	Decis Профи	deltamethrin
1.027	Diazinon	diazinon
1.028	Dimilin	diflubenzuron
1.029	Dursban	chlorpyrifos
1.030	Zolone	phosalone
1.031	Eureka	lambdacigalotrin
1.032	Tekvando	lambdacigalotrin
1.033	Jeotion	chlorpyrifos + cypermethrin
1.034	Insegar	phenoxycarb
1.035	Iskra Tab double effect	cypermethrin + permethrin
1.036	Iskra Bio	avertin N
1.037	Iskra Total protection	imidacloprid
1.038	Lebaycid	fenthion
1.039	Hostaquick	heptenophos
1.040	Calypso	tiacloprid
1.041	Karate	lambdacigalotrin
1.042	Carbofos	malathion
1.043	Kinmix	beta-cypermethrin
1.044	Confidor	imidacloprid
1.045	Condor	imidacloprid
1.046	Kraft	abamectin
1.047	Kral	cypermethrin
1.048	Magtoxin	magnesium phosphide
1.049	Match	lufenuron
1.050	Mavrik	fluvalinate
1.051	Medal	tiometoksam
1.052	Medvedoks	diazinon
1.053	Metaldehyde	metaldehyde
1.054	Metabrom 980	methyl bromide
1.055	Mitac	amitraz
1.056	Napoleon	chlorpyrifos
1.057	Neoron	bromopropylate
1.058	Nissorun	hexythiazox
1.059	Nurell-D	chlorpyrifos+ cypermethrin
1.060	Nomolt	teflubenzuron
1.061	Sherpa	cypermethrin
1.062	zellenger	dimethoate
1.063	Omite	propargite
1.064	Ortus	fenpyroximate
1.065	Preparat-30	mineral oils
1.066	Pegas	diafentiuron

NN	Trade name	Active ingredient
1.067	Polystar	biphenthion
1.068	Regent	fipronil
1.069	Ripcord	cypermethrin
1.070	Rovikurt	permethrin
1.071	Sunmite (Sanmite)	pyridaben
1.072	Samb	pyridaben
1.073	Sarban	chlorpyrifos
1.074	Safmite	propargite
1.075	Safegor	dimethoate
1.076	Sonet	hexaflumuron
1.077	Salos	phosalone
1.078	Sumi-alpha	esfenvalerate
1.079	Sumithion	fenitrothion
1.080	Sultan	imidacloprid
1.081	Sumicidin	fenvalerate
1.082	Valsambra	lambda- cyhalothrin
1.083	Valsarel	Cypermethrin + chlorpyrifos
1.084	Valsargid	propargite
1.085	Valsa cyper	cypermethrin
1.086	Valsoat	dimethoate
1.087	Vertimek	abamectin
1.088	Vismethrin	permethrin
1.089	Talstar	bifenthrin
1.090	Cymbush	cypermethrin
1.091	Cyperkill	cypermethrin
1.092	Cyper Maxi	cypermethrin
1.093	Cypcor	cypermethrin
1.094	Fastac	alpha-cypermethrin
1.095	Fury	zeta-cypermethrin
1.096	Fosbecide	methyl-pirimiphos
1.097	Phostoxin	aluminium phosphide
1.098	Fufanon	malathion
1.099	Admiral	pyriproxypfen
1.110	Банзай	chlorpyrifos
1.111	Bizon	dimethoate
1.112	Giazinon	diazinon
1.113	Delta-G	deltamethrin
1.114	Imidia	imidacloprid
1.115	Karat	lambdacigalotrin
1.116	Shans plus	cypermethrin + chlorpyrifos
1.117	Triumph	Cypermethrin
2. INSECTOACARICIDES		
2.001	Prestige	Imidacloprid + pencycuron
3. BIOLOGICAL INSECTICIDES		
3.001	Bitoxibacillin	Bac. thuringiensis var. tenebrionis
3.002	Boverin	Beauveria bassiana TC 92

NN	Trade name	Active ingredient
3.003	Insectin	Bac.thur.var.insectus
3.004	Lepidocide	Bac. kurstaki
3.005	Verticillin	Verticillium lecanii PY 4/1
4. NEMATOCIDES		
4.001	Vydate	oxamyl
5. RODENTICIDES		
5.001	Bacterodencide granules	Salmonella enteritidis, var., Issatchenko
5.002	Garantex	brodifacum
5.003	Gliflor	1,3-difluorine propanol-2
5.004	Ethylfenacin	Ethylfenacin
5.005	Klerat	brodifacum
5.006	Shtorm B	flocumaren
5.007	Zinc phosphide	Zinc phosphide
6. FUNGICIDES		
6.001	Alto	cyproconazol(e)
6.002	Acrobat MC	Mancozeb/mancoceb + dimethomorph
6.003	Actiol	sulphur
6.004	Antracol	propineb
6.005	Atemi S	sulphur + cyproconazol(e)
6.006	Arcerid	polycarbacin + metalaxyl
6.007	Bayleton	triadimefon
6.008	Baycor	bitertanol
6.009	Bordeaux mixture	copper sulfate + calcium hydroxide
6.010	Gabbar	triadimefon
6.011	Grenam	tetraconazol
6.012	Delan	dithianon
6.013	Dithane M-45	Mancozeb/mancoceb
6.014	Domark 10	tetraconazol
6.015	Zato	trifloxistrolin
6.016	Euparen- M	tolyfluanide
6.017	Euparen- M	tolyfluanide
6.018	Horus	cyprodimyl
6.019	Sulphur pow.	sulphur
6.020	Sulphur colloid	Sulphur
6.021	Quadris, kwadris 250	azoxiistrobin
6.022	Cuproxat	copper sulfate
6.023	Kurzat	cimoxamil + copper oxychloride
6.024	Horizon	tebuconazol
6.025	Mankofit	mancozeb/mancoceb
6.026	Mallon-M	metalaxyl + mancozeb
6.027	Mallon	mancozeb/mancoceb
6.028	Melody Duo	iprovalicarb + propineb
6.029	Melodi Ka	improvalicarb+copper
6.030	Melody Compact	iprovalicarb + folpet
6.031	Mical	aluminum phosethyl+ folpet

NN	Trade name	Active ingredient
6.032	Neoram	Ion containing bivalent copper
6.033	Pinnakl	penconazol
6.034	Previkur 607	propamocarb
6.035	Pracsis 70	propineb
6.036	copper sulfate	copper sulfate
6.037	Copper oxychloride	copper oxychloride
6.038	Polyhom	copper oxychloride + polycardin
6.039	Penopaz	penconazol
6.040	Ridomil gold	mancozeb/ mancoceb + mephenoxam
6.041	Ridomil MC	metalaxyl+mancozeb
6.042	Ridonet MC	metalaxyl
6.043	Rapid Gold 450	mancozeb/mancoceb + copper oxychloride + cimoxanyl
6.044	Rovral	iprodione
6.045	Rubigan	phenarimol
6.046	Sarman M	mancozeb/mancoceb + cimoxanyl
6.047	Makozeb M 45	mancozeb/mancoceb
6.048	Cidigard	difenoconasol
6.049	Scor	difenoconasol
6.050	Super copper	copper oxychloride
6.051	Sulphur	sulphur
6.052	Valsalakcil	mankocceb + metalaxyl
6.053	Valsaphone	triadil-mephone
6.054	Valsazeb	mancozeb/mancoceb
6.055	Victory	metalaxyl
6.056	Vectra	bromuconasol
6.057	Terel N	mancozeb/mancoceb + benalaxil
6.058	Teldor	fenhexamid
6.059	Tilt	propiconasol
6.060	Tilt premium	propiconasol
6.061	Tiovit Z 80	sulphur
6.062	Topaz	penconasol
6.063	Topsin M	methyl-thiophanate
6.064	Tubarid	copper oxychloride + metalaxyl
6.065	Tattu	mancozeb/mancoceb + propacamba hydrochloride
6.066	Oxyhom	copper oxychloride +oxadixyl
6.067	Falcon	spiroxamin+ tebuconazol
6.068	Folicur	tebuconazol
6.069	Funguran	copper oxychloride
6.070	Phoenix	mefenoxam+ Mancozeb/mancoceb
6.071	Eteral	famoxadon+cymoxamil
6.072	Coside 2000	copper hydroxide
6.073	Cupraflo	copper oxychloride
6.074	Trifon	Triadimefon

NN	Trade name	Active ingredient
7. FUNGICIDES-PROTECTANTS		
7.001	Dividend	diphenconazol
7.002	Monseren	pensiuron+captan
7.003	Raxil	tebuconazol
8. HERBICIDES		
8.001	2,4-D amine salt	Dimethyl amine salt
8.002	Alyrox	ethylpropilthiocarbonat+antidot
8.003	Acenide	acetochlor
8.004	Avadex BV	triallat
8.005	Arsenal	imazapyr
8.006	Bazagran	bentazon
8.007	Bazagran M	bentazon+2M-4X (diethanolamine)
8.008	banvel	Dicamba (dimethyl-amine salt)
8.009	Basta	ammonium glufosinate
8.010	Betanal AM	desmedipham
8.011	Byuctril D	Bromoxynilphenol + 2,4-D
8.012	Butizan S	metazachlor
8.013	Gezagard	promethryne
8.014	Glysol	glyphosate (izopropilamine salt)
8.015	Granstar	tribenuron methyl
8.016	Ground-bio	glyphosate
8.017	dezormon	2,4-D (dimethyl amine salt)
8.018	Dialene	2,4-D+dicamba (dimethyl amine salt)
8.019	Dikamin D	2,4-D (dimethyl amine salt)
8.020	Zellek-super	galoxifop-P-etoxyethyl (ester)
8.021	Zenkor	metribuzin
8.022	Eradikane 6E	EPTC+ antidote
8.023	Igran	terbuthrin
8.024	Lentagran	pyridat
8.025	Lontrel-300	clopyralid
8.026	Clini	glyphosate
8.027	Kvarc-super	izoproturon+diflufenican
8.028	Cross	Chlorosulphoxim + chlorosulphuron
8.029	Crug	chlorosulphoxim
8.030	Harnes	acetochlor
8.031	Shogun	propacizaphop
8.032	Pardner	bromoxynil (ester actonoat)
8.033	Pyramin	chloridazon
8.034	Primextra	metolachlor+atrazine
8.035	Proconid	propyschlor
8.036	Puma-super 100	phenoxaprop+P-ethyl+antidot
8.037	Raundap	glyphosate (isopropilamine salt)
8.038	Reglone	diquat
8.039	Ronit 6-E	cycloate
8.040	Secator	Mephenpyr-diethyl+amide sulphuron
8.041	Semeron	desmetryn

NN	Trade name	Active ingredient
8.042	Starane	fluroxypir
8.043	Stomp	pendimethalin
8.044	Valsabuzin	metrybuzin
8.045	Valsaglif	glyphosate
8.046	Valsamine	2,4-D + dicamba
8.047	Valsatop	pendimethalin
8.048	Targa-super	hyzalofof-P-ethyl
8.049	Topic	clodinafop-propargil+antidot
8.050	Topogard	terbuthrin+terbutilazin
8.051	Totril	ioxynil (esther octanoat)
8.052	Treflan	trifluralin
8.053	Uragan	glyphosate
8.054	Fenagon	2,4-D (buthylester)
8.055	Furore Super	Phenoxaprop-P-buthyl
8.056	Fuzilade super	Fluaziphop – P- buthyl
8.057	Fronter	dimemenamide
9. BIOLOGICALLY ACTIVE SUBSTANCE		
9.001	Buton	Sodium salt of giberrelic acid
9.002	heteroauxin	Indolyl- 3-acetic acid
9.003	Potassium humate	Potassium salt
9.004	Sodium humate	Sodium salt of humic acids
9.005	Zircon	Mixture of hydroxy cinnaroic acids

2.3 CHEMICAL WASTE GENERATION, USE AND DISPOSAL/REMOVAL IN ARMENIA

In the Republic of Armenia since 1997, the arranged registration of data on chemical generation, use and disposal is done. At present registration of waste generated at the territory of Armenia is performed on the background of information submitted by the organizations according to the statistical Reporting Form “No. 1 - Wastes “Generation, Use and Disposal/Removal of Wastes”, which is officially registered by the Ministry of Justice of the Republic of Armenia.

Accounting the dynamics of waste generation is done in accordance with the classification of wastes by definite classes of hazard, as defined in “List of Wastes classified by hazard” (Order of the Ministry of Nature Protection No. 430-N dated December 25, 2006; State registration No. 10506440 of December 28, 2006).

Following the “Regulation/Guidance on completion of the administrative statistical Reporting Form “No. 1 - Wastes “Generation, Use and Disposal/Removal of Wastes”, the economic entities annually submit detailed information on class of hazard, physical and chemical characteristics, dynamics (generation, use, treatment, transportation, disposal, etc.) of wastes to the State Nature Protection Inspection of the Ministry of Nature Protection. This statistical reporting system involves all the types of wastes generated at the territory of the Republic of Armenia, except radioactive wastes, wastes of animal origin, releases to the atmosphere, discharges to water basins and sewerage system.

According to hazard wastes are classified as follows:

Class 1 – extremely hazardous wastes;

Class 2 – highly hazardous wastes;

Class 3– moderately hazardous wastes;

Class 4 – low- hazard wastes;

Class 5 - non- hazardous wastes;

Primary source reporting information on the dynamics of generated wastes is submitted by the physical and legal persons, certified by the areal sub-divisions of State Nature Protection Inspection of the Ministry of Nature Protection. This source information is collected and summarized at the Ministry of Nature Protection, then the generalized information is submitted to the National Statistical Service of the Republic of Armenia for inclusion in periodically published Reports “Socioeconomic State in the Republic of Armenia”, different Statistical Yearbooks, as well as statistical annual transactions “Environment and Natural Resources in the Republic of Armenia”. Table 2.22 reflects the quantities of generated wastes by years according to summarized data published by the National Statistical Service.

Table 2. 22

Quantities of wastes generated on the territory of Armenia by degree of hazard (according to data of accountable organizations)							
Years	Total, tons	Quantities of wastes by hazard, tons					Domestic/ household wastes
		Class 1	Class 2	Class 3	Class 4	Class 5	
1998	34921.4	-	388.5	132.1	393.5	32129.8	1877.5
1999	177649.4	-	700.0	172.1	40.3	169543.6	7193.4
2000	152700.0	-		2000.0		145300.0	5500.0
2001	324862.8	-	1280.2	153.4	117.5	316986.1	6325.6
2002	327857.63	0.492	834.0	108.136	261.88	318644.9	8008.22
2003	16107 000.0	-	402.7	57.9	419923.0	15676855.8	9795.0
2004	17659 970.8	-	882.3	297.8	543520.5	17105232.3	10037.9
2005	11237450.9	-	2387.0	250.6	10896428.5	328271.6	10113.2
2006	12420720.4	-	1757.6	222.0	12066991.2	341413.1	10336.5

Data on dynamics of generated wastes, including toxic ones, their processing, treatment, use and disposal, transfer, placing, obtaining wastes by physical and legal persons, as well as quantitative specific indices of wastes generated in Armenia, i.e. quantity of wastes per capita, quantity of wastes per area (territory of the country in sq. km, except Sevan lake surface), quantities of wastes per 1 enterprise by years is presented in tables 2.23-2.28.

Table 2. 23

Toxic Industrial Wastes: Generation, Use and Treatment/Decontamination (thsd tons)			
Years	Generated	Used	Treated/Decontaminated
1997	95.0	0.4	0.3
1998	33.0	0.2	0.4
1999	170.5	1.0	0.02
2000	147.3	2.1	0.05
2001	324.9	3.3	1.4
2002	327.9	1.1	0.9
2003	16107.0	0.6	0.3
2004	17660.0	0.8	1.0
2005	10899.1	0.7	2.4
2006	12069.0	0.6	1.8

According to information received by the end of 2006, aggregate total amounts of wastes cumulated at the industrial sites of reporting organizations made 10.6 thsd tons, mainly of the 5th class of hazard. In 2006 waste generation made 12420.7 thsd tons, out of which wastes of the 2nd, 3rd and 4th class of hazard made 12069.0 thsd tons or 97.2%) %; 341.4thsd tons or 2.7% wastes belonged to the 5th class of hazard, while 10.3 thsd tons or 0.1 % made household /domestic wastes.

Table 2.24

**Quantitative distribution of wastes annually generated at the organizations
by class of hazard and by years in tons**
(according to data of accountable organizations)

Class of hazard	Generation									
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Class1	0.3	-	-	-	-	0.5	-	-	-	-
Class 2	466.2	388.5	700.0	1636.5	1280.2	834.0	402.7	882.3	2387.0	1757.6
Class 3	180.3	132.1	172.1	277.1	153.4	108.1	57.9	297.8	250.6	222.0
Class 4	74.2	393.5	40.3	53.8	117.5	261.9	419923.0	543520.5	10896428.5	12066991.2
Class 5	94442.8	32129.8	169543.6	145304.7	316986.1	318644.9	15676855.8	17105232.3	328271.6	341413.1
Domestic/ household wastes	847.6	1877.5	7193.4	5455.9	6325.6	8008.2	9795.0	10037.9	10113.2	10336.5
Total	96011.4	34921.4	177649.4	152728.0	324862.8	327857.6	16107.34.4	17659970.8	11237450.9	12420720.4

Table 2.25

Quantitative distribution of wastes used by organizations, by class of hazard and by years in tons
(according to data of accountable organizations)

Class of hazard	Use									
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Class1	-	-	-	-	-	-	-	-	-	-
Class 2	-	-	536.1	1729.4	-	-	-	-	-	-
Class 3	-	-	-	-	-	-	-	24.5	-	-
Class 4	1.0	15.6	0.3	2.0	0.5	-	-	12.0	666.0	637.0
Class 5	374.3	172.7	501.7	319.2	3251.7	1091.6	600.8	733.3	100.4	122.4
Domestic/ household wastes	1.0	-	-	12.9	-	19.0	5.4	15.0	-	1.0
Total	376.3	188.3	1038.1	2063.5	3252.2	1110.6	606.2	784.8	766.4	760.4

Table 2.26

Quantitative distribution of wastes treated and disposed, by classes of hazard and by years in tons
(according to data of accountable organizations)

Class of hazard	Treatment and disposal by organizations									
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Class1	-	-	-	-	-	-	-	-	-	-
Class 2	283.2	435.0	-	-	1264.3	805.5	275.0	963.2	2354.2	1811.9
Class 3	-	-	-	-	-	-	-	-	-	-
Class 4	1.2	2.2	-	-	8.4	0.5	-	-	14.0	0.6
Class 5	9.1	0.3	18.2	49.5	88.0	49.9	36.1	6.1	49.0	444.6
Domestic/ household wastes	16.4	4.4	-	72194.8	30.7	17.9	19.5	31.5	84.0	27.0
Total	309.9	441.9	18.2	72244.3	1391.4	873.8	330.6	1000.8	2501.2	2274.1

Table 2.27

**Quantitative distribution of treated/decontaminated and destructed wastes accumulated at the organizations,
by classes of hazard and by years in tons
(according to data of accountable organizations)**

Class of hazard	Waste accumulation at the organizations									
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Class1	0.5	-	-	-	-	-	-	-	-	-
Class 2	104.5	14.5	163.4	15.5	1.1	26.5	150.4	59.0	75.1	20.8
Class 3	0.2	0.5	-	-	-	108.1	2.7	4.2	13.1	43.0
Class 4	2.2	120.9	1.1	35.4	19.6	55.0	908916.7	915327.7	105.5	480.4
Class 5	150491.3	11307837.6	7713104.8	7854474.6	8244775.3	679974.2	446006205.8	895.1	420.6	10014.4
Domestic/ Household wastes	0.8	108.2	417.8	14.8	288.5	13.7	22.8	233.0	19.6	68.3
Total	150599.5	11308081.7	7713687.1	7854540.3	8245084.5	680177.5	446915298.4	916519.0	633.9	10626.9

Table 2.28

**Quantitative distribution of wastes taken to waste dumps
by classes of hazard and by years in tons
(according to data of accountable organizations)**

Class of hazard	Wastes taken to waste dumps by funds of organizations									
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Class1	0.4	-	-	-	-	0.5	-	-	-	-
Class 2	-	-	0.0	-	-	-	3.7	10.5	16.8	-
Class 3	0.0	131.6	172.1	277.1	153.4	0.0	163.3	271.8	241.7	192.1
Class 4	6.1	374.1	39.1	51.1	107.6	3.6	60.7	513614.8	10895553.0	12032114.3
Class 5	16674.1	1152.4	1736.3	2352.0	737.8	27271.8	38264.3	17104007.0	327599.5	340525.4
Domestic/ household wastes	790.9	1575.2	106550.2	1636.8	1757.4	3307.8	4401.3	5299.6	6762.8	5910.8
Total	17471.5	3233.3	108497.7	4317.0	2756.2	30583.7	42893.3	17623203.7	11230174.0	12378742.6

In 2006, the amounts of wastes obtained from other enterprises made 3.1 thsd tons. The amounts of wastes transmitted to and placed at other organizations made 55.1 thsd tons. Data on dynamics of waste movement related to obtaining and transmission is presented in Tables 2.29-2.30.

In 2006, the amounts of wastes generated in the Republic of Armenia per capita made 3856.0 kg; per 1 sq. km: 436027.4 kg; waste generation per 1 reporting organization (industrial enterprise/entity) achieved 13679200.0 kg. Data on dynamics of quantitative specific indices of wastes generated in Armenia is presented as Table 2.31 and Figures 2.1-2.5.

Table 2. 31

Quantitative specific indices of generated wastes by years

Years	Per capita (in kg)	Per 1 sq. km (in tons)	Per 1 organization (in tons)
1997	25.4	3.2	680.9
1998	9.2	1.2	244.2
1999	46.7	6.2	356.6
2000	40.2	5.4	350.3
2001	85.4	11.4	607.1
2002	102.1	11.5	509.8
2003	5015.7	565.3	20209.6
2004	5494.7	619.9	24027.2
2005	3492.6	394.4	12872.2
2006	3856.0	436.0	13679.2

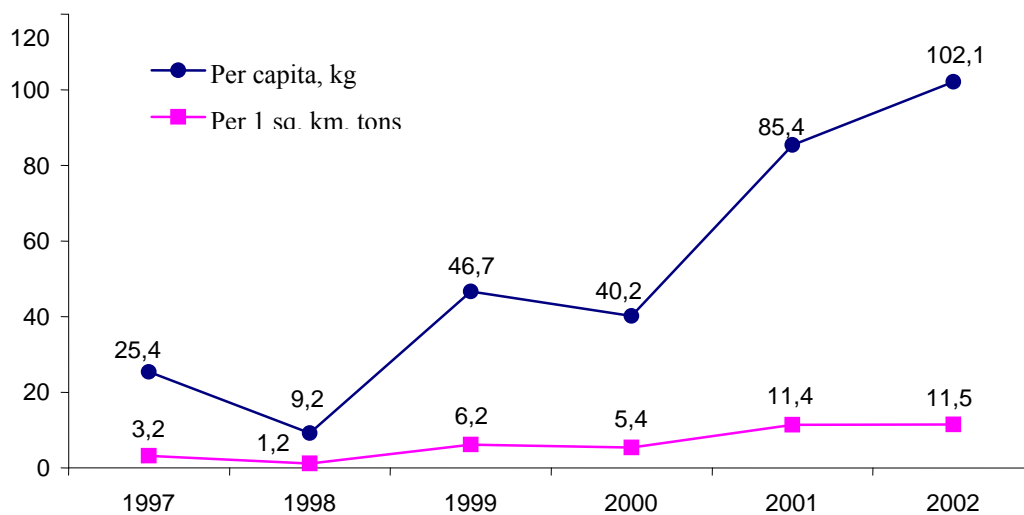


Figure 2.1. Quantitative specific indices of generated wastes (1997 – 2002).

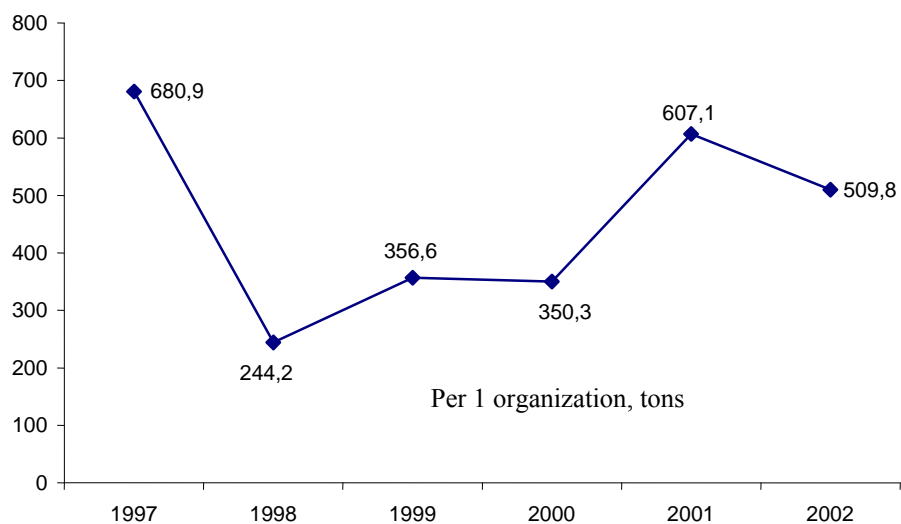


Figure 2.2. Quantitative specific indices of generated wastes per 1 organization (1997 – 2002).

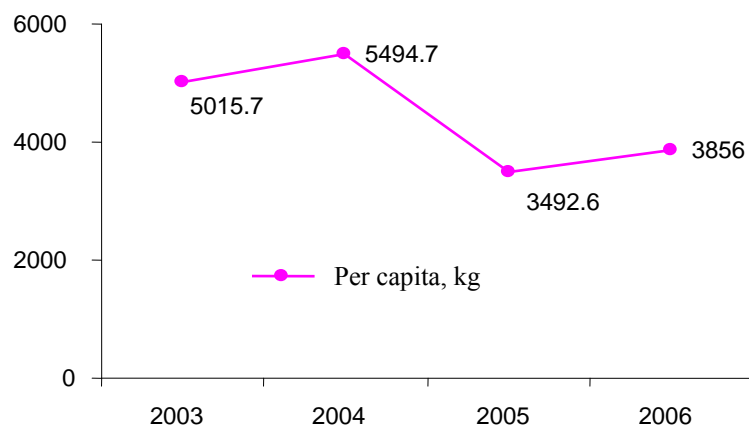


Figure 2.3. Quantitative specific indices of generated wastes per capita (2003-2006).

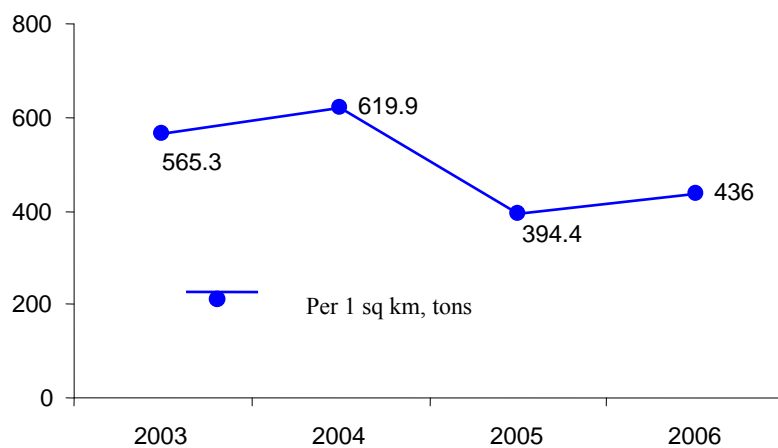


Figure 2.4. Quantitative specific indices of generated wastes per 1 sq. km (2003-2006).

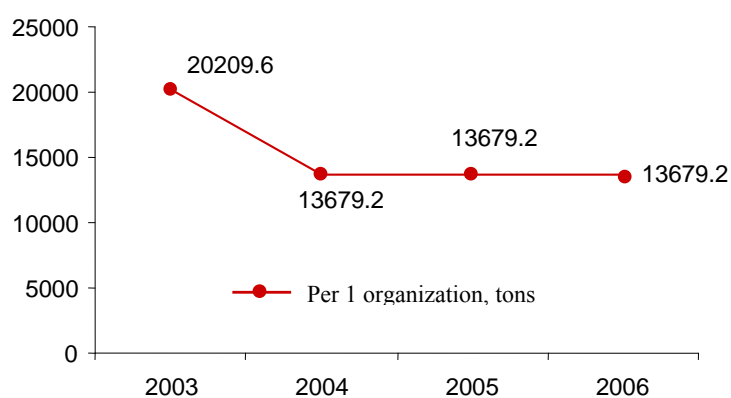


Figure 2.5. Quantitative specific indices of generated wastes per 1 organization (2003-2006).

Table 2.29

**Quantitative distribution of wastes obtained from other enterprises/organizations
during a year by class of hazard**
(in tons)

Wastes by degree of hazard	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Class 1	-	-	-	-	-	-	-	-	-	-
Class 2	-	-	-	-	-	-	-	-	-	-
Class 3	-	-	-	-	-	-	-	-	-	-
Class 4	-	-	-	-	-	-	-	-	-	5.0
Class 5	43.1	0.2	-	400.0	32.0	-	4.0	80.0	70.0	196.9
Domestic/ household wastes	-	352.0	102874.0	73172.0	312.2	694.0	1919.2	1919.4	2657.3	2945.2
Total	43.1	352.2	102874.0	73572.0	344.2	694.0	1923.2	1999.4	2727.3	3147.1

Table 2.30

Quantitative distribution of wastes taken to / placed at other organizations by class of hazard
(in tons)

Wastes by degree of hazard	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Class 1	172.0	-	-	-	-	-	-	-	-	-
Class 2	88.5	43.5	15.0	55.0	30.3	3	-	-	-	-
Class 3	180.1	-	-	-	-	-	-	-	-	-
Class 4	64.2	-	-	0.1	-	204	1.0	23580.0	121.2	47524.2
Class 5	2134.3	537.8	359.1	555.5	283.0	192.3	1086.2	359.4	560.3	252.5
Domestic/ household wastes	39.0	543.7	3450.5	4769.1	4819.8	5345.7	7281.7	6418.7	6073.9	7318.9
Total	2678.1	1125.0	3824.6	5379.7	5133.1	5745.0	8368.9	30358.1	6755.4	55095.6

In Armenia during 2006, environmental payments and fees for nature use by organizations subject to statistical registration (accounting) made 4117.2 mln AMD, of which environmental payments made 632.2 mln AMD, while fees for nature use achieved 3485.0 mln AMD.

For placing 36.1 ton waste 19.6 mln AMD were paid or 3.1% of total environmental payments. Data on dynamics of financial income due to environmental payments and fees for nature use are presented as Tables 2.32-2.33.

Table 2.32

Distribution of environmental payments for placing waste at dumps and payments for goods produced and sold in Armenia and causing harm to environment by marzes (2006)

Marzes	Wastes placed at dumps		Payments for goods, produced and sold in Armenia and causing harm to the environment:
	quantity, tons	payment, thsd AMD	
Yerevan	15248.6	11516.8	2952.3
Aragatsotn	703.9	531.0	353.9
Ararat	701.6	422.8	7478.2
Armavir	768.4	543.1	109.0
Gegharkunik	1804.8	1093.1	4009.9
Lori	803.4	489.6	113.7
Kotayk	1677.9	1034.7	124.7
Shirak	1004.9	1243.8	-
Syunik	11250.0	995.0	-
Vajots Dzor	347.6	283.6	30.3
Tavush	1815.4	1396.7	-
Total in	36126.5	19550.2	15172.0
Armenia			

The analysis of summarized financial indices by marzes of Armenia signify that 58.9% of total payments relevant to wastes placing is done by entities in Yerevan (Table 2.33).

Table 2.33

Distribution of environmental payments for placing wastes at dumps by marzes of Armenia and by years
(thsd AMD)

Marzes	2000	2001	2002	2003	2004	2005	2006
Yerevan	48037.5	4134.1	4134.1	4482.1	5568.3	6363.6	11516.8
Aragatsotn	39.5	55.6	55.6	309.8	148.5	375.2	531.0
Ararat	339.8	399.2	399.2	379.7	335.8	374.2	422.8
Armavir	144.9	269.8	269.8	520.9	223.8	395.2	543.1
Gegharkunik	80.0	740.9	740.9	882.4	264.8	818.8	1093.1
Lori	733.5	232.5	232.5	479.1	278.2	408.9	489.6
Kotayk	56.7	321.5	321.5	366.8	469.7	543.3	1034.7
Shirak	37.0	118.4	118.4	611.9	295.6	700.2	1243.8
Syunik	3.6	3.4	3.4	70.6	111.2	254.5	995.0
Vajots Dzor	69.6	40.4	40.4	340.7	1372.5	332.4	283.6
Tavush	58.8	465.6	465.6	1412.5	1055.1	1308.1	1396.7
Total in	49600.9	6781.4	6781.4	9856.5	10123.5	11874.4	19550.2

Armenia

In FY 2006, 539 (98.7%) reporting organizations spent 1712.6 mln AMD of their financial resources for environmental actions, thus making 3177.4 thsd AMD per 1 organization (Table 2.34).

Table 2.34

Distribution of current environmental expenditures by environmental areas and years
(mln AMD)

Environmental areas	Actual expenses						
	2000	2001	2002	2003	2004	2005	2006
Current environmental expenditure, total	904.8	640.8	1465.8	2173.8	3258.4	3414.9	1712.6
incl:							
Protection and efficient use of water resources	607.4	437.4	1174.0	1787.7	2772.3	2786.6	1047.3
incl: paid to other organizations for obtaining and treatment of waste water	160.9	156.5	207.9	80.9	129.5	2380.7	346.1
Protection of atmospheric air	175.7	62.3	182.3	243.7	339.0	284.3	330.2
Protection of soil from wastes of production and other harmful substances	121.6	141.1	101.5	42.8	54.0	248.1	251.2
incl.: - paid to other organizations for obtaining, storage, treatment and disposal of wastes	104.5	81.3	94.7	32.2	51.0	217.6	198.0
Soil remediation	0.1	-	8.0	99.6	93.1	95.6	83.9

The most part of financial resources spent for protection of lands/soils against pollution by industrial wastes and other harmful substances is paid in Yerevan (Table 2.35). In addition, significant resources are connected with expenditures on fixed industrial assets for treatment/processing wastes, as well as repair and modernization. Data on dynamics of distribution of mentioned expenditures by marzes of Armenia is presented in Tables 2.36-2.38).

Table 2.35

Distribution of current expenditure on protection of soil from industrial wastes and other harmful substances by marzes of Armenia (thsd AMD)

Marz	2000	2001	2002	2003	2004	2005	2006
Yerevan city	118803.5	137394.3	92730.9	32207.9	36568.8	184892.8	155062.9
Aragatsotn	77.4	-	36.9	1608.3	6.9	148.8	282.8
Ararat	11.9	-	1854.4	1292.1	150.0	447.0	1213.2
Armavir	32.2	16.3	42.0	78.8	305.6	918.0	6599.3
Gegharkunik	58.8	12.1	321.5	424.6	705.6	1347.2	2300.4
Lory	197.0	394.3	16.8	81.6	114.7	30142.0	30216.2
Kotayk	105.2	135.0	605.3	729.0	1601.4	2773.2	4210.3
Shirak	-	-	574.5	37.2	30.2	1493.6	1208.9
Syunik	-	2690.0	72.0	84.2	25.2	5602.5	29548.5
Vajots Dzor	121.0	-	311.2	402.2	712.1	450.3	1662.4
Tavush	2209.6	482.0	4887.2	5906.3	13756.3	19969.7	18862.2
Total in Armenia	121616.6	141124.0	101452.7	42852.2	53976.8	248185.1	251167.1

Table 2.36

**Average annual cost of environmental basic production assets
by environmental areas and years (mln AMD)**

	2000	2001	2002	2003	2004	2005	2006
Average annual cost of environmental basic production assets, total	1988.2	1896.9	2196.3	21971.6	27263.0	18851.9	21780.6
Including:							
Protection and efficient use of water storage	1136.1	922.5	1467.9	13257.3	21019.5	18076.1	20047.2
Protection of atmospheric air	841.6	963.5	514.9	913.6	6214.2	747.2	1705.6
Waste processing	10.5	10.9	213.5	7800.7	29.3	28.6	27.8

Table 2.37

**Distribution of average annual cost of fixed production assets on waste processing by
marzes of Armenia
(thsd AMD)**

Marzes	2000	2001	2002	2003	2004	2005	2006
Yerevan city	10447.0	10860.8	13825.5	16254.0	27850.3	11024.3	10784.3
Aragatsotn	-	-	-	1.8	-	-	-
Ararat	-	-	-	-	240.0	240.0	240.0
Armavir	-	-	-	-	-	-	-
Gegharkunik	-	-	-	-	450.0	450.0	-
Lory	-	-	-	-	-	15760.0	15760.0
Kotayk	45.0	45.0	-	55.0	45.0	45.0	80.0
Shirak	-	-	500.0	501.6	2.0	2.0	2.0
Syunik	-	-	199169.0	7783863.0	-	-	-
Vajots Dzor	-	-	-	25.0	-	-	-
Tavush	-	-	-	-	683.0	1034.0	880.0
Total in Armenia	10492.0	10905.8	213494.5	7800700.4	29270.3	28555.3	27746.3

Table 2.38

**Distribution of expenditures on repair of environmental fixed production assets
by environmental areas and years**
(mln AMD)

Environmental areas	Actual expenses						
	2000	2001	2002	2003	2004	2005	2006
Expenditures on repair of environmental fixed production assets, total	27.6	14.6	45.0	84.1	227.1	141.9	155.7
including:							
Treatment of waste water, structures and facilities on protection and efficient use of water resources	14.9	7.4	0.9	79.2	126.4	115.3	117.9
Structures, equipment and devices for trapping and treatment of atmospheric emissions of harmful substances	12.7	7.2	36.8	3.1	99.7	26.3	37.8
Structures and equipment for processing, treatment and disposal of wastes	0.0	0.0	7.3	1.8	1.0	0.3	0.0

In 2006 according to statistical reports obtained from organizations engaged in sanitization of urban communities, in 42 cities and towns of Armenia 568 units of special motor transportation means were engaged, of which sanitation cars/dust-carts made 220 or 38.7%. The appropriate indices for Yerevan were 291, 89 and 30.6%, appropriately.

In 2006, mechanical cleaning was performed to clean the urban area of 5693.1 sq. m. Specialized autotransportation means took to waste-dumps 1409.1 thsd m³ solid household wastes, 4357 tons snow and other wastes. These indices per 1000 urban dwellers made 693m³ and 2141 kg, appropriately.

Distribution of indices relevant to sanitation in urban communities by marzes of Armenia and years is presented in Tables 2.39-2.40.

Table 2.39

**Quantitative distribution of solid household waste transported to urban waste dumps
by marzes of Armenia**
(thsd cubic meters)

Marzes	2000	2001	2002	2003	2004	2005	2006
Yerevan city	1298.0	1492.0	785.7	786.1	787.3	790.6	799.6
Aragatsotn	28.4	20.9	26.0	41.2	66.3	59.1	33.0
Ararat	167.0	117.4	152.7	108.5	102.1	112.2	121.7
Armavir	33.0	4.1	7.6	17.2	52.7	55.1	76.5
Gegharkunik	22.9	35.1	27.2	24.6	24.4	27.7	33.2
Lory	44.3	37.1	41.2	48.3	47.0	58.8	57.5
Kotayk	85.2	81.4	56.1	58.5	43.0	44.0	63.0
Shirak	32.9	11.0	10.5	13.6	8.0	73.8	59.4
Syunik	397.0	376.0	381.4	259.4	255.6	88.6	72.3
Vajots Dzor	10.4	11.5	6.1	3.8	5.1	5.3	3.6
Tavush	7.2	15.5	17.1	15.1	14.1	70.1	89.3
Total in Armenia	2126.3	2202.0	1511.6	1376.2	1405.6	1385.3	1409.1

Table 2.40

Quantity of solid household waste transported to urban waste dumps per 1000 townspeople by marzes of Armenia (cubic meters)

Marzes	2000	2001	2002	2003	2004	2005	2006
Yerevan city	1174.3	1351.6	712.6	713.3	713.8	716.2	724.0
Aragatsotn	859.3	634.3	790.3	1252.3	2015.2	2240.1	1000.0
Ararat	2066.8	1462.9	1908.8	1352.9	1268.3	1390.3	1506.2
Armavir	330.2	41.5	77.2	174.4	532.9	555.7	769.6
Gegharkunik	283.2	442.1	343.4	308.7	305.8	347.6	416.6
Lory	255.3	217.7	243.6	287.3	282.1	354.4	345.6
Kotayk	535.3	524.5	364.8	380.6	278.9	285.0	407.0
Shirak	188.0	62.9	60.5	78.1	48.1	445.5	347.0
Syunik	3804.5	3608.4	3667.3	2494.2	2469.6	855.4	697.2
Vajots Dzor	496.4	570.7	311.2	195.9	262.9	274.3	185.6
Tavush	140.8	305.1	337.9	299.0	278.7	1390.6	1734.0
Total in Armenia	1019.3	1063.3	732.4	667.4	683.8	676.0	682.6

It is important to state that problems relevant to waste management remain to be of priority and urgency for Armenia as the issues of ensuring economic, social and legal/legislative preconditions for more complete use of wastes and a decrease of their generation, widening the secondary use of wastes and environmentally sound disposal and destruction thereof. The situation is worsened by the fact that in Armenia there are no specially allotted sites /polygons/ grounds for treatment and final disposal (burial) of industrial wastes; places organized in compliance with sanitary-hygienic requirements for disposal of household wastes are also lacking. In Armenia no system is established for separation of industrial and household wastes. In this concern in practice all types of waste (industrial, household) without any sorting are disposed to the same urban and rural waste dumps. It is also necessary to mention that the infrastructure for processing the secondary raw material is poorly developed in Armenia.

According to summarized data, in the entire volume of solid municipal wastes 85% falls to the household wastes; 15% make non-hazardous industrial wastes. Table 2.41 reflects the qualitative content of municipal wastes in Yerevan and Hrazdan

Table 2.41

Qualitative Content of Solid Household Wastes in Yerevan and Hrazdan (in %)

Waste components	Hrazdan	Yerevan	
		Till 1990	Since 1990
Paper	11.9	11.6	18.0
Food waste	32.7	40.9	30.0
Wood, foliage	6.0	6.7	2.0
Remains of textile	2.7	2.8	2.0
Rubber substances, leather	1.7	2.0	1.0
Polymers	2.4	2.0	2.0
Bones	1.7	1.8	1.5
Ferrous metals	1.8	1.9	0.2
Non-ferrous metals	1.3	1.2	0.1
Glass goods	5.5	5.4	4.0
Stones and broken glass	16.2	7.6	11.2
Soil	16.2	16.1	28.0

It should be mentioned that problems of environmentally sound disposing municipal and household wastes and establishing special polygons are unsettled in Armenia. Moreover, there are no dumps corresponding to the sanitary hygienic requirements. At present, according to data available at the Ministry of Health of the Republic of Armenia there are 45 urban and 429 village dumps, which in the main do not correspond to sanitary requirements; here belong all urban dumps and 368 village ones. Dumps are located at a distance of 2-18 km from the settlements; for the most part the dumps are non-organized. About 106.3 ha of lands occupied by dumps are contaminated by wastes to this or that degree.

In Yerevan the municipal wastes are disposed to Nubarashen dump, which is one of the sources of environmental pollution by hazardous chemicals, including Dioxins and Furans, as well as other POPs. The waste dump in Nubarashen is exploited since 1961; its area makes about 60 ha. According to calculations, the amounts of wastes at this area achieves 6.5-7.0 mln tons. Waste is buried according to "sandwich" principle: layers of waste are alternated by layers of soil. However, at some sites the layer of waste is 50 m deep instead

of allowable norm of 20 m. There are cases when wastes are not even covered over with earth, or the the soil layer is much less than the recommended norm of 20-30 cm.

At the territory of the waste dump the system for litrate collection of waste and rain-water is lacking; there are constantly observed underground and surface fires because of emergence of occasional or intended ignition.

Insufficiently developed territory of the dump, lack of the appropriate management, alongside with the failure to provide it with special equipment and devices for waste final placement (burying) become the cause for leakage of hazardous chemical substances and contamination of soil and ground waters, as well as Dioxin/Furans emission to the atmosphere. Table 2.42 reflects data characterizing some urban dumps in Armenia.

Table 2.42

Characteristic Parameters of some Dumps Located in Armenia

Location	Area (ha)	Quantity/Volume of wastes (in m ³)		Number of employees (persons)	State	Distance from the city/town in km
		annually	total			
Total	106.3	1 082.8	28 957	41	Unsatisfactory/ inadequate	10.1
Abovyan	4.0	69.7	2 160	2	Unsatisfactory/ inadequate	7.5
Alaverdy	3.0	5.9	130	2	Unsatisfactory/ inadequate	7
Ashtarak	0.5	30.1	360	2	Unsatisfactory/ inadequate	6
Artik	3.0	25.5	180	2	Unsatisfactory/ inadequate	5
Armavir	8.0	46.5	1 440	2	Unsatisfactory/ inadequate	6
Artashat	4.0	36.1	540	2	Unsatisfactory/ inadequate	17
Bjureghavan	-	12.0	372	-	Unsatisfactory/ inadequate	11
Gavar	3.0	24.8	770	2	Unsatisfactory/ inadequate	12
Gyumry	10.0	177.5	5 510	3	Unsatisfactory/ inadequate	15
Goris	4.0	34.4	1 066	2	Unsatisfactory/ inadequate	10
Dilidjan	4.0	31.7	980	2	Unsatisfactory/ inadequate	18

Location	Area (ha)	Quantity/Volume of wastes (in m ³) annually total		Number of employees (persons)	State	Distance from the city/town in km
Echmiadzin	7.0	69.0	2 140	2	inadequate Unsatisfactory/	10
Idjevan	3.0	21.3	660	1	inadequate Unsatisfactory/	14
Kapan	3.0	53.6	536	2	inadequate Unsatisfactory/	17
Hrazdan	6.0	79.0	2 450	2	inadequate Unsatisfactory/	2.5
Masis	2.8	40.5	810	1	inadequate Unsatisfactory/	8
Martuni	3.0	15.5	480	1	inadequate Unsatisfactory/	0.5
Charentsavan	5.0	39.3	1 220	2	inadequate Unsatisfactory/	9
Jermuk	3.0	17.6	264	1	inadequate Unsatisfactory/	10
Sevan	4.0	29.2	905	2	inadequate Unsatisfactory/	18
Sisian	1.5	20.3	304	1	inadequate Unsatisfactory/	10
Spitak	3.0	29.6	920	1	inadequate Unsatisfactory/	7
Stepanavan	1.5	29.4	320	1	inadequate Unsatisfactory/	7
Vanadzor	13.0	127.0	3 400	3	Inadequate Unsatisfactory/	18
Kadjaran	2.0	17.3	540	-	inadequate Unsatisfactory/	7

It is necessary to emphasize the continuation of the active formation and strengthening of the legal/legislative basis on chemicals and waste management in the Republic of Armenia. Due

to situation analysis and currently available data, the key trends and strategic approaches were defined, as well as national priorities revealed in this specific area. The strategic policy for priority implementation was determined as a result of a number of programmes, which were performed by the Ministry of Nature Protection with the aim to elaborate and form the complex integrated approach in the area of chemicals and waste management.

It should be noted that the results thus obtained allowed also to identify the “hot spots”, to reveal the weaknesses and lacks of institutional, legislative, technical, professional and other issues relevant to chemicals and waste management; all these gaps should be bridged and problems settled.

In order to regulate waste management issues in Armenia the appropriate regulatory legislative base was elaborated, including the National “Law on Waste” and a number of by-laws (Decisions of the Government of the Republic of Armenia, Agency orders, etc.). In addition, within the structure of the Ministry of Nature Protection in 2005 the “Waste Research Center” was established in order to facilitate development, tailoring and implementation of the state policy and strategy in the area of waste management.

The Republic of Armenia “Law “On nature use and nature protection payments” (1998) regulates relations on environmental payments, fees and nature use related payments in order to compensate the harm caused to the environment; the types of payments are defined, the order of their calculation and paying. In accordance with the Law environmental payments are compulsory and should be done to the state budget in order to make the financial resources necessary for implementation of environmental actions. There are defined environmental payments for:

- release of harmful substances to the environment (atmospheric air and water);
- placement of industrial and household waste;
- articles/goods causing harm to the environment.

Environmental payments for nature use are those paid into the state budget for the use of natural resources of state ownership; fees are aimed at establishment of equal conditions for economic entities, which are using these natural resources for industrial production, complex goals, as well as entities using natural resources of different quality. Payments are set forth for:

- Water use;
- Exhausted natural resources;
- Use of bio-resources.

The rates of environmental payments for nature use are defined by the Law, while the nature use fees are fixed by the Government of the Republic of Armenia. Payments are calculated quarterly by the above-mentioned types of resources.

Proceeding from the above-mentioned, the Republic of Armenia “Law “On nature protection payments” (ZA-245-N of December 27, 2006) sets forth new rates of nature protection payments and the procedure for their calculation instead of rates defined by the previous regulatory document of FY 2000. The rates of nature protection fees are defined for:

- Releases of hazardous substances to the environment;

- Placement of industrial and household wastes in the environment in the established order. The rates are set forth for each ton of wastes depending on the class of hazard thereof;
- Goods causing harm to the environment.

Nature protection fees for goods causing harm to the environment are calculated on the basis of customs value of the goods and paid to the state budget as appropriate while either importing or exporting goods: prior to or during the customs clearance, whereupon payment acknowledging document is submitted to the corresponding customs body.

Nature protection payments for commodities produced and realized in Armenia and causing harm to the environment are calculated by the producer proceeding from the volumes of turnover realized. The payments are done proportionally to volumes of realized production for the reporting period.

The List of goods causing harm to the environment embraces a number of items amongst which are such commodities as mineral oils, fuels, lubricants, tyres, produce of asbestos, glass-fibre, lead batteries, etc. with appropriate indication of their codes according to Commodity Nomenclature of Foreign Economic Activity. The rates are defined in percentage, proceeding from the cost or volume of products' realization.

According to the established order the rates for placement at the dump for each ton of industrial and household waste are defined proceeding from the class of hazard of the waste. The rates for placing wastes (per 1 ton) at industrial sites are calculated proceeding from class of its hazard and the period of placement. The payment rate increases with the prolongation of storage time for waste at industrial sites (till 1 year, 1-3 years and above 3 years). The payment is done quarterly. Quarter reports on payments and their calculation, the so-called calculation settlement reports are submitted to appropriate nature protection and taxation authorities.

Thus, on the basis of the above-mentioned Laws payments are imposed on and collected from natural and legal persons for nature use/management and nature protection for atmospheric releases/emissions and discharge of contaminating wastes into water reservoirs and municipal sewerage, for goods produced and realized in Armenia and causing harm to the environment, as well as for wastes placement.

Data on goods produced and realized in Armenia and causing harm to the environment, as well as information on volumes of releases of harmful substances, which pollute atmospheric air, and the rates of environmental payments/fees are presented in Tables 2.43-2.45.

Table 2.43

**Goods Produced and Realized in Armenia and Causing Harm to the Environment:
Distribution of Nature Protection Fees by Marzes (in thsd AMD)**

Marzes	2000	2001	2002	2003	2004	2005	2006
Yerevan city	12614.9	1774.3	1793.1	1286.0	1820.5	2835.5	2952.3
Aragatsotn	140.9	5.6	313.1	1839.8	774.4	347.9	353.9
Ararat	5110.9	2886.9	55156.8	4163.1	6873.6	7286.8	7478.2
Armavir	1295.9	27.6	8.0	58.9	102.2	91.1	109.0
Gegharkunik	-	-	-	521.2	-	2593.1	4009.9
Lory	-	23.3	11.7	54.7	1.4	64.9	113.7
Kotayk	3.1	-	-	-	65.9	86.9	124.7
Shirak	1.5	-	-	-	-	-	-
Syunik	-	-	1.7	-	-	-	-
Vajots Dzor	49.0	36.9	31.2	-	-	-	30.3
Tavush	-	-	-	-	-	-	-
Total in Armenia	19216.2	4754.6	57315.6	7923.7	9638.0	13306.2	15172.0

Table 2.44

**Emissions and Trapping of Harmful Substances from Stationary Sources of
Atmospheric Air Pollution**

Indices	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Total release of harmful substances, <i>thsd tons</i>	14.2	16.4	21.7	30.3	17.0	21.4	28.2	40.7	51.0	43.3
including:										
solid	1.3	1.5	1.0	1.2	1.8	2.4	2.6	2.4	4.0	-
Gaseous and liquid	12.9	14.9	20.7	29.1	15.2	19.0	25.6	37.8	47.0	-
incl.:										
sulfurous anhydride	0.3	3.2	0.8	8.4	4.4	7.2	9.9	19.5	24.8	27.3
nitrogen oxides	3.5	4.1	3.8	3.9	4.2	2.4	2.6	2.5	1.7	1.6
carbon oxides	8.8	7.3	9.2	5.9	6.2	9.1	12.7	15.7	20.4	10.3
volatile organic compounds	0.1	0.1	0.7	0.5	0.1	0.1	0.2	0.1	0.1	0.1
Pollutants, tapped and decontaminated, <i>thsd tons</i>	21.2	42.4	8.9	23.3	55.2	56.1	20.8	33.1	139.4	97.6
In % of total quantity of pollutants from stationary sources	59.9	72.1	29.1	43.5	76.4	72.4	42.4	44.8	73.2	69.3

Table 2.45

Payment for Nature Protection and Nature Management (in mln. AMD)

Payment type	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Payment for Nature Management and Nature Protection	680.8	761.7	1177.0	948.1	844.3	1139.5	1137.0	1728.6	3428.3	4117.2
Including:										
For Nature Protection	276.1	363.0	211.6	634.2	163.0	506.3	308.8	171.1	903.3	632.2
incl.(by categories):										
for atmospheric releases from stationary sources	8.0	19.8	25.7	87.1	54.3	35.3	40.9	58.0	117.8	172.7
for disposal/discharge of pollutants in water reservoirs and drainage	262.6	294.5	54.8	44.7	67.9	406.9	250.2	93.4	760.3	424.7
for placement of wastes	1.2	1.5	67.9	49.6	36.0	6.8	9.8	10.1	11.9	19.6
for atmospheric releases by the auto-transport means of enterprises ³	4.3	47.2	60.7	433.6	-	-	-	-	-	-
for goods produced and realized in the Republic of Armenia and causing harm to the environment ⁴	-	-	2.5	19.2	4.8	57.3	7.9	9.6	13.3	15.2
For Nature Management	404.7	398.7	965.4	313.9	681.3	633.2	828.2	1557.5	2525.0	3485.0
incl., by categories:										
for natural resources	404.7	398.7	955.0	282.0	633.8	603.9	761.9	1499.3	2437.4	3394.4
for bio-resources	-	-	10.4	31.9	47.5	29.3	66.3	58.2	87.6	90.6

³ No payment has been imposed since 2001⁴ In 1997-1998 no payment was imposed/collected

2.4 MONITORING ON ENVIRONMENTAL POLLUTION IN ARMENIA

In Armenia, control on the state of the environment (atmospheric air and surface waters) is performed due to monitoring studies: samples of air are taken in industrial cities and towns (Yerevan, Ararat, Alaverdy, Vanadzor, Gyumri, and Hrazdan), samples of water are taken from rivers (Pambak, Debed, Kasakh, Hrazdan, Getar, Marmarik, etc.), Lake Sevan and artificial Yerevan lake.

Data on the impact of economical activity to the environment and use of natural resources are presented as Tables 2.46-2.49.

Table 2.46

Main indices of influence of economical activity on environment and use of natural resources

Years	Diversion capacity from water sources, mln. m ³	Sewage disposal to the surface water objects, mln. m ³	Emission of harmful substances from stationary sources to the atmosphere (without carbon dioxide), 1000 ton
2001	1726	170	17.0
2002	1733	183	21.4
2003	1976	164	28.2
2004	2803	223	40.7
2005	2342	181	51.0

Table 2.47

Quantitative distribution of emissions of harmful substances from stationary sources to the atmosphere by marzes of Armenia (in tons)

Marzes	2000	2001	2002	2003	2004	2005	2006
Yerevan city	12390.1	2078.9	1578.1	1790.5	2174.9	2805.8	2525.5
Aragatsotn	74.6	57.3	25.3	267.6	154.3	140.1	148.2
Ararat	5237.6	5635.3	8603.4	12363.8	14953.1	19566.0	9306.3
Armavir	276.3	73.5	121.5	140.5	86.4	67.2	47.4
Gegharkunik	26.9	98.4	378.5	284.5	49.5	275.0	28.7
Lory	8092.8	4263.1	7212.0	9826.2	19220.3	24550.0	27111.6
Kotayk	3848.5	4433.4	2785.6	2589.6	3218.7	3100.0	3448.5
Shirak	144.6	57.0	150.1	311.8	297.4	148.8	253.0
Syunik	65.3	158.5	352.1	293.8	337.2	300.3	259.1
Vajots Dzor	99.9	34.6	61.4	123.3	130.4	108.7	94.2
Tavush	50.3	124.3	117.1	175.8	116.8	82.4	84.9
Total in Armenia	30306.9	17014.3	21385.1	28167.4	40739.0	51144.3	43307.4

Table 2.48

Emissions of Harmful Substances from Stationary Sources to the Atmosphere							
per 1 resident of Armenia (in kg)							
Marzes	2000	2001	2002	2003	2004	2005	2006
Yerevan city	9.9	1.7	1.4	1.6	2.0	2.5	2.3
Aragatsotn	0.4	0.3	0.2	1.9	1.1	1.0	1.1
Ararat	16.8	18.1	31.6	45.4	54.8	71.5	33.9
Armavir	0.9	0.2	0.4	0.5	0.3	0.2	0.2
Gegharkunik	0.1	0.4	1.6	1.2	0.2	1.1	0.1
Lory	20.5	10.9	25.2	34.5	67.6	86.6	95.8
Kotayk	11.7	13.5	10.2	9.5	11.8	11.3	12.5
Shirak	0.4	0.2	0.5	1.1	1.1	0.5	0.9
Syunik	0.4	1.0	2.3	1.9	2.2	2.0	1.7
Vajots Dzor	1.4	0.5	1.1	2.2	2.3	1.9	1.7
Tavush	0.3	0.8	0.9	1.3	0.9	0.6	0.6
Total in Armenia	8.0	4.5	6.7	8.8	12.7	15.9	13.4

Table 2.49

Emissions of Harmful Substances from Stationary Sources to the Atmosphere per							
1km² Territory of Armenia (in kg)							
Marzes	2000	2001	2002	2003	2004	2005	2006
Yerevan city	54581.9	9158.1	6952.0	7887.9	9581.1	12360.4	11125.5
Aragatsotn	27.1	20.8	9.2	97.2	56.0	50.9	53.8
Ararat	2498.8	2688.6	4104.7	5898.8	7134.1	9334.9	4440.0
Armavir	222.5	59.2	97.8	113.1	69.6	54.1	38.2
Gegharkunik	6.5	23.9	92.1	69.4	12.1	67.2	7.0
Lory	2135.9	1125.1	1903.4	2593.3	5072.7	6479.3	7155.3
Kotayk	1842.3	2122.3	1333.5	1239.7	1540.8	1484.0	1650.8
Shirak	53.9	21.3	56.0	116.3	110.9	55.5	94.4
Syunik	14.5	35.2	78.1	65.2	74.8	66.6	57.5
Vajots Dzor	43.3	15.0	26.6	53.4	56.5	47.1	40.8
Tavush	18.6	46.0	43.3	65.0	43.2	30.5	31.4
Total in Armenia	1100.0	600.0	750.3	988.6	1430.1	1795.2	1520.3

In 2007 the control on the atmospheric environment in Armenia was performed at 13 stationary observation laboratories in cities Yerevan, Gyumri, Vanadzor, Hrazdan, Alaverdi, and Ararat, as well as due to passive sampling at 14 observation points in Tsakhkadzor town.

Samples of atmospheric air were analyzed for the content of dust, sulphur dioxide, nitrogen dioxide, carbon dioxide. In Yerevan the content of nitric oxide and chlorine was also determined. Average annual concentrations of mostly wide-spread monitored pollutants in air of major cities are presented in Tables 2.50-2.52.

Table 2.50

Controlled/ Monitored Air Pollutants in Yerevan								
Concentration of pollutants, mg/m³	1999	2000	2001	2002	2003	2004	2005	2006
Dust:								
maximum	2.2	2.2	1.9	2.5	-	-	-	-
average annual	0.7	0.7	0.5	0.4	-	0.4	0.3	0.34
Sulphur dioxide (SO₂):								
maximum	0.3	0.33	0.27	0.55	0.6	0.59	0.49	0.47
average annual	0.12	0.13	0.10	0.11	0.12	0.13	0.12	0.09
Nitrogen oxide (NO):								
maximum	0.16	0.20	0.16	-	0.26	0.30	0.27	0.23
average annual	0.08	0.06	0.04	-	0.05	0.06	0.06	0.07
Nitrogen dioxide (NO₂):								
maximum	0.33	0.31	0.38	0.42	0.34	0.60	0.42	0.42
average annual	0.15	0.13	0.09	0.09	0.09	0.13	0.11	0.107
Chlorine:								
maximum	0.02	0.02	0.03	0.04	0.02	-	-	-
average annual	0.00	0.00	0.00	0.00	0.00	-	-	-
Benzene:								
maximum	0.541	-	-	-	-	1.543	1.928	1.700
average annual	0.175	-	-	-	-	0.223	0.138	0.089
Toluene/ toluol:								
maximum	0.412	-	-	-	-	0.929	1.694	1.646
average annual	0.11	-	-	-	-	0.162	0.382	0.137

Table 2.51

Controlled/ Monitored Air Pollutants in Alaverdi								
Concentration of pollutants, mg/m³	1999	2000	2001	2002	2003	2004	2005	2006
Dust:								
maximum	0.4	0.4	0.4	-	-	-	-	-
average annual	0.2	0.1	0.1	-	-	0.2	0.2	0.16
Sulphur dioxide (SO₂):								
maximum	0.81	0.98	1.89	0.98	0.81	0.99	1.99	1.07
average annual	0.09	0.19	0.17	0.23	0.17	0.48	0.52	0.57
Carbon oxide (CO₂):								
maximum	5.0	5.0	4.0	4.0	4.0	5.0	5.0	-
average annual	2.0	2.0	1.0	1.0	1.0	2.0	2.0	-
Nitrogen dioxide (NO₂):								
maximum	0.09	0.09	0.09	0.09	0.13	0.13	0.11	0.106
average annual	0.03	0.03	0.03	0.04	0.04	0.05	0.04	0.052
Nitrogen oxide (NO):								
maximum	-	-	-	-	-	-	-	0.07
average annual	-	-	-	-	-	-	-	0.03

Table 2.52

Controlled/ Monitored Air Pollutants in Vanadzor

Concentration of pollutants, mg/m³	1999	2000	2001	2002	2003	2004	2005	2006
Dust:								
maximum	0.6	0.6	0.6	0.5	-	-	-	-
average annual	0.2	0.2	0.2	0.1	0.1	0.3	0.2	0.20
Sulphur dioxide (SO ₂):								
maximum	0.25	0.24	0.24	0.12	0.1	0.21	0.42	0.42
average annual	0.08	0.07	0.07	0.03	0.03	0.08	0.09	0.08
Carbon oxide (CO ₂):								
maximum	6.0	6.0	7.0	5.0	5.0	8.0	8.0	-
average annual	2.0	3.0	3.0	2.0	2.0	3.0	4.0	-
Nitrogen dioxide (NO ₂):								
maximum	0.09	0.08	0.08	0.06	0.05	0.11	0.32	0.34
average annual	0.03	0.03	0.03	0.02	0.02	0.03	0.04	0.037
Nitrogen oxide (NO):								
maximum	-	-	-	-	-	-	-	0.29
average annual	-	-	-	-	-	-	-	0.02
Benzene:								
maximum	-	-	-	-	-	-	-	1.493
average annual	-	-	-	-	-	-	-	0.136
Toluene/ toluol:								
maximum	-	-	-	-	-	-	-	1.395
average annual	-	-	-	-	-	-	-	0.161

In order to study the levels of pollution in surface waters of Armenia (catchment basins of rivers Kura and Araks, Lake Sevan) the samples of water are taken and analysed for 39-43 indices, including such pollutants as ammonia, vanadium, magnesium, copper, nitrite ions, aluminium, zink, iron, chrome, cadmium, lead, etc. According to monitoring data of 2004-2006 in practice almost in all studied water reservoirs of Armenia cases were registered when average annual concentrations of controlled pollutants exceeded the established values of maximum allowable concentrations (MACs). For certain rivers (Akhtala, Kasakh, Voghdge, Vorotan, etc.) the determined concentrations of harmful substances exceeded MACs for dozens and hundred times.

Chapter 3: Priority Concerns Related to Chemical Production, Import, Export and Use

Chemicals are applied in many branches of the National Economy; however most widely these substances are used in such areas as:

- Industry (mining, chemical, metallurgy, processing, manufacturing);
- Agriculture (vegetable-growing, horticulture, cattle-breeding);
- Public health (pharmacology; fight against infection carriers; disinfection means, etc.)
- Power production (power transformers, lubricant/greasing systems, rectifiers, high voltage switches, compressors, etc.).

Problems relevant to management of chemicals and wastes remain to be of highest priority and urgency for Armenia, as legal/legislative and regulatory (normative and methodic) issues still require further strengthening. It is required to ensure economic, social and legal conditions for environmentally safe production and sound handling of chemicals, for the full-scale “complete” use of wastes, and minimizing their generation, as well as widening the secondary use of wastes and environmentally sound disposal and destruction thereof.

It should be stated that in the Republic of Armenia the process of active formation and strengthening the legal/legislative basis on chemicals and waste management is going on.

Key aspects and strategic approaches were defined, as well as national priorities identified in this specific area. Due to a number of programmes performed with the aim to elaborate and form the complex integrated approach in the area of chemicals and waste management the Ministry of Nature Protection identified the key trends requiring first-priority implementation. It should be emphasized that results obtained allowed to identify the “hot spots”, to reveal the weaknesses and lacks of institutional, legislative, technical, professional and other issues relevant to chemicals and waste management; all these gaps should be bridged and problems settled in future.

In order to regulate waste management issues in Armenia the appropriate regulatory legislative base was elaborated, including the National “Law on Waste” (Republic of Armenia Law 159-N of November 24, 2004) and a number of by-laws (Decisions of the Government of the Republic of Armenia, Agency orders, etc.).

However, it should be mentioned that in Armenia there is lacking the national “Law on Chemicals” which might have embraced and regulated the problems of chemical sound handling (production, trade, labeling, use, and transportation, etc.).

Currently problems of chemicals management are regulated by a number of legal acts, by-laws and appropriate international environmental conventions relevant to wastes management as well.

Nevertheless, further improvement and strengthening of legal/legislative and regulating basis requires that would undoubtedly facilitate in developing an efficient control system during the entire “life cycle” of chemical substances and wastes; first of all problems of

registration, certification, regulation (norm-setting) are meant due to close relation to challenges of nature protection, industrial hygiene, rural hygiene, etc. Implementation of the harmonized chemicals and wastes management in the Republic of Armenia will facilitate the efficient arrangement of safe and secure production and application of chemicals, increase of environmental safety while handling chemicals and wastes, prevention of their harmful impact to human health, ensuring healthy environment.

In Armenia the process of strengthening wastes management area is continued with the aim to create conditions for their environmentally sound handling, decrease of the probable harmful impact to human health and the environment.

In order to regulate issues relevant to import/export and transboundary transportation of hazardous wastes and proceeding from the provisions of the “Law on Wastes”, the following regulating acts were approved:

- “List of Hazardous wastes (Republic of Armenia Governmental Decision No. 874-A of May 20, 2004);
- “List of banned hazardous wastes” (Republic of Armenia Governmental Decision No. 1093-N of July 8, 2004).

In a legislative order issues are regulated in concern of production, import, export, registration and use of medicinal substances and chemical plant protection means according to “Law on Medicine” and “Law on Plant Protection and Plant Quarantine”.

In Armenia jointly with the United Nations Institute for Training and Research (UNITAR) and with the support of the Government of Switzerland the project “Design of a National PRTR System to Strengthen Capacity Building Activities for the implementation of Stockholm Convention on POPs in Armenia” (2007-2009) was initiated in order to design the National Pollutant Release and Transfer Register (PRTR).

The elaborated PRTR will be a catalogue or a register of potentially hazardous substances’ releases and transfer. It will embrace information on the nature and quantities of such releases and transfers. These data can originate from both point pollution sources such as plants and enterprises and from scattered sources, such as agricultural activity, transportation. The register will contain information on releases to air, water, and soil, as well as data on wastes transported to final disposal (burial) sites.

The environmental data base of collected information will be available for all concerned parties, it will facilitate active dissemination, of information and raise the level of awareness in workers and general population in concern of chemical risks. Once designed, the Register will serve as an important basis for a constructive dialogue and development of programmes aimed at reduction of risks connected to chemical hazard.

The problems related to disposal and destruction of obsolete pesticides and expired medicine remain to be unsettled still. The problem of obsolete pesticides has been actual for Armenia since late 1970s. During that period there was raised the problem of disposal and burying obsolete, banned for use organochlorine pesticides, which cumulated at the territory of Armenia. In early 1980s, the special site was allotted and organized for final placement of obsolete agrochemicals near Bardzrashen village. At this organized burial the

quantity of buried obsolete pesticides made about 500 tons, of which organochlorine pesticides made 250 tons.

The complexity of burial related problem is aggravated by the fact that the allotted area is in the zone of active landslide-related processes, which can affect integrity of the burial, damage it and cause probable “breakthrough” of the contents (innage), as well as penetration of residues of buried obsolete pesticides, including organochlorine ones, to the environment and result in environmental pollution.

In this concern the severe hazard is posed by organochlorine pesticides as they can circulate in the environment for decades until their complete degradation, thus presenting a threat and risks for human health. Due to ability to continuously persist in the environment and exert the unfavourable impact to human health the organochlorine pesticides are considered hazardous and are listed in the group of so-called “persistent organic pollutants (POPs)”.

For resolution of problems dealing with elimination and/or treatment and decontamination of obsolete, inappropriate-for-use pesticides, for taking appropriate measures and working-out environmentally sound modes of pesticides destruction by the Decision of the Prime Minister of the Republic of Armenia there was formed a “Working Group on regulation of issues on destruction of obsolete, inappropriate-for-use chemical plant protection substances and working-out actions for destruction thereof” (No. 452-A of September 22, 2003);

The Working Group presided by the Minister of Nature Protection embraced representatives from the concerned state structures: Ministry of Nature Protection, Ministry of Agriculture, Ministry of Health, Ministry of Trade and Economic Development, Ministry of Foreign Affairs, Ministry of Finance and Economy, Ministry of Defense, Police at the Government of the Republic of Armenia, State Customs Committee at the Government of the Republic of Armenia, State Security Service at the Government of the Republic of Armenia, National Academy of Sciences.

Taking into account the complex character of obsolete pesticides burial-related situation, Ministry of Nature Protection initiated actions aimed at improvement of ecological situation in the vicinity of the burial. In this concern there was done the preliminary estimation of the activity to be undertaken for ensuring the environmental safety and security of the burial. As a result, the list of actions was compiled and financial resources assigned from the Republic of Armenia State Budget for FY 2004 that was approved by the Decision of the Government of the Republic of Armenia No. 526-A dated April 22, 2004..

Implementation of measures/actions was imposed on the Department of Emergency Situations at the Government of the Republic of Armenia; in accordance with the approved Decision, a sum of 8 504.7 thsd AMD were issued to the Department due to the reserve funds of the Government of the Republic of Armenia.

Coordination and control on implementation of measures was laid on the Ministry of Nature Protection of the Republic of Armenia. The List of measures ensuring safety of pesticides burial embraced the following:

2. Study on the landslides at the territory neighbouring the burial of obsolete pesticides;
3. Study aimed to examine the concrete construction of the burial of pesticides and determine its integrity;
4. Fencing the burial of obsolete pesticides and reconstruction of drainage/water catchment system around it;
5. Study on contamination of soils and ground waters adjacent to the burial.

Upon completion of the planned activity the Department of Emergency Situations (currently rearranged and renamed as Ministry of Emergency Situations) prepared and submitted to the Ministry of Nature Protection a report on the actions performed with the detailed results of engineering-geological, hydrogeological visual examination and monitoring studies. As a follow-up of initiated activity there was prepared and proposed the “Programme of complex scientific-research and exploration works on the site Djrashen –Sovetashen in the vicinity of Yerevan..

Solution of the problem on remediation of polluted areas and wastes dump sites, including the obsolete pesticides burial, is of prime significance and urgency for Armenia. The problem is more than serious due to the fact that its solution requires a continuous period of time and is complicated by the limited financial resources.

The efficient solution of the problem of hazardous wastes destruction it is necessary to justify the information on amounts of existing stocks. However, inventory taking on the stockpiles of hazardous wastes (obsolete pesticides and expired medicine) at the territory of Armenia is highly complicated. Despite the expired medicine that is at the assets of medical corporations, pharmacies, and pharmaceutical bases, inventory taking on obsolete pesticides and chemicals is complicated by the fact that due to economic reforms that took place in Armenia both agricultural production and the main part of industrial entities became privatized. Due to the land reform, previously existing system of centralized delivery via “HayGyughKimia” (Armenian Agricultural Chemistry) was abolished. At present pesticides (farm chemicals) are brought to the country by various commercial organizations and private individuals; proceeding from market relations and short-term considerations agrochemicals are applied without due control.

The stocks of obsolete or banned for application pesticides, including organochlorine ones, being at disposal of small and medium sized farms owners are frequently withdrawn and discharged to the near-by water reservoirs or heaped at non-authorized sites and as a result pollute soils, underground water and air by residual amounts; this latter poses the risk of unfavourable impact to human health.

All the above-mentioned complicate undertaking activity on justification of data on stocks of hazardous POPs containing wastes in Armenia.

The problem of waste management is still aggravated by the fact that in Armenia; there are no industrial facilities for hazardous waste recycling and destruction, there are lacking specialized sites and polygons for treatment and disposal of toxic waste, no appropriately qualified personnel is in place.

Hence, there are still unsettled problems to dispose the cumulated stocks of such hazardous wastes as expired medicine, obsolete pesticides and chemicals, PCB-containing oils, etc.

In Stockholm on May 23, 2001 the Republic of Armenia signed the Stockholm Convention on Persistent Organic Pollutants. Implementation of the Republic of Armenia obligations under the Stockholm Convention was approved by the Decision of the Government of the Republic of Armenia “On implementation of the Republic of Armenia obligations on Stockholm Convention” signed May 23, 2001” (No. 1483-N dated October 29, 2004);

In order to meet main provisions of the Stockholm Convention on POPs the Ministry of Nature Protection of the Republic of Armenia in cooperation with UN Industrial Development Organization (UNIDO) and with the financial support obtained from Global Environmental Facility (GEF) has implemented the National Programme “Enabling activities to facilitate early action on the implementation of the Stockholm Convention on Persistent Organic Pollutants (POPs) in the Republic of Armenia” (2002-2004).

The main goal of the Programme was to identify priority problems related to the negative impact of POPs towards the environment and human health, working out actions addressed at eradication of these problems in order to ensure fulfillment of country commitments on Stockholm Convention on POPs.

To achieve this goal, the following problems were set:

- study on the level of environmental pollution by POPs, monitoring of POPs residual amounts in various environmental media (soil, surface water, water of lake Sevan, and rivers flowing into it), food-stuffs, animal organism and human biomedica;
- determination of residual amounts of organochlorine pesticides, including dichlorodiphenyltrichloroethane (DDT), dichlorodiphenyldichloroethylene (DDE), dichlorodiphenyldichloroethane (DDD), Lindane and PCBs in different environmental media (surface water, soil), as well as human and animal organism, ecosystems and foodstuffs;
- improvement of the legal/legislative basis relevant to POPs
- identification and valuation of national institutional mechanisms for regulation of POPs (minimizing releases, disposal of POPs waste), for further strengthening of these mechanisms;
- awareness raising of stakeholders and the general public on POPs issues.

As a result of the developed “National Implementation Plan”, the following priority lines were set on revealing and prevention of POPs impact towards human health and environment:

- Improvement of legislative/regulatory background for regulation of POPs relevant issues;
- Setting up institutional capacities/ structures and strengthening the interaction amongst concerned Ministries and Agencies aimed at identification of main sources of POPs pollution, limitation of their releases and eliminating the most

- hazardous ones, studies on environmental contamination by POPs and taking joint actions for prevention of their impact to human health;
- Carrying out detailed Inventory on main sources of POPs and POPs-containing wastes (PCB, DDT, and other organochlorine pesticides);
 - Inventory taking on PCB-containing oils and equipment in energy and industry sectors of the Republic of Armenia;
 - Replacement of PCB-containing oils and equipment, which are currently exploited at different entities of energy sector and industry of Armenia, by PCB-free oils and equipment;
 - Monitoring of POPs polluted sites, elaboration of screening methods for POPs analyses with the purpose of initial/preliminary assessment of local contaminations;
 - Establishment of the Central Analytical Laboratory on POPs to ensure analyses and control on the environment;
 - Environmentally sound elimination/disposal of PCB-containing oils and PCB-containing equipment, as well as existing stockpiles of obsolete pesticides;
 - Implementation of safe ‘cleaner’ technologies, which exclude POPs generation, releases in industrial area and the environment;
 - Arrangement of epidemiological and statistical studies on POPs impact to human health and risk assessment;
 - Carrying-out large-scale information and awareness raising activities on POPs problem in order to develop and establish an information system embracing issues on prevention of POPs harmful impact, as well as their after-effects for human health and the environment;
 - Ensuring implementation of actions aimed to meet the obligations of the republic of Armenia under the Stockholm Convention;
 - Extending and strengthening international cooperation relevant to POPs management, information exchange of data obtained as a result of R&D (researches, technical design developments), monitoring studies, Best Available Technology (BAT) and Best Environmental Practice (BEP).

As a result of the National Programme “Enabling activities to facilitate early action on the implementation of the Stockholm Convention on Persistent Organic Pollutants (POPs) in the Republic of Armenia” by joint efforts of concerned Ministries and agencies involved in solution of POPs relevant issues “The National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants (POPs) in the Republic of Armenia” was prepared. This document involves the “List of actions planned within the National Implementation Plan for 2005-2010”, which was approved by the Protocol Decision of the Government of the Republic of Armenia “On approval of the “List of actions implemented within the frames of the “c for the Stockholm Convention on Persistent Organic Pollutants in the Republic of Armenia during 2005-2010”(No.1 of

January 13, 2005). The document was also included into the Bulletin “Republic of Armenia Government: Implementation of Social and Economic Policy”.

The National Implementation Plan reflects national priorities on POPs, key tasks and main trends for activity with the aim to cease the application, minimize releases, and eliminate stocks of POPs-containing wastes.

In the List of Actions set forth in the National Implementation Plan on POPs it is pre-supposed to perform activity for justification of data on PCB sources and their quantitative indices, stocks of banned, inappropriate-for-use chemical plant protection means, including organochlorine pesticides, elaboration of the legislative background for collection and storage of PCB wastes and PCB-containing equipment, strengthening the national capacity for POPs monitoring, improvement of the waste management system, including POPs/PCB-containing wastes, working-out the Plan for liquidation of the burial of obsolete pesticides and taking measures aimed at elimination, destruction of inappropriate-for-use pesticides, etc.

A problem of no less importance and priority for Armenia is the disposal of expired medicine and obsolete industrial chemicals, which are also classified as hazardous wastes. The disposal of these substances should be done in environmentally sound mode.

For the Republic of Armenia the problem of expired medicine emerged after the devastating Spitak Earthquake in 1988 and stocks generated, mainly, as a result of the rendered humanitarian aid, as due to some reasons (infringement of storage conditions, absence of labels, instructions for use inappropriateness to conditions of the emergency situation) the granted medicine became inappropriate for use.

According to preliminary data of the inventory taken by joint efforts of Ministry of Nature Protection and Ministry of Health the summary volume of accumulated expired medicine at the territory of Armenia in 1999 made about 100 tons of expired medicine stocked at storehouses of the Ministry of Defense, Customs Committee, hospitals, and pharmacies. However, mentioned amounts require final clarification and justification.

Inventory taking on expired medicine was technically easy as the stocks of these medical preparations were clearly registered in financial reporting documents (statements of assets and liabilities) and are still in their balance-sheets. This latter facilitates ensuring the reliable storage of the above-mentioned expired medicine until the problem will be settled in concern of their final disposal.

In order to arrange issues dealing with disposal of expired medicine and in pursuance of Article 14 “Disposal of medicine” of the Republic of Armenia Law on Medicine the Governmental Decision No. 487 of July 31, 1999 was adopted “On assigning authorized body of state governance in the area of pharmaceutical activity and disposal of medicine”, in accordance with which Ministry of Nature Protection of the Republic of Armenia was assigned as an authorized body of state governance to regulate all issues related to disposal of inappropriate for use medicinal preparations in the Republic of Armenia

In order to make decisions in concern of destruction of expired medicine and identification of environmentally sound methods of destruction the Decision of Prime

Minister of the Republic of Armenia was approved on setting-up the special Inter-Agency Commission (No. 645-A of December 12, 2003).

The overview of problems of high priority in concern of chemicals and wastes is presented in tables 3.1-3.2. Relative priority ranking for Armenia was done within the range of 1 - 5: the most serious problems were marked as “1”; the succeeding one by importance was considered as “2”, etc.

Table 3.1

Description of Problem Areas

Nature of Problem	City/region	Brief Description of a Problem	Chemical(s)/ Pollutant(s)
Imperfection of legal instruments and regulatory background for management of chemicals	National problem	Lack of national “Law on chemicals”, inadequate provision by regulatory documentation on chemicals provision by	Produced, used, imported, exported chemicals
Imperfection of legislative and institutional background for environmentally sound wastes management	National problem	Weakly (inadequately effective) realizable reporting system, regulation and inventory taking of wastes; scantiness of waste utilization (secondary use); lack of conditions for environmentally sound waste disposal	All types of wastes generated at the territory of Armenia
Imperfection of economic mechanisms for establishing conditions, requirements and rules on environmentally sound handling of waste	National problem	Imperfection and incomplete elaboration of legislative and legal issues, incompleteness of regulatory (normative-methodical) documentation aimed at economical incentives to reduce the amounts of generated wastes, as well as at their use in economic turnover	All types of wastes generated at the territory of Armenia

Nature of Problem	City/region	Brief Description of a Problem	Chemical(s)/ Pollutant(s)
Insufficient level of qualification in specialists/ weakness of the national capacity on environmentally sound management of chemicals and wastes	National problem	Insufficient level of knowledge, skills and qualification for design and realization of integrated approaches for implementation of the harmonized environmentally sound management of chemicals and wastes in the Republic of Armenia	Produced, used, imported, exported, stored chemicals, as well as all types of wastes generated at the territory of Armenia
Inadequate scope of scientific-research and monitoring investigations of the environment	National problem	Limited research directed to study of state of environment; identification of priorities related to the problems of safety, risk assessment, and risk management in view of the impact of hazardous chemicals, wastes, pesticides and persistent organic pollutants to environmental quality and human health	Hazardous chemicals, including heavy metals (lead, mercury, copper, cadmium, etc.), wastes, pesticides and persistent organic pollutants (PCB- containing oils and equipment, obsolete pesticides)
Non-coordinated activity of state structures on chemicals and waste management, including POPs	National problem	Lack of developed cooperation mechanisms and coordination of activities between the Ministries, Research Institutes, industrial associations, NGOs, which if available might have been the basis for coordinated actions for consideration of national priorities on chemicals and waste management, as well as for the efficient implementation of international conventions and initiatives on chemicals and wastes	Chemicals and wastes, including POP

Nature of Problem	City/region	Brief Description of a Problem	Chemical(s)/ Pollutant(s)
Lack of awareness in different layers of population, including decision-makers, related to hazards and risks relevant to chemicals and wastes	National problem	Insufficient level of information and ecological knowledge related to potential risk related to chemicals and wastes, insufficient skills for risk assessment and risk management	Hazardous chemicals, including heavy metals (lead, mercury, copper, cadmium, etc.), wastes, pesticides and persistent organic pollutants (PCB-containing oils and equipment, obsolete pesticides)
Lack of industrial and production infrastructure and industrial capacities for disposal of hazardous wastes	National problem	Absence of specially allotted sites, polygons for treatment, processing, disposal of obsolete chemicals, medicine and other hazardous wastes	Obsolete chemicals, pesticides, expired medicine and other hazardous wastes

Table 3.2

Priority Concerns Related to Chemicals and Wastes

Nature of Problem	Scale of Problem	Level of Concern	Ability to Control Problem	Availability of Statistical Data	Specific Chemicals Creating Concerns	Priority Ranking
Air pollution	local	low	Medium , record-keeping/inventory and control on use chemicals; monitoring	Data available and accessible; annual statistical reports "Environment and natural resources" in the Republic of Armenia	chlorine, chloroprene, copper, lead, benzpyrene, dioxins, furans	4
Pollution of Inland Waterways	national	medium	Medium ; building and exploitation of sewage disposal systems, discharge control, monitoring of surface water	Data available and accessible; annual statistical reports "Environment and natural resources" in the Republic of Armenia	Organochlorine pesticides, heavy metals (copper, lead), PCBs	3
Soil Contamination	national	high	Low ; record-keeping/inventory and control on use of chemicals, incl. pesticides, mineral fertilizers; monitoring of residual amounts of pesticides, PCBs and heavy metals. Criteria setting for identification of territories contaminated by PCBs and methodology for risk assessment. Assessment and mapping of identified territories contaminated by PCBs; maintenance of register on waste disposal sites and monitoring of waste disposal sites	Insufficient	Organochlorine pesticides, heavy metals, PCBs	2

Nature of Problem	Scale of Problem	Level of Concern	Ability to Control Problem	Availability of Statistical Data	Specific Chemicals Creating Concerns	Priority Ranking
Chemical Residues in Food	national	medium	Medium; control on use pesticides, monitoring of its residues	Limited data	Organochlorine pesticides, heavy metals, PCBs, dioxins	3
Drinking Water Contamination	local	low	High; Improvement/ amendment of technical state of water supply system	Limited data	Organochlorine pesticides, PCBs	4
Environmental quality control and monitoring	national	high	Medium; building of analytical laboratory with international accreditation for analysis of chemical residuation in the different objects of environment, including in foodstuff, imported and exported from Republic	Data available and accessible; annual statistical reports “Environment and natural resources” in the Republic of Armenia	Organochlorine pesticides, heavy metals (copper, lead), PCBs	1
Hazardous Waste Treatment/ Disposal	national	high	Low; Establishment of specialized polygons/ entities for processing, treatment, decontamination, destruction and disposal of hazardous wastes; Creation and maintenance of Data Bank on technologies for waste use, destruction, treatment and disposal, including POPs-containing wastes; Establishment of Waste-free and Low-waste Technology Centre	Lack of data	Obsolete organochlorine pesticides, chemicals, medicine, PCB-containing oils and equipments	1
Occupational Health: Agriculture	national	medium	Low; Carrying-out epidemiologic research to study the health status of farmers; dispensarization (mass prophylactic medical examination)	limited data	Chemical plant protection means, including organochlorine pesticides and mineral fertilizers	3

Nature of Problem	Scale of Problem	Level of Concern	Ability to Control Problem	Availability of Statistical Data	Specific Chemicals Creating Concerns	Priority Ranking
Occupational Health: Industrial	national	medium	Low ; Carrying-out epidemiologic research to study health state of workers, especially employed in the chemical industry; carrying out preliminary (before employment) and periodic medical examinations in accordance with the procedure established by the law	Limited data	Copper, molybdenum, etc., dioxins, furans	3
Public Health	national	high	Medium; Establishment of laboratories equipped with the modern devices for control on residues of POPs residues in environmental objects and biomedica	Limited data	PCBs, dioxins, furans, organochlorine pesticides	2
Chemical Accidents: Industrial	local	low	Medium ; Non-registered	Sufficient	Chloroprene, use of chlorine and ammonia	5
Chemical Accidents: Transport	local	low	High ; Non-registered	Sufficient	Transportation of hazardous cargo	5
Unknown Chemical Imports	local	low	High ; Non-registered	Sufficient	No cases for import of unknown chemicals were registered	5
Storage/ Disposal of Obsolete Chemicals	national	high	Low ; Allotment of specialized polygons/entities for processing, treatment, decontamination, destruction and disposal of obsolete chemicals	Insufficient	Obsolete organochlorine pesticides, chemicals, medicine, PCB-containing oils and equipment	1

Nature of Problem	Scale of Problem	Level of Concern	Ability to Control Problem	Availability of Statistical Data	Specific Chemicals Creating Concerns	Priority Ranking
Chemical Poisoning/ Suicides	local	low	High; Non-registered	Sufficient		5
POP	national	high	Establishment of the Central Analytical laboratory on POPs, assessment and substantiation of possibility to apply alternative methods of processing and destruction of POP-containing wastes; Preparation of practical guidances on safe disposal of PCB-containing wastes (oils and equipments); design of Guidelines (manuals) on sound management of of PCB-containing wastes (oils and equipment); design of technical regulations for identification, assessment, labeling and withdrawal (phasing-out) from exploitation of PCB-containing equipment; carrying-out measures directed to environmentally sound disposal/destruction of PCB-containing defective, leaky equipment; criteria setting for identification of areas contaminated with POPs and elaboration of a methodology for risk assessment; assessment and mapping of identified areas contaminated by POPs; carrying out analytical research; compiling modes of BAT and BEP in the area of POPs management	Sufficient	Dioxins, furans, PCB- containing oils and equipments, obsolete pesticides, incl. organochlorine	1

Chapter 4: Legal Instruments and other State Mechanisms for Managing Chemicals

4.1. OVERVIEW OF NATIONAL LEGAL INSTRUMENTS REGULATING ISSUES OF CHEMICALS AND WASTE MANAGEMENT

The environmental policy of the Republic of Armenia is elaborated proceeding from the national interests and in compliance with the principles of sustainable development and meeting country obligations under a number of international conventions and agreements. The core trend of the state policy in nature protection area is ensuring chemicals and wastes sound management in order to prevent their harmful impact to the environment and human health.

It is necessary to state that for Armenia one of priority tasks in the area of chemicals and wastes is implementation of environmentally sound management of persistent organic pollutants in accordance with the requirements of the Stockholm Convention.

One of the principles established by the Stockholm Convention “On Persistent Organic Pollutants (POPs)” runs that: “States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States of areas beyond the limits of national jurisdiction” and provides any sovereign State with the possibility to regulate the problems of POPs management, proceeding from their own national and regional peculiarities in accordance with policy drawn in this specific country and in accordance with the legislation adopted in the frames of the policy.

In Armenia a process to establish and strengthen the legal system began in 1990. Since that time on, multitude of laws and by-laws regulating various spheres of activity were adopted. The substantial part of documents regulates the responsibilities of the Republic of Armenia assumed within the frames of international agreements and conventions.

The principles of state regulation on issues of environmental protection are secured by the article 10 of Constitution of the Republic of Armenia, according to which “The state shall ensure the protection and reproduction of the environment and the rational utilization of natural resources”.

Major legal document in the sphere of Environmental Protection is the law adopted by the National Assembly (Parliament) of Armenia in 1991: “Fundamentals of the Republic of Armenia Legislation on Nature Protection”. Article 72 of this document states:

- Maximum allowable levels of harmful impact on environmental and human health are approved or changed by the State authoritative bodies in this branch: Ministry of Nature Protection and Ministry of Health of the Republic of Armenia;
- The frames of these standards also involve/cover the applicable norms of chemical substances exerting detrimental impact on the environment, maximum allowable concentrations of chemical substances in foodstuffs, as well as maximum allowable levels of chemical substances used in agriculture.

Article 27 states: “expenses connected with decontamination of waste are imposed on industrial, agricultural, and municipal entities at which they were formed”.

Regulation of chemicals and wastes is managed by the appropriate structures established on the basis of a number of laws and legal acts (documents) of the Republic of Armenia.

In the Republic of Armenia within the frames of changes, performed in concern of the entire system of state management and in accordance with the Law “On State Governing Institutions”, adopted by the National Assembly (Parliament) in 2002, the state governing bodies, in particular, executive bodies of state authority, including ministries, agencies and municipalities (marzpetarans, Yerevan city administration) were reorganized into state governing institutions, the founder/ promoter of which is the Republic of Armenia in the person of the Government of the Republic of Armenia.

The Law of the Republic of Armenia “On State Governing Institutions” indicates that State governing institutions have “administration” that involves structural and other dedicated specialized subdivisions. Structural subdivisions are presented as agencies and departments, while the specialized subdivisions are represented by agencies and inspections.

Within the frames of the above-mentioned Law, the Government of the Republic of Armenia established the “administration”, approved the Statutes and structures thereof at Ministries, agencies and municipalities.

State non-commercial organizations and societies can also be subordinate to State governing institutions.

In accordance with the Republic of Armenia Law “On state non-for-profit/non-commercial organizations”, adopted by the National Assembly (Parliament) of the Republic of Armenia in 2002, the founder of state non-profit organizations is the Republic of Armenia in person of the Government that defines the principles of activity, performed by the organizations, the governing/managerial system, the magnitude/dimensions of the possessions allotted, the types of business activity, and other issues. The same Law determines that State non-profit organizations, which are newly established or re-established during the process of reorganization, can be subordinate to the state governing institutions, provided these latter approve their statutes and structures.

4.2 SUMMARY DESCRIPTION OF KEY LEGAL INSTRUMENTS RELATING TO CHEMICALS AND WASTES MANAGEMENT

In Armenia management of chemicals and wastes, including POPs, is based on development and implementation of the integrated approach aimed at the efficient arrangement of safe and secure production and use of chemicals and wastes, increase of environmental safety while handling chemicals and wastes, as well as prevention of their harmful impact to human health and ensuring healthy environment.

The integrated approach in the area of chemicals and wastes management, including POPs, presupposes establishment and strengthening mechanisms at the national level for cooperation between Ministries, scientific-research and academy institutes, industrial associations, as well as NGOs, thus making the basis for effective and coordinated actions on consideration the national priorities in the mentioned area, as well as for the efficient implementation of international agreements and initiatives relevant to chemicals and wastes. At the State level, regulation of chemicals and wastes, including POPs, is performed by the following structures of the Republic of Armenia:

- Ministry of Nature Protection;
- Ministry of Health;
- Ministry of Agriculture;
- Ministry of Economy (former Ministry of Trade and Economic Development);
- Ministry of Energy and Natural Resources (former Ministry of Energy);
- Ministry of Defence;
- Ministry of Finance (former Ministry of Finance and Economy);
- Board on standardization, metrology and compliance confirmation at the Ministry of Economy;
- National Statistical Service;
- Marzpetarans (authoritative bodies at regions) and Yerevan city administration.

The functions, rights and responsibility of the appropriate bodies of State governance, local self-government and consumers are clearly defined and set forth by the Statutes thereof.

4.2.1 Ministry of Nature Protection of the Republic of Armenia: Legal Instruments on Regulation of Chemicals and Wastes

Legal regulation

The Ministry of Nature Protection of the Republic of Armenia is the republican body of executive power, which develops and performs state policy in the sphere of environmental protection and natural resources conservation in Armenia.

In accordance with the No.1237-N Decision of the Government of the Republic of Armenia dated August 8, 2002 to create the State managerial authority “Administration of the Ministry of Nature Protection of the Republic of Armenia” and the legal act “On approval of the statute and structure of the Administration of the Ministry of Nature Protection of the

Republic of Armenia” (No. 189-N of February 2007) the goals and tasks of the Ministry of Nature Protection are as follows:

- Within the responsibilities assigned and defined by the legislation of the republic of Armenia: prevention or decrease of the unfavourable impact to the environment, formation (tailoring) of the state policy and management on sound use, conservation and restoration of natural resources;
- Accounting/inventory, study and ensuring that limits will be set for entities and elements having harmful impact to the environment;
- Ensuring development and implementation of legal acts, standards, technical regulations in the area of nature protection;
- Ensuring development and implementation of economic mechanisms relevant to nature protection issues, as well as sound use, conservation and restoration of natural resources, including such economic tools as nature protection fees and payments;
- Ensuring maintenance of conditions for sound management on chemicals and wastes produced and used at the territory of the Republic of Armenia;
- Ensuring possession and maintenance of unified republican data pool, Cadasters and registers on the environment and natural resources;
- Ensuring implementation of the state expertise of the environmental impact;
- Ensuring elaboration of the unified policy in the area of ecological science, education and awareness (jointly with the authorized bodies of education and science);
- Participation in development and implementation of the international policy of the Republic of Armenia in the area of nature protection; etc.

Proceeding from the above-mentioned, functions of the Ministry of Nature Protection include the following:

- Preparation of legal acts, standards, technical regulations in the area of nature protection;
- Working out methods for calculation of the caused damage and the cost of its reparation proceeding from the infringement of norms and rules established by legislation, as well as making calculations of the caused damage;
- Implementation of state environmental monitoring, including that of waste disposal sites;
- Identification of the state of the environment, harmful environmental impacts and their sources, as well as study and monitoring thereof;
- Conformance of Hazardous Wastes Passports;
- Carrying out state expertise on the environmental impacts;
- Carrying out expertise examination of Draft “Safety Passports” of hazardous facilities;

- Classification of produced and used chemicals, as well as industrial and household wastes generated at the territory of the Republic of Armenia according to hazard;
- Maintenance of state accounting/registration of wastes, State Cadastre on Waste, Registry of waste generation, processing, utilization and disposal places;
- Approval of Draft limits for waste placement;
- Ensuring control over fulfillment of requirements set forth by environmental legislation of the Republic of Armenia;
- Conformance of Environmental Passports of industrial entities;
- Participation of the Republic of Armenia in development and implementation of appropriate trends for international policy in environmental area;
- In the order established by the law participation in activity aimed at implementation of obligations under international conventions; etc.

Institutional Regulation

In accordance with the Decision of the Republic of Armenia Government (No.1237-N of August 8, 2002) the Ministry of Nature Protection in the frames of assigned responsibilities regulates issues dealing with chemicals and wastes, including POPs, through the following structural and special dedicated departments and organizations:

1) Department of Hazardous Substances and Wastes Management

The Department of Hazardous Substances and Wastes Management, as a structural subdivision of Ministry of Nature Protection Administration, within the frames of its responsibility carries out policy in the area of chemicals and waste management, including that of POPs.

In compliance with the Statute (order of the Minister of Nature Protection No.88-A of April 16, 2007), the Department performs the following:

: In compliance with the Statute, the Department of Hazardous Substances and Wastes Management performs the following:

- Working out legal acts, concepts and strategic and target programs ensuring chemicals and wastes management;
- Classification of produced and used chemicals, as well as industrial and household wastes generated at the territory of the Republic of Armenia according to hazard;
- Maintenance of the state accounting/registration of wastes;
- Approval of draft Norms on waste generation and Limits of their placement elaborated by legal entities and physical persons (private entrepreneurs);
- Conformation of Hazardous Wastes Passports;
- Maintenance of the Registry of waste generation, processing, and utilization places;
- Maintenance of the Registry of waste disposal places;
- Maintenance of the State Cadastre on Waste;

- Issuing conclusions on import, export and transboundary transportation of hazardous and other wastes;
- Ensuring conditions for environmentally sound handling of hazardous wastes (expired and inappropriate-for-use medicine, pesticides, PCB-containing oils and equipment, etc.);
- In the frames of its authority, - working out actions aimed at prevention of industrial accidents;
- Accounting/registration of entities potentially subject to industrial accidents;
- Expertise of Draft “Safety passports” of hazardous industrial facilities, etc.

2) Department of Norms, Standards and Methods

Department of Norms, Standards and Methods is a structural subdivision of the Ministry of Nature Protection Administration that ensures working-out drafts of legal documents/acts. (Laws, by-laws, standards, technical regulations, methodic guidances and other guidelines) regulating the exposure to hazardous substances and wastes; their coordination and submission of mentioned documents for approval in the appropriate legislative and executive bodies.

3) The “Waste Research Center” State Non-commercial Organization

In order to assist the government in development and implementation of the state policy and strategy in the area of environmentally sound waste management the “Waste Research Center” SNCO was established by the Decision of the Government of the Republic of Armenia (No. 670-N of May 19, 2005) within the structure of the Ministry of Nature Protection of the Republic of Armenia. The Center is engaged in inventory taking on wastes, classification of waste according to hazard, studies on the unfavourable impact of waste dumps to the environment, development of regulatory acts in the area of wastes handling, as well as collection and analysis of information on low-waste and wastes-free technologies, information about entities, at which wastes are generated, processed and used.

4) Department of Economics of Nature Protection and Nature Use

Department of Economics of Nature Protection and Nature Management is a structural subdivision of the Ministry of Nature Protection Administration that ensures working out economic mechanisms regulating management of hazardous substances and wastes.

5) Department of Meteorology and Monitoring of the Environment and State Non-commercial Organization “Centre for Monitoring of Environmental Impacts” perform monitoring studies and those on the environmental impacts.

Due to the operating observations performed by the State Non-commercial organization “Centre for Monitoring of Environmental Impacts”, the quality of surface waters is studied, including qualitative and quantitative analyses of such POPs as DDT, DDE, α - and γ -HCH (Lindane) (Decision of the Government of the Republic of Armenia No. 411 of March 6, 2003).

6) State Non-commercial Organization “State Environmental Expertise”

State expertise and assessment of environmental impacts are performed in order to evaluate exposures in accordance with the Law of the Republic of Armenia “On expertise of environmental impacts” and the Decision of the Government of the Republic of Armenia No.1846 of November 21, 2002.

State Non-commercial Organization “Environmental Expertise”, with the assistance of independent experts and public involvement, performs expertise of environmental impacts resulting from planned activity.

7) State Inspection for Nature Protection

State Inspection for Nature Protection as a specially assigned subdivision at the Ministry of Nature Protection of the Republic of Armenia in accordance with the Decision of the Government of the Republic of Armenia (No.1149-N of July 25, 2002) executes control on fulfillment of norms and regulations presupposed by the legislation of the Republic of Armenia assuring environmental protection, in particular, in concern of the following:

- Compliance of the established requirements dealing with import, export and transboundary transportation of hazardous wastes over the territory of the Republic of Armenia;
- Compliance of norms and requirements established for storage, treatment, recycling, transportation and placement of wastes in the environment;
- Compliance of requirements established for use, transportation and storage of hazardous wastes;
- Compliance of measures/actions ensuring environmental protection;
- Compliance of the order of accounting/inventory taking for hazardous wastes, proper payment of environmental fees by tax-payer;
- Ensuring environmental fees in accordance with the actual volumes of hazardous wastes, including compliance of data presented in the reports to established limits.

4.2.2. Ministry of Health of the Republic of Armenia: Legislative instruments on Regulation of Chemicals and Wastes

Legal regulation

Ministry of Health of the Republic of Armenia is the republican body of executive power assigned to develop and execute policy of the Government of the Republic of Armenia in the sphere of public health.

In accordance with the Decision of the Government of the Republic of Armenia (No.1300-N of August 15, 2002) on establishment of the State Managing Board “Administration of the Ministry of Health of the Republic of Armenia” and the legal document “On approval of the Statute and Structure of the Administration of the Ministry of Health of the Republic of Armenia”, Ministry of Health of the Republic of Armenia should perform the following:

- Work out and approve sanitary standards, norms and regulations (Statute, paragraph 7, subparagraph 1; approved by the Decision of the Republic of Armenia No.1300-N of August 15, 2002);
- Arrangement of measures and actions to improve human health (paragraph 7, subparagraph 7; approved by the Decision of the Republic of Armenia No.1300-N of August 15, 2002);
- Arrange hygienic researches on the environmental impact factors to health of the general population (Statute, paragraph 8, subparagraph 9; approved by the Decision of the Republic of Armenia No.1300-N of August 15, 2002);
- Work out, organize and carry out sanitary hygienic and anti-epidemiologic measures for prevention of infectious and mass non-infectious diseases and poisonings (Statute, paragraph 8, subparagraph 9; approved by the Decision of the Republic of Armenia No.1300-N of August 15, 2002);
- Execute control on fulfillment of hygienic and anti-epidemiologic measures and compliance with the sanitary norms/standards and regulations (Statute, paragraph 8, subparagraph 9; approved by the Decision of the Republic of Armenia No.1300-N of August 15, 2002).

Institutional Regulation

Ministry of Health of the Republic of Armenia, in the frames of authorities assigned by the legislation, regulates issues dealing with chemicals and wastes through the following appropriate structural and special designated subdivisions and organizations:

1) State hygienic and anti-epidemic inspection of the Ministry of Health of the Republic of Armenia

State hygienic and anti-epidemic inspection in accordance with the Statute, approved by the Decision of the Republic of Armenia No.1300-N of August 15, 2002 performs the following:

- Arrangement of socio-hygienic studies (monitoring) on environmental impact factors to human health in general population, analysis and evaluation of the results obtained;
- Hygienic expertise and drawing conclusions on final disposal/burying of wastes, on use of polymers and some other types of substances, packages/containers for raw food materials and food-stuffs, as well as on application of chemical plant protection means;
- Control on compliance of sanitary norms and regulations.

4.2.3 Ministry of Agriculture of the Republic of Armenia: Legal instruments on regulation of chemicals and wastes

Legal regulation

Ministry of Agriculture of the Republic of Armenia is a republican body of executive power, which develops and implements the policy of the Government of the Republic of Armenia in the sphere of agriculture.

In accordance with the Decision of the Republic of Armenia No.1516-N of October 2, 2002 in concern of establishment of the State managing board “Administration of the Ministry of Agriculture of the Republic of Armenia” and the legal document “On approval of the Statute and Structure of the Administration of the Ministry of Agriculture of the Republic of Armenia” it is assigned to:

- Arrange actions for fight against quarantine diseases of agricultural crops and extremely dangerous organisms, as well as managing of quarantine limitations (Statute, paragraph 8, subparagraph 3, approved by the Decision of the Republic of Armenia No.1516-N of October 2, 2002);
- Perform executive control for safety of food-stuffs, as well as over observation and compliance of phytosanitary and veterinary norms (Statute, paragraph 8, subparagraph 6, approved by the Decision of the Republic of Armenia No.1516-N of October 2, 2002);

Institutional Regulation

Ministry of Agriculture of the Republic of Armenia in the frames of the authorities assigned by the legislation regulates the issues dealing with chemicals through the appropriate structural and special designated subdivisions and organizations:

1) Commission on registration of plant protection means in the Republic of Armenia

By the Decision of the Republic of Armenia No.18 of January 11, 2001 there was established the Commission on registration of plant protection means. The personal membership of the Commission and the reglament of the activity were reapproved by the Decision of the Government of the Republic of Armenia (No. 908-N of July 26, 2007). The Commission involves 13 members, including representatives of the Ministry of Agriculture, Ministry of Health, Ministry of Nature Protection of the Republic of Armenia, Armenian State Agrarian University, RScientific Center of agriculture and plant protection, Scientific research Center of the Yerevan State Medical University after M. Heratsi, the National Academy of Sciences, etc. The Inter-Agency Commission functions according the Statute, approved by the Decision of the Republic of Armenia No.11 of January 8, 2002).

In accordance with the approved reglament of activity the main goal of the Commission is issuing conclusions on registration of plant protection means for the body authorized in this area, i.e. for the Ministry of Agriculture.

In compliance “Order of State registration of Plant protection means” approved by the Decision of the Government of the Republic of Armenia No.1039 of August 30, 2007 the authorized body (Commission on registration of plant protection means) performs the process of state registration of plant protection means. In case of a positive expert conclusion on registration of a new plant protectant the Ministry of Agriculture makes a decision for its registration and inclusion into the “List of chemical and biological plant protection means allowed for use in the republic of Armenia”.

2) State inspection on quarantine of plants at the Ministry of Agriculture of the Republic of Armenia

In accordance with the Decision of the Government of the Republic of Armenia No.1888-N of November 21, 2002 the State inspection on quarantine of plants executes control for observation of phytosanitary norms for plants, production of plant origin, and other regulated objects.

3) State Inspection for food safety and veterinary at the Ministry of Agriculture of the Republic of Armenia

In accordance with the Decision of the Government of the Republic of Armenia No.1915-N of November 21, 2002 the Inspection executes control on:

- Use of raw material and products of animal origin, as well as application of means for protection of animals, veterinary preparations, feeds and mixed fodder/combined feeds;
- Observation of veterinary and sanitary requirements by legal and natural persons in order to protect the Environment.

4) State non-commercial organization “Quarantine and Plant Protection Service” at the Ministry of Agriculture of the Republic of Armenia

In accordance with the Decision of the Government of the Republic of Armenia No.1916-N of November 21, 2002 this State non-commercial organization performs the following:

1. Analysis of phytosanitary state of cultivated agricultural crops, prognoses/predicts and reveals pests and development of plant diseases; in case of necessity notifies the state governing bodies and bodies of self-government at the municipalities, as well as legal and natural persons about the realization of the entire complex of scientifically substantiated measures;
2. Expertise of imported and exported plant protection means (laboratory analysis) and issues the appropriate conclusions to legal and natural persons;
3. Rendering assistance to prevent sale and use of plant protection means non-registered and withdrawn from circulation/application in Armenia;
4. Rendering assistance to legal and natural persons in implementation of actions/measures on plant protection at agricultural, industrial, trade areas, as well as at storage facilities.

4.2.4 Ministry of Economy of the Republic of Armenia: Legislative Instruments on Chemicals and Waste Regulation

Legal regulation

Ministry of Economy of the Republic of Armenia (former Ministry of Trade and Economic Development of the Republic of Armenia) is a republican body of executive power, which develops the policy of the Government of the Republic of Armenia in the sphere of economic development.

In accordance with the Decision of the Government of the Republic of Armenia (No.1229-N adopted July 11, 2002) on establishment of State Managerial Authority “Administration of the Ministry of Trade and Economic Development of the Republic of Armenia” and legal document “On approval of the Statute and Structure of Administration of the Ministry of Trade and Economic Development of the Republic of Armenia and corrective action in concern of the Decision of the Government of the Republic of Armenia (No.197 of March 6, 2002), the Ministry of Economy of the Republic of Armenia is assigned:

- To work out and implement scientific and technical and innovation policy in the sphere of science and technology, to facilitate formation of mutually beneficial relations of science and production, to assist in development, import and export of high technologies, as well as the transfer thereof to the national economy of Armenia, to study international processes of technology transfer and to assist in import of transferred technologies having high importance for development and progress of country National Economy; to work out actions for industrial development of information technologies (Statute, paragraph 8, subparagraph 2; approved by the Decision of the Government of the Republic of Armenia (No.1229-N adopted July 11, 2002);
- To coordinate the activity held by the Republic of Armenia together with the World Trade Organization and international trade-and-economic organizations in the sphere of Foreign Economical Policy and economic interactions; jointly with the state governing bodies to work out suggestions on application of quantitative limitations for import and export of goods; establishing state monopoly for import and export of definite goods, conditioned by the issues of economical development of the country, as well as prohibition or limitations on import and export of goods (Statute, paragraph 8, subparagraph 3, approved by the Decision of the Government of the Republic of Armenia – No. 1229-N of July 11, 2002);
- To work out the policy on development of the industry/production complex of the Republic of Armenia and to put forward proposals for realization of relevant actions and to work out and implement republican and local/municipality-based programs on organization of safety-in-work activity in national economy, on prevention of nature and technogenic calamities and to perform control over their implementation of the above mentioned (Statute, paragraph 8, subparagraph 5, approved by the Decision of the Government of the Republic of Armenia – No. 1229-N of July 11, 2002);
- To work out and implement measures and actions on development and regulation of domestic market of goods and services (both retail and wholesale) in the Republic of Armenia (Statute, paragraph 8, subparagraph 6, approved by the Decision of the Government of the Republic of Armenia – No. 1229-N of July 11, 2002);

- In the sphere of state management and national economy regulation to ensure working out and implementation of measures on development, use and reliable legal protection of industrial proprietorship (discoveries, utility models, industrial samples, trademarks and services, names of locations/origination of the goods, names of companies), as well as to establish norms and regulations on technical safety and to execute control over the implementation of these requirements (Statute, paragraph 8, subparagraph 8, approved by the decision of the Government of the Republic of Armenia – No. 1229-N of July 11, 2002).

Institutional Regulation

Ministry of Economy of the Republic of Armenia in the frames of authorities assigned by the legislation in accordance with the Statute approved by the Decisions of the Government of the Republic of Armenia (No. 1229-N of July 11, 2002; No. 2041-N and No. 2042-N of December 19, 2002) regulates issues dealing with chemicals by the following structural and special designated subdivisions of the Ministry and dependent organizations and societies:

- **Structural subdivisions of Administration of the Ministry**
 1. Department of economic policy and planning of development;
 2. Department of proportional sectoral and areal economic development;
 3. Department of Science, technology and innovation policy;
 4. Department of investment policy and market infra-structure development
 5. Department of military-industrial establishment (complex) and military-economic programmes;
 6. Department of Economy of Entrails Use, Mining Industry
 7. Department of inner market protection and improvement of competitive environments;
 8. Trade and Services Department;
 9. Legislative and legal Department;
 10. Department of financial/ fiscal and economic accounting;
 11. Department of Co-operation with the World Trade Organization and European Union;
 12. Department of industry;
 13. Department of tourism;
 14. Department on Standards, Metrology and Compliance Confirmation;
 15. Department of Information Technologies Development;
 16. .Department on jewelry works;
 17. Department of small- and medium-sized business development.

2) Intellectual Property Agency at the Ministry of Economy

In accordance with the Statute, approved by the Decision of the Government of the Republic of Armenia – No. 1231-N of July 11, 2002), the Intellectual Property Agency performs:

- Receiving the Applications for inventions, utility models, industrial designs, trademarks and service marks, names of places for goods origination and names of firms (companies); expertise examination and state registration, issuing Patents and Certificates, as well as keeping the appropriate State Registers;
- legal safeguard of publications on official information about the discoveries, utility models, industrial samples, trade marks and signs of services, names of

location/origination of goods and names of companies; development of a constantly updated information-search/retrieval base;

- patent information exchange between foreign and international organizations, purchases of information materials and joint publication thereof.

3) Inspection on safety-in-work in industry and mining control at the Ministry of Economy of the Republic of Armenia (Secure Performance of Works within Industry and Mountain Control Inspectorate)

In accordance with the Statute approved by the Decision of the Government of the Republic of Armenia – No. 1232-N of July 11, 2002 the Inspection on safety-in-work in industry and mining control performs the following:

- technical control/monitoring in concern of safe exploitation of enterprises of chemical, petrochemical, metallurgy industries, ammonia refrigerating units/ cold-storage establishments, boiler units, lifting devices, pressure vessels/cylinders, facilities for fuel storage and recycling (solid, liquid, and gaseous), as well as state grain procurements/purchases and transportation of hazardous loads;
- control in concern of protection and use of treatment system and facilities at plants, those of industrial drainage, technological reversion water supply, burning of gaseous emissions and emissions from utilization stations, transport of liquid chlorine, ammonia, chemical and other hazardous substances and gases;
- registration of high pressure vessels/cylinders and pipes functioning at the enterprises of chemical, petrochemical, metallurgy industries, ammonia refrigerating and other stations/units and issuing permission for their safe exploitation and repair works;
- control in concern of proper application of the requirements of the Republic of Armenia Legislation, safety rules, and standard technical legislation for transportation of hazardous loads by transport means, as well as for prevention of accidents and emergencies;
- control in respect of safe works in case of hazardous loads movements/transportation from enterprises (regardless of the type of ownership);
- control in respect of compliance of construction and the technical state of transportation means to the requirements for safe/secure transportation of hazardous loads.

4) World Trade Organization Notifying Agency at the Ministry of Economy of the Republic of Armenia

The Agency on of the World Trade Organization (WTO) Notification in the Republic of Armenia in accordance with the Statute approved by the Decision of the Government of the Republic of Armenia No.1230-N dated July 11, 2002 performs the following:

- in the frames of WTO relevant agreements information is collected from the functioning inquiry points, appropriate ministries and other bodies of State governing system about the legal documents having influence and regulating foreign trade and economic relations of the Republic of Armenia, as well as, in accordance with the requirements of WTO agreements, other information is also collected and the decisions taken on the necessity to notify the WTO Secretariat;
- the Agency submits to WTO Secretariat those documents, which are subject to notification in the period of time fixed by the WTO agreements and in the form accepted by the Secretariat of WTO (and via the Secretariat to WTO member-states)

with indication of the provided subject of regulation, as well as necessity and expediency of such regulation;

- the Agency receives from the WTO Secretariat notifications submitted by the WTO member-states and renders them to the WTO inquiry points, appropriate Ministries and Agencies of the Republic of Armenia for comments;
- the Agency receives from WTO inquiry points, from appropriate Ministries and Agencies of the Republic of Armenia substantiated comments of WTO member-states in concern of informative notifications (notices) or inquires on holding conferences/meetings and provides them to WTO Secretariat (and via the Secretariat to WTO member-states);
- the Agency informs WTO inquiry points, appropriate ministries and other state governing bodies of the Republic of Armenia (in comprehensive collaboration with them) about the responsibilities related to notifying functions of WTO, order and form of notifications submissions to the Agency and observes their proper carrying-out in due time.

5) Agency on Accreditation at the Ministry of Economy of the Republic of Armenia

6) Quality Inspection at the Ministry of Economy of the Republic of Armenia

4.2.5 Ministry of Finance of the Republic of Armenia:

Legal instruments on regulation of chemicals and wastes

Legal Regulation

Ministry of Finance of the Republic of Armenia (former Ministry of Finance and Economy) is a republican body of executive power, which develops and implements the policy of the Government of the Republic of Armenia in the sphere of state revenue, state finance governance, coordination of programmes on socioeconomic development.

In accordance with the legal document adopted on July 11, 2002 by the Decision of Government of the Republic of Armenia No.1460-N “On approval of Statute and structure of administration of the Ministry of Finance and Economy of the Republic of Armenia”, the Ministry of Finance of the Republic of Armenia is assigned:

- To ensure international collaboration in the sphere of macro- and micro-economic policy, in particular: coordination of works on implementation of programs executed by financial institutions and monitoring on the implementation process (Statute, paragraph 8, subparagraph 1, approved by the Decision of Government of the Republic of Armenia No.1460-N dated July 11, 2002);
- To provide servicing on obligations/ commitments occurring in concern of the Republic of Armenia (Statute, paragraph 8, subparagraph 4, approved by the Decision of Government of the Republic of Armenia No.1460-N dated July 11, 2002).

Institutional Regulation

Ministry of Finance and Economy of the Republic of Armenia in the frames of the authorities assigned by the legislation regulates the issues dealing with chemicals and POPs through the following structural subdivisions:

- Department of international policy;
- Department of financial programming of on-budget expenditures;
- Department of international financial collaboration.

4.2.6 Ministry of Energy and Natural Resources of the Republic of Armenia: Legislative instruments on regulation of chemical substances and wastes

Legal Regulation

Ministry of Energy and Natural Resources of the Republic of Armenia (former ministry of Energy) is a republican body of executive power, which develops and implements the energy policy of the Government of the Republic of Armenia.

In accordance with the legal document “On approval of Statute and structure of administration of Ministry of Energy of the Republic of Armenia” adopted November 28, 2002 by the Decision of Government of the Republic of Armenia No. 2072-N on establishment of state governing institution “Administration of the Ministry of Energy of the Republic of Armenia”, the Ministry of Energy and Natural Resources of the Republic of Armenia is assigned to:

- Working-out strategy of stable and sustainable development in the area of energy, ensuring safety and reliability of energy supplies, programmes and actions for their implementation (Statute, paragraph 8, subparagraph 1 approved by the Decision of the Government of the Republic of Armenia No.2072-N dated November 28, 2002);
- Ensuring working-out and application of economic and legal mechanisms of reasonable use of local energy resources (especially those of hydro-energy), alternative sources (Statute, paragraph 8, subparagraph 5 approved by the Decision of the Government of the Republic of Armenia No.2072-N dated November 28, 2002);
- Working out incentive measures for stimulation of scientific and technological progress and implementation of new energy-efficient /power saving technologies, manpower training and continuing education (Statute, paragraph 8, subparagraph 9, approved by the Decision of Government of the Republic of Armenia No.2072-N dated July 11, 2002);
- In the frames of assigned responsibilities, the Ministry arranges preparation of normative documents for standardization in the sphere of energy production and energy supplies (technical regimens, national standards, etc.) and approval thereof in the established order (Statute, paragraph 8, subparagraph 13 Zh-g, approved by the Decision of Government of the Republic of Armenia No.2072-N dated November 11, 2002);
- Arrangements on working-out norms and limitations, use of lands by the energy facilities and safety zones/belts, as well as approval thereof in an established order

- (Statute, paragraph 8, subparagraph 14 ZH-d, approved by the Decision of Government of the Republic of Armenia No.2072-N dated November 11, 2002);
- Carrying out measures/ actions on environmental protection in the sphere of energy production (Statute, paragraph 8, subparagraph 15 ZH-e, approved by the Decision of Government of the Republic of Armenia No.2072-N dated November 11, 2002);
 - in an established order, implementation of measures/ actions on economic, financial, scientific-technical collaboration and other forms of development with other states, foreign legal persons, as well as international organizations (Statute, paragraph 8, subparagraph Iz, approved by the Decision of Government of the Republic of Armenia No.2072-N dated November 11, 2002);
 - in an established order, implementation of technical control in the sphere of energy production and energy supply in respect of safe exploitation of switching substations (Statute, paragraph 8, subparagraph Ie, approved by the Decision of Government of the Republic of Armenia No.2072-N dated November 11, 2002);

Institutional Regulation

Ministry of Energy and Natural Resources of the Republic of Armenia in accordance with the Statute and within the frames of authorities assigned by the legislation regulates issues dealing with chemicals and POPs by the following structural subdivisions of the Ministry and dependent organizations and companies:

Structural subdivisions of Ministry of Energy Administration are:

6. Department of Development and External Relations;
7. Department of Technical Control on Exploitation

4.2.7 Ministry of Education and Science of the Republic of Armenia:

Legal Regulation on chemicals and waste management

↳ Yerevan State Medical University after M. Heratsi

In accordance with the Decision of the Republic of Armenia (No. 1880-N of December 14, 2006) the state Non-commercial Organization “Research Institute of Environmental Hygiene and Preventive Toxicology” (under the Ministry of Health of the Republic of Armenia) was rearranged and incorporated into the Scientific-research Center of the Yerevan State Medical University after M. Heratsi.

As a result of the rearrangement, the the following subdivisions were established:

- Laboratory of experimental toxicology;
- Laboratory of agrochemicals, pesticides and polymer materials;
- Laboratory of epidemiological research, quality of the environment and delayed after-effects;
- Laboratory of analytical chemistry.

The scientific activity of the above mentioned laboratories is dedicated to

- Research on revealing the effect of chemical pollution on the state of the environment and human health;
- Working out methods for sanitation of the environment;
- Hygienic, chemical and toxicological laboratory studies of soil, water, air, food raw materials, food-stuffs, natural and synthetic polymer substances, and consumer goods made of them, industrial raw materials and goods, chemical means for plant protection (agrochemicals) and quantitative determinations of residual amounts of chemicals, including POPs, in soil, air, water and food-stuffs.

4.2.8 Local governing bodies (municipalities) of the Republic of Armenia: Legislative instruments for regulation of chemicals and wastes, including POPs

Legal Regulation

In accordance with the Decrees of President of the Republic of Armenia “On state governing in marzes of the Republic of Armenia” (No.VII—726 of May 6, 1997) and “On state governing in Yerevan” No.VII-727, the Republic of Armenia is divided into 11 marzes (*provinces*), including the capital of Armenia: Yerevan, a city with the status of a marz.

The Republic of Armenia is divided into following marzes:

- Lory marz of the Republic of Armenia;
- Kotayk marz of the Republic of Armenia ;
- Ararat marz of the Republic of Armenia;
- Shirak marz of the Republic of Armenia;
- Armavir marz of the Republic of Armenia;
- Vajots Dzor marz of the Republic of Armenia
- Syunik marz of the Republic of Armenia;
- Tavush marz of the Republic of Armenia;
- Gegarkunik marz of the Republic of Armenia;
- Aragatsotn marz of the Republic of Armenia;
- The Mayor’s Office in Yerevan (Yerevan city administration).

The Research Institute of General Hygiene and Occupational Diseases after N.B. Hakobyan of the CJSC “Medical Center “Kanaker-Zeytun” at the Yerevan city administration

In the frames of optimization performed at the Medical Institutions of Yerevan city they were rearranged and the **CJSC “Medical Center “Kanaker-Zeytun”** established under the Yerevan city administration. The State non-commercial Oorganization “Research Institute of General Hygiene and Occupational Diseases”was included in the mentioned Medical Center (Decision of Government of the Republic of Armenia No. 1413-N of October 30, 2003). The Institute is engaged in:

- ↳ Research, scientific medical, clinical, hygienic and laboratory studies;

- ✎ Medical expertise aimed at diagnosis of occupational diseases and drawing expert conclusions.

The local governing bodies (marzpetarans) function in the frames of authorities assigned by the Decrees of the President of the Republic of Armenia “On State Governing in Marzes of the Republic of Armenia “(No.VII- 726 of May 6, 1997) and “On State Governing in the City of Yerevan” (No.VII-727) and in the person of Mayor of Yerevan (on the territory of Yerevan city) and in the persons of marzpets/marz leaders (at the territory of a marz) perform the following in concern of environmental protection:

- Participate in working out governmental programmes on protection of Nature and Environment and, in the frames of given responsibilities, ensure realization thereof at the areas entrusted;
- Perform control over the execution of environmental regulations/ legislation at the areas entrusted and, in case of infringement, notify the appropriate authorities;
- Collaborate with the corresponding public organizations and citizens in concern of implementation of programs relevant to nature protection.

In accordance with the Article 45 of the Republic of Armenia Law “On local self-governing bodies” the Head of the Community is assigned to perform the following in the area of nature/environment protection:

- Ensures actions on environmental protection, conservation of lands and forests that are in possession of the community.

In the area of environmental and nature protection the Head of the Community is authorized to execute the following responsibilities set by the State

- Ensuring protection against the landslides, floods, waterlogging, swamping, as well as against pollution by chemical, radioactive substances and industrial wastes.

According to Article 42 of the above-mentioned Law, in concern of public health the Head of the community arranges and manages the activity of public health institutions and organizations, as well as voluntarily assists the bodies of public health to fulfill sanitary hygienic, anti-epidemic and quarantine measures.

In respect of agriculture according to Article 44 and in the frames of responsibility imposed by the state, the Head of the community arranges anti-epidemic measures, as well as actions performed by veterinary services to prevent diseases of animals, and ensures adherence to other agricultural rules/regulations, as well as organizes activity aimed to fight against diseases of agricultural crops, pests and weeds.

In the frames of responsibilities set forth by the Law, the head of the community is given the possibility to execute functions dealing with on-site regulation of chemicals.

According to the Law of the Republic of Armenia “**On Public Organizations**”, numerous public organizations, registered by the State and in the frames of responsibilities set by the Statutes thereof facilitate the settlement of the problem on prevention of the harmful impact of chemicals to the human health and the environment.

In concern of legal and natural persons, who use the chemicals and wastes by a number of laws and by-laws regulating the sphere of nature protection norms, standards and limitations are established, the rights and responsibilities are imposed for prevention or minimization of the harmful effect of chemicals and wastes, as well as the extent of responsibility for performance of these duties.

Institutional Regulation

In accordance with the Law of the Republic of Armenia “On State Governing Bodies” (adopted in 2002) and the appropriate Decrees of the Government of the Republic of Armenia, Administration was established in each marz with special structural and designated subdivisions. Territorial State institutions were reorganized into territorial agencies with the status of designated institution (Administration).

Within the Administration of each marz, there were established territorial structures with the status of a structural subdivision dealing with regulation in the sphere of environmental protection.

The above-mentioned territorial structures involve:

1. Department of Nature Protection at the Administration of Yerevan city Mayor’s Office established on the basis of Decision of Government of the Republic of Armenia (No.1788-N dated October 3, 2002);
2. Department of Agriculture and Nature Protection at the Administration of Lory marz, established on the basis of Decision of Government of the Republic of Armenia (No.1789-N dated September 19, 2002);
3. Department of Agriculture and Nature Protection at the Administration of Kotayk marz, established on the basis of Decision of Government of the Republic of Armenia (No.1790-N dated September 19, 2002);
4. Department of Agriculture and Nature Protection at the Administration of Ararat marz, established on the basis of Decision of Government of the Republic of Armenia (No.1791-N dated September 19, 2002);
5. Department of Agriculture and Nature Protection at the Administration of Shirak marz, established on the basis of Decision of Government of the Republic of Armenia (No.1792-N dated September 19, 2002);
6. Department of Agriculture and Nature Protection at the Administration of Armavir marz, established on the basis of Decision of Government of the Republic of Armenia (No.1793-N dated September 19, 2002);
7. Department of Agriculture and Nature Protection at the Administration of Vajots Dzor marz, established on the basis of Decision of Government of the Republic of Armenia (No.1794-N dated September 19, 2002);

8. Department of Agriculture and Nature Protection at the Administration of Syunik marz, established on the basis of Decision of Government of the Republic of Armenia (No.1795-N dated September 19, 2002);

9. Department of Agriculture and Nature Protection at the Administration of Tavush marz, established on the basis of Decision of Government of the Republic of Armenia (No.1796-N dated September 19, 2002);

10. Department of Agriculture and Nature Protection at the Administration of Gegharkunik marz, established on the basis of Decision of Government of the Republic of Armenia (No.1797-N dated September 19, 2002);

11. Department of Agriculture and Nature Protection at the Administration of Aragatsotn marz, established on the basis of Decision of Government of the Republic of Armenia (No.1808-N dated September 19, 2002).

4.3 OVERVIEW OF THE EXISTING LEGISLATION FOR MANAGING CHEMICALS AND WASTES

In the Republic of Armenia regulation of issues on chemicals and wastes management, is executed in accordance with a number of laws and by-laws listed below:

➤ **Law of the Republic of Armenia “On Environmental Impact Expertise”**

Law of the Republic of Armenia “On Environmental Impact Expertise” (hereinafter, Law) was adopted in 1995. This Law regulates legal basis of expertise of planned activity on the environmental impact, complex schemes and general layout/plans. Environmental impact expertise (hereinafter, expertise) is an obligatory activity performed by the state and aimed at prevention or minimization of the harmful effect of the planned activity, complex schemes and general layout/plans for human and environmental health, as well as for natural economic and social development.

The main tasks of expertise are as follows:

- Analysis of possibility and appropriateness of planned activity, concepts and the alternatives, taking into account all the nature-conservative limitations;
- Assessment and estimation of probable impact of planned activity, concepts and the alternatives of choice for environment and degree of hazard;
- Banning any planned activity, having irreversible effect on environment, and ensuring involvement and participation of public at all stages of expertise.

In accordance with the Law in concern of regulation of issues on chemicals and wastes management the following types of activity in the sphere of mining and chemical industry are subject to expertise:

- Production of synthetic rubber (caoutchouc);
- Production and recycling of mechanical rubber goods and other organic substances;
- oil-refining/ petroleum refining production;

- Production of inorganic acids, alkalines, and other substances;
- Production of washing, scouring /cleanser detergents and other household chemicals exceeding the maximum amounts;
- Production of toxic and medicinal substances;
- Production of pesticides and chemical fertilizers;
- Decontamination of liquid and solid wastes of mining industry and recovery of mines.

The Law establishes stages of carrying out expertise examination, terms, obligatory presence of the expert conclusion, stages and terms for notification of public, as well as the order of representation of the conclusion. By the law, it is stipulated also, that carrying out of expertise examination is paid by the undertaking party. According to the law, any planned activity should be carried out only in case of a positive expert conclusion.

The Law determines also the authorized body to perform expertise examining of the impact of planned activity and its authorities, mandates, responsibilities of individuals conferring expert conclusion, responsibility of undertaking, applying parties, developer of documentation, etc.

Maximum volume/scope of planned activity subject to expertise examination in concern of the impact on the environment is determined in Decision of the Government of the Republic of Armenia No.193 of March 30, 1999 adopted on the basis of the Law.

In the sphere of chemical industry, for production of washing, scouring/cleanser detergents and other household chemicals maximum volume of production is established at the industrial capacity of 50 tons per year for undergoing the obligatory procedure of expertise.

“Law on Wastes of the Republic of Armenia”

“Law on Wastes of the Republic of Armenia” (hereinafter: Law) was adopted on November 24, 2004. The Law regulates legal and economic basis of issues relevant to collection, transportation, storage, recycling, use, disposal, reduction of waste generation volumes and other related problems, as well as challenges on prevention of their unfavourable impact to human and environmental health.

Main aims set forth in the Law are as follows;

- Establishment of basic principles of state policy in the sphere of wastes management;
- Establishment of economic incentive measures to create conditions, requirements and rules of environmentally sound management of wastes, as well as those on resource economy;
- Facilitation in minimizing waste generation, more active use of wastes in national economy, mitigation of their harmful impact to human and environmental health;
- Legal regulation of relations in the sphere of wastes management.

Basic principles, concepts and tendency of state policy in the area of waste management is stated in the Law. Main principles of state policy embrace the following:

- Protection of human and environmental health against the negative impact of wastes;

- Ensuring the appropriate use of material raw and energy resources;
- Combination of ecological, economic and social benefits of proper wastes management for the society as a whole.

Main direction of the state policy in the area of waste management is to reduce the amounts of waste generation and the hazard thereof by means of the following:

- Use /application of modern up-graded scientific and technical achievements for implementation of waste-free and low-waste technologies;
- Complex use of raw material resources in order to reduce wastes generation;
- Maximal direct, secondary or alternative use of wastes of resource value;
- Ensuring safe and sound disposal of inappropriate for further use wastes by development of appropriate technologies, environmentally sound methods and means;
- Ensuring access to information on wastes management;
- Setting on economic incentive mechanisms.

The Law defines the responsibilities of bodies of state governance in the area of waste management; both in environmental and health sphere, as well as responsibility of area governance and self-governance bodies. The Law defines rights and duties of physical and legal persons in the sphere of waste management.

The Law defines main principles relevant to:

- State regulation, inventory taking, passportization, and statistic accounting of wastes;
- handling of a State Cadastre, Registry of entities, at which wastes are generates, recycled and used/utilized;
- handling of a Registry of waste disposal sites/grounds;
- monitoring of waste disposal sites/grounds.

The law also presupposes organizational and economic actions on stimulation and ensuring utilization of wastes and reduction of waste generation volumes.

↪ **Governmental Decision of the Republic of Armenia (No. 97 dated December 8, 1995) “On the order of regulating import, export and transit transportation of hazardous and other wastes over the territory of the Republic of Armenia”**

According to the Governmental Decision of the Republic of Armenia No. 97 “On the order of regulating the import, export and transit transportation of hazardous and other wastes over the territory of the Republic of Armenia” dated December 8, 1995 (hereinafter: the Decision) the following is established:

- Banning import of all types of wastes brought to the Republic with the aim of storage and burial thereof, as well as banning import of wastes having hazardous properties irrespective of the purpose of their use;
- the sanction to import wastes and secondary raw material into the Republic with the purpose of their use, only in case of direct use or after their processing/recycling;

- obligatory preliminary application (notification) on import, export and transit/transportation over the territory of the Republic for hazardous and other types of wastes, which are carried out by the sanction (approval) of the Ministry of Nature Protection; whereas the import, export and transit transportation of wastes, not representing hazard, over the territory of the Republic will be carried out on the general basis, without the preliminary application.

With the purpose to implement the above-stated Governmental decision of the Republic of Armenia (No. 97), by the Order of the Minister of Nature Protection of the Republic of Armenia dated December 5, 1996 the instruction was approved “About classification of wastes generated on the territory of Armenia by degree of hazard”, which is the departmental act and according to which wastes are classified, depending on degree of hazard as the following 5 classes:

Class 1 – extremely hazardous wastes;
 Class 2 –severely hazardous wastes;
 Class 3– moderately hazardous wastes;
 Class 4 – low- hazard wastes;
 Class 5 - non-toxic wastes.

The Decision stipulates also the order for submittal of the applications and realization of the control on import, export and transit transportation of hazardous and other wastes over the territory of the Republic of Armenia

↪ **Decision of the Government of the Republic of Armenia “On implementation of the Republic of Armenia obligations under Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal” (No. 97-N of March 2, 2000)**

In accordance with the requirements of Article 5 of the Basel Convention this Decision recognizes the Ministry of Nature protection of the republic of Armenia as the authorized Focal point.

↪ **Decision of the Government of the Republic of Armenia “On assignment of the designated body in the waste management area” (No. 599-N dated May 19, 2005)**

In accordance with this Decision the Ministry of Nature Protection is assigned as competence authority in sphere of waste management.

↪ **Decision of the Government of the Republic of Armenia “On establishment of the State Non-commercial Organization “Waste Research Center” (No. 670-N dated May 19, 2005)**

In order to facilitate development and implementation of the State Policy and strategy in the area of waste management, as well as to secure environmentally sound management of chemicals and waste within the structure of the Ministry of Nature Protection there was established the “Waste Research Center”. The Center is engaged in issues relevant to waste inventory taking, classification thereof according to hazard, carrying out research activity to study the unfavorable impact of waste disposal sites towards the environment, working out normative acts (regulations and standards) in the area of waste management, as well as gathering and analysis of information on low-waste and waste-free technologies, on entities at which wastes are generated, processed and used.

↪ **Decision of the Prime Minister of the Republic of Armenia “On measures ensuring realization of the Republic of Armenia “Law on Waste” (No. 380-A dated May 30, 2005)**

The List of measures in the sphere of waste management addressed to implement the Law on Waste for the period of 2005-2006 was approved by this Decision.

↪ **Protocol Decision of the Government of the Republic of Armenia «On approval of the Programme for development of a normative regulating document “Waste Classification according to Hazard” (No. 33 dated August 18, 2005)**

The Programme and List of measures to be implemented in the frames of this Programme were approved by this Decision.

↪ **Decision of the Government of the Republic of Armenia “On adoption of the order of approval for norms of waste generation and draft limits for waste placement” (No. 2291-N dated December 9, 2005)**

This Decision regulates the process of approval for norms of waste generation and draft limits for waste placement by legal persons and private owners.

According to the regulations, for legal persons and private owners having hazardous wastes of the 1st, 2nd, 3rd and 4th class norms of waste generation and limits for waste placement are approved.

Both the norms for waste generation (that present the established quantity of certain type wastes generated per unit of production) and limits for waste placement (that present the maximum allowable quantities for placement of a definite types and volumes of waste at the entities/sites for a definite time) are defined by the corresponding Drafts developed in accordance with the legislative requirements set forth on the part of the legal persons and private owners (hereinafter: Draft). The drafts are approved by the Ministry of Nature Protection for a period of one year.

Depending on the placement mode (storage, final disposal or burying), placing of wastes is allowed at the sites of industrial enterprises or beyond the premises based on the limits approved by the authorized competent body.

The regulation defines cases and modes for waste storage at the industrial sites, as well as in case the waste is transferred from the industrial site of the enterprise, the requirements are set for the legal paper work (Passport of Waste and an agreement reached with the waste disposal sites). In the absence of the latter the amounts of waste taken away from the industrial site of the enterprise is considered as an excess over the limit.

In accordance with the statement when developing the Draft one should take into consideration the physical and chemical content, quantity, type, degree of hazard (class) of generating wastes, placement localization, and area, as well as the maximum allowable levels of the hazardous impact of wastes to the environment.

The regulation defines also the List of documents required for submission alongside the Draft, as well as the order and time intervals for approval. For Drafts submission the maximum term is considered March 31 of the current year; the approval period is up to one month.

↪ **Decision of the Government of the Republic of Armenia “On determination of the order of wastes passportisation” (No. 47-N dated January 19, 2006)**

This Decision regulates the relation connected with compiling, filling, negotiating and approval of the Hazardous Wastes Passport (hereinafter: Passport) by the legal persons and private owners (waste generators).

Passportisation of hazardous wastes is performed in order to ensure safe handling of hazardous wastes and for resource economy, which will become the basis for decision making on technological, economic, legal and other issues relevant to wastes that are subject to passportisation. This will facilitate liquidation of the technical barriers in the course of wastes transportation, including the transboundary movements.

According to the statement, the Passport is compiled for each type of wastes in accordance with the blank-form approved by the authoritative body and according to the technological reglamentation should include the following information on wastes (to be provided by the producer):

- origination;
- type;
- quantity (volumes);
- degree of hazard of generating (generated) hazardous wastes;
- waste content and main resource and raw-material properties;
- limitation of movements;
- proposed modes for treatment and recycling;
- necessary warning means while handling the wastes, etc.

The regulation states also the order for compilation and approval of the Passport, according to which the Passport is filled in and approved by the wastes generators, agreed with the RA Minister of Nature Protection. The Passport is agreed and approved in duplicate; upon approval one copy is sent to the authoritative body.

If the waste generator has got additional or new information about the wastes, the passport should be re-approved according to the same procedure. A 30-day period is supposed for re-agreement of the Passport.

↪ **Decision of the Government of the Republic of Armenia “On the order for maintenance of the Registry of wastes generation, recycling and utilization facilities” (No. 500-N dated April 20, 2006)**

This Decision approved by the RA Government regulates the relations connected to keeping the Registry of wastes generation, recycling and utilization facilities.

The main task of the Registry is to collect, analyze, develop and store information on wastes generation, processing and utilization facilities.

In accordance with the statement the Registry supposes registration of those legal persons and private owners for whom the Draft norms of waste generation and limits for waste placement as well as exploited Sites for wastes recycling and/or utilization are approved.

The Registry is compiled and kept by the Republic of Armenia Ministry of Nature Protection based on reports for Registry registration submitted by the facilities (sites owners). The mentioned facilities submit reports on Registry registration to the authoritative body in accordance with the forms approved by them.

The terms for submission of the reports on Registry registration submitted by the facilities are defined till March 1, 2007; later on till March 1 of any current year a reference should be submitted on the changes done.

According to the order the reports on Registry registration should include information on the name, location of the facilities, the period of putting into operation, capacity (tons/year, tons/day), characteristics of generated, recycled, and utilized wastes (name, code, aggregate state, class of hazard, volumes as tons per year), types of technological equipment, operating regimen, impacts to the environment and (volumes of releases, discharges and wastes as tons/year) and sanitary protective zones, as well as other information on the facilities of general type (the right for the land/site, area of the site, location, presence of environmental compartments, etc.).

The regulation states also the List of documents subject to be submitted with the report on Registry registration and the order for Registry maintenance.

The Site is considered to be registered since the day of obtaining the registration number given by the authoritative body. The Site obtains a reference about registration in the Registry; a 30-day period is supposed for registration of Sites

↳ **Decision of the Government of the Republic of Armenia “On approval of the order of maintenance the Register on wastes disposal sites” (No. 1180-N dated July 13, 2006)**

This Decision of the RA Government regulates relations connected to keeping the Register of wastes disposal sites/entities (including sites of destruction, treatment, elimination, processing, placement). The Register of wastes disposal sites/entities is kept by the RA Ministry of Nature Protection. The Register is mainly aimed to account and describe the waste disposal sites (both functioning and non-functioning or abandoned).

The following sites are subject to registration in the Register: exploited sites for wastes treatment and elimination with the placement area more than 25 m² and/or exploited sites with the working capacity for wastes placement above 50 m³ and waste burials the operational use of which has been stopped, but the remediation of damaged soils was not done and the site was not transferred to another person.

For Register keeping, the sites subject to registration until March 1, 2007 should have submitted the Registration Leaflet in accordance with the approved form to the authoritative body; afterwards, the reference on occurring changes should be submitted till March 1, of each current year.

The Registration Leaflet should include information on localization of the site, the time /date of putting the site into operation (exploitation), capacity (tons/year) and monitoring data of disposal sites (releases and discharges from the dumps, soil contamination), in case of wastes treatment and elimination the brief description of technology and capacity (tons/year, tons/day), types of technological equipment, operational regimen, as well as information about the distance from the nearest inhabited settlements to the water-supply sources, drainage effluents and basins, the area of the sanitary protective zone and location of the

observation (inspection) wells. For the wastes placement sites the Registration Leaflet should also include the working capacity of the site (tons/year), the scheme for wastes storage, the characteristics of placed and treated wastes (name, code, aggregate state, class of hazard, annual amounts/volumes (tons/year), the characteristics of sanitary protective zones and the general information about the site (the proof for the right to own the site; area of the site; localization; the presence of protected objects/ environmental facilities.

The regulation defines also the List of documents for submission with the Registration Leaflet and the order for Register keeping.

The site (facility) is considered to be registered since the day of obtaining the registration number from the authoritative body. The site is given a reference on registration in the Register. For sites registration a 30-day period is supposed.

↳ **Decision of the Government of the Republic of Armenia “On defining the order of wastes accounting in accordance to wastes generation, deposal (elimination, treatment, placement) and use” (No. 1343-N dated September 14, 2006)**

This Decision regulates relations connected to accounting of generated wastes, which are subject to disposal (elimination, treatment, and placement), as well as wastes in use.

Wastes accounting is a system for documentary reflection of regular reporting on quantitative and qualitative indices of wastes, as well as on wastes handling. Accounting is done in order to determine the types and volumes of wastes generation and secondary raw materials, timely and confident documentary reflection of wastes handling-related actions in order to form data base for administrative statistical reporting form “On wastes generation, use and disposal” Form No.1-wastes (annual), as well as in order to prevent the harmful impact of wastes to human health and the environment.

The order of wastes accounting is applied to legal persons and private owners involved in the waste handling sphere (hereinafter: Organizations).

The system of wastes accounting embraces:

- maintenance of primary accounting on wastes in the places of their generation;
- maintenance of unified accounting on wastes at Organizations;
- inventory of wastes.

According to regulation, the Organizations must perform primary accounting of wastes generated, used and subject to disposal (eliminated, treated, placed wastes), as well wastes transferred to other persons or obtained from other persons; this should be done on the basis of actual volumes of wastes generation. Organizations must also perform general or unified accounting of wastes based on primary information, and in order to determine the quantitative and qualitative indices they should take the inventory on wastes once a year.

Data of wastes primary and unified accounting are registered in the Books of wastes primary and unified accounting, which should be kept for up to 5 years.

The Books of wastes accounting should include physical and chemical characteristics of wastes (the aggregate state, the content of main components), information on norms of wastes generation, codes and names of wastes, class of hazard, production or technological processes related to specific wastes generation, as well as data on quantity of wastes generated, obtained from other Organizations, transferred to other Organizations and taken to

waste dump sites, used, treated, eliminated and existing wastes in Organizations at the beginning and end of the year.

↳ **Decision of the Government of the Republic of Armenia “On defining the order for State accounting of wastes” (No. 1739-N dated December 7, 2006)**

This Decision regulates relations relevant to State accounting of wastes. The main aim of the State accounting of wastes is creation of a Data bank on volumes of wastes generation that is necessary for creation and keeping the State Cadastre on Wastes.

All production and consumption (household) wastes generated at the territory of RA are subject to state accounting. The state accounting of wastes is done by the RA Ministry of Nature Protection on the basis of data presented in Annual administrative statistical reporting form “On wastes generation, use and disposal” Form No.1-wastes (annual) submitted by legal persons and private owners (including foreign citizens) who are involved in production and consumption wastes generation and placement.

The administrative statistical reporting form is compiled in accordance with the approved form and instruction for completion and submitted to the authorized body till February 25 of the year subsequent to the year of report.

↳ **Decision of the RA Government of the Republic of Armenia “On the order of keeping the State Cadastre on Wastes” (No. 144-N dated January 18, 2007)**

According to this Decision the State Cadastre on Wastes is compiled and maintained by the legal persons and private owners, involved in the sphere of wastes handling on the basis of information submitted in accordance with the order defined by the RA Government Decisions: “On determination of the order of wastes passportisation”(No. 47-N of January 19, 2006), “On the order for maintenance of the Register of wastes generation, recycling and utilization sites/entities” (No. 500-N of April 20, 2006), “On approval of the order of keeping the Register on wastes disposal sites” (No. 1180-N of July 13, 2006) and embraces data on origin, quantity, content, properties, degree of hazard, wastes placement sites, as well as data on technologies for their use and treatment.

Data submitted to the Ministry of Nature Protection are embraced in the State Cadastre on Wastes that is subject to periodic resision and up-dating.

The maintenance of the State Cadastre on Wastes is done in order to ensure state regulation in the sphere of wastes environmentally sound management and serves as the basis for fulfill the requirements of Nature Protection legislation in the aspect of state control, development of norms and regulations aimed at improvement of the wastes management system, as well as for wastes processing, application of the Best Available Techniques by the waste generators, minimizing waste hazards and extraction of the useful components of wastes.

Data of the State Cadastre on Wastes are rendered to concerned bodies of state governance and local bodies of self-government in response to official requests.

↳ **The Order of the RA Minister of Nature Protection “On approval of documentation on regulated and non-regulated wastes, their Lists of hazard degree, notification, information and actions for disposal” (No. 96 dated August 10, 1999) (State registration number: 105.0096.270899).**

This document was prepared on the basis of the Governmental Decision of the Republic of Armenia “On the order of regulating the import, export and transit transportation of hazardous and other wastes over the territory of the Republic of Armenia” (No. 97 dated

December 8, 1995); it was aimed at the executive control on trans-boundary transportation of wastes over the territory of the Republic of Armenia. It *defines*:

- lists of regulated and non-regulated wastes;
- lists of hazardous properties of wastes according to UN classification, which corresponds to hazardous goods classification system of UN Recommendations on the transport of dangerous goods;
- information related to operations on disposal which are encountered in practice;
- the contents of information, required for inclusion in documents on transportation (general characteristics of waste, data on amounts and weight of the waste, the name of exporter, the name of the owner of wastes, the place of waste generation, the date of transportation start, period, etc.);
- blank forms of applications for export of hazardous and other wastes, forms notifying the start, completion of waste transportation, as well as notification forms for waste obtaining or disposal.

The document contains information related to operations on disposal which are encountered in practice, in particular:

- operations, which do not bring forth possible recuperation, recycling, utilization, direct reuse or alternative use;
- operations, which can result in recuperation, recycling, utilization, direct reuse or alternative use.

✍ **The Order of the RA Minister of Nature Protection “On approval of the List of production and consumption wastes generated on the territory of the Republic of Armenia” (No. 342-N of October 26, 2006), which was registered at the RA Ministry of Justice on November 3, 2006 (State registration number : 10506373)**

The List embraces 15000 names of wastes generated at the territory of the RA, their origin according to production type and the code.

✍ **The Order of the RA Minister of Nature Protection “On approval of reporting forms for register maintenance and accounts for register recordings on waste generation, processing and utilization entities and the registry book keeping” (No. 359-N of November 7, 2006), which was registered at the RA Ministry of Justice on November 23, 2006 (State registration number: 10506391)**

The Order of the RA Minister of Nature Protection was adopted on the basis and in accordance with the requirement of the RA Government Decision “On the order for keeping/maintenance of the Register of wastes generation, recycling and utilization facilities” (No. 500-N of April 20, 2006).

The order approved:

a/ reporting form for registry registration of wastes generating facilities;

b/ / reporting form for registry registration of wastes recycling/processing facilities;

c/ reporting form for registry registration of wastes utilizing facilities,

d/ the Registry (book form) for keeping registration on facilities generating, processing and utilizing wastes.

In accordance with the reporting forms of the Registry on facilities generating, processing and utilizing wastes it is necessary to fill in the following:

- general information about the facility;
- name;
- location;
- site area;
- locality;
- presence of environmental compartments and their characteristics;
- the period (year) of putting the facility into operation;
- capacity (tons/year, tons/day), the type of technological equipment;
- characteristics of generated wastes (name, code, aggregate state, class of hazard, volumes as tons per year;
- operating regimen (constant, periodical, on request);
- impacts to the environment and (name and volumes of pollutants in releases and discharges, code, class of hazard, volumes and subsequent placement of wastes); and
- characteristics of the sanitary protective zones.

As an annex to the report the conclusion of the environmental expertise and the brief description of the technology used at the facility are presented.

✍ **The Order of the RA Minister of Nature Protection “On approval of book forms for register maintenance and the leaflet for register recordings on wastes disposal sites” (No. 387-N of November 24, 2006) , which was registered at the RA Ministry of Justice on December 6, 2006 /State registration number: 10506407/**

The mentioned Order was adopted on the basis of and in accordance with the requirements of RA Government Decision “On approval of the order of keeping the Register on wastes disposal sites” (No. 1180-N of July 13, 2006).

The Order approves:

- a/ reporting form for registry registration of wastes disposal sites;
- b/ book forms for registry registration of wastes disposal sites.

In accordance with the leaflet form for Registry registration of wastes disposal sites it is necessary to fill in the name of the site for wastes placement, treatment, destruction; the location of a site, general information on the facility (site area, locality, presence of environmental compartments); the year of putting the facility into operation, the characteristics of placed and treated wastes (code, aggregate state, class of hazard, volumes as tons per year); while:

- for facilities of wastes placement the capacity (tons/year) and the scheme of wastes stockpiling should be given;
- for facilities of wastes treatment or elimination: the brief characteristics of technological equipment, capacity of the facility (t/year, t/day), the type of technological equipment (stationary, mobile) and the operational regimen (constant, periodical, on request), monitoring data for the places of wastes disposal (releases and discharges from dumps and soil pollution caused by dumps), characteristics of sanitary protective zones and information on a distance from the facility to water supply sources, on the area size of sanitary protective zones and location of observation wells.

As an annex to the report, the conclusion of the environmental expertise is submitted.

✍ **The Order of the RA Minister of Nature Protection “On approval the List of wastes classified by hazard” (No. 430-N dated December 25, 2006; state registration No.10506440 dated December 28, 2006)**

The above-mentioned “List of wastes classified by hazard” was prepared in accordance with the requirements of the Law on Wastes (article 8), as well as in compliance with the requirements of the Decision of the Prime Minister of the Republic of Armenia “On measures ensuring realization of the Republic of Armenia “Law on Waste” (No380-A dated May 30, 2005). The List embraces 15000 names of wastes, classified from 1st to 4th hazard classes, and information on code, aggregate condition and physical form, as well as waste origin. The prepared document would support in effective keeping records and control over the wastes handling on the territory of Armenia.

✍ **The Order of the RA Minister of Nature Protection “On approval of the exemplary form for Waste Passport” (No19-N dated February 02, 2007; state registration No10507037 dated February 12, 2007)**

The exemplary form for Waste Passport was prepared based on the Decision of the Government of the Republic of Armenia “On approval of the order for waste passportisation” (No.47-N dated January 19, 2006; clause 2). In this document the following information should be submitted:

- name and code of waste;
- name of organization and contact/detailed information;
- waste quantities;
- information on hazard properties (code);
- waste origin (according to the technological regime);
- waste composition and components characteristics;
- proposed method of decontamination/treatment of waste;
- fire-risk;
- corrosive properties of waste;
- reactivity of waste;
- necessary preventive measures to be applied during waste handling;
- limitation under the waste transportation.

The Waste Passport is prepared by the appropriate organization and supposed to be submitted to the Ministry of Nature Protection for agreement. After the agreement the Waste Passport is

approved by the head of the organization and one copy should be submitted to the Ministry of Nature Protection. Passportisation of waste will facilitate in keeping records and control over the wastes handling in effective manner on the territory of Armenia.

⇒ **The Order of the RA Minister of Nature Protection “On approval of draft exemplary form for calculation of standards on waste generation and placement limits thereof” (No. 97-N of April 27, 2007), which was registered at the RA Ministry of Justice on May 10, 2007 /State registration: No.10507200/**

This Order was adopted on the basis of and in accordance with the requirements of the RA Government Decision “On adoption of the order of approval for norms of waste generation and draft limits for waste placement” (No. 2291-N of December 9, 2005).

The Order approved the draft exemplary forms for calculation of standards on waste generation and placement limits thereof, in accordance with which it is required to provide the following:

- data about the legal persons and private owners (name, place and type of the activity performed, number of employees, number and location of industrial sites, actual amounts of manufactured produce, existence of polygons and dumps, which belong to the organization, etc.), which are waste generators (hereinafter: Organization),
- clarification reference on the amounts and class of hazard of generated wastes;
- on the actions planned;
- information about the technology of production and the technological equipment;
- the list of wastes generated as a result of the activity, as well as the content and physical and chemical characteristics thereof;
- calculated standards for wastes generation;
- the material flow balance;
- the scheme for wastes movement (generation and utilization of wastes, rendering wastes to other organizations for treatment, processing or burying);
- the characteristics of waste storages at the organization;
- amounts of cumulated wastes;
- periodicity of disposal, etc.,
- control measures on the state of the environment at the waste placement facilities belonging to the organization and periodicity of taking such measures, etc.

⇒ **The Order of the RA Minister of Nature Protection «The Instruction on filling out the administrative statistical report (annual) Form No.1-Waste «On wastes generation, utilization and disposal» and approval of the form of the administrative statistical report (annual) Form No.1-Waste Waste «On wastes generation, utilization and disposal» (No. 112-N of August 22, 2002), which was registered at the RA Ministry of Justice on October 21, 2002 /State Registration: 10502243/**

This Order was adopted in accordance with the requirements of the RA Law on State Statistics.

In accordance with the form and the instruction for its filling out, the administrative statistical report is submitted by the legal persons and private owners, whose course of activity bring to generation, use, treatment, destruction and transportation of hazardous, non-hazardous and household wastes. The report is submitted to the appropriate area department of Nature Protection Inspection at the RA Ministry of Nature Protection by February 25 of the year subsequent to the year of report. The total amounts of wastes are presented in the reporting form, including wastes generated, treated, destructed, used, utilized, obtained from other organizations and transferred to other organizations, specifying the class of hazard, type, groups, amounts and movement.

↳ **The Order of the RA Minister of Nature Protection “The Instruction on filling out the administrative statistical report (annual) Form No. 2-TA⁵ (water industry) “On water use” and the approval of the form for the administrative statistical report (annual) Form No. 2-TA (water industry)” (No. 114-N of August 22, 2002), which was registered at the RA Ministry of Justice on October 21, 2002 /State Registration: 10502245/**

This Order was adopted in accordance with the requirements of the RA Law on State Statistics. In accordance with the form and instruction on its filling out, the administrative statistical report is submitted by the legal persons and private owners who perform water intake, water preparation, water overflow, distribution, translocation, and waste water treatment. The report is submitted to the appropriate area (territorial) department of Nature Protection Inspection at the RA Ministry of Nature Protection by February 25 of the year subsequent to the year of report. The reporting form should contain information on volumes of water-use according to types, etc., as well as pollutants and amounts thereof in the waste waters discharged to the water reservoirs. This reporting form does not include substances classified as persistent organic pollutants regulated under the Stockholm Convention. However, in «Pesticides» section the list of farm chemicals classified as organochlorine compounds can be presented.

The Order of the RA Minister of Nature Protection “Instruction on filling out the administrative statistical report (annual) Form No. 2-TA¹ (air) “On harmful substances released from stationary sources to atmospheric air» and on approval of the form for the administrative statistical report (annual) Form No. 2-TA¹ (air) “On harmful substances released from stationary sources to atmospheric air» (No. 111-N of August 22, 2002), which was registered at the RA Ministry of Justice on October 21, 2002 /State Registration: 10502244/

This Order was adopted in compliance with the requirements of the RA Law on State Statistics. In accordance with the form and instruction on its filling out, the administrative statistical report is submitted by the legal persons and private owners in whose possession there are stationary sources of emissions. The report is submitted to the appropriate area department of Nature Protection Inspection at the RA Ministry of Nature Protection by February 25 of the year subsequent to the year of report. The report should contain the total number of stationary sources actually functioning by the end of a year, as well as information on harmful substances released in the year of report, their amounts (total in tons) and minimal (in g/sec). The list of harmful substances embraces organic, inorganic

⁵ TA - Armenian abbreviation to «annual emission»

compounds, heavy metals such as nickel, cadmium, mercury, copper, chromium, arsenic, zinc, the volatile organic compounds, and hydrocarbons, etc.

↳ **Decision of the Government of the Republic of Armenia “On approval of the Republic of Armenia “List of hazardous wastes” (No. 874-A dated May 20, 2004)**

In order to ensure further regulation of issues dealing with waste management (collection, storage, recycling, transportation, utilization, treatment/decontamination and final disposal/burying) “Republic of Armenia List of hazardous wastes” was prepared. The List embraces 145 items. The List is entirely harmonized with the wastes listed in Annexes I, II and VIII to Basel Convention and Lists of wastes of the Organization for Economic Co-operation and Development (OECD). The Republic of Armenia as a party to Convention should take all the required actions to perform management of hazardous and other wastes in accordance with the principles of human health and nature protection.

↳ **Decision of the Government of the Republic of Armenia “On applying changes to the Decision of the Republic of Armenia No.97 of December 8, 1995 and on approval of the Republic of Armenia “List of prohibited hazardous wastes” (No. 1093-N dated July 8, 2004)**

In order to ensure further regulation of issues dealing with import, export and transboundary movements of hazardous wastes the “List of prohibited hazardous wastes” (hereinafter: List) was compiled. In the RA the List of prohibited hazardous wastes embraces the names of waste types according to:

- Codes of Commodity Classification for Foreign Economic Activity (CC FEA);
- Code of waste type and Basel Convention classification;
- Code and classification of the Organization for Economic Co-operation and Development
- Code of components (ingredients) of the types of potentially hazardous wastes according to the classification of the Organization for Economic Co-operation and Development.

This document is prepared in accordance with the principles of Basel Convention and resolutions of OECD. The List of hazardous wastes involves more than 70 items. According to main statements of the Basel Convention, each country being a party to Convention develops national List of prohibited wastes and exercises the right to ban import, disposal/placing thereof at the territory of the country.

↳ **The Law of the Republic of Armenia “On state regulation for ensuring technical safety” (ZA-204-N)**

- ↳ The Law of the Republic of Armenia “On state regulation for ensuring technical safety” (hereinafter: the Law) was adopted on October 24 2005. The Law establishes legal, economical, social fundamentals for ensuring technical safety, as well as the system for maintenance of technical safety and regulates relations connected with ensuring technical safety.

The goal of the Law was to establish principles of state policy and mechanisms for their implementation in the area of technical safety aimed at prevention of technogenic accident,

liquidation of their consequences, reduction of risks of damage caused to the society and economics, as well as protection of humans and the environment.

The Law is applied in relation to industrial hazardous facilities exploited (Planned for exploitation, conservation, dismantling) at the territory of the Republic of Armenia, with the exception of nuclear and energy facilities, facilities for treatment of radioactive substances, those of aviation, automobile and rail-road transportation, as well as facilities of military sector.

The Law establishes criteria for classification of industrial entities by hazard, according to which the facility is considered hazardous if there is production, processing, storage, transportation, use of harmful substances, which are characterized by properties defined in the Law, including inflammable, oxidizing, explosive, toxic substances, as well as substances presenting danger for the environment, etc.

The Law presupposes taking expertise examination on technical safety of documentation of industrial hazardous facilities which are at the stage of construction, enlargement, reorganization, technological re-equipment, as well as those mothballed and subject to dismantling. It is prohibited to approve the projected design documentation without the positive expert conclusion. The exploitation (renewal of exploitation) of the hazardous facility is also prohibited without the positive expert conclusion.

In order to ensure technical safety at the industrial hazardous facility the following is subject to accounting and technical expertise:

- each case of technogenic accident;
- industrial accidents with lethal or severe outcome.

The expertise examination might be performed by:

- National Center of Technical Safety, or
- legal person or private entrepreneurs, who are accredited and registered in the National Center of technical safety in compliance with the order established by the Government of the Republic of Armenia.

In order to register and analyze the required information and to submit it to the authorized bodies to the also maintenance of the Registry on industrial hazardous facilities is imposed to the National Center of Technical Safety. All industrial hazardous facilities exploited at the territory of the Republic of Armenia should be included in the Registry. Registration in the Registry is done on the basis of a declaration (statement) of a person exploiting the industrial hazardous facility and providing the following information: technical and technological data on industrial hazardous facility, results of the expertise for technical safety data on enlargement, rearrangement, re-equipment, changes of localization of the industrial hazardous facility, etc.

In order to classify the industrial hazardous facilities by hazard the Law presupposes taking analysis and risk assessment of technogenic accidents according to the following types: technical, individual, territorial (areal), social, collective risks, as well as the risk of anticipated damage and other probable risks. The results of the analysis and risk assessment should be used upon exploitation of industrial hazardous facility, while taking safety expertise, insurance of the facility, as well as in the process of identifying the interaction of ecological factors.

The law presupposes cession/ prohibition to exploit the industrial hazardous facility or a separate technical device or unit of technological equipment, if it does not comply to the

legislative requirements in the area of technical safety or if they failed to undergo expertise for technical safety and were not registered in the Registry.

⇒ **Decision of the Government of the Republic of Armenia “On approval of limits on hazardous substances” (No. 182-N dated February 16, 2006)**

This Decision was adopted in accordance with the requirements of the RA Law “On state regulation for ensuring technical safety” (articles 6 and 22). The aim of this Decision is classification of industrial entities according to hazard. The Decision establishes maximum amounts/limits of hazardous substances as kg/day. Proceeding from this, the industrial facilities at which mentioned substances are produced, processed, stored, used in amounts exceeding the maximum limits are considered hazardous facilities. The List embraces limits for 217 hazardous substances, including ammonium, vinyl chloride, lead dioxide, chrome trioxide, mercury, copper cyanide, tetrachlorethylene, etc.

⇒ **Law of the Republic of Armenia “On Licensing”**

The Law of the Republic of Armenia “On Licensing” (hereinafter: the Law) was adopted on May 30, 2001; the types of activity subject to licensing are stipulated in accordance with this Law and the relations dealing with licensing are also regulated.

Item 13 of the article 43 “List of types of activity subject to licensing” of the above-mentioned Law defines such type of activity as “recycling, treatment/decontamination, storage, transportation and placement of hazardous wastes”, for which the Government of the Republic of Armenia issues license of complex order.

In accordance with the article 26 of the Law the license of complex order (hereinafter: complex license) issued by the licensing body under the licensing order is a permit for execution of activity, for which special obligatory conditions are stipulated or requirements for such activity, as well as control on their implementation in an order defined by the Law.

The law defines:

- Subjects (legal or natural persons) having the right to perform types of activity, which are subject to licensing;
- Licensing bodies and their responsibilities, including the principles of decision making and licensing order determination;
- Obligatory requirements on observance of ecologic, hygienic, sanitary and epidemic safety, norms and regulations on fire-prevention by licensed persons, as well as the order of providing the licenced party with the Lists of legal acts dealing with the ecological, hygienic, and sanitary epidemiological safety and regulations on fire-prevention. on behalf of the licensing body. In order to implement control on observance of these norms and regulations the order is also defined for submission of corresponding relevant information about licensed persons to appropriate authoritative bodies;
- Requirements of qualification of specialists performing activity that is subject to expertise, as well as the order of examination and evaluation trials for qualification;

- Order for carrying-out licensing of goods, articles, mechanisms or documents submitted to licensing.

In accordance with the Law complex license for carrying out activity on processing, treatment/decontamination, storage, transportation and placement of hazardous wastes is issued on the basis of conclusion drawn by the licensing commission.

↳ **Decision of the Government of the Republic of Armenia “On the order of licensing for activity on processing/recycling, treatment, storage, transportation, and placement of hazardous wastes in the Republic of Armenia” (No.121-N of January 30, 2003)**

In accordance with the Article 10 of the Republic of Armenia Law “On Licensing” the governmental Decision of the Republic Armenia “On the order of licensing for activity on recycling, treatment/decontamination, storage, transportation and placement of hazardous wastes in Republics Armenia” (No.121-N of January 30, 2003) was accepted, in which the order is defined on licensing for activity on processing/ recycling, storage, transportation and placement of hazardous wastes (hereinafter: the Order).

It is stipulated in the above-mentioned document that complex license is issued by the Government of the Republic of Armenia on the basis of the conclusion of the inter-departmental (Inter-Agency) commission consisting of the representatives of authorized bodies of state management of the area and the experts of the branch.

The structure and operating procedure of the inter-departmental commission is approved by the Prime Minister of the Republic of Armenia, while the Minister of Nature Protection of the Republic of Armenia carries out management of works of the commission (Order, p. 6). The Order determines also mutual relations between the authorized bodies and interdepartmental commission, order of submission/performance of the application on licensing and rules for discussion of the application, terms and list of the represented documents required for discussion together with the application, as well as bodies, which are carrying out the control of performance of the requirements of licensing.

In accordance with the Order, the Ministry of Nature Protection of the Republic of Armenia and the Ministry of Health of the Republic of Armenia are recognized as bodies which carry out the control on implementation of requirements and conditions of a license in legislatively established order.

Persons, who have received the license, are obliged to submit the reports on activity performed by them to bodies carrying out the control, as stipulated by the license: within the calendar year, each half-year, until the 15th day of the month following the half-year.

↳ **Decision of the Prime Minister of the Republic of Armenia “On approval of the membership and order of activity of inter-departmental commission on licensing of activity on recycling, treatment, storage, transportation and placement of hazardous wastes in the Republic of Armenia” (No. 46-N of February 5, 2004)**

In pursuance of statements of the “Order of licensing of activity on recycling, treatment, storage, transportation and placement of hazardous wastes in the Republic of Armenia” (p. 6), the order of activity and the membership of the inter-departmental commission are approved by the Decision of Prime Minister.

The activity of inter-departmental commission is aimed at issuing expert conclusions on expediency and appropriateness of recycling, treatment, storage, transportation and placing of hazardous wastes; the conclusions are transferred to the body issuing the licenses.

The Inter-departmental commission is engaged in consideration and evaluation of the submitted documents, preparation of proposals on environmentally sound methods and conditions of the licensed activity, formalization/legalization of the licenses, obtainment of semiannual reports/accounts on the executed activity, notification of bodies of environmental, sanitary, anti-epidemiological and fire services about the issued licenses.

Amongst the members of Inter-departmental commission are representatives of the following Ministries and Agencies of Armenia: Ministry of nature Protection, Ministry of Agriculture, Ministry of Health, Ministry of Trade and Economic Development, Ministry of Transportation and Communication, Ministry of Finance and Economy, Police at the Government of the Republic of Armenia, State Security Service at the Government of the Republic of Armenia, Department of Emergency situations at the Government of the Republic of Armenia, National Academy of Sciences, Yerevan city administration.

Personal membership of the Inter-departmental commission was approved by the order of the Ministry of Nature Protection (No. 55-A of March 5, 2004) as follows: the number of commission members is 16; the Head of commission is Minister of Nature Protection.

↳ **Law of the Republic of Armenia “About maintenance of sanitary - hygienic security of the population”**

The law of the Republic of Armenia “About maintenance of sanitary - hygienic security of the population” (hereinafter: the law) was accepted in 1992. The law establishes legal, economic and organizational bases for maintenance of sanitary - hygienic safety of the population of the Republic of Armenia, the guarantees are given on the part of the state, excluding harmful and hazardous impact of environmental factors on human organism; the law also stipulates maintenance of favourable conditions of life for present and future generations.

In clause 4 “Sanitary rules and hygienic standards” the establishment of sanitary norms and hygienic standards is stipulated with the purpose of maintenance of parameters of harmlessness and safety of the environment for the population, and favourable conditions of life for humans.

The law establishes conditions and requirements on realization of obligatory sanitary - hygienic examination /expertise (clause 23 “Sanitary - hygienic examination”) at introduction of new technologies, at construction, reconstruction and acceptance of objects/entities, at which the emissions and discharges of chemical and biological substances into the environment take place, objects of atomic engineering, as well as objects located in zones of extreme ecological situation.

By the law, in clause 24 “State hygienic and anti-epidemiological control”, it is also stipulated to realize state hygienic and anti-epidemiological control with the purpose to study the health status of population, its prognosis, forecast and evaluation depending on the state of environment.

↳ **Law of the Republic of Armenia “On Medicines”**

The law of the Republic of Armenia “On Medicines” (further: the law) was accepted in 1998. The law regulates questions connected to the management of medicines in the Republic of Armenia, which include their manufacturing, preparation, dosing, packaging, registration, quality control of medicines and other activity connected to obtaining or destruction of medicines, their purchase, storage, warehousing, distribution, trade, import, export of medicines, information and advertising about them; in addition the law establishes responsibilities of state authoritative bodies of the Republic of Armenia in the above mentioned areas.

According to clause 3 “Licensing of pharmaceutical activity” the licensing for realization of pharmaceutical activity, as well as its deprivation will be carried out by the state body, authorized to it. The license is given out for the following types of activity:

- manufacture of medicines;
- processing and trade in medicinal plants;
- chemist's activity;
- trade in medicines;
- import and export of medicines;
- trade in narcotic medicinal preparations.

Clause 14 “Destruction of medicines” stipulates the procedure of destruction of medicines, unfit to application, which is necessary for carrying out with the observance of ecological, sanitary norms and rules on environmental protection.

↳ **Decision of the Government of the Republic of Armenia “About the assignment of the authorized body of state management of the Government of the Republic of Armenia in the sphere of pharmaceutical activity and on disposal of medicines” (No. 487 dated July 31,1999)**

In pursuance of statements of clause 14 “Destruction of medicines” of the Law of the Republic of Armenia “On Medicines”, the governmental Decision of the Republic of Armenia No.487 of July 31,1999 was accepted “About the assignment of the authorized body of state management of Government of the Republic of Armenia in the sphere of pharmaceutical activity and on removal of medicines”, according to which the Ministry of Nature Protection of the Republic of Armenia is the authorized body of state management regulating all the questions dealing with disposal of medicinal preparations inappropriate, unsuitable to application on the territory of Armenia.

↳ **Decision of the Prime Minister of the Republic of Armenia “On setting-up the Inter-Agency Commission (No. 645-A of December 12, 2003)**

In order to ensure the accounting of inappropriate- for- use (expired) medicine and settlement of issues on safe destruction of such medicine the Decision of the Prime Minister of the Republic of Armenia was approved on setting-up the Inter-Agency Commission.

Amongst the members of this Commission are representatives of the following Ministries and Agencies: Ministry of Nature Protection, Ministry of Health, Ministry of Defence, Ministry of Trade and Economic Development, Ministry of Finance and Economy, Police at the Government of the Republic of Armenia, State Security Service at the Government of the

Republic of Armenia, Customs State Committee at the Government of the Republic of Armenia.

Personal membership of the Inter-Agency Commission was approved by the Order of the Ministry of Nature Protection (No. 6-A of January 2005) as follows: the number of commission members is 16; the Head of Commission is Minister of Nature Protection

↳ **Decision of the Government of the Republic of Armenia “On approval of the order of import and export of medicinal preparations in the Republic of Armenia”(No. 581 of September 20, 2000)**

According to the requirements of clause 10 “Import and export of medicines” the Law of the Republic of Armenia “About medicines” the governmental Decision No.581 was accepted on September 20, 2000 “On approval of the order of import and export of medicinal preparations in the Republic of Armenia”, which approved the “Order of import and export of medicines and medicinal preparations in the Republic of Armenia” (further: the Order), in which the official forms of the certificate are also introduced: for import (Form 1), certificate of export (Form 2) and “The List of certified imported into the Republic of Armenia and certified medicines and medicinal preparations exported from the Republic of Armenia”.

The main purposes of the given document are:

- to maintain import of safe and qualitative medicines and medicinal preparations into the Republic of Armenia,
- to prevent the receipt of not registered, expired, false/counterfeit and poor-quality medicines and medicinal preparations into the Republic of Armenia,
- realization of the control over export of medicines and medicinal preparations from the Republic of Armenia

According to authorized approved “Order”, medicine and the medicinal preparations can be imported to and be exported from the Republic of Armenia only based on certificates of import or export issued by the Ministry of Health.

The “Order” defines the qualifying requirements set forward to duration expiry period at import of medicines and medicinal preparations (item 21), namely on the moment of import of medicines and medicinal preparations into the Republic of Armenia the term of their validity should make at least 1 year. In case, if the overall period of shell/working life of medicines is estimated to be 1 year and less, then on the moment of import it should make 2/3 of the overall working life.

In some occasions based on the sanction of the Ministry of Health of the Republic of Armenia medicines with smaller shell/ working life can be imported, then the possibility of their use should be proved. Within the framework of the charitable programs in the Republic of Armenia managing subjects having appropriate rights and /or the license for the given activity can perform import or export of medicine and medicinal preparations.

↳ **Decision of the Government of the Republic of Armenia “About the approval of the order of state registration of medicinal substances and the size of payment for expertise examination aimed at state registration of medicines in the Republic of Armenia” (No. 347 of April 25, 2001)**

According to the requirements of clause 15 “State registration of medicines” of the Law of the Republic of Armenia “On medicines”, on April 25, 2001 the governmental Decision No.

347 was adopted “About the approval of the order of medicines state registration of and the size of payment for expertise examination aimed at state registration of medicines in the Republic of Armenia”, by which there were authorized “Order of state registration of medicines in the Republic of Armenia” (further on: the Order) and “Sizes of payment for expertise examination for state registration of medicines in the Republic of Armenia”.

“The Order” defined that on the territory of the Republic of Armenia it is allowed to manufacture, import, store, distribute, consume, and apply medicines, which are registered in the Republic of Armenia.

Law of the Republic of Armenia “About the Lake Sevan”

The law of the Republic of Armenia “About the Lake Sevan” (further: the law) was accepted in 2001. The law establishes legal and economic bases of state policy on natural development, restoration/recovery of the ecosystem of the lake Sevan of strategic value as having nature-conservative, economical, social, scientific, cultural - historical, artistic, health, climatic, recreational and spiritual value for the Republic of Armenia; and also reproduction, preservation and use of natural resources of the Lake Sevan. The Lake Sevan is a strategic source of drinking water reservoir in Armenia.

The law in chapter 3 “State policy on restoration, preservation, reproduction of the Lake Sevan ecosystem, its natural development and use” sets the basic statements of state policy on restoration, preservation, reproduction of the Lake Sevan ecosystem, its natural development, and use.

In chapter 4 “Authorities of state bodies and bodies of local self-government in the sphere of restoration, preservation, reproduction of the Lake Sevan ecosystem, its natural development, and uses” responsibilities of state bodies and bodies of local self-government in the specified areas are also defined.

In chapter 6 of the Law “Lake Sevan protection system” the basic requirements are determined on restoration, preservation, reproduction of the Lake Sevan ecosystem, including an evaluation of the impact on the environment, programmed realization of nature protection measures and measures on nature management.

In clause 26 “Prohibition of emissions having negative influence on ecosystem of the Lake Sevan” of the chapter 7 of the Law “Regulation and control of harmful influence on ecosystem of the Lake Sevan” there is the list of substances, the use of which is forbidden with the purpose to preserve natural functioning of Lake Sevan ecosystem. The list includes:

- substances highly toxic for water organisms;
- toxic substances transmitted on a food chain, cumulating in plants and in the animal organisms;
- highly toxic and toxic substances, which slowly decompose in waters of the Lake Sevan and the rivers flowing into it;
- substances dangerous for ecosystem of the Lake Sevan, however quickly removed from bio-systems;
- biogenic elements, heavy metals and their compounds exceeding allowable levels.

The law stipulates the statements on protection of ecosystem of the Lake Sevan against biological pollution, as well as realization of control on emission of harmful substances into ecosystem of Lake Sevan and measures on its protection in case of emergencies.

↳ **Decision of the Government of the Republic of Armenia “On approval of the list of substances, biogenic elements, heavy metals or their compounds and other substances having negative impact on ecosystem of the Lake Sevan” No. 57 of January 24, 2002**

In pursuance of the statements of clause 26, the governmental Decision of the Republic of Armenia No.57 of January 24, 2002 “On approval of the list of substances, biogenic elements, heavy metals or their compounds and other substances having negative impact on ecosystem of the Lake Sevan” was accepted, by which the “List of substances, biogenic elements, heavy metals or their compounds and other substances having negative impact on the ecosystem of the Lake Sevan” was authorized; the list includes 68 names of highly toxic and toxic substances related to 1st - 2nd class of danger.

The main part of compounds, included in the list is presented by persistent organic pollutants and falls under the action of Rotterdam and Stockholm Conventions. These compounds are characterized by the ability to persist for a long time and to circulate in the environment, to be transferred on the large distances, to cumulate in the human and animal organisms, to exert adverse influence on health status.

The list also includes chemical substances, which exert high toxicity, specific (neurotoxic, carcinogenic, etc.) and remote effects, adverse impact on a sanitary regimen of water reservoirs.

↳ **Law of the Republic of Armenia “On Nature Use and Nature Protection Payments”**

The law of the Republic of Armenia “On Nature Use and Nature Protection Payments” (further: the law) was accepted on December 28, 1998. The law regulates the procedure of calculation and payment of nature protection costs, payments for environmental management (furtheron: payments) in the Republic of Armenia, as well as responsibility for infringement of the law and other relations.

According to the law, nature protection payments are obligatory payments, which are brought in to the state budget with the purpose to create necessary money resources for realization of nature protection measures. Nature protection payments are established for:

- emissions of harmful substances into the environment (air and water basins);
- placement of production and consumption/ domestic wastes in the environment;
- goods causing harm to the environment.

Payments for nature management /use are those charges, which are brought in to the state budget for use of natural resources of state ownership with the purpose to create similar conditions of managing for actors using these natural resources in the industrial, complex purposes, as well as for those using natural resources of various qualities. Payment for nature management /use is established for:

- water consumption/ use;
- exhausted stocks of natural resources/ minerals;
- use of bio-resources.

The rates of nature protection payments are defined by the law, while the payments for nature use are established by the Government of the Republic of Armenia. The payments are calculated independently by quarters.

The nature protection payments for the goods, doing harm to the environment, are calculated based on customs' cost of these goods and are paid into the state budget accordingly at the import, prior or during their customs registration/clearance, then the document, confirming such payment, is submitted to the appropriate customs body.

Payment for goods produced and realized in the Republic of Armenia and causing harm to the environment is calculated by the manufacturer, basing on the volumes of a turnover of realization and is paid proportionally to volumes of production realized during the accounting period.

The payment for placing of production and consumption wastes in the environment is calculated in due course by the manufacturer on the basis of volumes of realization. The payment for placing of production and consumption wastes at dumps and industrial sites is done, proceeding from their formed volumes during the accounting period and classes of hazard. The payment is made quarterly. The quarter reports of payments and their calculations, referred to as reports of payment, are represented to the appropriate nature protection and tax bodies.

↳ **Law of the Republic Armenia "On the rates of nature protection payments"**

The law of the Republic of Armenia "On the rates of nature protection payments" was accepted on April 19, 2000; the rates of nature protection payments and order of their account/calculation are determined by the law.

Rates of nature protection payments are determined for:

- emissions of harmful substances in an environment;
- placing of production and consumption wastes in the environment in a due course. size of the rates is determined per (each) ton of wastes, proceeding from their class of hazard;
- goods, causing harm to the environment.

The list of the goods consists of 22 names. The size of the rates for each type of goods is determined in a percentage parity (ratio), proceeding from the price of realization of production.

↳ **Law of the Republic Armenia "On target use of nature protection payments made by organizations"**

The Law of the Republic Armenia "On target use of nature protection payments made by organizations (NL-188)" was adopted on May 15, 2000. The Law contains a List of enterprises the nature protection payments of which as a special budget line are effected to the budgets of communities where the activity of organizations/enterprises causes harm to the environment.

The List of enterprises involves: Arrmenian Copper Programme (ACP), Zangezur Copper-and-Molybdenum Combine” (Combinat), Agarak Copper-and-Molybdenum Combine”(Combinat), “Dino Gold Mining”, Akhtala mining-and-enriching Combine (Combinat), “Ararat Cement”, “Mika-Cement”, Hrazdan TPP, Yerevan TPP, Gadjegordz and “Gadj” CJSC, as well as Armenian Molybden Production Ltd.Co., “Pure Iron”, “Aske Group”, Cherenstavan Smelting Center OJSC.

Money assignments deducted from effected nature protection payments make target financial means and can be used only for implementation of nature protection relevant programmes at the community area. Draft programmes, which are prepared and published by the Community head include actions aimed at:

- Protection and recovery/remediation of water resources, air, forestlands, underground resources, flora and fauna within the Community area;
- Protection of health in general population as related with the activity performed by the above-mentioned enterprises.

Planned actions should be agreed with the authorized environmental/nature protection and health state structures in an order defined by the Government of the Republic of Armenia. Upon coordination, draft programmes are submitted for approval at the Community Council.

↪ **Decision of the Government of the Republic of Armenia “On approval of the Statute of Safety Passport of industrial entities in the Republic of Armenia” (No. 702 of November 11, 1998)**

In accordance with this Decision enterprises listed in the registry of industrial entities, which are potentially subject to industrial accidents are obliged to submit their Safety Passports for approval, without fail. To such entities are related all those at which there is use, production, re-cycling, storage or transportation of dangerous/hazardous chemicals or fire-risk and explosive substances in amounts which pose threat for the population and the environment.

In Safety Passports of an enterprise there should be detailed information on specific hazardous chemicals, which are produced, used, re-cycled ore stored at this industrial entity; physical and chemical characteristics, toxicological description and the quantity should be also mentioned. In addition, the document should reflect the analysis of risk of emergency situations occurrence of natural and technogenic character, the estimation on the probable area of pollution by the hazardous substances in case of industrial accident.

In accordance with the requirements of the safety passport for each industrial entity, which is potentially subject to industrial accidents, a Plan of required actions is worked out for emergency use at the industrial premises and outside the industrial site. Industrial enterprises should be prepared to take measures on localization and liquidation of the accident consequences at dangerous undertaking, including establishment of system on observance, notification, communication, and training of employees to act in case of an accident.

Safety Passport of an industrial enterprise is approved by the Department of Emergency situations on the basis of expertise examination performed by the Ministry of Nature Protection and Inspection on safety-in-work in industry and mining control at the Ministry of Trade and Economic Development of the Republic of Armenia (Secure Performance of Works within Industry and Mountain Control Inspectorate).

↳ **Law of the Republic of Armenia “On quarantine and protection of plants” (NL-209-N)**

The new Law of the Republic of Armenia “On quarantine and protection of plants” (further: the Law) was accepted on November 27, 2006 instead of the existing Law (2000). The Law regulates the relations between the authorities in the field of plant quarantine of plants and protection of plants and legal and natural persons.

The Law states the responsibilities of RA Government and rights of authority, as well as the tasks are defined in the area of plants quarantine and protection.

In clause 7 “State registration of plant protection means” of the Law it is stated that registration of plant protection means is carried out on the basis of positive conclusion drawn by the authoritative body: Commission for Plant Protection Means Registration. For issuing the expertise conclusion the documents are required, including hygienic standards on plant protection means (pesticides) content in water, air, soil, foodstuff, acceptable Daily Intake (ADI) for humans and determination procedures, etc.

↳ **Order of the Minister of Health Republic of Armenia “On approval of sanitary rules and norms for storage, transportation, use and trade of agrochemicals (pesticides) (No.790-N of August 30, 2005)**

The approved document establishes sanitary norms and rules for storage, transportation, use and trade of agrochemicals (pesticides) (hereinafter: Rules). The Rules are applied for storage, transportation, and use of pesticides, as well as for preparation of design works, construction, reconstruction and exploitation of building and premises intended for pesticides trade and appropriate equipment. Observation of the Rules is obligatory for all physical and legal persons irrespective of type of ownership.

The rules present data on classification of pesticides according to hazard: severely toxic, (Class Ia), highly toxic (Class Ib), averagely toxic (Class II) and low toxic (Class III). In this document the requirements are defined for application of pesticides by various modes of application (spraying, aviation-based application) under different conditions: in greenhouses, in cattle-breeding, for seeds dressing, treatment of forests, in inhabited area, and areas of non-agricultural indication, etc.

The approved document also established the sanitary norms and rules for the use of individual protection means to be applied while handling agrochemicals (pesticides), as well as hygienic requirements to ensure medical preventive and sanitary conditions for persons having contact with pesticides. In accordance with the requirements it is necessary to perform preliminary (before the appointment to work) and regular (in the course of work) medical examinations in the order assigned by the law.

In addition, the bodies of state hygienic and anti-epidemic inspection of the Ministry of Health of the Republic of Armenia carry out random inspection (sampling) on residual amounts of pesticides in agricultural produce, as well as products made of it.

↳ **Decision of the Government of the Republic of Armenia “On establishing specificity in trade of agrochemicals (pesticides) and mineral fertilizer” (No.1899-N of November 3, 2005)**

This Decision of the Government of the Republic of Armenia was adopted proceeding from the the Republic of Armenia Law “On Trade and Services” (Clause 9). The approved

document sets forth requirements for arrangement and realization of trade on agrochemicals (pesticides) and mineral fertilizers in accordance with established hygienic standards. Mineral fertilizers and pesticides are subject to pre-sale examination that includes the quality of packaging, existence of the required accompanying information, etc. Pre-packed products (pesticides and mineral fertilizers) should be labeled having indication to the name, information about the producer and seller, as well as concentration of the active substance (ingredient), class of hazard, date of production, expiration date and information about first medical aid in case of poisonings. While selling pesticides and mineral fertilizers the buyer/consumer in addition to information presupposed by legislation should be also provided with information on the object of treatment (agricultural crops).

In accordance with the above mentioned regulatory document at the territory of the Republic of Armenia it is allowed to produce and/or sell/trade only plant protection means included in the “List of chemical and biological plant protection means allowed for use/application in the Republic of Armenia” (Decision No.14-N of February 5, 2007) that is approved by the Minister of Agriculture of the Republic of Armenia.

↳ **Decision of the Government of the Republic of Armenia “On approval of the order on licencing and licence type for production and/or trade of chemical and biological plant protection means” (No.1902-N dated December 14, 2006).**

According to the approved “Order on licencing and licence type for production and/or trade of chemical and biological plant protection means” (hereinafter: Order) the production and trade of chemical and biological plant protection means are considered as types of economic activity performed by legal persons or private entrepreneurs and are subject to obligatory licencing.

In accordance with the approved order for Licence obtaining it is necessary to have at least specialized secondary education in agronomy, to have industrial premises, which comply with the sanitary norms and standards approved by the Order of the Minister of Health of the Republic of Armenia “On approval of sanitary norms and standards for storage, transportation, use and trade of agrochemicals (pesticides)” (No.790-N dated August 30, 2005).

↳ **Decision of the Government of the Republic of Armenia “On approval of the personal membership of the Commission on registration of plant protection means and the reglament of the Commission activity on registration of plant protection means (No. 908 of July 26, 2007)**

In order to coordinate the activity of various state structures in the area of chemicals management and in accordance with Article 7 “State registration of plant protection means” of the Republic of Armenia Law “On quarantine and protection of plants” (2006) the Decision of the Republic of Armenia Government re-approved the personal membership of the Commission on registration of plant protection means and the reglament of the Commission activity on registration of plant protection means.

The Commission involves 13 members, including representatives of the Ministry of Agriculture, Ministry of Health, Ministry of Nature Protection of the Republic of Armenia, Armenian State Agrarian University, Scientific Center of agriculture and plant protection,

Scientific Research Center of the Yerevan State Medical University after M. Heratsi, the National Academy of Sciences, etc.

In accordance with the approved Reglament of activity the main goal of the Commission is issuing conclusions on registration of plant protection means for the body authorized in this area, i.e. for the Ministry of Agriculture.

↳ **Decision of the Government of the Republic of Armenia “On approval of the Order of State registration of plant protection means” (No. 1039-N of August 30, 2007)**

Decision of the Government of the Republic of Armenia “On approval of the Order of State registration of plant protection means” (hereinafter: Order) was adopted proceeding from the requirements of the Republic of Armenia Law «On plants protection and plants quarantine” (article 7 “State registration of plant protection means”) (2006).

In compliance with the “Order” the authorized body (Commission on registration of plant protection means) performs the process of state registration of plant protection means. In case of a positive expert conclusion on registration of a new plant protectant the Ministry of Agriculture makes a decision for its registration and inclusion into the “List of chemical and biological plant protection means allowed for use in the Republic of Armenia”.

The Commission has a right to draw a negative conclusion in case of:

- Data submitted for consideration do not correspond the established hygienic standards (allowable daily intake, maximum permissible concentrations in soil, surface waters, air of the working zone, maximum allowable levels in food stuffs);
- The proposed plant protectant contains one of chemical substances banned by International Conventions signed by the Republic of Armenia.

↳ **Decision of the Prime Minister of the Republic of Armenia “On setting-up the working group on regulation of issues dealing with destruction of obsolete, inappropriate-for-use chemical plant protection substances and working-out action plan for destruction thereof” (No. 452-A of September 22, 2003)**

Under the mentioned Decision of a Prime Minister a working group was formed in order to regulate actions on destruction of obsolete, inappropriate-for-use chemical plant protection means, as well as in order to develop environmentally sound methods of destruction.

The working group involves representatives of the following Ministries, agencies and establishments: Ministry of Nature Protection, Ministry of Agriculture, Ministry of Health, Ministry of Trade and Economic Development, Ministry of Foreign Affairs, Ministry of Finance and Economy, Ministry of Defense, Police at the Government of the Republic of Armenia, Customs State Committee at the Government of the Republic of Armenia, State Security Service at the Government of the Republic of Armenia, National Academy of Sciences.

The personal membership of the Working group of 15 members was approved by the Order of the Ministry of Nature Protection (No. 375-A of October 23, 2003); Minister of Nature is the Head of Working group.

↳ **Decision of the Government of the Republic of Armenia “On approval of measures ensuring security of obsolete pesticides burial and on assigning funds from the Republic of Armenia state budget for FY 2004” (No. 526-A dated April 22, 2004)**

In order to take decisions on improvement of ecological situation in the vicinity of the burial a preliminary evaluation was performed on the costs of activity required to ensure ecological safety of the burial. The list of actions was also compiled.

Implementation of measures was entrusted to the Department of Emergency Situations at the Government of the Republic of Armenia, to which in accordance with the approved Decision 8 504.7 thousand AMD will be assigned at the expense of the reserve fund of the Government of the Republic of Armenia.

Coordination and control on implementation of measures was laid upon the Ministry of Nature Protection of the Republic of Armenia. The List of measures ensuring safety of pesticides burial embraces the following:

- Study on the landslides at the territory neighboring with the burial of obsolete pesticides;
- Study aimed to examine the concrete construction of the burial of pesticides and determine its integrity;
- Fencing of the burial of obsolete pesticides and reconstruction of drainage/ water catchment system around it;
- Study on contamination of soils and ground waters adjacent to the burial.

↪ **Decision of the Government of the Republic of Armenia “On implementation of the Republic of Armenia obligations on Rotterdam Convention signed September 10, 1998” (No. 1508-N dated October 29, 2004)**

The above-named Decision was adopted in order to implement country commitments on Rotterdam Convention.

In accordance with the requirements of Rotterdam Convention Article 5, the Government of Armenia entrusted the Ministry of Nature Protection with a task to prepare suggestions/proposals on prohibition, strict limitation or permission of chemicals and pesticides regulated by Rotterdam Convention. The task should be performed jointly with a number of Ministries, involved in various problems of chemicals and waste management: Ministry of Finance and Economy, Ministry of Trade and Economic Development, Ministry of Health, Ministry of Agriculture, Ministry of Defence and Customs state committee at the Government of the Republic of Armenia.

At the same time, the Government of the Republic of Armenia, being guided by the Article 4 of the Convention, made a decision to impose on the Ministry of Nature Protection of the Republic of Armenia responsibilities of national focal point executing administrative functions under a.m. Convention.

↪ **Decision of the Government of the Republic of Armenia “On approval of the List of chemicals and pesticides regulated by Rotterdam Convention and banned in the Republic of Armenia” (No. 293-N of March 17, 2005)**

The “List of chemicals and pesticides regulated by Rotterdam Convention and banned in the Republic of Armenia” (hereinafter: List) was compiled in pursuance of Republic of Armenia commitments to the Rotterdam Convention as stated in Decision of the Government of the Republic of Armenia “On implementation of the Republic of Armenia obligations on Rotterdam Convention signed September 10, 1998” (No. 1508-N dated October 29, 2004) as well as in accordance with the article 5 of the Rotterdam Convention. The List embraces

chemicals and pesticides of 33 names the application of which is prohibited in order to protect human and environmental health, as these compounds produce expressed unfavorable impact resulting in serious after-effects for human health and the environment

↳ **Decision of the Government of the Republic of Armenia “On implementation of the Republic of Armenia obligations on Stockholm Convention signed May 23, 2001” (No. 1483-N dated October 29, 2004)**

The aforementioned Decision of the Government of the Republic of Armenia was made in order to implement Stockholm Convention provisions and develop proposals on implementation of country obligations.

In accordance with this Decision, the Government of the Republic of Armenia, being guided by Article 9, resolved to impose the responsibility of a national center for information exchange on Stockholm Convention.

↳ **Protocol Decision of the Government of the Republic of Armenia “On approval of the “List of actions implemented within the frames of the “National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants in the Republic of Armenia during 2005-2010” (No. 1 of January 13, 2005)**

In order to realize country commitments for the Stockholm Convention on Persistent Organic Pollutants the National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants was prepared, including the List of actions aimed at minimizing and elimination of POPs in 2005-2010.

Actions on implementation of priority goals of the National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants involve the following:

- Actions in legislative and institutional area
- Activity relevant to PCBs, Dioxins/Furans;
- Activity on monitoring investigations;
- Capacity building on POPs management related issues;
- Actions dealing with wastes and waste-dumps;
- Measures on remediation/recovery;
- Research activity;
- Public awareness-raising , training and education;
- Reporting activity.

The document also embraces: brief description of the proposed actions, list of state structures and other organizations/ entities (Ministries, Agencies, research institutions, public groups/ NGOs, etc.) involved in implementation of planned actions. For each specific pre-planned action details are included as to the responsible and executive bodies, as well as possible/potential sources of funding.

↳ **Republic of Armenia Law “On Protection of the Atmospheric Air”**

The Republic of Armenia Law “On protection of the Atmospheric Air” was adopted on October 11, 1994. In accordance with the requirements of this Law data on facilities having harmful impact to the state of the atmospheric air, on types and quantities of harmful

substances released to the atmospheric air, as well as types and dimensions of physical harmful effects to the state of the atmospheric air are subject to state accounting.

Organizations, at which there occur releases to atmospheric air, in order to ensure compliance of conditions and requirements presupposed in permissions for releases should perform appropriate measures/actions, as well as accounting and constant measurement (monitoring) and primary accounting of the content and quantity of substances released to the atmospheric air.

According to RA Government Decision of April 22, 1999 the state accounting of organizations having releases to atmospheric air, as well as types and quantities of harmful substances released to air is performed by the RA Ministry of Nature Protection basing on data presented in administrative statistical reports and primary accounting of harmful impacts to the atmospheric air.

↳ **The Republic of Armenia Law “On Ozone Depleting Substances”**

The Republic of Armenia Law “On Ozone Depleting Substances” was adopted on November 27, 2006. The Law defines the order for accounting ozone depleting substances (ODSs), according to which total limits are subject to accounting:

- limits are established for import of ODSs by particular substances;
- individual limits for particular substances defined for import of ODSs and their residual amounts;
- permissions for import, export and transit movements of ODSs, and
- annual reports on the use of individual limits for import of ODSs.

The accounting of ODSs and documentation is done by the RA Ministry of Nature Protection, while permissions for import, export and transit movements of ODSs are also performed by the Customs Service.

↳ **The Republic of Armenia Code on Underground Resources**

Republic of Armenia Code on Underground Resources (hereinafter: Code) was adopted on November 6, 2002; the principles and order of underground resources use, as well as relations dealing to usage of underground resources are established.

In clause 9 of the Code “The users of underground resources”, it is determined that as users of underground resources with the purpose of research, investigation and operation of radioactive raw material, as well as burial of radioactive, hazardous chemical substances and wastes are considered those legal persons, who have special sanction for that activity and those, who are nominated/authorized by the Government of the Republic of Armenia. Hence, the order for obtaining the special sanction on this kind of use of underground resources is established by the Government of the Republic of Armenia.

According to clause 37 “Zones of sanitary protection of deposits of (under)ground waters (fresh and mineral)”, in order to ensure protection and prevention of pollution in deposits of (under)ground waters (fresh and mineral) and water-bearing horizon around water diversion flow/ capacity and their sources, there are created sanitary-protective zones, within the limits

of which the measures are carried out, excluding possible pollution of soil, water, air and green open space.

Designing of sanitary-protective zones will be carried out based on requirements for nature protection (hydro-geological, hydrological) and sanitary norms/ standards, which are the integral part of the project on operation of deposits and water-bearing horizons, as well as projects on water supply.

Clause 42 of the Code “Basic rights and responsibilities of the users of underground resources” runs that the users of underground resources are obliged to ensure protection of underground resources, air, soil, woods, waters and other environmental objects, as well as constructions/ structures against harmful influence of works dealing with the use of underground resources.

According to clause 51 “Basic requirements on protection of underground resources” of chapter VI “Protection of underground resources” the underground resources of the Republic of Armenia are subject to protection. The List of basic requirements on protection of underground resources includes also prevention of underground resources pollution in case of underground storage of oil/ petroleum, gas and other substances, as well as in case of burial of hazardous substances and industrial wastes (including, radioactive ones), at draining waste waters.

Infringement of the basic requirements on protection of underground resources of the Republic of Armenia entails restriction, termination or prohibition of underground resources use on the part of a body nominated in a due course by the Government of the Republic of Armenia.

In clause 56 “Tasks of the state control over the use and protection of underground resources” of chapter VII “State control of use and protection of underground resources” the list of tasks of the state control includes also ensuring observance of norms, rules and standards established according to the legislation about underground resources.

According to clause 59 “Realization of the state control over the use and protection of underground resources” of the same chapter the bodies, which are carrying out the control over the use and protection of underground resources, check presence of harmful influence on environment and performance of nature protection measures during the use of underground resources.

➤ **Water Code of the Republic of Armenia**

Water Code of the Republic of Armenia (hereinafter: Code) was adopted on June 4, 2002. The principles and the order of water resources use, as well as associated relations are set forth in the Code.

As it is stated in the Code “one of the main requirements for protection of country water resources is limitation or prohibition of certain types of activity in protection zone of (under)ground waters (including irrigation of lands by waste waters), limitation or prohibition of the activity performed by industrial or trade entities on production, use or storage of solvents or chemicals; it is prohibited to organize dumps for placement of raw materials, substances, semi-finished products and other products generated as a result of

economic activity (Chapter 15 “State control and protection of water resources”; Article 99 “Main requirements on water resources protection”).

According to Article 108 “Catchment basins” (Chapter 15), it is prohibited to pollute snow, ice covers in water collection and adjacent areas by industrial, household and other wastes, as well as by petrochemicals, pesticides and other hazardous substances; it is banned to locate the dump-sites, waste burials, which can indirectly render harmful impact to the quality of water resources.

↳ **Land Code of the Republic of Armenia**

Land Code of the Republic of Armenia (hereinafter: Code) was adopted on May 2, 2001. Legislative fundamentals of state management on land-associated relations, development of various legal-organizational types of land ownership, soil fertility, raising the efficacy of land use, protection and amendment of the environment for life support and health of human beings.

One of the main tasks of the Code is protection thereof against pollution by industrial, household, chemical and radioactive substances (Chapter 11 “Land protection”, Article 33 “Goals and tasks of land protection”).

According to Article 37 “Environmental and sanitary-hygienic requirements on building design and exploitation”, environmental and sanitary-hygienic norms, regulations and standards as well as measures ensuring protection of land resources should be provided while designing, exploiting, reconstruction of buildings and structures, implementing new technologies.

The assessment/estimation of negative impact on quality of land resources and efficiency of planned actions on land protection is performed on the basis of both environmental and sanitary-hygienic expertise.

↳ **Law of the Republic of Armenia “On organization of control check-ups in organizations functioning on the territory of the Republic of Armenia”**

The Law of the Republic of Armenia “On organization of control check-ups in organizations functioning on the territory of the Republic of Armenia” (hereinafter: the Law) was accepted in 2000. By this law relations are regulated on organization and realization of checks of commercial and non-commercial organizations, registered in the Republic of Armenia or in the foreign states, but carrying out their activity on the territory of the Republic of Armenia in the establishments organized by them; the activity of individual businessmen (further on: the subjects of managing) is also checked by the law. The law also establishes the order of their realization.

The purpose of checks is to ascertain

- reliability of reports submitted to the state bodies on activity of the managing subjects and compiled on the basis of the laws and other legal acts;
- conformity of reports to the actual activity, carried out by managing subjects;
- exactness/ compliance of activity performed on the basis of the license(s) of definite types;

- reliability of account and payment of the obligatory nature protection payments, stipulated by the law, and payments for nature use.

The law stipulates realization of annual check-ups of the managing subjects (once per year). The law establishes also the order and terms of checks, reasons for repeated checks, order of summarizing/ reviewing the results of checks, the rights, duties, and responsibility of persons conducting the check and the persons responsible at the entities (subjects of managing).

↳ **The Republic of Armenia Code on Administrative Violations**

Clauses No. 201¹ and No. 201² of “Republic of Armenia Code on Administrative Violations” (further on: the Code) determine the statements and rules on bringing to the administrative responsibility for violations in concern of hazardous and other wastes.

In accordance with article No. 201¹ of the Code non-notification of the state bodies by the responsible person engaged in transportation of hazardous and other wastes about the beginning and termination (ending) of their transportation and in case of elimination of hazardous and other wastes non-notification by the responsible person about the fact of reception and disposal entails assignment of the penalty for the citizens at a rate of 80-fold minimal salaries and for the responsible person - at a rate of 150-fold minimal salaries.

According to clause 201² of the Code, realization of illegal circulation of hazardous and other wastes, which has not caused appreciable harm, entails assignment of the penalty for the citizens at a rate of 80-fold minimal salaries, and for responsible person - at a rate of 150-fold minimal salaries.

↳ **The Republic of Armenia Criminal Code**

Republic of Armenia Criminal Code (hereinafter: Code) was accepted on April 18, 2003; Chapter 27 of the Code involves 18 articles, defining cases to institute criminal proceedings for crimes against environmental safety.

Corresponding statements of articles 281-290 of the Codes determine kinds and sizes of criminal punishment in case of pollution of the environment by chemical substances and hazardous wastes. As measures of penalty, the Code determines the penalty, arrest, imprisonment, as well as sanctions depriving rights on employment at certain posts and occupation by the certain activity for some terms/periods.

Article 284 of the Code, in particular, determines that production of banned hazardous chemical and biological substances and wastes, their use, storage, transportation, disposal or the infringement of rules on their safe use creates real threat for human and environmental health and is punished by assignment of the penalty at a rate of 200-500 minimal salaries or such punishment as correctional labour up to 2 years, or deprivation of freedom with the maximal term till 2 years or deprivation of the right on employment of certain posts or occupation by the certain activity with the maximal term till 3 years or without that. Other parts of same article determine also appropriate punishment for the same actions in case of careless and intentional actions and consequences, which originated as a result.

For example:

The same act if accomplished on imprudence and caused pollution of the environment, poisoning or infection, mass destruction of animals, drawing harm to human health, which

took place in a zone of ecological disaster or in a zone of an extreme ecological situation is punished by deprivation of freedom for a term no more than 5 years.

The same acts if accomplished on imprudence and resulted in mass diseases of population or death are punished by deprivation of freedom for a period from 3 to 7 years.

The same acts if accomplished intentionally and resulted in any of the above mentioned consequences are punished by deprivation of freedom for a term from 6 to 12 years.

In article 285 of the Code it is stated that the infringement of safety rules on imprudence at management of hazardous chemical, biological or toxic substances, which has resulted in drawing harm to human health, became the reason of epidemics or heavy consequences is punished by deprivation of the right on employment of certain posts or occupation by the certain activity with the maximal term up to 3 years or without that; and in case of death of humans or mass murrain (loss of animals) is punished by deprivation of the right on employment of the certain posts with the maximal term from 2 till 5 years or occupation by the certain activity with the maximal term till 3 years or without that.

4.4 BRIEF DESCRIPTION OF THE KEY APPROACHES AND PROCEDURES FOR CONTROL OF CHEMICALS AND WASTES

In the Republic of Armenia, there exists the system of legislative and institutional regulation of chemical substances, including persistent organic compounds and wastes. Regulation and control of chemical substances and wastes, including POPs is based on development and implementation of an integrated approach aimed at efficient organization of safe production and application of chemicals, raising the environmental safety while handling chemicals and wastes, as well as prevention of their harmful impact to human health and ensuring healthy environment.

The integrated approach in the area of chemicals and wastes management including POPs supposes establishment and enhancement of relations at the national level between Ministries, Scientific-Research Institutes and Academy, industrial associations as well as public interest groups (NGOs) that is the basis for efficient and coordinated actions for considering national priorities in the area of chemicals and wastes management, as well as for efficient implementation of international agreements and initiatives relevant to chemicals and wastes.

State structures within the limits of the legislatively assigned authorities carry out regulation of chemical and wastes by the appropriate structural divisions, as well as subordinated and other organizations.

Ministry of Nature Protection is an authoritative body of the executive power in the sphere of management of chemicals, as well as hazardous and other wastes. Ministry of Health, Ministry of Economy, Ministry of Agriculture, Ministry of Finance, Ministry of Energy and natural Resources, Customs State Committee, Industry and Mountain Control Inspectorate, National Statistical Service, city administrations and rural communities are also involved in the process of chemicals management.

Within the framework of state mechanisms on management of chemicals and wastes, the following is carried out by the Ministry of Nature Protection:

- Registration/inventory of industrial entities, at which chemicals are produced and used;
- Registration/inventory of industrial entities, at which wastes are generated;

- inventory/accounting of wastes generated at the territory of Armenia; classification thereof according to hazardous properties
- Registration/inventory of industrial entities, which are potentially subject to industrial accidents and at which hazardous chemicals are generated, used, re-used and stored;
- expert examination of the Safety Passports of industrial entities potentially subject to industrial accidents.

The legislative - regulating basis in the area of chemicals and wastes management is imperfect and requires further strengthening.

Legal regulation in the area of management on chemicals, hazardous and other wastes is provided by the following legislative and normative documents:

- ↳ Republic of Armenia Law “Fundamentals of the Republic of Armenia Legislation on Nature Protection”;
- ↳ Republic of Armenia “Law on Wastes”;
 - Republic of Armenia Governmental Decision dated December 8, 1995 “On regulation of import, export and transit transfer of hazardous and other wastes over the territory of the Republic of Armenia”;
 - Lists of regulated and non-regulated wastes, hazardous properties thereof, documents on the procedure of application, notification and disposal” approved by the Order of the Ministry of Nature Protection (No. 96 of August 10, 1999; Agency law/by-law”;
 - Decision of the Government of the Republic of Armenia “On approval of the Republic of Armenia “List of hazardous wastes” (No. 874-A dated May 20, 2004);
 - Decision of the Government of the Republic of Armenia “On applying changes to the Decision of the Republic of Armenia No.97 of December 8, 1995 and on approval of the Republic of Armenia “List of prohibited hazardous wastes” (No. 1093-N dated July 8, 2004);
 - Decision of the Government of the Republic of Armenia “On assignment of the authorized body in the sphere of wastes management” (No. 599-N dated May 19, 2005);
 - Decision of the Government of the Republic of Armenia “On Establishment of the “Waste Research Center” state non-commercial organization (No. 670-N of May of May 19 2005);
 - Decision of the Prime Minister of the Republic of Armenia “On measures ensuring realization of the Republic of Armenia “Law on Waste” (No 380-A dated May 30, 2005)
 - Protocol Decision of the Government of the Republic of Armenia «On approval of the Programme for development of a normative regulating document “Waste Classification according to Hazard” (No 33 dated August 18, 2005)
 - Decision of the Government of the Republic of Armenia “On adoption of the order of approval for norms of waste generation and draft limits for waste placement” (No. 2291-N dated December 9, 2005)
 - Decision of the Government of the Republic of Armenia “On establishing the order of wastes passportisation” (No. 47-N dated January 19, 2006)

- Decision of the Government of the Republic of Armenia “On approval of the order for maintenance of the Register of wastes generation, recycling and utilization facilities” (No. 500-N dated April 20, 2006)
- Decision of the Government of the Republic of Armenia “On approval of the order of maintenance the Register on wastes disposal sites” (No. 1180-N dated July 13, 2006)
- Decision of the Government of the Republic of Armenia “On establishing the order of accounting wastes generation, disposal (elimination, treatment, placement) and utilization” (No. 1343-N dated September 14, 2006)
- Decision of the Government of the Republic of Armenia “On establishing the order for State accounting of wastes” (No. 1739-N dated December 7, 2006);
- “List of production and consumption wastes generated on the territory of the Republic of Armenia” (Order of the RA Minister of Nature Protection No. 342-N of October 26, 2006; state registration (State registration number : 10506373 of on November 3, 2006);
- “On approval of book forms for maintenance of the Register and reporting documents on Register recordings of waste generation, processing and utilization entities” (Order of the RA Minister of Nature Protection No. 359-N of November 7, 2006; State registration number: 10506391 of on November 23, 2006);
- “On approval of book forms for maintenance of Register and leaflets for Register recordings of wastes disposal sites” (Order of the RA Minister of Nature Protection No. 387-N of November 24, 2006; State registration number: 10506407 of December 6, 2006;
- “List of wastes classified by hazard“ (No. 430-N dated December 25, 2006; State registration No. 10506440 dated December 28, 2006);
- Decision of the Government of the Republic of Armenia “On approval of the order for keeping the State Cadastre on Wastes” (No. 144-N dated January 18, 2007)
- “On approval of the exemplary form for Waste Passport” (Order of the RA Minister of Nature Protection No. 19-N dated February 2, 2007; state registration No.10507037 dated February 12, 2007);
- “On approval of exemplary form for calculation of standards on waste generation and placement limits thereof” (Order of the RA Minister of Nature Protection; No. 97-N of April 27, 2007;/State registration: No.10507200 of May 10, 2007);
- Decision of the Government of the Republic of Armenia No. 97 of March 2, 2000 “About ensuring implementation of obligations of the Republic of Armenia to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal”;
- Protocol Decision of the Government of the Republic of Armenia “On approval of the National Profile on Chemicals and Waste Management” (No. 26 of July 8, 2004);
- Decision of the Government of the Republic of Armenia “On implementation of the Republic of Armenia obligations on Stockholm Convention signed May 23, 2001” (No. 1483-N dated October 29, 2004);
- Decision of the Government of the Republic of Armenia “On implementation of the Republic of Armenia obligations on Rotterdam Convention signed September 10, 1998” (No. 1508-N dated October 29, 2004);

- Decision of the Government of the Republic of Armenia “On approval of the List of chemicals and pesticides regulated by Rotterdam Convention and banned in the Republic of Armenia” (No. 293-N dated March 17, 2005);
- ⇒ Law of the Republic of Armenia “On Environmental Impact Expertise
- ⇒ Law of the Republic of Armenia “On licensing”
 - Decision of the Government of the Republic of Armenia “On the order for licensing activity on medicine production in the Republic of Armenia” (No.867 of June 29, 2002);
 - Decision of the Government of the Republic of Armenia “On the order for licensing the pharmaceutical activity in the Republic of Armenia (No.867 of June 29, 2002r.);
 - Decision of the Government of the Republic of Armenia “On the order for licensing activity on processing, treatment, storage, transportation and placement of hazardous wastes in the Republic of Armenia” (No.121-N of January 30, 2003);
 - Decision of the Prime Minister of the Republic of Armenia “On approval of the membership and order of activity of inter-departmental commission on licensing of activity on recycling, treatment, storage, transportation and placement of hazardous wastes in the Republic of Armenia” (No. 46-N of February 5, 2004);
- Decision of the Government of the Republic of Armenia “On non-tariff regulation of import and export of goods (works and services) to the territory of the Republic of Armenia” (No.124 of December 29, 1995);
- Decision of the Republic of Armenia Government “On prohibition for transportation of certain goods through customs borders of the Republic of Armenia according to customs regimen”(No. 902 of December 31, 2000);
- Decision of the Prime Minister of the Republic of Armenia “On setting-up the working group on regulation of issues dealing with destruction of obsolete, inappropriate-for-use chemical plant protection substances and working-out action plan for destruction thereof” (No. 452-A of September 22, 2003);
- Decision of the Government of the Republic of Armenia “On approval of measures ensuring security of obsolete pesticides burial and on assigning funds from the Republic of Armenia state budget for FY 2004” (No. 526-A dated April 22, 2004;
- ⇒ Law of the Republic of Armenia “About maintenance of sanitary - hygienic security of the population”;
- ⇒ Law of the Republic of Armenia “On Medicines” (ZA-259-N of November 26 1999);
- ⇒ Law of the Republic of Armenia «On narcotic and psychotropic substances” (ZA518-N of February 10, 2003);
 - Republic of Armenia Governmental Decision “On assignment of authorized body of state management of the Government of the Republic of Armenia in the sphere of pharmaceutical activity and on disposal of medicines”(No. 487 of July 31, 1999);
 - Republic of Armenia Governmental Decision, 2000 “On approval on the order of import and export of medicinal preparations in the Republic of Armenia”(No. 581 of September 20);

- Republic of Armenia Governmental Decision “On approval of the order of state registration of medicines and the sizes of payment on expertise examination for state registration of medicines in the Republic of Armenia” (No. 347 of April 25, 2001);
- Order of the Minister of Health of the Republic of Armenia “On approval of the order for prescribing and issuing medicine in the Republic of Armenia” (No.100 of February 26, 2002);
- Decision of the Prime Minister of the Republic of Armenia “On setting-up the Inter-Agency Commission (No. 645-A of December 12, 2003);
- Decision of the Government of the Republic of Armenia “On approval of the List of narcotic, psychotropic substances and their precursors” (No.1129-N of August 21, 2003);
- Order of the Minister of Health of the Republic of Armenia “On approval of the List of main medicinal substances in the Republic of Armenia” (No.1325-N of December 28, 2004);
- Order of the Minister of Health of the Republic of Armenia “On approval of the order for purchases, obtainment, storage, accounting and distribution of medicine and other articles of medical indication at medical institutions (hospitals)” (No.1391-N of December 28 2005);
- Decision of the Government of the Republic of Armenia “On approval of the List of registered medicine containing narcotic and psychotropic substances under control in the Republic of Armenia (No.258-N of February 26 2004);
- Order of the Minister of Health of the Republic of Armenia “On approval of the list of medicine dispensed without prescription in the Republic of Armenia” (No.381-N of April 15, 2004);
- ↳ Law of the Republic of Armenia “About Lake Sevan”;
 - Governmental Decision of the Republic of Armenia “On approval of the List of substances, biogenic elements, heavy metals or their compounds and other substances having negative impact on ecosystem of Lake Sevan” was accepted (No. 57 dated January 24, 2002);
- ↳ Law of the Republic of Armenia “On Nature Use and Nature Protection Payments”;
- ↳ Law of the Republic of Armenia “On Rates of Payments for Nature Protection”;
 - Governmental Decision of the Republic of Armenia No. 702 of November 11, 1998 “On approval of the Statute of Safety Passport of industrial entities in the Republic of Armenia”
- ↳ Law of the Republic of Armenia “On of plants protection and quarantine” (2006);
 - Order of the Minister of Health of the Republic of Armenia “On approval of sanitary rules and norms on storage, transportation, use and trade of agrochemicals (pesticides)” (No.790-N of August 30, 2005);
 - Decision of the Government of the Republic of Armenia “On defining peculiarities of agrochemicals and mineral fertilizers trade” (No.1899-N of November 3, 2005);

- Decision of the Government of the Republic of Armenia “On approval of the order on licensing and license form for production and/or trade with chemical and biological plant protection means” (No.1902-N of December 14, 2006);
 - Decision of the Government of the Republic of Armenia “On approval of the personal membership of Commission on plant protection means registration and the Regulation of the Commission on plant protection means registration” (No.908 of July 26, 2007);
 - Decision of the Government of the Republic of Armenia “On approval of the order on state registration of plant protection means” (No. 1039-N of August 30, 2007);
 - “List of chemical and biological plant protection means allowed for application in the Republic of Armenia” approved by the Ministry of Agriculture of the Republic of Armenia (Order No.301-N of December 28 2007) (agency by-law);
- ↳ Republic of Armenia Code on Underground Resources”;
 - ↳ Water Code of the Republic of Armenia
 - ↳ Land Code of the Republic of Armenia
 - ↳ Republic of Armenia Code on Administrative Violations
 - ↳ Republic of Armenia Criminal Code
 - ↳ Republic of Armenia Law “On organization of control check-ups in organizations functioning on the territory of the Republic of Armenia”

The Law of the Republic of Armenia “On Rates of Payments for Nature Protection” (ZA-245-N of December 27, 2006) sets forth new rates for nature protection payments and the order for their calculation instead of rates defined by the previous regulating document in 2000. Nature protection payments for goods causing harm to the environment are calculated for both imported goods on the basis of their customs value and for goods manufactured and sold at the territory of the Republic of Armenia on the basis of volumes/amounts of their turnover/sales. Payments for the period of report are done proportionally (pro rata) to amounts of realized produce..

The List of goods causing harm to the environment embraces such items as mineral oils, fuels, greases, tyres, produce of asbestos, glass fibre, lead accumulators, etc. with indication of their codes according to Goods Nomenclature for Foreign Economic Activity. The rates for goods are defined in in percentage terms, proceeding from the cost or volumes of realized products.

In pursuance of statements of the clause 26 “Prohibition of emissions having negative impact on ecosystem of Lake Sevan” of the Law of the Republic of Armenia “About Lake Sevan”, the Governmental Decision of the Republic of Armenia “On approval of the list of substances, biogenic elements, heavy metals or their compounds and other substances having negative impact on ecosystem of Lake Sevan” was accepted (No. 57 dated January 24, 2002). The list includes 68 names of highly toxic and toxic substances categorized to 1st – 2nd class of hazard.

The main part of compounds, included in the list, is presented by POPs and falls under the action of Rotterdam and Stockholm Conventions. These compounds are characterized by the ability to persist and circulate in the environment, to be transferred on the large distances, to cumulate in human and animal organism, to render adverse influence on the health status. The list also embraces chemicals, which possess high toxicity, specific (neurotoxic, carcinogenic, etc.) and delayed after-effects, adverse influence on a sanitary regimen of water reservoirs (table 4.1).

Table 4.1

List of substances, biogenic elements, heavy metals or their compounds and other substances producing negative impact on ecosystem of Lake Sevan

NN	Chemicals
1.	1,2-dibrommethane
2.	2,4,5-T
3.	2,4-D butyl ether
4.	2,4-dinitrophenol
5.	nitric acid
6.	Aldrin
7.	ammonia
8.	Antio
9.	Asbestos
10.	Acetone
11.	Bis(tributyltin) oxide
12.	Butifos
13.	Hexachlorbenzene
14.	Heptachlor
15.	Granozan
16.	DDT
17.	Detergents
18.	Dilor
19.	Dieldrin
20.	Dinoseb and appropriate salts of Dinoseb
21.	Diuron (Karmex)
22.	Captan
23.	Captaphol
24.	Lindane (γ -HCH)
25.	Copper-containing compounds
26.	Methamediphos
27.	Methylparathion
28.	Methylphenols
29.	Mirex
30.	Molybdenum-containing compounds
31.	Monocrotofos
32.	arsenic-containing compounds
33.	naphtalene
34.	Petroleum products
35.	HCH (mixed isomers)
36.	zinc oxide
37.	Parathion
38.	Pentachlorobenzene sodium salt

NN	Chemicals
39.	Polybrominated biphenyls
40.	Polychlorinated biphenyls (PCBs)
41.	Polychlorinated terphenyls (PCT)
42.	Mercury, organic and inorganic compounds of mercury
43.	Lead containing compounds
44.	Sevin
45.	Semeron
46.	sulphuric acid
47.	Simazin
48.	Sulphates
49.	Tetraethyltin
50.	Toxaphen
51.	Tris (2,3-dibromopropyl) phosphate
52.	1,2,4 -trichlorobenzene
53.	2,4,6-trichlorophenol
54.	Acetic acid
55.	Phenol
56.	Phosalone
57.	Phosphamidon
58.	phosphorous-containing compounds
59.	fluorine-containing compounds
60.	Fluoroacetamide
61.	Chlorobenzilate
62.	Chlorobenzene
63.	Chlordane
64.	Chlorodimephorm
65.	Chrome chloride (II), nitrate, hydrate
66.	cyanic acid and cyanide compounds
67.	Endrine
68.	Ethyl benzene

On March 26, 1999 the National Assembly (Parliament) of the Republic of Armenia ratified Basel Convention “On the Control of Transboundary Movements of Hazardous Wastes and Their Disposal”. The Agreement of NIS/ CIS countries “On the Control of Transboundary Movements of Hazardous and other types of Wastes” was ratified by the National Assembly of the Republic of Armenia on February 23, 2000.

The appropriate regulatory /legislative base is developed to regulate issues relevant to control, accounting/inventory and establishing norms on generation, placement, etc of industrial and other wastes. In order to prevent the harmful impact of wastes and chemicals to the environment and human health there were elaborated actions aimed at sound management thereof, the national priorities were identified, key directions and strategic approaches defined for which implementation plans were worked out.

The established regulatory/legislative base embraces provisions of Basel Convention “On the Control of Transboundary Movements of Hazardous Wastes and Their Disposal”, as well as the Agreements of the countries of NIS/CIS “On the Control of Transboundary Movements of Hazardous and Other Types of Wastes” in order to ensure and maintain ecological safety and prevention of illegal circulation of hazardous wastes the Republic of Armenia.

Background documents covering the key principles of state regulation of Transboundary movements of hazardous wastes are the following:

- Republic of Armenia Governmental Decision No. 97 dated December 8, 1995 “On regulation of export, import, and transit movements of hazardous and other wastes over the territory of the Republic of Armenia”.
- “Lists of regulated and non-regulated wastes, their hazardous properties, documents on the application, notification and disposal procedure” approved by the Ministry of Nature Protection of the Republic of Armenia (No.96 of August 10, 1999, agency by-law);
- Decision of the Government of the Republic of Armenia “On the approval of the List of the Republic of Armenia hazardous wastes” (No. 874-N of May 20, 2004);
- Decision of the Government of the Republic of Armenia “On approval of the List of the Republic of Armenia banned hazardous wastes” (No.1093-N of July 8, 2004);
- “List of wastes classified according to hazard” (Order of the Ministry of Nature Protection of the Republic of Armenia No. 430-N of December 25, 2006, state registration No. 10506440 of December 28, 2006).

A key milestone in the area of management on hazardous and other types wastes was elaboration and adoption of the Republic of Armenia “Law on Wastes” (NZ-158-N of November 2004) and a number of by-law ensuring its realization. Of no less significance was establishment of the Waste Research Center State Non-commercial Organization within the structure of the Ministry of Nature Protection of the Republic of Armenia. The activity performed by the Waste Research Center is aimed provide assistance in working-out and implementation of the state policy and strategy in the area of waste management, as well as regulating these issues. The result of activity performed in this concern is development of a normative regulatory base that embraces a rather wide spectrum of issues, such as passportization of wastes, their classification according to hazard, order of accounting/inventory of their generation, disposal (elimination, treatment, placement) and utilization, the order of state registration of wastes, compiling and keeping Registers on wastes generation, processing/recycling, and utilization entities and wastes disposal sites, etc. Moreover in order to minimize the volumes of generated hazardous and other types of wastes certain steps were undertaken in Armenia to realize economic approaches: the “Law on Wastes” stipulates mechanisms on economic incentives for the managing actors engaged in processing/recycling and utilization of wastes. It should be mentioned that Draft “Law on Wastes” was submitted to the Basel Convention Secretariat for consideration and international expertise examination. The positive expert conclusion was obtained for this document.

It should be mentioned that according to statements of the Decision of the Government of the Republic of Armenia “On non-tariff regulation of import and export of goods (works and services) to the territory of the Republic of Armenia” (No.124 of December 29, 1995) in the Republic of Armenia import and export of all chemicals is allowed except certain categories:

- medicinal preparations;
- plant protection means;
- radioactive substances, etc.

In accordance with the Republic of Armenia “Law on Medicines”, all the issues dealing with management, import/export, registration of medicines at the territory of the Republic of Armenia, except issues of disposing medicine expired and unfit for application are regulated by a number of Orders of the Minister of Health of the Republic of Armenia and Decisions of the Government of the Republic of Armenia.

According to the legislatively approved procedure after the appropriate expertise examination medicinal substances, both imported to and produced in the Republic of Armenia are registered and included in the “List of main medicines of the Republic of Armenia” in compliance with the Order of the Minister of Health of the Republic of Armenia “On approval of the “List of main medicines of the Republic of Armenia” (No.1325-N of December 28, 2004).

Alongside with the registration the List is regularly amended by adding new medicine and medicinal preparations in Annexes compiled in addition to officially published List.

Registration of new medicines and medicinal preparations is performed on the basis of “Order of state registration of medicines in the Republic of Armenia” and “Sizes of payments for expertise examination for state registration of medicines in the Republic of Armenia” (Republic of Armenia Governmental Decision No. 347 dated April 25, 2001).

Issues of import and export of medicinal preparations are regulated in accordance with “Order of import and export of medicinal preparations in the Republic of Armenia”, which was approved and authorized by the Governmental Decision No. 581 “On approval of the order on import and export of medicinal preparations in the Republic of Armenia” dated September 20, 2000.

In accordance with the approved/ authorized “Order” and the “List of certified medicines imported to and certified medicines exported from the Republic of Armenia”, medicines and medicinal preparations can be imported to and exported from the Republic of Armenia only on the basis of certificates for import or export issued by the Ministry of Health.

In Former USSR up to 1990, there was a centralized control system on import, distribution and use of chemical plant protection means and mineral fertilizers for republics, provinces and regions of the Soviet Union, and, in particular, for regions of the Armenian Soviet Socialist Republic. In connection with changes in national economy, to be precise due to land reform, as a result of which the land has passed in private/individual possession of large, medium and small farmers, previously functioning state structures responsible for import, accounting and distribution of pesticides (regional organizations of the Armenian branch of USSR Agricultural Chemistry System) were abolished. Now the pesticides are imported by various for-profit organizations and private persons.

There is the “List of chemical and biological plant protection means allowed for application in the Republic of Armenia” approved by the order of the Minister of Agriculture of the Republic of Armenia (No. 3014-N of December 28, 2007).

Up-dating and supplementation, of the above mentioned “List” by new chemical and biological plant protection means is done according to the approved “Order of plant protection means’ state registration” (Republic of Armenia Governmental Decision No. 1039-N of August 30, 2007). On the basis of a conclusion drawn by the Inter-ministerial commission on registration of chemical, biological means of plant protection and biologically active substances the “List” is periodically supplemented by the newly registered agrochemicals.

In Armenia since 1970, the use of the extremely hazardous organochlorine pesticides was prohibited according to Orders of Minister of Health of the Former USSR. List of banned

pesticides included preparations regulated by Rotterdam and Stockholm Conventions, as well as organomercuric pesticides (Table 4.2).

Table 4.2

List of pesticides banned for use in Armenia

Name	Production/Use	Date of banning
DDT	Not produced/ not used	1970
Aldrin	Not produced/ not used	1970
2,4,5-T	Not produced/ not used	1970
Chlordimephorm	Not produced/ not used	1978
Dieldrin	Not produced/ not used	1985
Dinoseb	Not produced/ not used	1986
Heptachlor	Not produced/ not used	1986
Pentachlorophenol	Not produced/ not used	1986
Granozan	Not produced/ not used	1981
Mercurhexan	Not produced/ not used	1981
Mercurbenzene	Not produced/ not used	1986

In pursuance to the Republic of Armenia obligations under Rotterdam Convention, stated in the Governmental Decision of Republic of Armenia “On implementation of the Republic of Armenia obligations on Rotterdam Convention signed September 10, 1998” (No. 1508-N dated October 29, 2004) as well as in accordance with Article 5 of Rotterdam Convention the List of chemicals and pesticides regulated by Rotterdam Convention and banned in the Republic of Armenia was compiled and approved (Governmental Decision of the Republic of Armenia No. 293-N of March 17, 2005). The List embraces 33 names of chemicals and pesticides the application of which was prohibited in order to protect human health and the environment, as these compounds possess/exert serious after-effects for human health and the environment (Table 4.3).

Table 4.3

**LIST
of chemicals and pesticides regulated under the Rotterdam Convention
and banned in the Republic of Armenia**

(approved by Decision of the Government of the Republic of Armenia No. 293-N dated March 17, 2005)

No	Chemicals	Relevant CAS number (s)	Category
1.	Aldrin	309-00-2	Pesticide
2.	Binapacryl	485-31-4	Pesticide
3.	Captafol	2425-06-1	Pesticide
4.	Chlordane	57-74-9	Pesticide
5.	Chlordimeform	6164-98-3	Pesticide

No	Chemicals	Relevant CAS number (s)	Category
6.	Chlorobenzilate	510-15-6	Pesticide
7.	DDT	50-29-3	Pesticide
8.	Dieldrin	60-57-1	Pesticide
9.	Dinoseb and dinoseb salts	88-85-7	Pesticide
10.	DNOC and its salts	534-52-1; 2980-64-5; 5787-96-2; 2312-76-7	Pesticide
11.	1,2-dibromoethane	106-93-4	Pesticide
12.	Ethylene dichloride	107-06-2	Pesticide
13.	Ethylene oxide	75-21-8	Pesticide
14.	Fluoroacetamide	640-19-7	Pesticide
15.	HCH (mixed isomers)	608-73-1	Pesticide
16.	Heptachlor	76-44-8	Pesticide
17.	Hexachlorobenzene	118-74-1	Pesticide
18.	Lindane	58-89-9	Pesticide
19.	Mercury compounds including inorganic mercury compounds, alkyl mercury compounds and alkyloxyalkyl and aryl mercury compounds		Pesticide
20.	Pentachlorophenol	87-86-5	Pesticide
21.	2,4,5-T	93-76-5	Pesticide
22.	Toxaphene	8001-35-2	Pesticide
23.	Dustable powder formulations containing a combination of : benomyl at or above 7 %, carbofuran at and above 10 %, thiram at or above 15 per cent	17804-35-2; 1563-66-2; 137-26-8	Pesticide
24.	Methamidophos (Soluble liquid formulations of the substance that exceed 600 g active ingredient/l)	10265-92-6	Severely hazardous pesticide formulation
25.	Methyl-parathion (emulsifiable concentrates (EC) with 19.5%, 40%, 50%, 60% active ingredient and dusts containing 1.5%, 2% and 3% active ingredient)	298-00-0	Severely hazardous pesticide formulation
26.	Monocrotophos (Soluble liquid formulations of the substance that exceed 600 g active ingredient/l)	6923-22-4	Severely hazardous pesticide formulation
27.	Monocrotophos (all formulations)		Severely hazardous pesticide formulation
28.	Parathion (all formulations -	56-38-2	Severely

No	Chemicals	Relevant CAS number (s)	Category
	aerosols, dustable powder (DP), emulsifiable concentrate (EC), granules (GR) and wettable powders (WP) - of this substance are included, except capsule suspensions (CS)		hazardous pesticide formulation
29.	Phosphamidon (Soluble liquid formulations of the substance that exceed 1000 g active ingredient/l)	13171-21-6 (mixture, (E)&(Z) isomers) 23783-98-4 ((Z)-isomer) 297-99-4 ((E)-isomer))	Severely hazardous pesticide formulation
30.	Polybrominated biphenyls	36355-01-8 (hexa-) 27858-07-7 (octa-) 13654-09-6 (deca-)	Industrial chemical
31.	Polychlorinated biphenyls (PCB)	1336-36-3	Industrial chemical
32.	Polychlorinated terphenyls (PCT)	61788-33-8	Industrial chemical
33.	Tris (2,3-dibromopropyl) phosphate	126-72-7	Industrial chemical

In Stockholm on May 23, 2001 the Republic of Armenia signed the Convention on Persistent Organic Pollutants. In accordance with this, jointly with UNIDO and with the financial support of Global Ecological Facility (GEF), the Ministry of Nature Protection of the Republic of Armenia implemented the “National Implementation Plan in Armenia” Project (2002-2004) aimed to meet country obligations under Stockholm Convention on POPs.

The main goals and tasks of the project were:

- Identification of main sources of pollution by Persistent Organic Pollutants (POPs) from industrial entities, energy sector entities, agricultural and other branches of production;
- Inventory/ accounting of POPs emission sources;
- study on residual amounts of POPs (organochlorine pesticides, including DDT, DDE, DDD, lindane and PCB) in various environmental media (water, air, soil) and human organism;
- development of measures aimed at minimizing/elimination of POPs in the Republic of Armenia.

In the frames of “Enabling activities to facilitate early action on the implementation of the Stockholm Convention on Persistent Organic Pollutants (POPs) in the Republic of Armenia” Project the National Action Plan (NIP) on implementation of Stockholm Convention on POPs was prepared by the joint efforts of the concerned Ministries and Agencies involved in decision-making on POPs issues; the NIP embraces a List of planned actions for 2005-2010. National priorities on POPS issues, key tasks and main directions for activity aimed at

ceasing use/application, reduction of emissions and liquidation of POPs containing wastes stocks are presented in NIP.

The “List of actions implemented within the frames of “National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants in the Republic of Armenia” was approved by the Protocol Decision of the Government of Armenia (No. 1 of January 13, 2005) and included in materials of a Bulletin “Implementation of social and economic policy of the Government of the Republic of Armenia in 2004”.

In addition to the above mentioned, in Armenia different projects were carried out and a number of actions and programmes are still carried out with the aim to develop integrated approaches to chemicals and wastes sound management, establishment of the system for their harmonized management, strengthening the capacity and the national legal/legislative basis in this area in order to prevent the harmful impact of chemicals and waste to the environment and human health, as well as to meet country obligations under different Conventions and agreements: SAICM, Basel, Rotterdam, Stockholm Convention, etc.:

- “Integrated National Programme for Sound Chemicals and Waste Management” Project in the Republic of Armenia” Project (UNITAR; 2002-2004);
- “Capacity Building for Implementation of the National Implementation Plan for the Stockholm Convention in the Republic of Armenia” (UNEP; 2006);
- Establishment and Operation of a National Cleaner Production Programme in Armenia (UNIDO; 2006-2008)
- “Strengthening waste integrated management in Armenia” (UNDP; 2006);
- «Working out regulatory documents ensuring implementation of the Republic of Armenia “Law on Waste”(State budget; medium-sized project, 2006);
- “Classification of wastes according to hazard” ”(State budget; medium-sized project, 2006);
“Design of a national Pollutants Release and Transfer Register (PRTR) system to strengthen capacity building activities for the implementation of Stockholm convention on POPs in Armenia” (UNITAR; 2007);
- National Environmental Action Plan of the Republic of Armenia (NEAP-2) (UNEP – Armenia, 2006-2007);
- “Implementation of actions envisaged by the National Implementation Plan for the Stockholm Convention in the Republic of Armenia” (State budget; medium-sized project, 2007);
- “ Working-out regulatory documents ensuring realization of the Republic of Armenia “Law on Wastes” (State budget; medium-sized project, 2007);
- Inventory, Monitoring and Analysis of Obsolete Pesticides in Armenia for Environmentally Sound Disposal” (NATO; 2008- 2009);
- “Armenia and UNEP Partnership Initiative for Sound Management of Chemicals and Implementation of SAICM in Armenia” (2008-2009);
- “Ensuring conditions for environmentally sound management of hazardous wastes (State budget; medium-sized project, 2008-2011);
- “Capacity building for environmentally sound disposal of PCB wastes (State budget; medium-sized project, 2008-2011); etc.

4.5 REVIEW OF THE WEAK POINTS OF LEGISLATIVE AND INSTITUTIONAL MECHANISMS OF CHEMICALS AND WASTE MANAGEMENT IN THE REPUBLIC OF ARMENIA

Analysis of weak points of legislation on management of chemicals and waste

Imperfection of legislative basis in the sphere of chemicals management is the major factor interfering the appropriate management and safe use thereof in the Republic of Armenia.

Since 1991, the Republic of Armenia accepted and enacted a great number of legal documents regulating the area of nature protection, including issues relevant to management of chemicals and wastes.

Issues relevant to regulation/management of chemicals and wastes are set forth in the following documents:

- Legal act “Fundamentals of the Republic of Armenia Legislation on Nature Protection” (1991);
- Republic of Armenia “Law on Waste” (2004);
- Republic of Armenia Law “On Environmental Impact Expertise (1995);
- Republic of Armenia Law “On Protection of the Atmospheric Air” (1994);
- Republic of Armenia Law “On Nature Use and Nature Protection Payments” (1998);
- Republic of Armenia Law “On Medicine” (1998);
- Republic of Armenia Law “On state regulation of technical safety” (2005);
- Republic of Armenia Law “On Rates of Payments for Nature Protection” (2000);
- Republic of Armenia Law “On plant protection and quarantine” (2006);
- Republic of Armenia Law “On Ozone Depleting Substances” (2006);
- Republic of Armenia Code on Underground Resources (2002);
- Water Code of the Republic of Armenia (2002);
- Land Code of the Republic of Armenia (2001);
- Republic of Armenia Code on Administrative Violations (1985);
- Republic of Armenia Criminal Code ((2003);
- Republic of Armenia Civil Code (1998).

However, mentioned laws are not sufficient for regulation of chemicals and wastes in the legislative order. In particular, for the purposes of management and safe use of chemicals (production, use, disposal, storage, placement, import and export, transportation/movements) the imperfection of legislation is also conditioned by the fact that in Armenia there are lacking:

1. Framework Law on Environmental Protection

2. Law on Chemicals;

3. By-laws defining mechanisms required for management of chemicals and wastes, in particular:

- Guidance documents on compiling and keeping/maintenance of National Registers and Cadastres of chemicals;
- Guidelines on working out programmes and carrying-out monitoring studies on harmful impact of chemicals and wastes to the environment;
- Methods for assessment of the environmental impact of chemicals and wastes;
- Principles for decision-making on issuing permits or denials for import to and/or export of chemicals and wastes from the Republic of Armenia;
- Principles for decision making on issuing permits or denials for use of chemicals and wastes;
- Scientifically substantiated recommendations for establishing norms and rules on chemicals use;
- Compiling and submission of state and administrative statistical reports on chemicals and wastes by legal and physical persons;
- Control mechanisms relevant to use of chemicals and wastes.

4. Appropriate standards, technical reglaments for studies on and determination of chemicals and wastes.

The analysis of gaps in institutional mechanisms of on chemicals and wastes management

In Armenia, despite the existence of institutional structures regulating chemicals and wastes at different levels of state governanace, issues releted to their management are of prime importance and require first-priority decision.

The functions of the state governing bodies assigned by legislation of the Republic of Armenia are wide enough; however, there are numerous factors creating grave obstacles in concern of institutional mechanisms for implementation of principles on harmonized chemicals and wastes management.

Factors interfering the effective management of chemicals and wastes

- Incompletely formed/non-developed policy, strategy, on management of chemicals and wastes, lack of program documents on implementation of precise actions in this area;

- Non-efficient implementation of principles of integrated management on chemicals and wastes;
- Imperfection of legislative base in the area of chemicals and wastes management;
- insufficient provision with standards and technical regulations;
- absence of national registers and classifications on hazardous chemicals;
- imperfection of information systems for data exchange/sharing;
- insufficient scope of monitoring studies and research;
- not entirely defined and formed scientific priorities for studies on safety issues and management of risks of hazardous chemicals, wastes, pesticides and persistent organic pollutants towards the environment and human health.
- lacking/absence of Cleaner Production Centre;
- absence of the Training Centre/training Courses on issues relevant to chemicals and wastes risk assessment and risk management, including those of PCB-containing oils and equipment, obsolete pesticides, contaminated sites, etc. for different professional group and decision-makers;
- insufficient material and technical basis for monitoring and research studies;
- lack of the appropriate financial resources.

4.6 SUGGESTIONS ON PERFECTION OF LEGISLATION AND STRENGTHENING INSTITUTIONAL MECHANISMS ON MANAGEMENT OF CHEMICALS AND WASTE IN THE REPUBLIC OF ARMENIA

I. Perfection of legislation in the field of management on chemicals and wastes

The following is proposed to be foreseen and provided in the Republic of Armenia for regulation of processes on chemicals and waste management:

- ❖ To elaborate the package of **short-term** (up to 2 years) and **long-term** (3-5 years long) programmes of actions aimed at improvement and perfection of legislation on management of chemicals and wastes, which will involve the stated below, subject to development and updating:
 - Titles of legal acts;
 - period of activity (beginning/ termination periods);
 - List of responsible actors (executors of works);
 - Amount of financial resources necessary for performance of works and sources of funding.

In the **short-term programs** of actions on improvement of legislation regulating management and use of chemicals and wastes it is suggested to provide the following:

1. **Draft Law on Chemicals**

Prior to initiating the development of Draft Law, it is necessary to prepare “Concept of the Law on Chemicals”, in which the structure and basic principles of the Draft Law will be presented.

The Law on Chemicals should include:

- goals;
- the subject of regulation;
- definitions of the concepts used in Law;
- responsibility and duties of the Government;
- authority, responsibility and liability of each body of state governing;
- authority, responsibility and liability of local bodies of self-government;
- authority, responsibility and liability of consumers;
- mechanisms of integrated chemicals management, including relations of bodies of state governing, local bodies of self-government and consumers.

- Principles (norms and regulations) on management and use of chemicals;
- Limitations on use and application of POPs;
- Setting principles, mechanisms, and methods of chemicals accounting/inventory;
- Setting principles and methods to implement monitoring of chemicals;
- Setting mechanisms and methods of compiling cadastres, registries, and classifications of chemicals, as well as accounting/ book-keeping thereof;
- Setting principles, mechanisms and methods for identification of sources of environmental pollution by chemicals, including POPs and assessment of the environmental impact thereof;
- Determination of the scope of compensation for damage caused to the environment due to chemicals use/application;
- Determination of economical mechanisms;
- Setting principles for insurance in case, when harmful chemicals are used;
- Establishing discounts for economy entities (physical or legal persons), which use cleaner technologies;
- Setting principles and mechanisms of control on implementation of the adopted norms and regulations for chemicals use.

In order to facilitate elaboration of the National Law on Chemicals the “Concept of Republic of Armenia Law on Chemical Substances” was prepared within the frame of “Integrated National Programme of Chemicals and Waste Environmentally Sound Management in the Republic of Armenia” (2004-2006) carried out by the Ministry of Nature Protection jointly with the UN Institute for Training and Research (**UNITAR**) and due to financial support of the Swiss Agency for the Environment, Forests and Landscapes (SAEFL). The Concept defines the structure, key issues and main principles set forth by the law.

2. Preparation of the entire package of Draft by-laws which are subject to elaboration and ensure application of the Law on Chemicals, embracing:

- titles of legal acts (subject to approval by the Decision of the Government or Prime Minister of the Republic of Armenia), the term/period of implementation, responsible executors, required financial resources and sources of funding;
- titles of agency and inter-agency legal acts (subject to approval by the Order of the Head or Body of state governance), the term/period of implementation, responsible executors, required financial resources and sources of funding;
- List of legal acts subject to elaboration and approval by managing subjects with indication of the name and term/period of their preparation.

3. Implementation of legislation on chemicals as well as drawing up a package of projects, standards, technical regulations and guidances ensuring effective management and safe use of chemicals, which will include:

- Titles of regulations, which are subject to development or amendment/addition, terms of performance, responsible executors, necessary financial resources and sources of financing for performance of works.

At drawing up a programme package of actions for development of standards, technical regulations/reglements and procedures/techniques, ensuring application of legislation in the area of chemicals, it is necessary to envisage stage-by stage realization of works.

On the 1st stage, the following will be carried out for standards, technical regulations/reglements and techniques/procedures:

- inventory;
- research;
- analysis;
- assessment/ evaluation.

On the 2nd stage the activity will involve:

- scientific research required for development of normative acts;
- development of normative acts.

In a package of measures on development of standards and techniques/procedures, it is necessary to include elaboration of the following regulatory/normative acts:

- a) standards and techniques/procedures on revealing sources of POPs, their accounting and inventory;
- b) guidelines (instructions) on drawing up and keeping national Registries and Cadastres of chemicals and wastes;
- c) guidelines (instructions) and standards on realization of monitoring-based supervision over the harmful impact of chemicals and wastes to the environment;
- d) criteria for assessment/evaluation and technique for calculation/estimation of the impact of chemicals and wastes to the environment;
- e) procedure for calculation/estimation of the damage caused by chemicals and wastes to human health and the environment;
- f) criteria for decision-making on permission sanctions or prohibition of chemicals import to and export from the Republic of Armenia;
- g) criteria for decision-making on issuing permissions or refusals/negative responses on use of chemicals;
- h) guidances on control over the performance of norms and rules on sound and secure use of chemicals;
- i) technical regulations on sound use of chemicals and wastes (their List will be specified at the stage of investigation and assessment/evaluation);
- j) methodic guidelines/instructions on research aimed to study the harmful impact of chemicals and wastes to the environment and human health, etc.

4) Development and acceptance of the Draft Law on Protection of the Environment;

5) Within the program of measures on perfection of legislation regulating management and use of chemicals and wastes, it is also offered to provide existing laws and legal acts currently in force in the Republic of Armenia with the statements on regulation of issues relevant to management of chemicals and wastes:

The Action Plan on improvement of legislation might also embrace:

- study, analysis and evaluation of enforced laws and legal acts on chemicals and waste management;
- drawing up suggestions about amendments and additions in existing laws and legal acts of the Republic of Armenia, which contain definite statements on issues related to regulation of chemicals and wastes.

II. Strengthening institutional mechanisms of chemicals and wastes management

The improvement and strengthening of institutional mechanisms on management of chemical substances and wastes requires stage-by stage approach that is conditioned by the necessity to form precise policy as well as further improvement of legislation in the given area. With this aim it will be necessary to develop the programme package on implementation of specific actions, which will include:

a) Establishment of the Center for elaboration (design-and-development), keeping National Registers and Classificators of hazardous chemicals and wastes, as well as for collection and providing relevant information; the Centre which will be within the structure of the Ministry of Nature Protection of the Republic of Armenia and the activity will be coordinated by the Department of Hazardous Substances and Wastes Management of the Ministry of Nature Protection of the Republic of Armenia.

The following is necessary for establishment of the Centre and maintenance of its activity:

- the appropriate staff
- communication facilities;
- PC hardware;
- program/software systems.

Strengthening of Centers for exchange of chemicals and wastes relevant information should be also envisaged within bodies of state governance and self-government, involving specially assigned legal and natural persons authorized according to legislation of the Republic of Armenia to perform functions on chemicals and wastes management and use. In particular, these actions should be envisaged under the eegis of the following bodies of state governance:

- Ministry of Health of the Republic of Armenia;
- Ministry of Agriculture of the Republic of Armenia;
- Ministry of Nature Protection of the Republic of Armenia;
- Ministry of Economy of the Republic of Armenia (former Ministry of Trade and Economic Development);

- Ministry of Energy and Natural Resources of the Republic of Armenia (former Ministry of Energy);
- Ministry of Defense of the Republic of Armenia;
- National Statistical Service of the Republic of Armenia;
- Customs State Committee at the Government of the Republic of Armenia
- Marzpetarans (province municipalities) and Yerevan city municipality.

The establishment or improvement and strengthening of functioning information centres on chemicals and wastes will promote formation of the appropriate information network. The existence of such a network will promote information exchange between the Secretariats of Conventions, notification centres of countries - Parties to Conventions, bodies and public organizations authorized for management and use of chemicals and wastes in the Republic of Armenia. The established network will also facilitate proper environmentally sound decision-making through obtaining and granting the appropriate information.

b) Improvement of the activity performed by state non-commercial organization “Centre of monitoring over the environment impact” functioning in the structure of the Ministry of Nature Protection of the Republic of Armenia

With the purpose to improve this structure it is necessary to envisage:

- Obtaining and use of modern equipment for laboratory analyses on determination of chemicals in environmental media soil, water, air);
- implementation of standards, procedures and instructions (guidances) required for laboratory research on chemicals;
- application/use of computer hardware and program systems for processing data obtained as a result of laboratory research on chemical substances.

To ensure control over the use of chemicals and wastes it is necessary to exercise self-control on the part of users that is possible in case of availability of equipment, appropriate laboratory devices, and mechanisms, standards, technical procedures, other methodical documentation and guidances in the presence of analytical industrial divisions.

c) Improvement of the activity performed by the State Nature Protection Inspection of the Ministry of Nature Protection of the Republic of Armenia

The improvement of this activity presupposes:

- strengthening of the logistics, material basis: implementation of modern computer hardware, transportation and communication facilities, as well as program systems;
- continuous education/re-training and re-profiling of specialists;
- introduction of standards, technical procedures, methodical documents and guidances.

Improvement of the activity performed by the Nature Protection Inspection will promote realization of more valuable and effective control in concern of chemicals and wastes, as well as prevention of their harmful impact towards human health and the environment.

d) Strengthening of equipment basis at a number of departments/divisions functioning in the structure of Administration of the Ministry of Nature Protection of the Republic of Armenia through provision with computer means and programme systems to ensure efficient management on chemicals and wastes, in particular at:

- Hazardous Substances and Waste Management Department;
- Normative-Methodic Department;
- Department of Nature Protection Economy and Nature Use.

e) Establishment of the Center of Cleaner Technologies within the Ministry of Nature Protection of the Republic of Armenia. This structure presupposes:

- creation of a Data Bank on cleaner technologies;
- creation and maintenance of Data Bank on wastes use, destruction, treatment and disposal technologies;
- elaboration of practical guidances on sound disposal of hazardous wastes (toxic, organochlorine; utilization of mercury containing lamps, etc.);
- working out proposals for implementation of low-waste technologies based on recent modern achievements of science and technology;
- analysis of technologies on treatment and destruction of POPs wastes generated in industrial sector;
- evaluation of special technologies on destruction of POPs wastes and analysis on their efficiency from the Nature Protection relevant view;
- based on evaluation of technical-and-economical analysis to substantiate the possibility for practical application of alternative methods in Armenia;
- correction (adjustment) of methods on wastes destruction in compliance with the national capacities;
- awareness raising, information and education of the general population on economical use of resources, attracting population to sorting and selective (separated) collection of wastes;
- maintenance of conditions for implementation of cleaner technologies by the consumers of chemical substances and wastes in the order established by legislation.

f) Establishment of the appropriate **Training centre** in the system of the National Academy of Sciences of the Republic of Armenia with the purpose to prepare/ to raise qualification of appropriate experts in the field of management and use of chemicals and wastes;

g) Providing research institutions functioning within Ministry of Health, Ministry of Agriculture and National Academy of Sciences of the Republic of Armenia with the appropriate material-and-technical means in order to elaborate scientifically grounded recommendations, norms and rules in the area of management and use of chemicals and wastes;

h) Taking into account the priority of POPs issues and in order to implement the approaches relevant to integrated management of POPs it is necessary to establish in the order defined by legislation of the Republic of Armenia the “Council on Chemicals Safety” with the involvement of representatives of state governance bodies, research institutions and public organizations having responsibilities on issues related to Persistent Organic Pollutants. .

In view of the aforesaid, the Ministry of Nature Protection of the Republic of Armenia jointly with the United Nations Institute for Training and Research (UNITAR) and with the financial support of the Swiss Agency for the Environment, Forests and Landscapes (SAEFL) implemented a Programme “**Strengthening the Integrated National Programme of Chemicals and Waste Environmentally Sound Management in the Republic of Armenia**” (2004-2006), the aim of

which was to define problems, identify weaknesses in legislative and institutional mechanisms, revealing key areas of chemicals and wastes which require further efforts, as well as strengthening of cooperation of different state structures at the national level. The Programme was aimed to ensure sustainable basis for implementation of efficient and coordinated actions on key issues, creation of a harmonized/integrated management on chemicals and wastes, strengthening the potential and national legal/legislative base in this area.

Implementation of the “National Programme” was first of all dictated by the Republic of Armenia understanding of the necessity to minimize and prevent the unfavourable impact of chemicals and wastes towards human health and the environment under conditions of continuing expansion of the sphere and volumes of various chemicals having industrial and agricultural indication, including chemical plant protection means, mineral fertilizers, etc.

The “National Programme” implementation was a logical continuation of the international initiatives adopted on the way from Rio-92 to World Summit on Sustainable Development (Johannesburg, 2002), Fifth Ministerial Conference “Environment for Europe” (Kiev, 2003), etc., at which great attention was devoted to discussion of problems relevant to the environment and human health. The sphere of activities with these implemented initiatives is aimed at:

- realization of international coordinated development goals stated in Millennium Declaration;
- increase of safety levels while using chemicals; this latter will facilitate poverty reduction and protection of the most vulnerable groups of population, as well as ensure integrity of ecosystems;
- formation of stable partner relations at all levels of decision making on chemicals and wastes, including pesticides and persistent organic pollutants.

In the process of Programme implementation there were identified areas which are considered as especially relevant to the national situation in the sphere of chemicals and wastes management; priority problems were identified on strengthening legislative and institutional mechanisms, enhancing approaches to integrated environmentally sound chemicals and wastes management:

- Harmonization of the National Legislative Basis for Integrated Chemicals and Waste Management and Development of the Harmonized Regulating System on Strengthening Aspects of Control on Import and Export of Chemicals and Wastes;
- Strengthening the analytical capacity for sound chemicals and waste monitoring and (risk) management; strengthening of organizational systems for state control and carrying out inventory on existing stockpiles of hazardous wastes (obsolete pesticides, PCB-containing oils and equipment, expired medicine, etc.);
- Enhancing the skills of decision-makers for risk evaluation and risk management of first-priority chemicals and waste (PCB-containing oils and equipment, obsolete pesticides, contaminated areas, etc.), awareness raising in concern of hazards and risks of chemicals and waste;
- Capacity building for Customs Service officials to ensure control on import/export of regulated chemicals and wastes.
- Coordination of problems dealing with chemicals and wastes management in emergency situations and ensuring preparedness to accidents and incidents;

- Development of programmes on cooperation between government and different stakeholders and Awareness Raising on hazards/risks of chemicals and wastes for farmers, workers, etc.
- Capacity Building to Meet the Republic of Armenia Obligations under Stockholm Convention on the Persistent Organic Pollutants

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For each of the identified areas appropriate Action Plans were developed in order to resolve the problems and including the description of the current situation, as well as analysis of the existing gaps; the aims and tasks were clearly defined and the specific actions on improvement in this or that precise area suggested. Step-by-step solution of key problems will facilitate implementation of principles and approaches of environmentally sound chemicals and wastes management, improvement of information exchange and sharing in the area of chemicals and waste sound handling, strengthening mechanisms of cooperation for taking efficient and coordinated actions at the national level, as well as integrated implementation of international agreements/conventions and initiatives on chemicals and wastes.

Chapter 5: Ministries, Agencies and Other Institutions Managing Chemicals

5.1 RESPONSIBILITIES OF MINISTRIES, AGENCIES AND OTHER INSTITUTIONS MANAGING CHEMICALS AND WASTES

A number of Ministries and Agencies responsible for this or that stage of chemical life cycle are engaged in management of chemicals and wastes (Table 5.1).

Table 5.1

**Responsibilities of Government Ministries, Agencies and Other State Structures
Managing Chemicals and Wastes in Armenia**

Stages of Life-Cycle/ Ministry Concerned	Import	Production	Storage	Transport	Distribution / marketing	Use/ Handling	Disposal	Record- keeping/ inventory
Ministry of Nature Protection	+	+	+	+			+	+
Ministry of Health	+	+	+	+			+	+
Ministry of Agriculture	+		+	+	+	+		+
Ministry of Economy	+	+	+	+	+	+		+
Ministry of Finance	+	+			+			+
Ministry of Energy and Natural Resources	+		+	+	+	+		
Ministry of Transport and Communications	+		+	+		+		
Ministry of Justice	+	+	+	+	+	+	+	+
Ministry of Foreign Affairs	+			+				
Ministry of Defence	+	+	+	+	+	+		+
Police of the Republic of Armenia	+		+	+				+
National Statistical Service	+	+	+	+	+	+	+	
Department on Standards, Metrology and Compliance	+	+	+	+				
Confirmation, Ministry of								

Stages of Life-Cycle/ Ministry Concerned	Import	Production	Storage	Transport	Distribution / marketing	Use/ Handling	Disposal	Record- keeping/ inventory
Economy								
Ministry of Emergency Situations	+		+	+	+	+		
Customs State Committee at the Government of the Republic of Armenia	+			+				

5.2 DESCRIPTION OF RESPONSIBILITIES: MINISTRIES AND AGENCIES MANAGING CHEMICALS AND WASTES

In the area of managing chemicals and wastes state structures and agencies have definite responsibility and aims, which are appropriately reflected in table 5.2.

However, there is some overlapping, dissociation, lack of coherency and poor coordination of actions and functions in concern of commitments and responsibility distribution in the area of chemicals and wastes management. This might be explained by imperfection of the existing legal/legislative basis.

Table 5.2

Main responsibility and aims of state bodies on chemicals and waste management

Ministry/Agency	Responsibility and aims
Ministry of Nature Protection	Carrying out the uniform/united state policy on issues of nature/environment protection; coordination of activity performed by Ministries, Agencies, enterprises, and establishments in this area; observance of ecological safety in case of chemicals and wastes use; conducting unified scientific and methodic policy in this area.
Ministry of Health	Arrangement and implementation of uniform/unified state policy on prevention of harmful impact of chemicals and wastes towards human health and the environment; coordination of general policy for environmentally sound use of chemicals
Ministry of Agriculture	Carrying out the uniform/unified state policy and implementation of actions required for the use/application of pesticides and fertilizers in agriculture, as well as registration of chemical plant protection means

Ministry/Agency	Responsibility and aims
Ministry of Economics	State regulation of chemicals and wastes export and import
Ministry of Transport and Communications	Implementation of actions required for safe transportation of loads, including freight of chemicals by all transport means
Ministry of Energy and Natural Resources	Arrangement and implementation of actions required for use of chemicals in energy production complex
Ministry of Finance	Provision of funds for all actions of state significance/ value in concern of chemicals and wastes management
Ministry of Justice	Approval and registration of all regulatory and legal documents of state significance/ value in concern of chemicals and wastes management
Ministry of Defense	Arrangement and implementation of actions required to control application/use of chemicals in defense sphere
Police of the Republic of Armenia	Arrangement and implementation of state control on illegal use/handling of chemicals and wastes
Customs State Committee at the Government of the Republic of Armenia	Implementation of measures required for control on import and export of chemicals and wastes
National Statistical Service	Collection, compilation and submission of statistical information in the area of chemicals and wastes management
Department on Standards, Metrology and Compliance Confirmation at the Ministry of Economics of the Republic of Armenia	Arrangement and implementation of unified state policy for development of standards and requirements on chemicals and wastes, their application/use, as well as control on implementation of these requirements
Ministry of Emergency Situations	Carrying-out measures required for prevention and liquidation of after-effects of emergency situations, conditions in zones of disaster resulting from use/misuse of chemicals and wastes

Chapter 6: Relevant Activities of Industry, Public Interest Groups and the Research Sector

6.1 LIST OF INSTITUTIONS AND ORGANIZATIONS PARTICIPATING IN PRODUCTION AND USE OF CHEMICALS

Relevant information on industrial enterprises and commercial organizations involved in chemical production and use is given below (Table 6.1).

Table 6.1

Industrial enterprises and commercial organizations involved in chemical production and use

NN	Name	Location, Street Address, Phone/Fax/e-mail
1.	“Nairit -1” Closed Joint Stock Company (CJSC)	Yerevan, 70 Bagratounyants Street Phone: (37410) 48-31-21
2.	“Polyvinylacetate” Joint Stock Company (JSC)	Yerevan, 127 Arshakunyats Street; Phone: (37410) 48-61-10
3.	“General Transworld Manufacture Company” (“Doghagorts -1”, CJSC [<i>Tyres factory</i>])	0007 Yerevan, 81 Bagratunyats . Phone: (37410)449613, 449617 Fax: (37410)230113 URL: http://www.spyur.am/dogh.htm
4.	Prometheus Chimprom CJSC	Vanadzor
5.	Yerevan Vitamins Plant, OJSC	Yerevan, Artsakhyan 4th blind alley 72; Phone: (37410) 47-47-60
6.	Abovyan plant of medical goods, JSC	Abovyan, 2 Arzni Avenue; Phone: (374 222)2-22-06
7.	Chemical Commercial Industrial Centre, State CJSC	Yerevan, 2 Mashtotsi ; Phone: (37410) 58-23-2 1
8.	“Elastic” firm (proprietary) shop,	Yerevan, 25 Arshakunyats;

	CJSC	
		Phone: (37410) 44-07-71
9.	Yerevan special construction/installation administration, CJSC	Yerevan, 81 Bagratunyts
10.	“Armnerk (Armenian dyes/paints), CJSC	Yerevan
11.	Yerevan Company “KhimPharmaceft” (Chemopharmasist), CJSC	Yerevan
12.	“Polyplast”, OJSC	2 Odessai Street, Yerevan Phone: (37410) 443 242
13.	“Khimreactive” (Chemical reagents), OJSC	Yerevan
14.	Mechanical Rubber Goods Plant, OJSC	
15.	“Lysine” OJSC	Charentsavan
16.	“Gorisi Shinuair” OJSC	Goris
17.	Yerevan Plant of Domestic Chemistry OJSC	0007 Yerevan, 125a Arshakunyts; Phone: (37410)482052 Fax: (37410)538017 E-mail: aroil@excite.com URL: http://www.spyur.am/housechem.htm
18.	“Sevan Glass Isolation”, OJSC	Sevan
19.	“Polymer” OJSC	Aparan
20.	“PolymerKley” (PolymerGlue) JSC	Vanadzor
21.	Zangezur copper-molybdenum combinat " CJSC	Kadjaran, 1 Lernagordzneri; Phone: (374 285) 3-37-36
22.	Agarak copper-molybdenum combinat CJSC	Syunik marz, Agarak massif; Phone: 30-45
23.	Kapan ore-mining and processing enterprise, CJSC	Kapan, 4 Gordzaranain; Phone: (374 285) 6-20-40; 6-27-79

	JSC “Gold”	
24.	Akhtala ore mining and processing enterprise CJSC	Tumanyan district, Akhtala massif
25.	“Pure Iron” OJSC	Yerevan
26.	“Armenian Copper Project” CJSC	Alaverdi
27.	High-temperature heaters plant, OJSC	Vanadzor
28.	“Akson” JSC	Yerevan, 25 Griboedov street; Phone: (37410) 23-83-78
29.	Vtorchernmet (Secondary ferrous metals), OJSC	
30.	“Relay (actuator) OJSC	Yerevan, 24 Azatutyan; Phone: (37410) 28-21-25
31.	“Relay” (actuator) OJSC	Eghegnadzor, 2 Shahumyan; Phone: (374 285) 2-21-30
32.	“Relay” (actuator) OJSC	Kapan, 29 Bagiberd 29; Phone: (37485) 65381, 53171 URL: http://www.spyur.am/rele.htm
33.	“Nejron CJSC	Yerevan, 17 Mikoyan; Phone: (37410) 63-33-78
34.	“Aragats” OJSC	Artik
35.	“Anush” OJSC	Alaverdy
36.	“Impuls” CJSC	Dilijan, 17 Shahumyan Phone: (374 268 0)11-19
37.	“Sirius”CJSC	Abovyan, 11 Sevani; Phone: (37410)28-56-30
38.	“Resistor” OJSC	Echmiadzin, 1 Karchikyan ; Phone: (37410)28-14-63
39.	“Electron” CJSC	Echmiadzin, 27 Kamo; Phone: 5-33-66
40.	“Araks” CJSC	Yerevan, Davidashen 4; Phone: (37410)35-66-62
41.	“Sigma” SCJSC	Yerevan 2a Azatangeghosi;

- Phone: (37410)52-08-69
42. “Selena” OJSC
0076 Yerevan, 7 Tevosyan
Phone: (37410)648356, 641106
Fax: (37410)641106
URL: <http://www.spyur.am/selena.htm>
43. “HrazdanMash” CJSC
Hrazdan
Phone: (37410)28-45-32
44. “Instrument-making” OJSC
Armavir marz, Echmiadzin, 62 Ruzanna Esayan Street
Phone: (374 231) 56394, 56395, 28-04-52
Fax: (374 231) 56394
URL: <http://www.spyur.am/echimf.htm>
45. “Electric precision devices”
OJSC
Yerevan, 3 Baghramyan Avenue
Phone: (37410) 27-14-41
46. Measuring devices OJSC
Abovyan, 9 Sevan;
Phone: (37410) 28-35-52
47. “Avtomatica” (Automatics)
CJSC
Vanadzor, 8 Tevosyan;
Phone: (374 322) 5-06-03
48. “Electric measuring devices”
OJSC
Yerevan, 74 Tigrani;
Phone: (37410) 42-11-22
49. “Priborostroitel” (Instrument-
maker)
Echmiadzin, 85 Mashtots;
Phone: (374 231) 5-25-43
50. “Mars” CJSC
Yerevan -64, Zoravar Andraniki Massif,
111 Raffi Street
Phone: (37410)738323
Fax: (37410)743750
E-mail: marsjsc@netsys.am
URL: <http://www.spyur.am/mars.htm>
51. “Ferrit” OJSC
Yerevan, Baghramyan 1;
Phone: (37410) 26-80-30
52. “Electron” CJSC
Vanadzor, 2 Gordzaranain;
Phone: (374 322) 2-03-09
53. Machine-tool plant CJSC
Charentsavan, 1 Esayan;

		Phone: (37410)28-23-01
54.	Machine-tool plant CJSC	Gyumri, 1 Nezhdeh Street; Phone: (374 312) 3-28-57
55.	“Almaz” (diamond), OJSC	Yerevan, 27 Rubinyan; Phone: (37410) 24-30-60
56.	“Powder metallurgy” OJSC	375061 Yerevan 67 Arshakunyats Phone: (37410)441753 Fax: (37410)441753 E- mail: a_andreasyan@goldmail.ru powder_metallurgy@yahoo.com URL: http://www.spyur.am/powder.htm
57.	“Aragats” SCJSC	Aparan
58.	Toolmaker Building plant	Artashat
59.	“ErAz” (Yerevan automobile plant) OJSC	Yerevan
60.	“Arm Auto” OJSC	Charentsavan
61.	“Auto-aggregates/ auto-installations” Plant OJSC	Yerevan
62.	“Hydroapparat” (Hydraulic apparatus) OJSC	Yerevan
63.	“Autopogruzchik” Autoloader/ fork-lift trucks” OJSC	Yerevan
64.	“Selkhoz mash”(Agricultural machinery) OJSC	Eghvard
65.	Compressors’ Plant OJSC	Yerevan
66.	“Autogen M”, Ltd.	Vanadzor, 85 Tumanyan;

- Phone: (374 322) 4-20-90
67. “Transistor”, OJSC Yerevan, 41 Arshakunyats;
Phone: (37410) 44-14-70
68. “ArmElectroMash”, OJSC 0083 Yerevan 41 Manandyan;
Phone: (37410)420211
Fax: (37410)421679
URL: <http://armelectromash.ru> <http://www.spyur.am/elmash.htm>
69. “Arm cable”, OJSC 0061 Yerevan 55 Bagratunyts
Phone: (37410)443129
Fax: (37410)449688
E-mail: armcable@netsys.am
URL: <http://www.spyur.am/armcable.htm>
70. “ArmenMotor” CJSC 0018 Yerevan, 28 Movses Khorenatsu
Phone: (37410)527860
Fax: (37410)563991, 527792
E-mail: armmotor@netsys.am armmotor@freenet.am
URL: <http://www.armenmotor.am> <http://www.aua.am/armenmotor> <http://www.spyur.am/armmotor.htm>
71. “Electrosharzhich” Yerevan
(Electromotors) OJSC
72. “Progress” CJSC Yerevan
73. “Svetotechnik” (lighting Vanadzor, 24 Nalbandyan;
technology plant) CJSC Phone: (374 322) 2-20-52
74. “Svetotechnik” (lighting Maralik, 1 Zawodskaya;
technology plant) CJSC Phone: (374 242) 2-25-00
75. Echmiadzin plant of plastics, Armavir Marz, Echmiadzin, 75 Shahumyan
OJSC Phone: (374 231)52586
Fax: (374 231)52586

- URL: <http://www.spyur.am/echplast.htm>
76. “El Sarker” (electric appliances’ plant) OJSC Gyumri, 1 Khmelnitsky street;
Phone: (374 312) 3-33-10
77. “Mikrosharzhich” Micromotor” CJSC Gyumri, 137 Shahumyan;
Phone: (374 312) 2-46-01
78. “ArmenAL (Armenian Aluminum ” Armenian- Russian Joint venture 0051 Yerevan, 25 Griboedov street
Phone: (37410)230570, 231581
Fax: (37410)286887
E-mail: armenal@armenal.am
URL: <http://www.spyur.am/armenal.htm>
79. “Mika-cement’ OJSC 0550 1Gordzarananin Street, Hrazdan, Kotaik Marz, 378550
Phone: (374 223) 27373, 23535, 23536
Fax: (374 223) 20670
E-mail: cement@hrazdan.am
URL:<http://www.hrazdan.ammikacement>
<http://www.spyur.am/mika-cem.htm>
80. Ararat-Cement OJSC Ararat
81. Ararat gold extracting/recovery company, Ltd. Ararat
82. Crown Chemical OJSC Yerevan
Phone: (37410) 541659
83. “Liquor”, Ltd. Yerevan
Phone: (37410) 344953
84. “Shen Concern”, Ltd. Phone: (37410) 460101
85. “Bulvinos Chemicals”, Ltd. Yerevan
Phone: (37410) 480171
86. “Pharmatech”, Ltd. Yerevan
Phone: (37410)563132
87. “Kashi” (Leather), OJSC Yerevan
Phone: (37410) 587778

Table 6.2 embraces the List of Research Institutes, Universities and Scientific-Industrial Organizations Involved in Chemicals Management

Table 6.2

List of Research Institutes, Universities and Scientific-Industrial Organizations Involved in Chemicals Management

No	Name	Address, contact information
1.	Research Institute of General Hygiene and Occupational Diseases, Ministry of Health, Republic of Armenia (Yerevan city administration)	0040 Yerevan, 2 Acharyan street Phone: (37410) 61-87-73
2.	Institute of Hydrology and Ichthyology, National Academy of Sciences	0044, Yerevan, 24 D Marshal Baghramyan Avenue Phone: (37410)568554, 523830 Fax: (37410)569411 E-mail: rhovan@sci.am URL: http://www.sci.am
3.	Yerevan State Medical University after Mkhitar Heratsi	0025 Yerevan, 2 Koryun street Phone: (37410)581802 Fax: (37410)560100, 521791 E-mail: armzar@usa.net URL: http://www.spyur.am/meduniv.htm
4.	Research Centre of the YSMU	0054 Yerevan, 46 Halabyan street. Phone: (3741) 358235
5.	Yerevan State University	0025 Yerevan, 1 Alek Manukyan street Phone: (37410)554629, 555310 Fax: (37410)554641 E-mail: pr-nat@ysu.am URL: http://www.spyur.am/yesu.htm
6.	Armenian State Pedagogical University after Khachatur Abovyan	375010 Yerevan, 17 Tigran Metsi Avenue Phone: (37410)526401 E-mail: rector.armped@nt.am armped@nt.am spyurksd@netsys.am URL: http://www.spyur.am/armped.htm
7.	National Institute of Standards	375051 Yerevan, 49/2 Komitas Avenue Phone: (37410)23-56-23
8.	“Narek” scientific-industrial and design developing enterprise, SCJSC	0023 Yerevan-23, 4 Gorvetkai Phone: (37410) 52-46-86 URL: http://www.spyur.am/paren.htm
9.	“Nairit-2” CJSC	Yerevan, 70 Bagratuni Phone: (37410) 48-55-20, 48-30-65

No	Name	Address, contact information
10	Research institute “Yerevan plastpolymer”, CJSC	127 Arshakunyats Street, Yerevan Phone: (37410) 48 80 90
11	“Ariak” Research Institute of applied chemistry, CJSC	70 Bagratunynts Street Phone: (37410) 44 18 62
12	Vanadzor Research institute “ArmChemProject”, CJSC	Vanadzor city
13	Research institute “PolimerKlei” (Polymer Glues), CJSC	Vanadzor city
14	Research institute of Mining& Metalurgy, CJSC	19 Khanjyan Street Yerevan Phone: (37410) 52 52 03
15	“YerNIIKP” Yerevan Research institute of Cable industry, CJSC	Acharyan Street, Yerevan Phone: (37410) 61 52 00
16	Research institute “BioTechnology”, CJSC	14 Gyurjyan Street, Yerevan Phone: (37410) 65 52 00
17	“Atom” Scientific Industrial Enterprise, CJSC	67 Arshakunyats Street, Yerevan Phone: (37410) 64 66 12
18	Yerevan Research Institute of Chemical Technologies	4 Artsakhyan Street , by-street 10A, Yerevan Phone: (37410) 39-47-99
19	Yerevan institute of Physics (YerPhy), CJSC	2 Alikhanyan Brothers street, Yerevan Phone: (37410) 35 30 21
20	Scienific Industrial enterprise “Science of Materials”, CJSC	17 Charents Street, Yerevan Phone (37410) 55 62 43
21	Scientific-Research Institute “Stones and silicates” CJSC	40 “A” Acharyan Street, Yerevan Phone (37410) 61 45 40
22	“Arev” CJSC	1 Adanai Street, Yerevan Phone: (37410) 34-20-94

Chapter 7: Inter-ministerial Commissions and Co-ordinating Mechanisms

7.1 DESCRIPTION OF INTER-MINISTERIAL COMMISSIONS

In the Republic of Armenia environmentally sound management of chemicals and wastes is performed from the point of view of complex Inter-Agency/Inter-Ministerial approach. These issues are tackled and solved due to joint actions of different concerned Ministries and Agencies. During the last years definite steps were initiated and taken in the area of strengthening, enhancing and ensuring coordination of actions performed by different state structures in the sphere of chemicals and waste management.

In order to coordinate actions of different state structures in the area of chemicals and waste management and to implement international agreements and conventions dealing with chemicals and waste a number of Inter-Ministerial Commissions were formed in accordance with the Decisions of the Government of the Republic of Armenia.

- By the Decision of Prime Minister of the Republic of Armenia (No. 46-N of February 5, 2004) personal membership and order of activity of **Inter-departmental commission on licensing of activity on recycling, treatment, storage, transportation and placement of hazardous wastes in the Republic of Armenia** (hereinafter: Inter-departmental commission) was approved.

The activity of inter-departmental commission is aimed at issuing expert conclusions on purposefulness and appropriateness of recycling, treatment, storage, transportation and placing of hazardous wastes; the conclusions are transferred to the body issuing the licenses.

The Inter-departmental commission is engaged in consideration and evaluation of the submitted documents, preparation of proposals on environmentally sound methods and conditions of the licensed activity, formalization/legalization of the licenses, obtainment of semiannual reports/accounts on the executed activity, notification of bodies of environmental, sanitary, anti-epidemiological and fire services about the issued licenses.

Amongst the members of Inter-departmental commission are representatives of the following Ministries and Agencies of Armenia: Ministry of nature Protection, Ministry of Agriculture, Ministry of Health, Ministry of Trade and Economic Development, Ministry of Transportation and Communication, Ministry of Finance and Economy, Police at the Government of the Republic of Armenia, State Security Service at the Government of the Republic of Armenia, Department of Emergency situations at the Government of the Republic of Armenia, National Academy of Sciences, Yerevan city administration.

Personal membership of the Inter-departmental commission was approved by the order of the Ministry of Nature Protection (No. 55-A of March 5, 2004). Minister of Nature Protection of the Republic of Armenia is the head of commission.

- By the Decision of Prime Minister of the Republic of Armenia (No. 645-A of December 12, 2003) **Inter-Agency Commission was formed to resolve the problems of environmentally sound destruction of expired medicine.**

Amongst the members of this Commission are representatives of the following Ministries and Agencies: Ministry of Nature Protection, Ministry of Health, Ministry of Defence, Ministry of Trade and Economic Development, Ministry of Finance and Economy, Police at the Government of the Republic of Armenia, State Security Service at the Government of the Republic of Armenia, Customs State Committee at the Government of the Republic of Armenia.

Personal membership of the Inter-Agency Commission embracing 12 members was approved by the Order of the Minister of Nature Protection (No. 6-A of January 2004). Minister of Nature Protection of the Republic of Armenia is the head of Commission.

➤ By the Decision of the Prime Minister of the Republic of Armenia (No. 452-A of September 22, 2003) there was formed the **Working Group on regulation of issues dealing with destruction of obsolete, inappropriate-for-use chemical plant protection substances and working-out action plan for destruction thereof**

The working group was formed to regulate actions on destruction of obsolete, inappropriate-for-use chemical plant protection means, as well as in order to develop environmentally sound methods of destruction.

The working group involves representatives of the following Ministries, Agencies and establishments: Ministry of Nature Protection, Ministry of Agriculture, Ministry of Health, Ministry of Trade and Economic Development, Ministry of Foreign Affairs, Ministry of Finance and Economy, Ministry of Defence, Police at the Government of the Republic of Armenia, Customs State Committee at the Government of the Republic of Armenia, State Security Service at the Government of the Republic of Armenia, National Academy of Sciences.

Personal membership of the Working Group was approved by the Order of the Ministry of Nature Protection (No. 375-A of October 23, 2003); Minister of Nature Protection of the Republic of Armenia is the Head of this Working Group.

➤ By the Governmental Decision Governmental Decision No. 908 of July 26, 2007 the **Commission on registration of plant protection means** was formed in order to coordinate actions of various state structures in the sphere of chemicals management and in pursuance of the requirements of clause 7 “State registration of plants protection means” of the Law of the Republic of Armenia “On protection of plants and quarantine of plants” (2006).

In the Republic of Armenia registration of chemical and biological plant protection means is done according to statements set forth in the “Law on plant protection and quarantine” (clause 7. “State registration of plant protection means”) and Decision of the Republic of Armenia Government “On approval of the order for state registration of plant protection means” (No.1039-N of August 30, 2007).

In order to coordinate actions of different state structures in the area of chemicals management and based on Decision of the Republic of Armenia Government there was re-approved the “Personal Membership of the Commission on state registration of plant protection means”, as well as the “Regimen of the Commission on state registration of plant protection means” (No.908 of July 26, 2007).

The Commission embraces 13 members who are representatives of the following Ministries and Agencies: Ministry of Agriculture, Ministry of Health, Ministry of Nature Protection, Armenian State Agrarian University, Scientific Center of Agriculture and Plant Protection, Scientific-Research Center of the Yerevan State Medical University of M. Heratsi, National Academy of Sciences, etc.

According to the Regimen, the main goal of the Commission is issuing conclusions on registration of plant protection means in this area and their submission to the authorized body: Ministry of Agriculture.

In accordance with the “Order on state registration of plant protection means” approved by the Decision of the Government of the Republic of Armenia (No.1039-N of August 30, 2007) the authorized body (i.e. Commission on state registration of plant protection means) executes the process of state registration of plant protection means. In case of a positive expert-drawn conclusion on registration of new the Ministry of Agriculture makes the decision on registration and inclusion thereof in “List of chemical and biological plant protection means allowed for use/application in the Republic of Armenia”. The Commission is also authorized to draw a negative conclusion in the following cases:

- if submitted data do not comply with the established hygienic norms and standards (Allowable Daily Intake; Maximum Allowable Concentration (MAC) in soil, MAC in surface water, MAC in air of the working zone; Maximum Allowable Levels in foodstuff) and
- the proposed plant protection means contain a chemical prohibited by International Conventions signed by the republic of Armenia).

The “List of chemical and biological plant protection means allowed for use/application in the Republic of Armenia is regularly revised, up-dated and approved by the Order of Minister of Agriculture of the Republic of Armenia. The approved List embraces more than 200 names of chemical and biological plant protection means of different indication: fungicides, herbicides, insecticides, rodenticides, nematocides, etc. (Order No.301-N of December 28, 2007). No chemicals regulated by Rotterdam and Stockholm Conventions are included in the List.

“The Statute of Safety Passports of industrial entities in the Republic of Armenia” was approved by the Governmental Decision (No. 702 of November 11, 1998. In accordance with this Decision, the Ministry of Emergency Situations (former Department of Emergency Situations), Ministry of Nature Protection and the National Center of Technical Safety (former Inspection on safety-in-work in industry and mining control) are involved in the procedure for approval of Safety Passports of industrial entities.

Enterprises listed in the Registry of industrial entities, which are potentially subject to industrial accidents are obliged to submit their Safety Passports for approval to the Department of Emergency situations of the Republic of Armenia, without fail. Safety Passports should embrace detailed information on specific hazardous chemicals and wastes, which are produced/generated, used, recycled or stored at the industrial entity; providing the quantity, physical and chemical characteristics, as well as toxicological description.

The Ministry of Emergency Situations performs submittal of Draft Safety Passports to the Ministry of Nature Protection and the National Center of Technical Safety in order to carry out expertise examination and draw up conclusions on the submitted Drafts.

The expertise examination is aimed at analysis and evaluation of working environment/ conditions of use, production, recycling, storage or transportation of hazardous substances, which proceeding from physical, chemical, biological or toxic properties can pose threats for general population and the environment.

Based on expertise examination, the evaluation is done as to materials on analysis of risk for emergency situations occurrence of both natural and technogenic character, the estimation of the probable area of pollution by the hazardous substances in case of an industrial accident, as well as on preparedness to perform actions on localization and liquidation of industrial accidents consequences in the Republic of Armenia.

Chapter 8: Data Access and Use

8.1 AVAILABILITY OF DATA FOR NATIONAL CHEMICAL MANAGEMENT

In Armenia there is no centralized Data Base on chemicals and wastes. Some information relevant to nature protection and environmental problems is provided by the Information-Analytical Center at the Ministry of Nature Protection of the Republic of Armenia PA in e-format at <http://www.mnp.am>. In addition, data dealing with certain issues of chemicals and wastes management, nature protection, etc. is also available as Quarter, Semiannual and Annual Reports and other publications of the National Statistical Service of the Republic of Armenia available also on-line in e-format at <http://www.armstat.am>.

In the frames of Aarhus “Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters” that was ratified by the Republic of Armenia in 2001, at the 5th Pan-European Ministerial Conference “Environment for Europe” (Kiev, Ukraine, 21-23 May 2003), the Minister of Nature Protection of the Republic of Armenia signed the Protocol on Pollutant Release and Transfer Registers (PRTRs).

The distinctive feature of the Aarhus Convention is consideration of basic human rights. Nowadays, from the position of the International Law, the Convention provides the most well-defined statement of fundamental rights for healthy environment taking into account interests of future generations; this latter being one of fundamental characteristics of the sustainable development. The main responsibility of humans to protect and improve the environment for the benefit of present and future generations was stated at the global level already in 1972 as a principle of the Stockholm Declaration; however, the Aarhus Convention is the first international legal instrument, in which this concept was developed and shaped as legal obligation. In compliance with the provisions of the Convention, the parties have to envisage the required administrative, legal and practical structures, which allow ensuring the right for information access, public participation in decision-making and for access to justice in environmental matters. It was precisely for this purpose that the PRTRs Protocol was developed and, as mentioned above, signed by Armenia.

The Protocol is aimed at broader expansion of information access for general public by establishing nation-wide PRTRs in accordance with the main statements. Establishment of such Registers will facilitate wider public participation in decision-making process on environmental issues, thus assisting in prevention and reduction of environmental pollution.

Proceeding from recommendations stated in various documents adopted by the international community (Rio Declaration, Agenda 21, Action Plan of the World Summit on Sustainable Development, 2002) and in line with the provisions of the Aarhus and Stockholm Conventions, the Strategic Approach to International Chemicals Management (SAICM) a specific importance and urgency is given to expanding the public access to information on environmental issues.

It was with this aim that the Ministry of Nature Protection jointly with the United Nations Institute for Training and Research (UNITAR) and with the support of the Government of Switzerland the implementation of “Design of a National PRTR system to strengthen capacity building activities for the implementation of Stockholm Convention on POPs in Armenia” project was initiated (2007-2008).

It should be mentioned that issues relevant to chemicals and wastes management in Armenia acquire ever-growing priority and urgency every year due to the onrush advance and growth of industry and, as a consequence, significant increase of chemical production and the increasing quantities of industrial equipment that require use of different chemicals as raw material or intermediate products. In this concern the specific importance and significance acquires design and establishment of the National PRTR that presents itself a Catalogue or Registry of releases and transfer of potentially hazardous chemicals; the PRTR includes information on origin/nature and amounts of mentioned releases and transfers. The information originates from both point sources of pollution, such as factories, and diffuse sources, such as agricultural activity and transport. PRTRs include information on releases into air, water and soil, as well as data on wastes transported to places of final disposal (burial sites).

In PRTR system of significance is the following: collected information will be accessible for all concerned parties. Therefore the PRTR must be both comprehensive and easy-understandable Active dissemination of data might allow raising the awareness of workers and general population on chemical risks. This might serve an important basis for the proactive dialogue and development of constructive programmes aimed at reduction of risks connected with chemical hazards.

PRTR design and establishment will facilitate raising the level of knowledge in the society as a whole in concern of potentially toxic releases. The population provided with the appropriate information will assist the Government and industry and actively participate in decision-making on environmental issues. Design and maintenance of the “National Register of Persistent Organic Pollutants releases and transfers” will be an efficient tool for widening the accessibility/availability of information for general public; it will also become the basis for elaboration of efficient approaches and actions on reduction of the harmful impacts of chemicals, including POPs, towards human health and working out measures on betterment of the environment.

The existing information on chemicals and wastes, as well as data of the “National PRTR” will be are available and accessible for the general public and can be used in decision-making on problems of chemicals and wastes sound management, ensuring chemical safety in Armenia. Characteristics of available information from the point of view of completeness for settlement of certain problems are presented in table 8.1.

Table 8.1

Characteristics of available information from the point of view of completeness				
Data Needed for/to:	Pesticides (agricultural, public health and consumer use)	Industrial Chemicals	Consumer Chemicals	Chemical Wastes
Priority Setting	Available, but insufficient (limited)	Available, but insufficient	Severely limited	Available, but limited and insufficient
Assess Chemicals Impact under Local Conditions	Available, but insufficient	Available, but insufficient	Severely limited	Limited and insufficient
Risk Assessment	Available, but	Available,	Severely	Available,

Data Needed for/to:	Pesticides (agricultural, public health and consumer use)	Industrial Chemicals	Consumer Chemicals	Chemical Wastes
(environment/health)	limited and insufficient	but limited and insufficient	limited and insufficient	but limited and insufficient
Classification/ Labeling	Available, but insufficient	Insufficient	Severely limited	Available, but insufficient
Registration	Available	Available, but insufficient	Severely limited	Insufficient
Licensing	Available, but insufficient	Available, but insufficient	Severely limited	Available
Permitting	Available	Limited and insufficient	Severely limited	Available
Risk Reduction Decisions	Available, but insufficient	Available, but insufficient	Severely limited	Available, but limited and insufficient
Accident Preparedness/ Response	Available, but insufficient	Available	Severely limited	Available
Poisoning Control	Available, but limited and insufficient	Available, but limited and insufficient	Severely limited	Limited and insufficient
Emissions Inventories	Available, but limited and insufficient	Available, but insufficient	Severely limited	Available, but insufficient
Inspections & Audits (environment/health)	Available, but limited and insufficient	Available, but limited and insufficient	Severely limited	Available, but insufficient
Information to workers	Available, but limited and insufficient	Available, but limited and insufficient	Severely limited	Available, but limited and insufficient
Information to the public	Available, but insufficient	Available, but insufficient	insufficient	Available, but insufficient

8.2 CHARACTER AND LOCATION OF NATIONAL DATA ON CHEMICALS AND WASTES

At present the relevant information on chemicals and wastes is maintained at Ministries and Agencies involved in chemicals and wastes management, as well as at Research Institutes where research activity is performed on different problems related to chemicals and wastes. In the main, the available data exist as official publications, reporting materials, articles, card-files, databases on toxic and hygienic properties, research findings on unfavourable impact of various chemicals of either industrial or agricultural indication towards human health and the environment, data on residues monitoring in environmental and biomedica, etc.

The character of information available at the above-mentioned structures is conditioned by responsibilities and tasks of different state bodies, research institutions involved in this area. The list of main Ministries, Agencies and Research Institutes, as well as NGOs, which possess information about chemicals and wastes in Armenia, is given below:

Ministry of Nature Protection;

- Ministry of Health
- Ministry of Economy
- National Statistical Service
- Ministry of Energy and Natural Resources;
- Ministry of Defence;
- Customs State Committee at the Government of the Republic of Armenia
- Ministry of Emergency Situations ;
- National Academy of Sciences
- Research Institute of General Hygiene and Occupational Diseases after N.B. Hakobyan of the CJSC “Medical Center “Kanakaner-Zeytun” at the Yerevan city administration
- Scientific-Research Center of the Yerevan State Medical University after M. Heratsi;
- Institute of Hydrology and Ichthyology (National Academy of Science)
- National Institute of Standards
- “Narek” scientific-industrial and design developing enterprise, State CJSC
- Police of the Republic of Armenia at the Government of the Republic of Armenia
- “Nairit – 2” CJSC
- Yerevan State University
- EcoTox” NGO
- “Green Union“ NGO
- “Armenian Women for Health and Healthy Environment” NGO
- Environmental Public Advocacy Center (EPAC) NGO

Table 8.2 reflects the character of national data on chemicals and wastes management as well as information on data availability, accessibility, location and form, in which data is stored.

Table 8.2

Location of National Data on Chemicals and Wastes

Type of Data	Location(s)	Data Source	Who has access?	How to gain Access	Format
Production Statistics	National Statistical Service; Ministry of Economy	Ministry of Economy	Concerned Ministries, Agencies, NGOs and private persons	Information is available: publications and electronic format postings at corresponding Internet sites	Relevant information materials, official publications (both electronic and on-paper format)
Import Statistics	National Statistical Service; Ministry of Economy; Ministry of Health; Ministry of Agriculture; Customs State Committee	Ministry of Economy; Ministry of Health; Ministry of Agriculture; Customs State Committee	Concerned Ministries, Agencies, NGOs and private persons	Information is available: publications and electronic format postings at corresponding Internet sites	Relevant information materials, official publications (electronic and on-paper format)
Export Statistics	National Statistical Service; Ministry of Economy; Ministry of Health; Ministry of Agriculture; Customs State Committee	Ministry of Economy; Ministry of Health; Ministry of Agriculture; Customs State Committee	Concerned Ministries, Agencies, NGOs and private persons	Information is available: publications and electronic format postings at corresponding Internet sites	Relevant information materials, official publications (electronic and on-paper format)
Chemical Use Statistics	National Statistical Service; Ministry of Economy; Ministry of Health; Ministry of Agriculture; Ministry of Nature Protection	Ministry of Economy; Ministry of Health; Ministry of Agriculture	Concerned Ministries, Agencies, NGOs and private persons	Information is available: publications and electronic format postings at corresponding Internet sites	Relevant information materials, official publications (electronic and on-paper format)
Industrial Accident Reports	Ministry of Emergency Situations; Ministry of Nature Protection; Ministry Economy	Ministry of Emergency Situations; Ministry of Economy	Concerned Ministries, Agencies, NGOs and private persons	Information is available: publications and electronic format postings at corresponding Internet sites	Relevant information materials, official inter-agency reports (electronic and on-paper format)

Type of Data	Location(s)	Data Source	Who has access?	How to gain Access	Format
Transport Accidents Reports	Police of the Republic of Armenia, Ministry of Transport and Communication	Police of the Republic of Armenia, Ministry of Transport and Communication	Concerned Ministries, Agencies, NGOs and private persons	Information is available: publications and electronic format postings at corresponding Internet sites	Relevant information materials, official inter-agency reports (electronic and on-paper format)
Occupational Health Data (Agricultural)	Ministry of Health (Information is limited and insufficient)	Ministry of Health	Concerned Ministries, Agencies	There is no appropriate system for data collection and analysis concerning the unfavourable effect of pesticides use to health of population and the environment; no information is available for recent years	Relevant information materials, official reports
Occupational Health Data (Industrial)	Information is limited and insufficient; Ministry of Health	Ministry of Health	Concerned Ministries, Agencies	There is no appropriate system for data collection and analysis; no information is available for recent years	Relevant information materials, official reports
Poisoning Statistics	Information is limited and insufficient; Ministry of Health, Police of the Republic of Armenia	Ministry of Health; Police of the Republic of Armenia	Concerned Ministries, Agencies	There is no appropriate system for data collection and analysis; no information is available for the last years	Relevant information materials, official reporting materials
Pollutant Release & Transfer Register (PRTR)	The Ministry of Nature Protection jointly with UNITAR initiated implementation of “Design of a National PRTR system to strengthen capacity building activities for the implementation of Stockholm Convention on POPs in Armenia” project (2007-2008)	Ministry of Nature Protection; Ministry of Economy; Ministry of Transport and Communication; National Statistical Service	Concerned Ministries, Agencies, NGOs	After implementation of the project	Chemicals Release and Transfer Register
Hazardous Waste Data	Ministry of Nature Protection; National Statistical Service; Ministry of Economy	Annual statistical reporting Forms “No. 1 – Wastes “Generation, use and disposal of wastes”, completed by the managing legal persons	Concerned Ministries, Agencies, NGOs and private persons	Information is available in the form of publications, as well as in electronic format at the corresponding Internet sites	Relevant information materials, official publications (electronic and on-paper format)

Type of Data	Location(s)	Data Source	Who has access?	How to gain Access	Format
Register of Pesticides	Ministry of Agriculture	Ministry of Agriculture	Concerned Ministries, Agencies, NGOs and private persons	Information is available in the form of publications	Relevant information materials, approved List of pesticides allowed for use
Register of Toxic Chemicals	No activity was initiated in Armenia for design/ formation of the Register of Potentially Toxic Chemicals (RPTC)				
Inventory of Existing Chemicals	Ministry of Nature Protection; Ministry of Economy, Ministry of Health, Ministry of Agriculture	Ministry of Economy, Ministry of Health, Ministry of Agriculture	Concerned Ministries, Agencies	Information is available and accessible	Relevant information materials, departmental statistics
Register of Imports	National Statistical Service; State Customs Committee at the Government of the Republic of Armenia; Ministry of Economy, Ministry of Health, Ministry of Agriculture	State Customs Committee at the Government of the Republic of Armenia, Ministry of Economy, Ministry of Health, Ministry of Agriculture	Concerned Ministries, Agencies	Information is available and accessible	Relevant information materials, departmental statistics
Register of Producers	National Statistical Service, Ministry of Economy; State Register of Enterprises	Ministry of Economy, State Register of Enterprises	Concerned Ministries, Agencies, NGOs and private persons	Information is available and accessible	State Register, official publications, relevant information materials
PIC Decisions (on Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade)	Ministry of Nature Protection as the National focal point of Rotterdam Convention	Ministry of Economy, Ministry of Agriculture, Ministry of Health	Concerned Ministries, Agencies, NGOs and private persons	Information is available and accessible	Relevant information materials, official publications, Governmental Decisions

8.3 PROCEDURES FOR COLLECTING AND DISSEMINATING NATIONAL LOCAL DATA

State structures, such as Ministries, Agencies, etc. involved in chemicals and wastes management and regulation of relevant issues, as well as legal and physical persons within the frames of competence defined legislatively, perform collection, storage, publication of the appropriate information, as well as dissemination/circulation of such information amongst the concerned parties and submittal of data to the National Statistical Service of the Republic of Armenia in an order established by law.

At present, research on chemicals and wastes unfavourable impacts to human health and the environment, as well as monitoring of chemical residues, especially of residual amounts of Persistent Organic Pollutants (organochlorine pesticides, PCBs) in environmental media are limited as a result of insufficient/lacking financial resources. Therefore, the study on effects exerted by chemicals to human health and the environment is done selectively according to some branches of production.

Recently, funding of scientific research is mainly done on the on a competitive basis as thematic and/or State Budget funded Research and Development (R&D). Investigations performed at the appropriate specialized Scientific-Research Institutes are devoted to studies on the impact of chemicals to human health, including health of rural population of the Republic of Armenia, and selectively to studies in certain production branches, as well as those on the state of the environment in concern of unfavourable impact of different chemical factors.

At Scientific-Research Institutes of Armenia data obtained as a result of long-term studies are available in the form of primary reporting materials of R & D Programs aimed to study of the effect of certain chemicals to the health status of workers according to different branches of industry, including the health status of workers in chemical industry until 1992. At the national level data is also available on effects, resulting from application of chemical plant protection means to health status of population in certain rural regions of the country and the environment, as well as data on monitoring of residual amounts of organochlorine compounds and some other compounds in environmental media (surface waters, water of the Sevan Lake, soil, air), foodstuffs, and biomedica (breast milk). The results of research works are reflected in published reports, papers, reviews, monographs, in a number of official republican and international publications.

The information relevant to chemicals and wastes handling that is submitted by reporting organizations and legal persons is obtained by the National Statistical Service of the Republic of Armenia and then summarized and published as Quarter, Semi-annual, and Annual Reports, which are available for the concerned Ministries, Agencies, NGOs, and private persons both as hard (on-paper) and e-format at the appropriate web-sites.

The concerned Ministries and Agencies according to official requests can be provided with the interdepartmental relevant materials (statistical information, Databases, card-files, reporting materials, etc.) dealing with chemicals and wastes and available at certain state structures.

8.4 AVAILABILITY OF INTERNATIONAL LITERATURE

In the Republic of Armenia, accessibility to international literature/publications and databases is conditioned by the Internet access. The majority of Ministries, Agencies, NGOs, concerned and involved in chemicals and wastes management issues have Internet access; however, in some cases this access is limited in time and “volume” due to the lack/insufficiency of financial resources.

Similar situation is also observed in such Organizations (structures) as the National Library of Armenia (<http://www.nla.am>), the Republican Medical Library, the library of the Yerevan State University, Scientific-research Institutes. Table 8.3 reflects the existence, availability, and accessibility of international literature/information:

Table 8.3

Availability and Accessibility of International Literature

Literature	Location(s)	Who Has Access?	How to Gain Access
Environmental Health Criteria Documents (WHO)	WHO Bureau (Armenia)*	Concerned Ministries, Agencies, NGOs	On official requests
Health and Safety Guides (WHO)	WHO Bureau (Armenia)*	Concerned Ministries, Agencies, NGOs	On official requests
International Chemical Safety Data Cards (IPCS/EC)	Ministry of Nature Protection (Armenia)	Concerned Ministries, Agencies, NGOs	On official requests
Decision Guidance Documents for PIC Chemicals (FAO/UNEP)	Ministry of Nature Protection (Armenia) as a National Focal point on Rotterdam Convention	Concerned Ministries, Agencies, NGOs	On official requests
FAO/WHO Pesticides Safety Data Sheets	Ministry of Agriculture* (Armenia) that carries out programs jointly with FAO; WHO Bureau (Armenia)*	Concerned Ministries, Agencies, NGOs	On official requests
Documents from the FAO/WHO Joint Meeting on Pesticide Residues	Ministry of Agriculture* (Armenia) that carries out Programs jointly with FAO; WHO Bureau	Concerned Ministries, Agencies, NGOs	On official requests

* probable placement of the above-mentioned materials

Literature	Location(s) (Armenia)*	Who Has Access?	How to Gain Access
Material Safety Data Sheets (industry)	Ministry of Economy*	Concerned Ministries, Agencies, NGOs	On official requests
OECD Guidelines for the Testing of Chemicals	Ministry of Economy*	Concerned Ministries, Agencies, NGOs	On official requests
Good Laboratory Practice Principles	Ministry of Health*	Concerned Ministries, Agencies, NGOs	On official requests
Good Manufacturing Practice Principles	Ministry of Economics*	Concerned Ministries, Agencies, NGOs	On official requests
WHO/UNEP Global Env. Library Network	National Library of Armenia* Republican Medical Library* Library of the Yerevan State University*	Concerned Ministries, Agencies, NGOs	On official requests

8.5 AVAILABILITY OF INTERNATIONAL DATABASES

Ministry of Nature Protection of the Republic of Armenia is the National Focal point of a number of International Environmental Conventions and Agreements:

- Convention on the Transboundary Effects of Industrial Accidents;
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal;
- Rotterdam Convention on the Prior Informed Consent Procedures for Certain Hazardous Chemicals and Pesticides in International Trade;
- Stockholm Convention on Persistent Organic Pollutants;
- Framework Convention on Climate Change;
 - Kyoto Protocol;
- Convention on Long-range Transboundary Air Pollution;
 - Protocol on Long-term Financing of the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe;
 - Protocol on Persistent Organic Pollutants;
 - Protocol on Heavy metals;
- Convention on Environmental Impact Assessment in a Transboundary Context;
- Convention to Combat Desertification;
- Convention for the Protection of the Ozone Layer:
 - Montreal Protocol on Substances that Deplete the Ozone Layer;
 - London Amendments to the Montreal Protocol
 - Copenhagen Amendments to the Montreal Protocol;
 - Beijing Amendments to the Montreal Protocol;
 - Montreal Amendments to the Montreal Protocol;
- Convention on Access to information, Public Participation in Decision Making and Access to Justice in Environmental Matters;
 - Protocol on Pollutant Release and transfer Registers; etc.
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The Ministry of Nature Protection of the Republic of Armenia is engaged in active correspondence with the Secretariats of the above-mentioned Conventions and international organizations aiming to submit the appropriate national information in the frames of country obligations and to receive the required information and data relevant to different environmental issues, including those on chemicals and wastes management.

Table 8.4 reflects information availability and accessibility of International Databases.

Table 8.4

Availability of International Databases

Database	Location(s)	Who Has Access?	How to Gain Access
IRPTC	Ministry of Nature Protection has at its disposal official publications as electronic and on-paper format	Concerned Ministries, Agencies	on official request
ILO CIS	Ministry of Labour and Social Issues	Concerned Ministries, Agencies	on official request
IPCS INTOX	Ministry of Nature Protection	Concerned Ministries, Agencies	on official request
Chemical Abstract Services Database	Information is available in the existing Internet-based format	As necessary Ministry of Nature Protection and other concerned Ministries, Agencies use data of the mentioned service system	on official request and via the official database site
Global Information Network on Chemicals (GINC)	The Republic of Armenia is not involved into this process	-	-
STN Database	The Republic of Armenia is not involved into this process	-	-

8.6 NATIONAL INFORMATION EXCHANGE SYSTEM

The Ministry of Nature Protection of the Republic of Armenia in accordance with the main provisions of Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, which was ratified in 2001, carries out a policy of active exchange of information relevant to chemicals and wastes with the Secretariats of International Conventions and Organizations

Information relevant to chemicals and wastes management issues provided by different international organizations and Secretariats of International Conventions in accordance with the requests of concerned parties (Ministries, Agencies, and country NGOs) is rendered in order to raise the awareness and to be used for making appropriate decisions.

In the frames of undertaken obligations under different International Conventions and Agreements the Ministry of Nature Protection, including the Department of Hazardous Substances and Wastes Management submits data to secretariats of conventions, including those of Basel, Rotterdam, Stockholm Conventions and the Convention on the Transboundary Effects of Industrial Accidents; the information is presented as National Reports, filled-in Specialized Questionnaires, current information on the state-of-the-art dealing with various problems relevant to chemicals and wastes management in Armenia, thus facilitating information exchange among various concerned parties.

8.7 COMMENTS AND ANALYSIS

It is necessary to mention that both the level, to which state structures and NGOs of the Republic of Armenia are provided with the appropriate equipment and their possibilities for access to information flow, international literature/publications and international electronic Data bases are insufficient due to the limited financial resources and unsatisfactory technical base.

The financial assistance provided by different International Organizations or Programmes will facilitate in obtaining better access to international information, design and establishment of National Databases on chemicals and wastes, awareness raising of concerned parties in this area, decision-making on key issues of Basel, Rotterdam, Stockholm and Aarhus Conventions relevant to wastes, hazardous chemicals, pesticides and persistent organic pollutants with the aim to carry out pre-planned actions.

Chapter 9. Technical Infrastructure

9.1. BRIEF DESCRIPTION OF LABORATORY INFRASTRUCTURE

In the Republic of Armenia there is a wide laboratory infrastructure, embracing a number of accredited bodies for certification and accredited test laboratories, which on a contractual basis perform sanitary chemical, sanitary hygienic, analytic chemistry studies, as well as determination and identification of unknown chemicals.

Accredited laboratories also perform monitoring of residual amounts of certain chemicals in environmental media (air and surface waters). In addition, based on contracts residues of Persistent Organic Pollutants (organochlorine pesticides, PCBs) are determined in environmental media (air, soil, surface waters), foodstuffs and agricultural produce in order to assess/evaluate the levels of pollution and to prevent their possible unfavourable impact to human health and the environment.

In 2007 within the frames of state control in the sphere of standardization, certification and accreditation, as well as for compliance with the obligatory requirements of regulatory normative documents the appropriate activity was performed in Armenia. The following indicators can characterize mentioned activity: in the area of standardization 322 national Standards were adopted and obtained state registration; 214 intergovernmental, 48 international and 60 standards of the republic of Armenia were implemented. There were registered 530 technical specifications related to industrial produce manufacturing in the Republic of Armenia and 15 Guidelines published as reference material.

In the area of certification there were issued 10811 Certificates of Compliance: 10137 for the imported goods, 118 certificates for the exported production and 556 certificates for serial production in the Republic of Armenia.

In 18 case applications for certification of produce were rejected: 16 applications because the produce failed to comply with the normative documents. At the territory of the Republic of Armenia 5 bodies of certification and 21 laboratories were accredited.

In 2006-2007, certain types of produce, either imported or manufactured in the Republic of Armenia were not certified because of low-quality; among them were mineral fertilizers (sodium nitrate), engine oil, diesel oil, braking fluid, foodstuffs, etc. The dynamic indices related to processes of standardization, certification and accreditation since 2003 to 2007 are presented in Tables 9.1-9.2.

Table 9.1

Dynamic indices related to the process of standardization in the Republic of Armenia

Indices	2003	2004	2005	2006	2007
Number of national standards that obtained state registration	165	306	353	167	322
Number of implemented intergovernmental standards	143	230	215	116	214
Number of implemented international standards	9	44	89	16	48
Number of implemented national standards	13	32	49	35	60
Number of registered technical requirements to products manufactured in Armenia	340	411	410	448	530
Number of published Guidelines (reference materials)	9	13	7	14	15

Table 9.2

Dynamic indices of certification and accreditation in the Republic of Armenia

Indices	2003	2004	2005	2006	2007
Number of issued Compliance Certificates,	5384	6566	8565	10837	10811
Incl. those for:					
Imported produce	4359	5651	7707	9250	10137
Exported produce	559	202	447	115	118
Serial manufacturing of produce	466	713	411	1472	556
Number of accredited bodies of certification	-	17	21	7	5
Number of accredited laboratories for certification	6	38	39	22	21

In order to arrange sanitary chemical, sanitary hygienic, analytic chemistry studies, as well as for implementation of main statements of the Republic of Armenia Law “On guaranteeing the uniformity of measurements in the Republic of Armenia” the Department of Standardization, Metrology and Confirmation of Compliance at the Ministry of Economy of the Republic of Armenia there performs accreditation of bodies of certification for production, services, quality systems, as well as research (test) laboratories of different Ministries and Agencies (Tables 9.3-9.4).

Table 9.3

List of Accredited Bodies for Certification in the Republic of Armenia

(as of February 16, 2007)

NN	Code / Registration number	Accredited Body: name, address, phone	Period of accreditation (date of issue/ valid until)
1.	A25 AST-001.L-0001-2006	“P. Abadjyan” Ltd. Co., production certifying body, 2a Ashtarak highway, Yerevan, Armenia Phone: (374 10) 34-44-55	2006/05/11 2009/05/11
2.	A12 AST-001.L-0002-2006	“Redicom” CJSC, production certifying body, 23 Davit Anhakht Street, Yerevan, 0014, Armenia Phone: (374 10) 24-94-18, 24-94-13	2006/09/29 2009/09/29
3.	A10 AST-001.L-0001-2007	“Shincertificate” Ltd. Co., production certifying body, 19a Koryun Street, Yerevan, 0025, Armenia Phone: (374 10) 54-14-01	2007/02/15 2012/02/15
4.	A17 AST-001.L-0002-2007	“Lalvar Test” CJSC, production certifying body, 51 Ulnetsi Street, apt.25, Yerevan, Armenia Phone: (374 10) 24-35-69	2007/02/15 2010/02/15
5.	A09 AST-001.L-0003-2007	“Oktan-Test” CJSC, production certifying body, 30a Emin Street, Yerevan, Armenia Phone: (37410) 23-66-59	2007/02/03 2012/02/03
6.	A01 AST-001.L-0006-2005	“National Institute of Standards” CJSC, production certifying body, 49/2 Avenue, Yerevan, 0051, Armenia Phone: (374 10) 23-10-33	2005/12/28 2008/12/28
7.	A07 AST-001.L-0016-2001	“Narek” scientific-research CJSC, production certifying body, 4 Getar Street, Yerevan, 0051, Armenia Phone: (374 10) 52-45-19	2005/12/28 2008/12/28
8.	A03 AST-001.L-0008-2005	“Vanadzor-Test” CJSC, production certifying body, 94 Yerevanyan Street, 377219, Vanadzor, Armenia Phone: (374 322) 5-65-46	2005/12/28 2008/12/28

NN	Code / Registration number	Accredited Body: name, address, phone	Period of accreditation (date of issue/ valid until)
9.	A04 AST-001.L-0009- 2005	“Kapan-Test”, CJSC, production certifying body 41 Stepanyan Street, Kapan, Armenia, Phone: (374 285) 6-43-02	2005/12/28 2008/12/28
10.	A16 AST-001.L-0010- 2005	“Agarak-Test” CJSC, production certifying body, 10/10 R.Minasyan Street, Kapan, Armenia Phone: (374 285) 6-53-51	2005/12/28 2008/12/28
11.	A21 AST-001.L-0011- 2005	“Buta Beton” CJSC, production certifying body, Verin Ptghni, Kotayk Marz, Armenia Phone: (374 10) 28-95-95	2005/12/28 2008/12/28
12.	A24 AST-001.L-0012- 2005	“Mavas Group” CJSC, production certifying body, 14 Ajvazovski street, Yerevan, Armenia Phone: (374 93) 77-30-80	2005/12/28 2008/12/28
13.	A02 AST-001.L-0013- 2005	“Gyumri-Test” CJSC, production certifying body 68 Shirakatsu Street, Gyumri 3777518, Armenia Phone: (374 312) 3-18-36	2005/12/28 2008/12/28
14.	A23 AST-001.L-0005- 2005	“Radioskat” CJSC, production certifying body, 49/2 Babayan Street, Yerevan, Armenia Phone: (374 10) 23-51-61	2005/10/25 2007/10/25
15.	B01 AST-001.M-0002- 2005	“National Institute of Standards” CJSC, production certifying body, 49/2 Avenue, Yerevan, 0051, Armenia Phone: (374 10) 23-51-61	2005/12/28 2008/12/28
16.	B04 AST-001.M-0003- 2005	“Anna-Hasmik” Ltd. Co., services certifying body, 23/3 Anhakht Street, Yerevan, 0014, Armenia Phone: (374 10) 24-92-04	2005/12/28 2010/12/28
17.	B06 AST-001.M-0004- 2005	“NPC” Ltd. Co., service certifying body, 25 Pushkin Street, 0002, Armenia Phone: (374 10) 53-27-72	2005/12/28 2008/12/28

NN	Code / Registration number	Accredited Body: name, address, phone	Period of accreditation (date of issue/ valid until)
18.	B08 AST-001.M-0005- 2005	“Gyumri-Test” CJSC, services certifying body, 68 Shirakatsu Street, Gyumri, 3777518, Armenia Phone: (374 312) 3-18-36	2005/12/28 2008/12/28
19.	B03 AST-001.M-0006- 2005	“Kapan-Test” CJSC, services certifying body 41 M. Stepanyan Street Kapan, 377810, Armenia Phone: (374 285) 6-28-37	2005/12/28 2008/12/28
20.	B07 AST-001.M-0007- 2005	“Agarak-Test” CJSC, services certifying body, 10/10 R.Minasyan street, Kapan, Syunik Marz, Armenia Phone: (374 285) 6-53-51	2005/12/28 2008/12/28
21.	C01 AST-001.N-0001- 2005	“National Institute of Standards” CJSC, Quality systems certifying body 49/2 Komitas Avenue, Yerevan, 0051 Armenia Phone: (374 10) 23-45-97	2005/12/28 2008/12/28
22.	D01 AST-001.P-0001- 2005	“National Institute of Standards” CJSC, Quality systems certifying body 49/2 Komitas Avenue, Yerevan, 0051 Armenia Phone: (374 10) 23-58-60	2005/10/25 2008/10/25
23.	H02 AST-001.R-0001- 2007	“ShinCertificate” Ltd. Co., persons certifying body 19a Koryun Street Yerevan, 0025, Armenia Phone: (374 10) 54-14-01	2007/02/15 2012/02/15

Table 9.4

List of accredited test laboratories in the Republic of Armenia
(as of April 14, 2008)

No.	Code/registration number	Laboratory: name, address, phone	Period of accreditation (date of issue/ valid until)
1.	F44 AST-001.Q-0001-2006	“P. Abadjyan” Ltd. Co., Test laboratory 2a Ashtarak highway, Yerevan, Armenia Phone: (374 10) 34-44-55	2006/05/11 2009/05/11
2.	F50 AST-001.Q-0001-2007	“Lalvar Test” Ltd. Co., Test laboratory, 3 Aharonyan Street, Yerevan, Armenia Phone: (374 10) 24-35-69	2007/02/15 2010/02/15
3.	F56 AST-001.Q-0001-2008	“Ecokentron” SNCO at the Nnational Academy of Sciences of the Republic of Armenia; Central analytical test laboratory, 68 Abovyan Street, Yerevan, Armenia Phone: (374 10) 56-22-45- /17/; 56-93-31; 56-35-70-/17/	2008/01/10 2013/01/10
4.	F45 AST-001.Q-0002-2006	“ArmRusGazard” CJSC, “Armenian Gazmash” Ltd. Co. Test laboratory , Norapat village, 5-th Street, apt.3, Armavir Marz, Armenia, Phone: (374 237) 6-06-34	2006/04/13 2009/04/13
5.	F26 AST-001.Q-0002-2007	“Plant Nairit” CJSC Test laboratory, 70 Bagratunyants Street, Yerevan, Armenia Тел: (374 10) 48-24-39	2007/02/15 2010/02/15
6.	E72 AST-001.Q-0002-2008	“Agarak-Test” CJSC Test laboratory, 9 Sayat-Nova Street Agarak, Syunik Marz, Armenia Phone: (374 286) 6-55-43	2008/02/20 2011/02/20
7.	E74 AST-001.Q-0003-2003	“Autogen-M” CJSC Test laboratory, 8 Tumanyan Street, Vanadzor Phone: (374 322) 4-20-09, 2-27-05	2003/09/03 2008/09/03
8.	F51 AST-001.Q-0003-	“Republican veterinary antiepidemic and diagnostic centre» SNCO	2007/02/15 2010/02/15

No.	Code/registration number	Laboratory: name, address, phone	Period of accreditation (date of issue/ valid until)
	2007	Test laboratory, 70 Erebuni Street, Yerevan Phone: (374 10) 45-40-31	
9.	F57 AST-001.Q-0003- 2008	“IGVI” CJSC Test laboratory, 5 industrial zone, Razdan, Kotayk Marz, Armenia Phone: (374 223) 42-19-63; 52-17-75 -/419/	2008/02/20 2008/12/20
10.	E06 AST-001.Q-0004- 2006	“Research Institute of balneology and physical medicine CJSC”, Ministry of Health, Republic of Armenia Test laboratory of physico-chemical and microbiological research , 41 Orbeli Street, Yerevan, Armenia Phone: (374 10) 26-60-30; 26-60-02	2006/05/11 2009/05/11
11.	E92 AST-001.Q-0004- 2007	“Kapan-Tesa” CJSC, Test laboratory, 43 M.Stepanyan Street, Kapan, Armenia Phone: (374 285) 6-25-75	2007/02/15 2010/02/15
12.	E50 AST-001.Q-0005- 2006	“Armelectromash” JSC, Test laboratory , 41 Manandyan Street, Yerevan, Armenia Phone: (374 10) 42-41-00; 42-06-83	2006/05/11 2008/05/11
13.	F27 AST-001.Q-0005- 2007	“Kapan-Tesa”CJSC, Test laboratory , Agarak, Armenia Phone: (374 286) 6-43-02	2007/02/15 2010/02/15
14.	F21 AST-001.Q-0006- 2006	“Ashtarak-Kat” CJSC Test laboratory, Agarak, Aragatsotn Marz, 378410, Armenia Phone: (374 10) 28-08-04	2006/05/11 2009/05/11
15.	E52 AST-001.Q-0006- 2007	“Electromark” Ltd. Co. Test laboratory, 74 Shirak Street, Yerevan, Armenia Phone: (374 10) 42-28-01	2007/02/15 2010/02/15
16.	F24 AST-001.Q-0007- 2004	“Scientific Research Centre of the Republic of Armenia” SNCO Food analysis test laboratory, 3 Sargsyan Street, Yerevan, Armenia Phone: (374 10) 58-59-50; 58-11-81	2004/02/02 2009/02/02

No.	Code/registration number	Laboratory: name, address, phone	Period of accreditation (date of issue/ valid until)
17.	E67 AST-001.Q-0007-2006	“Tamara” Ltd. Co., Test laboratory, 1 Nairyan Street, Abovyan, 378510, Armenia Phone: (374 10) 28-16-24; (374 222) 3-00-36	2006/05/11 2009/05/11
18.	E61 AST-001.Q-0007-2007	“Agarak-Test” Ltd. Co. Test laboratory for foodstuff and agricultural produce, 9 Sayat-Nova, Agarak, 377518, Armenia Phone: (374 286) 6-53-51	2007/02/15 2010/02/15
19.	F46 AST-001.Q-0008-2008	“AiArAik” CJSC Test laboratory, 9a Sayat-Nova by-street, Armavir, Armavir Marz, Armenia Phone: (374 91) 56-16-99; (374 237) 6-74-74	2006/05/11 2008/05/11
20.	E18 AST-001.Q-0008-2007	“StroiCertificate” CJSC, Test laboratory 19a Koryun Street, Yerevan, Armenia Phone: (374 10) 58-31-63	2007/02/15 2012/02/15
21.	E91 AST-001.Q-0009-2006	“Remdiesel” CJSC, Test laboratory for quality control of greases/lubricants of internal-combustion engines Balahovit Quarter Kotayk marz, Armenia Phone: (374 10) 62-05-40	2006/05/11 2009/05/11
22.	F52 AST-001.Q-0009-2007	“Ararat 73” CJSC Test laboratory, 124 Baghramyan Street, Stepanavan, Lori Marz, Armenia Phone: (374 256) 2-22-88, (374 91) 42-94-65	2007/03/06 2010/03/06
23.	F31 AST-001.Q-0010-2006	“Arpa-Sevan” JSC Test laboratory, 104 Artashesyan Street, Yerevan, Armenia Phone: (374 10) 42-16-43	2006/05/11 2009/05/11
24.	F36 AST-001.Q-0010-2007	“Orbita” CJSC Test laboratory, 20 Mikoyan Street, Yerevan, Armenia Phone: (374 10) 63-65-98	2007/07/16 2010/07/16

No.	Code/registration number	Laboratory: name, address, phone	Period of accreditation (date of issue/ valid until)
25.	E86 AST-001.Q-0011-2006	“Redicom” CJSC Test laboratory of telecommunication means and systems, 23 Davit Anhakht Street Yerevan, Armenia Phone: (374 10) 24-94-18; 24-94-13	2006-09-29 2009/09/29
26.	F53 AST-001.Q-0011-2007	“Expert Tech” CJSC Test laboratory, 5 Arin-Berd 4 th by-street, Yerevan, Armenia Phone: (374 10) 47-47-95; (374 91) 40-33-57	2007/08/13 2008/06/14
27.	F47 AST-001.Q-0012-2006	“Monitoring Center of influence on environment” SNCO Test laboratory, 29 Komitas Avenue, Yerevan, Armenia Phone: (374 10) 27-20-07	2006/10/13 2011/10/13
28.	E56 AST-001.Q-0012-2007	“Avan Salt combinat” CJSC, Test laboratory 4 Acharyan 2 nd by-street Yerevan, Armenia Phone: (374 10) 62-85-60; 62-58-10	2007/10/30 2010/10/30
29.	E80 AST-001.Q-0013-2006	“Technoport” CJSC Test laboratory, 36 T. Petrosyan Street, Yerevan, Armenia Phone: (374 10) 36-15-12	2006/10/13 2009/10/13
30.	E10 AST-001.Q-0013-2007	“Dorprojectstroy” Institute CJSC Test laboratory, 546 Acharyan Street, Yerevan, Armenia Phone: (374 10) 62-58-10; 62-85-60	2007/10/30 2010/10/30
31.	E35 AST-001.Q-0014-2006	“Research Institute Armseismostroy” JSC Test laboratory, 3 Aharonyan Street, Yerevan, Armenia Phone: (374 10) 28-32-60; 28-37-97	2006/10/13 2009/10/13
32.	E01 AST-001. L-0014-2007	“National Institute of Standards” CJSC Test laboratory, 49/2 Komitas Avenue, Yerevan, 0051, Armenia Phone: (374 10) 23-46-68	2007/10/30 2011/10/30
33.	F48 AST-001.Q-0015-	“Dustr Marianna” CJSC Test laboratory, 6-th Akhtanak Street,	2006/10-13 2009/10/13

No.	Code/registration number	Laboratory: name, address, phone	Period of accreditation (date of issue/ valid until)
	2006	apt.17, Yerevan, 0051, Armenia Phone: (374 10) 73-93-83; 73-93-13	
34.	E98 AST-001.Q-0015- 2007	“Artsakhdor” Institute, CJSC Test laboratory 24 Acharyan 1 st by-street Street, Yerevan, Armenia Phone: (374 10) 62-83-00; 62-89-73	2007/10/30 2010/10/30
35.	E83 AST-001.Q-0016- 2006	“Agrochemical service” SNCO of Ministry of Agriculture Test laboratory, 22a Admiral Isakov Street, Yerevan, Armenia Phone: (374 10) 77-29-06	2006/10/13 2009/10/13
36.	F54 AST-001.Q-0016- 2007	“ArsDPL” CJSC Test laboratory, 2nd Quarter 8 Davitashen Street, Yerevan, Armenia Phone: (374 93) 36-05-19	2007/10/30 2010/10/30
37.	F49 AST-001.Q-0017- 2006	“Grizon-95” CJSC Test laboratory, 3 Bagrevand Street, Yerevan, Armenia Phone: (374 10) 53-88-52	2006/10/13 2009/10/13
38.	F55 AST-001.Q-0017- 2007	“Gas Comfort” CJSC Test laboratory, 3/2 Shirak Street, Yerevan, Armenia Phone: (374 10) 42-07-23	2007/10/31 2008/10/30
39.	E36 AST-001.Q-0018- 2005	“National Institute of Standards” CJSC Test laboratory, 49/2 Komitas Avenue, Yerevan, 0051, Armenia Phone: (374 10) 23-52-45	2005/12/28 2008/12/28
40.	F32 AST-001.Q-0018- 2006	“Armenian Cooper Program” CJSC 4 Kirov Street, Alaverdi, Lori Marz Phone: (374 253) 54-01-84; 54-01-85	2006/10/13 2009/10/13
41.	E24 AST-001.Q-0018- 2007	“Plant quarantine and protection service” SNCO Test laboratory, Merdzavan, Armavir Marz Phone: (374 91) 41-53-18	2007/10/31 2010/10/30
42.	E33 AST-001.Q-0019-	“Octan-Test” CJSC, Physical-chemical Test laboratory	2005/12/28 2008/12/28

No.	Code/registration number	Laboratory: name, address, phone	Period of accreditation (date of issue/ valid until)
	2005	30a Emin Street, Yerevan, 375051, Armenia Phone: (374 10) 24-97-84	
43.	E03 AST-001.Q-0019- 2007	“Narek” research CJSC Test laboratory of physico-chemical and microbiological research, 4 Getar Street, Yerevan, Armenia Phone: (374 10) 52-65-27	2007/10/31 2010/10/30
44.	E09 AST-001.Q-0020- 2005	“Oktan-Test” CJSC, Test laboratory, 30a Emin Street, Yerevan, 375051, Armenia Phone: (374 10) 24-97-83	2005/12/28 2008/12/28
45.	E47 AST-001.Q-0020- 2007	“Yerevan Cognac plant” CJSC, Test laboratory 2 Admiral Isakov Street, Yerevan, Armenia Phone: (374 10) 54-00-00	2007/11/02 2012/10/30
46.	F35 AST-001.Q-0021- 2005	“Anna-Hasmik” CJSC “Expert Service laboratory” Test laboratory, 23/3 Davit Anhakht Street, Yerevan, 0014, Armenia Phone: (374 10) 24-92-04; 24-18-99	2005/12/28 2010/12/28
47.	E65 AST-001.Q-0021- 2007	“Razdan TPP” JSC Test laboratory, 1 Gortsaranayin Street, Razdan, Kotayk Marz, Armenia Phone: (374 223) 2-36-12	2007/11/16 2010/10/30
48.	E21 AST-001.Q-0022- 2005	“Gyumri-Test” CJSC, Test laboratory, 68 Shirakatsi Street, Gyumri, Armenia Phone: (374 312) 3-18-36; 2-18-33	2005/12/28 2008/12/28
49.	E22 AST-001.Q-0023- 2005	“Gyumri-Test” CJSC, Test laboratory for electrical devices and equipments, 68 Shirakatsi Street, Gyumri, Armenia Phone: (374 312) 3-18-36; 2-18-33	2005/12/28 2008/12/28
50.	E31 AST-001.Q-0024- 2005	“Vanadzor-Test” CJSC, Test laboratory for electrical devices and equipments, 94 Yerevanyan Street, Vanadzor, 377219, Armenia	2005/12/28 2008/12/28

No.	Code/registration number	Laboratory: name, address, phone	Period of accreditation (date of issue/ valid until)
		Phone: (374 322) 5-65-46	
51.	E30 AST-001.Q-0025-2005	“Vanadzor-Test” CJSC, Test laboratory, 94 Yerevanyan Street, Vanadzor, 377219, Armenia Phone: (374 322) 5-65-46	2005/12/28 2008/12/28
52.	E04 AST-001.Q-0026-2005	“Vanadzor-Test” CJSC, Test laboratory for foodstuffs and agricultural produce, 94 Yerevanyan Street, Vanadzor, 377219, Armenia Phone: (374 322) 5-65-46	2005/12/28 2008/12/28
53.	E43 AST-001.Q-0027-2005	“Vanadzor-Test” CJSC Building materials test laboratory, 94 Yerevanyan Street, Vanadzor, 377219, Armenia Phone: (374 322) 5-65-46	2005/12/28 2008/12/28
54.	F06 AST-001.Q-0028-2005	“Kapan-Test” CJSC Test laboratory for foodstuffs and agricultural produce, 4 M. Stepanyan Street, Kapan, Armenia Phone: (374 285) 6-43-02	2005/12/28 2008/12/28
55.	F30 AST-001.Q-0029-2005	“Kapan Laboratory” CJSC Test laboratory, Agarak, Armenia Phone: (374 286) 2-15-15	2005/12/28 2008/12/28
56.	E88 AST-001.Q-0030-2005	“Dino Gold Mining Company” CJSC Test laboratory, 4 Gortsaranain Street, Syunik Marz, Armenia Phone: (374 286) 6-20-40; 28-36-71	2005/12/28 2008/12/28
57.	F34 AST-001.Q-0031-2005	“Buta Beton” CJSC Test laboratory, Verin Ptghni, Kotayk Marz, Armenia Phone: (374 10) 28-95-95	2005/12/28 2008/12/28
58.	F39 AST-001.Q-0032-2005	“Ararat gold-mining enterprise” Ltd. Co. Test laboratory for chemical researches, Ararat, Armenia, “ARADG” Ltd. Co. Phone: (374 10) 28-46-41	2005/12/28 2008/12/28

No.	Code/registration number	Laboratory: name, address, phone	Period of accreditation (date of issue/ valid until)
59.	F40 AST-001.Q-0033-2005	“Ararat gold-mining enterprise” Ltd. Co. Test laboratory, Sotk gold-mine, Gegharkunik Marz, Armenia Phone: (374 10) 28-60-51	2005/12/28 2008/12/28
60.	F41 AST-001.Q-0034-2005	“Ararat gold-mining enterprise” Ltd. Co. Test laboratory, gold-mine, Meghradzor, Kotayk Marz, Armenia Phone: (374 10) 28-17-12	2005/12/28 2008/12/28
61.	F41 AST-001.Q-0035-2005	“Mavas Group” Ltd. Co. Test laboratory, 28 Arshakunyants 1 st by- street, Yerevan, Armenia Phone: (093) 77-30-80	2005/12/28 2008/12/28
62.	F38 AST-001.Q-0036-2005	“Radioscan” Ltd. Co. Test laboratory, 11/18 Tigranyan Street, Yerevan, Armenia Phone: (3741 0) 23-73-92	2005/12/28 2008/12/28
63.	F43 AST-001.Q-0037-2005	“Hoktemberyan ferroalloy plant” Ltd. Co. Test laboratory for chemical research, 3 Shahumyan Street, Armavir Marz, Armenia Phone: (374 237) 6-25-30	2005/12/28 2008/12/28
64.	E08 AST-001.Q-0038-2005	“Mining Institute” CJSC Test laboratory, 19 Khandjyan Street, Yerevan, Armenia Phone: (374 10) 52-22-55	2005/12/28 2008/12/28
65.	E46 AST-001.Q-0039-2005	“Energy research Institute” CJSC Test laboratory for energy measurement, 5/1 Myasnikyan Street, Yerevan, Armenia Phone: (374 10) 54-07-69	2005/12/28 2008/12/28
66.	F08 AST-001.Q-0040-2005	“Analytic” CJSC Central test laboratory, 29 Phone: (374 10) 27-50-73	2005/12/28 2008/12/28
67.	E02 AST-001.Q-0041-2005	“National Institute of Health after S.Avdalbekyan” Sanitary-hygienic test laboratory, 49/4 Komitas Avenue, Yerevan, Armenia Phone: (374 10) 23-71-74	2005/12/28 2008/12/28
68.	E60 AST-001.Q-0042-	“ArmRusGazard” CJSC Test laboratory, 43 Tbilisi Highway	2005/12/28 2008/12/28

No.	Code/registration number	Laboratory: name, address, phone	Period of accreditation (date of issue/ valid until)
	2005	Yerevan, Armenia Phone: (374 10) 29-47-49	
69.	F10 AST-001.Q-0043- 2005	“Avshar winery” Ltd. Co., Avshar, Ararat marz, 378222, Armenia Phone: (374 238) 2-34-80	2005/12/28 2008/12/28
70.	F03 AST-001.Q-0044- 2005	“Manana Grain” Ltd. Co. Test laboratory, Armash, Ararat marz, Armenia Phone: (374 238) 4-46-85	2005/12/28 2008/12/28
71.	E87 AST-001.Q-0045- 2005	“SGO” industrial cooperative Test laboratory, 59 Artsakhi Street, Yerevan, 375041, Armenia Phone: (374 10) 47-02-22	2005/12/28 2008/12/28
72.	E37 AST-001.Q-0046- 2005	“Armenia” International airports” CJSC, Test laboratory of aviafilling service, 8 Hanrapetutyan Street, Yerevan, Armenia Phone: (374 10) 28-20-36	2005/12/28 2008/12/28
73.	E99 AST-001.Q-0047- 2005	“Directorate of Highways of Armenia” CJSC, Test laboratory, 21 Nalbandyan Street, Yerevan, Armenia, Phone: (374 10) 52-83-33	2005/12/28 2008/12/28
74.	E12 AST-001.Q-0048- 2005	“Center of Disease Prevention and Control” CJSC, Test laboratory, 37 Malyan Street, Yerevan, Armenia, Phone: (374 10) 61-33-93	2005/12/28 2008/12/28

Chapter 10: Emergency Preparedness

Considering the importance and urgency to prevent the grave harmful impacts of industrial accidents towards humans and the environment, as well as necessity to facilitate in actions on accident prevention, ensuring preparedness to accidents and liquidation of their consequences in order to achieve environmentally sound and sustainable economic development, the Republic of Armenia ratified the “UN ECE Convention on Transboundary Effects of Industrial Accidents” (1997).

In order to meet country obligations under the Convention the Decision of the Government of the Republic of Armenia was adopted “On assignment of competent authorities and establishment of the point of contact presupposed by the Convention on Transboundary Effects of Industrial Accidents (No.261 of march 31, 2001), in accordance with which the following structures were approved as competent authorities:

- Ministry of Nature Protection in concern of issues relevant to environmental protection against the impact of industrial accidents;
- Department of Emergency Situations at the Government of the Republic of Armenia (currently: the ministry of Emergency Situations) – in concern of issues relevant to industrial accidents risk reduction, prevention and liquidation of their consequences in case of such accidents.

In the Republic of Armenia in order to protect human health and ensure healthy environment the legal/legislative basis is established as the background for decision-making on prevention of industrial accidents, ensuring preparedness to accidents and liquidation of their after-effects, which can cause transboundary impacts.

In the Republic of Armenia in accordance with the Governmental Decision “On approval of the Statute of Safety Passport of industrial entities in the Republic of Armenia” (No.702 of November 11, 1998) the Safety Passports of industrial entities are worked out and approved in order to prevent the occurrence of technogenic (man-made) emergency situations, as well as to reduce the risk of unfavourable impacts of hazardous chemical, physical and biological substances and harmful work-place environment.

For regulation of the above-mentioned issues the List of industrial entities potentially prone to industrial accidents is annually compiled and approved. The List embraces entities at which hazardous chemicals, flammable, explosive substances are used, produced, processed, stored or transported at quantities that might present hazard for population and the environment. To potentially hazardous substances are related chemicals which according to their physical, chemical, biological or toxic properties are dangerous for human health and life, as well as for the environment. Moreover, the degree of hazard of this or that entity is also determined proceeding from the geographic and climatic conditions of the localization of the industrial entity.

Facilities embraced in List of entities potentially subject to industrial accidents obligatory submit Draft Safety Passports to the Department of emergency situations (since April 2008 to the Ministry of Emergency Situations) for expertise examination and approval thereof. For approval of a Safety Passport of the industrial entity the positive expert conclusion of the Department of Emergency Situations based on the outcomes of expertise examination of

submitted materials of the Safety Passport performed by the Ministry of Nature Protection and the national Center on Technical Safety is required.

In Safety Passports of the enterprises detailed information is provided on hazardous chemicals and wastes, which are produced, used, re-cycled or stored at this industrial entity, their quantity, as well as data on physical and chemical characteristics, toxicological description. In addition, the Safety Passports contain also the analysis of risks for emergency situations occurrence of natural and technogenic (man-made) character, the estimation on the probable area of pollution by the hazardous substances in case of industrial accident.

In accordance with the requirements of the Safety Passport for each industrial facility, which is potentially subject to industrial accidents, a Plan of required actions is worked out for emergency use at the industrial premises and outside the industrial site. Industrial enterprises should be prepared to take measures on localization and liquidation of the accident consequences at dangerous undertaking, including establishment of reserve of financial and material resources, system on observance, notification, communication, and training of employees to act in case of an accident.

To ensure preparedness to emergency situations the employees of the hazardous facilities get special instructions, trainings on safe methods of professional activity and rules of conduct in case of emergency. Appropriate trainings are regularly held.

The aim of the Safety Passport is analysis and evaluation of the working environment and conditions under which there occur the use, production, processing, storage or transportation/movement of hazardous chemicals and wastes, which proceeding from their physical, chemical, biological or toxic properties might present hazard for the population and the environment. On the base of expertise examination the materials are evaluated in concern of analysis of emergency situations occurrence risks, either natural or technogenic, estimations on the probable area of pollution by the hazardous substances in case of industrial accident, as well as preparedness to activity on localization and liquidation of consequences of industrial accidents.

The problem of risk assessment and evaluation is one of the urgent challenges nowadays, as the evaluation is targeted at revealing the hazardous modes of chemicals' application which present the unacceptable (high) risk for human health and the environment. The authorized state bodies bear the main responsibility for exchange/sharing of information on risk including data on main types of hazards and threats, on precautionary measures while applying hazardous substances, in case of emergency situations resulting from accidents, on measures to be implemented and actions on sound disposal of such substances.

It should be mentioned that certain issues of hazardous activity identification are regulated by the Republic of Armenia "Law on Licensing in accordance with which all types of activity connected with processing, treatment, storage, transportation and placement/ disposal of hazardous wastes is subject to obligatory licensing.

Proceeding from this, by the Decision of the Government of the Republic of Armenia the "Order on licensing of activity on processing, treatment, storage, transportation and disposal of hazardous wastes in the Republic of Armenia" (No.121-N) was approved as well as the Decision of the Prime Minister of the Republic of Armenia "On approval of the membership and order of activity of inter-departmental commission on licensing of activity on recycling,

treatment, storage, transportation and placement/disposal of hazardous wastes in the Republic of Armenia” (No. 46-N of February 5, 2004).

In addition to the abovementioned, according to the Law on Environmental Impact Expertise the newly designed for construction, re-constructed and exploited facilities are subject to environmental and/or nature protection expertise in order to evaluate and reduce the possible unfavourable impact of the given industrial entity to the state of the environment.

In order to facilitate more efficient implementation of country-specific obligations and to identify specific problems and needs of the Caucasian and Central Asian countries for implementation of the Convention on the Transboundary Effects of Industrial Accidents the Subregional Workshop was held in the Republic of Armenia (Yerevan, March 13-15 2003). The Workshop was devoted to pro-active discussion of the mentioned issues.

The Workshop objectives were:

- To identify key obstacles encountered by the Caucasian and Central Asian UNECE member countries in acceding to and implementing the Industrial Accidents Convention;
- To provide information on the Convention and “Seveso II” Directive and on how they are being implemented in other countries of the UNECE region; and
- To try to work out an internationally supported programme to assist the above-mentioned countries in overcoming their problems while meeting obligations under the Convention..

During the Workshop there were tackled the issues relevant to discussion on the experience of Germany in concern of safety measures at industrial facilities, the experience of the Russian Federation on monitoring in the area of implementation and enforcement of Technical Safety Rules, the civil defense in Sweden and bi-lateral civil defense-related agreements in Baltic Sea region, as well as the experience of Italy in using the system of planning and managing the emergency situations resulting from major industrial accidents, etc.

At the Workshop there were also presented:

- information about the Convention on the Transboundary Effects of Industrial Accidents and European Union’s “Seveso II” Directives and their implementation by UNECE member countries;
 - Main obligations/duties under the Convention on the Transboundary Effects of Industrial Accidents;
 - “Seveso II” Directives as the mechanism of the European Union on implementation of the Convention on the Transboundary Effects of Industrial Accidents;
 - prospects and tasks encountered while implementing the Convention on the Transboundary Effects of Industrial Accidents;
 - implementation of the efficient safe management system;
 - the role of the inspection on labour safety (occupational safety and health) for prevention of industrial accidents;

- cooperation of CIS/NIS countries in issues relevant to industrial accident prevention;
- further development of transboundary cooperation for prevention of hazardous impact related risk in the basin of Kura river, etc.

In addition as two parallel Discussion Sessions there were arranged to identify subregional and country-specific obstacles to acceding and implementing the Industrial Accidents Convention. Discussions were devoted to the following issues:

- Issues within the competence of the authorities; and
- Issues within the competence of industrial establishments.

Apart from the above-mentioned, Coordinators of the 2 parallel sessions made presentations on the drawn conclusions, on the base of which there took place the concluding session and summarizing discussions.

At the Subregional Workshop there were also discussed issues dealing with drawing up key elements of an assistance programme for the Caucasian and Central Asian UNECE member countries; this latter also facilitated preparation and initiation of the “Internationally supported assistance program for Eastern European, Caucasian and Central Asian countries” aimed at pro-active efforts in implementing the Convention on the Transboundary Effects of Industrial Accidents.

In order to raise the efficient implementation of UNECE Convention on the Transboundary Effects of Industrial Accidents, to strengthen prevention of, control on and decrease of industrial accidents at tailing dams the United Nations Economic Commission for Europe (UNECE), Secretariat of the Convention on the Transboundary Effects of Industrial Accident jointly with the Ministry of Nature Protection of the Republic of Armenia arranged and held the Workshop on Safety of Tailing Management Facilities (Yerevan, 12-14 November, 2007).

The main goals of the Workshop were as follows:

- Information exchange/sharing on experience and good practices in line with the national and international safety guidelines drawn up for prevention, control and reduction of tailing dam failures;
- Discussion on amendments and comments to the “Draft Safety Guidelines and Good Practices for tailing management facilities” prepared by the group of international experts in the appropriate area.

During the Workshop there were discussed issues relevant to management systems, inspections and emergency planning for tailing dams, as well as the pre-construction and closing. Workshop participants considered the key challenges related to safety of tailing dams as specific facilities and shared information on:

- Importance of the pre-construction stage of tailing dams while planning and preparing design documentation, issuing license(s), environmental impact assessment and evaluation and remediation measures;
- Management systems and safety at tailing dams;
- inspections;
- emergency planning for tailing dams.

The following issues were emphasized while discussing the key issues:

- training for the authorities and tailing dam operators;
- public awareness on and public participation in the “life-cycle” of the tailing dams;
- transboundary context;
- abandoned and orphan tailing dam sites.

The Workshop participants discussed also issues related to abandoned and orphan tailing dam sites, including their withdrawal and remediation. On the basis of the wide experience previously gained by the Workshop participants there were presented amendments and comments to the first “Draft Safety Guidelines and Good Practices for tailing management facilities” prepared by the group of experts. The presented methodic document embraces principles on safe and sound management of tailing dams, technical and organizational aspects, the role of mining and other industrial sectors in the context of sustainable development, etc.

It was emphasized that accidents at tailing management facilities might cause direct influence not only to actions and activity of the concerned company, but can have impacts on the mining sector as such. All over the world these issues are constantly on the agenda of recent conferences aimed to raise the awareness and are actively discussed by such organizations as UNEP, WWF, as well as World Summit on Sustainable Development (2002). Mentioned organizations draw specific attention to sound, sustainable development of mining and industrial sectors that involves raising safety at tailing dams. Therefore, the Workshop organizers, experts and participants emphasized that drawing up and approval of the “Safety Guidelines and Good Practices for tailing management facilities” is an important stage and efficient tool for prevention, ensuring preparedness to and liquidation of consequences of industrial accidents, including those at tailing dams.

The Ministry of Nature Protection of the Republic of Armenia as the authorized national body on environmental protection issues dealing with the impacts of industrial accidents actively cooperates with the Secretariat of the Convention on information exchange/sharing and regularly submits reporting materials on updated national data after appropriate coordination and agreement with the concerned Ministries and Agencies. It should be mentioned that further improvement and strengthening of coordination of actions performed by different state structures in concern of presented priority issues under the Convention on the Transboundary Effects of Industrial Accident will facilitate the efficient implementation of Republic of Armenia obligations.

Chapter 11: International Linkages

11.1 CO-OPERATION AND INVOLVEMENT WITH INTERNATIONAL ORGANIZATIONS, BODIES AND AGREEMENTS

At the International level the Republic of Armenia has a close co-operation in various areas, including those of environmental protection and human health, actively participates in international organizations and agreements/conventions. As known, at the United Nations Conference on Environment and Development (Rio de Janeiro, 3-14 June 1992) and at the World Summit on Sustainable Development (Johannesburg, 2002) great attention was devoted to discussion on problems of environmental and human health. At the UN Conference, the Republic of Armenia together with other states adopted Agenda 21 and Rio Declaration; at the World Summit the Johannesburg Declaration on Sustainable Development and Recommendations for submission to the UN General Assembly were adopted. The Republic of Armenia actively participates in international organizations and agreements on chemicals and waste management as well.

The Republic of Armenia signed and ratified a number of international environmental Conventions and Agreements within the frames of these Conventions, including those on Nature Protection, chemicals and waste management, within the frames of which the Ministry of Nature Protection is the national focal point (Table 11.1).

Involvement of Armenia in International Environmental Conventions

Table 11.1

No.	Conventions (dates and places of adoption)	Date of signing	Convention Status	
			Date of ratification by the National Assembly (Armenian Parliament)	Date of registration at UN Secretariat
1.	"Convention on Wetlands (Ramsar, Iran, 1971)", – The Convention on Wetlands of International Importance especially as Waterfowl Habitat			The Republic of Armenia acceded to Convention according to the request of 06.11.1993
2.	The Rio de Janeiro Convention on Biological Diversity, 1992 - Cartagena Protocol on Biosafety (Montreal, January 29, 2000)	05.06.1992	31.03.1993 16.03.2004	14.05.1993 30.04.2004
3.	Framework Convention on Climate Change (New York, 1992)	13.06.1992	29.03.1993	14.05.1993

No.	Conventions (dates and places of adoption)	Date of signing	Convention Status	
			Date of ratification by the National Assembly (Armenian Parliament)	Date of registration at UN Secretariat
	- Kyoto Protocol (Kyoto, 1997)		26.12.2002	25.04.2003
4.	Convention on Long-range Transboundary Air Pollution (Geneva, 1979)		14.05.1996	21.02.1997
	- Protocol on Heavy Metals (Aarhus, 1998);	14.12.1998		
	- Protocol on Persistent Organic Pollutants (Aarhus, 1998);	14.12.1998		
	- Protocol to Abate Acidification, Eutrophication and Ground-level Ozone Formation (Gothenburg 1999)	30.11.1999		
5.	Convention on Environmental Impact Assessment in a Transboundary Context (Espoo, 1991)		14.05.1996	21.02.1997
	- Protocol on Strategic Environmental Assessment (Kiev, 2003)	21.05.2003		
6.	Convention on the Transboundary Effects of Industrial Accidents (Helsinki, 1992)		14.05.1996	21.02.1997
	- Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents (Kiev, 2003) to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (1992) and Convention on Transboundary Impact of Industrial Accidents (1992)	21.05.2003		
7.	Convention to Combat Desertification (Paris, 1994)	14.10.1994	23.06.1997	02.07.1997
8.	Convention of Transboundary Movements of Hazardous Wastes and their Disposal (Basel, 1989)		26.03.1999	30.09.1999
9.	Convention for the Protection of the Ozone Layer (Vienna, 1985)		28.04.1999	30.09.1999
	- Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal,		28.04.1999	30.09.1999

No.	Conventions (dates and places of adoption)	Date of signing	Convention Status	
			Date of ratification by the National Assembly (Armenian Parliament)	Date of registration at UN Secretariat
	1987) - London Amendments to the Montreal Protocol (London, 1990) - Copenhagen Amendments to the Montreal Protocol (Copenhagen, 1992)			22.10.2003 22.10.2003
10.	Convention on Access to Information, Public Participation in Decision Making and Access to Justice in Environmental Matters (Aarhus, 1998) - Protocol on Pollutant Release and Transfer Registers (Kiev, 200	25.06. 1998 21.05.2003	14.05.2001	01.08.2001
11.	Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International trade (Rotterdam, 1998)	10.09 .1998	22.10.2 003	26.1 1.2003
12.	Convention on the Protection and Use of Transboundary Watercourses and International lakes (Helsinki, 1992) Protocol on Water and Health (London, 1999)	17.06.1999		
13.	Stockholm Convention on Persistent Organic Pollutants (Stockholm, 2001)	23.05 .2001	22.10.2 003	26.1 1.2003
14.	Convention on the prohibition of the use of chemical weapons and other hostile of influence facilities on natural environment (Geneva, 1976)		04.12.2001	15.05.2002
15.	Convention on the prohibition of the development production, stockpiling, transfer, use of chemical weapons and on their destruction (Chemical Weapons Convention)	19.03.1993		27.01.1995
16.	European Landscape Convention (Florence, 2000)	14.05.2003		18.02.2004
17.	Convention on the Conservation of European Wildlife and Natural Habitats (Bern, 1979)	2006	26.02.2008	

No.	Conventions (dates and places of adoption)	Date of signing	Convention Status	
			Date of ratification by the National Assembly (Armenian Parliament)	Date of registration at UN Secretariat
18.	Convention on International trade in endangered species of wild fauna and flora (Washington, 1973)		26.02.2008	
19.	Convention Concerning the Protection of the World Cultural and Natural Heritage (Paris, 1972)			September 5, 1993 Armenia notified on its succession

The Republic of Armenia is a member of various International Organizations. The active collaboration is established via the national Focal Points (Ministries and/or by contact persons); Armenia participates in International Agreements dealing with chemicals management (Tables 11.2-11.3).

Table 11.2

Membership of the Republic of Armenia in International Organizations, Programmes and Bodies

International Organization/ Body/Activity	National Focal Point (Ministry/Agency & Primary Contact Point)	Other Ministries/ Agencies Involved	Related National Activities
Intergovernmental Forum on Chemical Safety (IFCS)	Ministry of Nature Protection	-	Participation in Forum Meetings, activity within the frames of approved programme areas, submission of national data (Questionnaires, reporting materials)
UNEP	Ministry of Nature Protection	-	Participation in International Conventions, Agreements; submission of national data, development and implementation of programmes - Jointly with UNEP and with its financial support "Capacity Building for Implementation of the

International Organization/ Body/Activity	National Focal Point (Ministry/Agency & Primary Contact Point)	Other Ministries/ Agencies Involved	Related National Activities
			<p>National Implementation Plan for the Stockholm Convention in the Republic of Armenia” Project was executed (2006);</p> <p>- “Armenia and UNEP Partnership Initiative for Sound Management of Chemicals and Implementation of SAICM in Armenia” Project implementation was initiated (2008-2009)</p>
IRPTC - National Correspondent	Ministry of Nature Protection signed the Protocol on Pollutant Release & Transfer Registers (May 2003)		<p>Jointly with UNITAR and with the support of the Government of Switzerland “Design of a National PRTR System to Strengthen Capacity Building Activities for the implementation of Stockholm Convention on POPs in Armenia” was initiated (2007-2008)</p>
IE/PAC – Cleaner Production Center	Ministry of Nature Protection is in active collaboration with UNIDO in concern of establishment of a Cleaner Production Center	-	<p>-Jointly with UNIDO the 6-component Integration Programme for Armenia was developed; one of the components is Wastes Management and Cleaner Production</p> <p>- Jointly with UNIDO and with the financial support of the Government of Austria the Ministry of Nature Protection of the Republic of Armenia implemented “Establishment and Operation of a National Cleaner Production Programme in Armenia” Project (2006-2008)</p>
IPCS	Ministry of Nature Protection	-	Information exchange on issues relevant to chemicals and wastes management at

International Organization/ Body/Activity	National Focal Point (Ministry/Agency & Primary Contact Point)	Other Ministries/ Agencies Involved	Related National Activities
			the national level
WHO	Ministry of Nature Protection	-	Submission of national data; development and implementation of Programmes
FAO	Ministry of Agriculture under the coordination of the Ministry of Foreign Affairs	-	Submission of national data; development and implementation of Programmes
UNIDO	Ministry of Economy (former Ministry of Trade and Economic Development) and Ministry of Nature Protection are in close cooperation with UNIDO in respect of joint Programmes implementation	-	<p>Development and implementation of Programmes</p> <p>- “Enabling activities to facilitate early action on the implementation of the Stockholm Convention on Persistent Organic Pollutants (POPs) in the Republic of Armenia”</p> <p>Project was implemented by the Ministry of Nature Protection jointly with UNIDO and with the support of GEF (2002-2004)</p> <p>- Jointly with UNIDO and with the financial support of the Government of Austria the Ministry of Nature Protection of the republic of Armenia implemented “Establishment and Operation of a National Cleaner Production Programme in Armenia” Project (2006-2008)</p>
WTO	Ministry of Economy (2003)	-	Assumption, undertaking and meeting obligations in accordance with the signed multilateral agreements.

International Organization/ Body/Activity	National Focal Point (Ministry/Agency & Primary Contact Point)	Other Ministries/ Agencies Involved	Related National Activities
			Submission of national data
ILO	Ministry of Labor and Social Issues	-	Submission of national data, statistical information
World Bank	Ministry of Finance and Ministry of Nature Protection are in close cooperation with the World Bank on development and implementation of Programmes	-	Development and implementation of Programmes The Programme "Natural resources management and poverty reduction"
European Bank of Reconstruction and Development	Ministry of Finance		Development and implementation of Programmes
OECD	Ministry of Finance is in active cooperation on development and implementation of programmes		Development and implementation of Programmes The Programme "Financial Strategy on Drainage System and wastewater treatment in big cities and medium-sized towns of the Republic of Armenia"

Table 11.3

Participation of the Republic of Armenia in International Agreements and Procedures Related to Chemicals and Waste Management

International Agreements	Primary Responsible Agency	Relevant National Implementation Activities
Agenda 21 - Commission for Sustainable Development	National Council on Sustainable Development of the Republic of Armenia, the membership of which is approved by the Governmental Decision No. 1102 of July 25, 2002	"National Conception on Sustainable Development of the Republic of Armenia" is developed, the main concepts and approaches of which were approved at the Nationwide Conference "Rio + 10" that was organized by the Government of the Republic of Armenia and UNDP. Country Report was prepared for the World Summit on Sustainable Development, (Johannesburg,

International Agreements	Primary Responsible Agency	Relevant National Implementation Activities
		2002)
Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International trade (PIC)	Ministry of Nature Protection	<p>Information Exchange, submission of national data (Questionnaires, Reporting Materials)</p> <p>The Secretariat of Rotterdam Convention jointly with Ministry of Nature Protection of the Republic of Armenia arranged and held “Sub-Regional Consultation on the Implementation of the Rotterdam Convention” for Armenia and Moldova on identification of National Plan elements or strategy on implementation of Rotterdam Convention» (Yerevan, June 2-6 2008)</p>
Stockholm Convention on Persistent Organic Pollutants	Ministry of Nature Protection	<p>Realization of the “National Action Plan in Armenia” on implementation liabilities provided by Stockholm Convention on Persistent Organic Pollutants” (2002-2004)</p> <p>Participation in realization of Global Monitoring Plan under implementation of Stockholm Convention</p> <p>Activity in a Working Group on strengthening cooperation and coordination between Basel, Rotterdam and Stockholm Conventions</p> <p>Information exchange, submission of national data related to inclusion of new chemicals</p> <p>Questionnaires, Reporting Materials)</p>
Convention on the transboundary effects of industrial accidents	Ministry of Nature Protection	<p>Information Exchange, submission of national data as report on implementation of Convention (Questionnaires, Reporting Materials)</p> <p>Secretariat of UN ECE Convention on the transboundary effects of industrial accidents jointly with</p>

International Agreements	Primary Responsible Agency	Relevant National Implementation Activities
		<p>Ministry of Nature Protection of the Republic of Armenia arranged and held the “Subregional Workshop on the implementation of the Convention” (Yerevan, March 13-15, 2003) aimed to identify key obstacles and needs of Caucasian and Central Asian countries in acceding and implementing the Convention</p> <p>UNECE, the Secretariat of UN ECE Convention on the transboundary effects of industrial accidents jointly with Ministry of Nature Protection of the Republic of Armenia arranged and held the “Workshop on the Safety of Tailing Management Facilities” Yerevan, November 12–14, 2007).</p>
Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters to the 1992 Convention on the protection and use of transboundary watercourses and international lakes and to the 1992 convention on the transboundary effects of industrial accidents	Ministry of Nature Protection	Information exchange, submission of national data (Questionnaires, Reporting Materials)
FAO Code of Conduct (voluntary procedure)	Ministry of Agriculture	Information Exchange, submission of national data
Montreal Protocol on Substances that Deplete the Ozone Layer	Ministry of Nature Protection	Information Exchange, submission of national data as Annual Reports
UN Recommendation for the Transport of Dangerous Goods	Ministry of Transportation and Communications	Information Exchange, submission of national data

International Agreements	Primary Responsible Agency	Relevant National Implementation Activities
Basel Convention	Ministry of Nature Protection	Information Exchange, submission of national data (Questionnaires, Annual Reports)
GATT/WTO agreements (related to chemicals trade)	Ministry of Economics	Information Exchange, submission of national data within the frames of the signed multilateral Information Exchange, submission of national data Agreements: “Technical Barriers”, License for Import”, “Sanitary and phyto-sanitary Regimen”, etc.
Convention on the prohibition of the development, production, stockpiling, transfer, use of chemical weapons and on their destruction (Chemical Weapons Convention)	Ministry of Foreign Affairs	Information Exchange
Regional/Subregional Agreements	- NIS/CIS countries Agreement on Control over Transboundary Movements of Hazardous and other Types of Wastes;	Information Exchange, submission of National Data
	- Agreement between the Government of the Republic of Armenia and the Government of Georgia on Cooperation in the sphere of Environmental Protection and Natural Resources;	Cooperation in concern of issues of protection and regulation of boundary eco-systems subject to unfavourable anthropogenic impact; information exchange on environmental protection, etc.
	- Agreement between the Ministry of Nature Protection of Armenia and the Ministry of Natural Resource of Russian Federation on Cooperation in the sphere of Natural resources and water resources use	Cooperation on development of coordinated policy of Natural resources and water resources use
	- Memorandum between the Ministry of Nature Protection of Armenia	Cooperation within the frames of International Ecological Conventions: on biodiversity

International Agreements	Primary Responsible Agency	Relevant National Implementation Activities
	and Department of Environmental Protection of the Islamic Republic Iran on ecological cooperation	conservation, water quality monitoring at the next-to-boundary River Araks, as well as in the sphere of exchange and use of ecologically sound technologies, including those on recycling of household wastes, etc.
	- Agreement between the Ministry of Nature Protection of the Republic of Armenia and the Ministry of Oil and Mineral Resources of the Arabic Republic of Syria on scientific and technical cooperation in the sphere of Natural Underground Resources	Cooperation on legislation improvement in the sphere of use of Natural underground resources, exploration of deposits, protection of the underground water resources, etc.
	- Memorandum between the Ministry of Nature Protection of the Republic of Armenia and the Ministry of Industry and Technological Development of the Arabic Republic of Egypt on scientific and technical cooperation in the sphere of geology	Cooperation on technical information exchange and the branches of sciences of mutual interest, etc.

11.2 PARTICIPATION OF THE REPUBLIC OF ARMENIA IN PROJECTS RELEVANT TO CHEMICALS AND WASTES MANAGEMENT

The Ministry of Nature Protection of the Republic of Armenia implement a number of projects aimed to study and analyze the state of the environment, including National Action Plans in the frames of environmental conventions signed by the Republic of Armenia (Table 11.4).

Table 11.4

Participation of the Republic of Armenia in Projects Related to Management of Chemicals and Wastes

Name of Project	International/ Bilateral Donor Agency Involved	National Contact Point	Relevant Activities
Republic of Armenia National Environmental Action Plan (1997-1998)	World Bank	Ministry of Nature Protection of the Republic of Armenia	Development of the “National Environmental Action Plan” that involves analysis of the state of the environment in the Republic of Armenia and determines high- priority problems in this sphere
National Action Plan to combat desertification in Armenia (1999-2002)	UNEP, the United Nations Convention to Combat Desertification Secretariat	Ministry of Nature Protection of the Republic of Armenia	Development of the “National Action Plan to combat desertification in Armenia”, which involves analysis of ecological and socioeconomic state of Armenia, revealing the role of executive and municipal authorities and land users in the process of combating desertification, mapping territory of the country, with detailed characteristics of the environmental state, including natural resources and peculiarities of desertification process in Armenia
Armenia – Country Study on Climate Change (1st stage, 1996-1999)	GEF / UNDP	Ministry of Nature Protection of the Republic of Armenia	The first National Communication of the Republic of Armenia relevant to climate change was prepared, involving the Cadastre/National Inventory of greenhouse-gas emissions, information on probable climate changes in Armenia and its possible consequences, measures for adaptation and reduction of the negative after-effects, as well as the strategy on limitation of greenhouse-

Name of Project	International/ Bilateral Donor Agency Involved	National Contact Point	Relevant Activities
			gas emissions. The Communication was presented during the Fourth Conference of the Parties to the Convention on Climate Change (Buenos Aires, 1998)
Development of the Strategy and National Action Plan on Biodiversity in Armenia (1997-1999)	GEF/UNDP	Ministry of Nature Protection of the Republic of Armenia	The First National Report on Biodiversity and a Biodiversity Strategy and Action Plan Programme, which revealed the priorities in this sphere, the actions and measures required for its implementation) were developed (1998-1999)
National Programme to stop using substances that deplete ozone layer (1997-1998)	UNEP	Ministry of Nature Protection of the Republic of Armenia	Collection of relevant information on substances depleting ozone layer; analysis of gathered information and development of programme directed to stop using thereof
National Programme to stop using substances, that deplete ozone layer and Management Plan of refrigerating means (2001-2002)	UNEP	Ministry of Nature Protection of the Republic of Armenia	Development of program on substances depleting ozone layer and Management Plan of refrigerating means in Armenia
Armenia – Country Study on Climate Change (2nd phase, 2001-2004)	GEF/UNDP	Ministry of Nature Protection of the Republic of Armenia	Assistance in fulfillment of country commitments within the Framework Convention on Climate Change
Programme on Natural Resources Management and Poverty Reduction (2002-2008)	World Bank	Ministry of Nature Protection of the Republic of Armenia	Creation of sustainable factors for natural resources management and poverty reduction in rural regions; prevention of further degradation of natural resources of criticality in mountainous regions of Northern Armenia; protection of mountainous and forest ecosystems of Southern Caucasus via sustainable management and protection of mountainous ecosystem and conservation of protected/ restricted areas

Name of Project	International/ Bilateral Donor Agency Involved	National Contact Point	Relevant Activities
The Republic of Armenia National Action Plan on Persistent Organic Pollutants (2002-2004)	GEF/ UNIDO	Ministry of Nature Protection of the Republic of Armenia	Preparation of the National Action Plan on Persistent Organic Pollutants (POPs), which presupposes to reveal and to take inventory of main sources of POPs, to study POPs residues in different environmental media, strengthening of national capacity on reduction/elimination of POPs, raising the level of knowledge and understanding amongst concerned decision making persons/parties, as well as wide-scale public awareness on POPs;
Armenia – Assessment of National Capacity Building Needs (2003-2004)	GEF / UNDP	Ministry of Nature Protection of the Republic of Armenia	Assessment of the National Capacity on implementation of 3 UN Ecological Conventions (on biodiversity, on climate change and on combating desertification), rendering special attention to the issues of synergy between the Conventions; Revealing top-priority needs for capacity building aimed at global ecological management.
Project to develop and sustain an integrated national program for sound chemicals and waste management in the Republic of Armenia (2004-2006)	UNITAR	Ministry of Nature Protection of the Republic of Armenia	Strengthening cooperation of different state structures at the national level and establishing sustainable basis for efficient and coordinated actions on key issues dealing with chemicals and waste management, as well as preparing sustainable basis for integrated implementation of international conventions and initiatives on chemicals and wastes.
Preparation of the 2nd National Report on Biodiversity (2005-2006)	GEF/ UNDP	UNDP, Ministry of Nature Protection of the Republic of Armenia	Collection, analysis and summarizing data on efficiency of actions performed during 2002-2005 and aimed at conservation, preservation, remediation and sustainable use of biodiversity of Armenia, preparation of the National Report for submission to the Secretariat of the Convention
National Programme on replacement of	GEF/ UNDP (UNEP/DTIE)	UNDP (UNEP/DTIE), Ministry	Strengthening the institutional system at the Ministry of Nature Protection of the Republic

Name of Project	International/ Bilateral Donor Agency Involved	National Contact Point	Relevant Activities
ozone depleting substances and management of refrigerating means (2005-2008)		of Nature Protection of the Republic of Armenia	of Armenia , development of legislation relevant to ozone depleting substances; capacity building on issues related to ozone depleting substances at the customs house (purchases of equipment/ devices and training the specialists); training of specialists on refrigerating equipment (purchases of equipment/ devices and training the specialists); public awareness raising
Preparation of the 3rd National Report on implementation of UN Convention to combat desertification in Armenia (2006)	UN Convention Secretariat to combat desertification/ Government of the Republic of Armenia	Convention Secretariat (UNCCD)/ Ministry of Nature Protection of the Republic of Armenia	Collection, analysis and summarizing data of relevant information and preparation of the National Report reflecting the achievements and obstacles on implementation of country commitments under the Convention
Establishing favourable conditions for preparation of the 2 nd National Report of the Republic of Armenia on Climate Change (2006-2009)	UNDP	UNDP/ Ministry of Nature Protection of the Republic of Armenia	Facilitating implementation of country commitments under UN Framework Convention on Climate Change in accordance with strategy directions indicated in the 1 st national Report
Second National Environmental Action Plan of the Republic of Armenia– 2 (NEAP-2) (2006-2007)	UNDP Armenia	Ministry of Nature Protection of the Republic of Armenia	Preparation of the new National Action plan for the period of 2007-2011 including the assessment of implementation of NEAP-1 that was prepared in 1997-1998. The new document is aimed at ensuring the general strategy on integrated management of the environment and will facilitate strengthening the nature protection policy and optimization of nature resources use. NEAP-2 was prepared taking into account changes which occurred in economical, social and nature protection related areas in 1998-2006.
Programme on capacity building for efficient participation in Information System	UNDP Armenia	Ministry of Nature Protection of the Republic of	Design, creation and maintenance of Data Base on biological safety issues

Name of Project	International/ Bilateral Donor Agency Involved	National Contact Point	Relevant Activities
on Biological Safety/Security (2007)		Armenia	
Memorandum on Understanding on methyl bromide (2007)	Multilateral Fund, acting within the Montréal Protocol	Ministry of Nature Protection of the Republic of Armenia jointly with UNDP Armenia and UNEP/DTIE	Collection of reliable information on the use of methyl bromide, arrangement and holding the Meeting with the involvement of concerned parties, holding the Workshop/training “Replacement of methyl bromide by alternative substances”
Capacity building for implementation of the National Action Plan on implementation of Stockholm Convention on Persistent Organic Pollutants in the Republic of Armenia (2006)	UNEP	Ministry of Nature Protection of the Republic of Armenia	Strengthening the national capacity in the area of management on Persistent Organic Pollutants (POPs) and implementation of country obligations under Stockholm Convention; in particular: strengthening the manpower and enhancing coordination of actions performed by different state structures aimed at reduction of POPs generation and releases, as well as sound disposal of wastes in order to prevent their unfavourable impact to human health and the environment
Establishment and Operation of a National Cleaner Production Programme in Armenia (2006-2008)	UNIDO/ The Government of Austria	Ministry of Nature Protection of the Republic of Armenia	Establishment and operation of the Cleaner Production Center, the main activity of which will be related to implementation of cleaner technologies in chemical, mining, energy and food industry sectors
Strengthening waste integrated management in Armenia” (2006)	UNDP Armenia	Ministry of Nature Protection of the Republic of Armenia	Inventory taking and analysis of the state of existing legal and illegal dumps, the composition and amounts of cumulated wastes, the surrounding environmental situation, as well as capacities for processing and secondary use, treatment and utilization of wastes at the territory of Armenia; assessment of wastes related risks towards the environment and human health was done. In the

Name of Project	International/ Bilateral Donor Agency Involved	National Contact Point	Relevant Activities
			frames of Programme implementation there was prepared the “Catalogue of wastes generated in the Republic of Armenia” that summarizes all available data on wastes generation in Armenia
<p>“Design of a National PRTR system to strengthen capacity building activities for implementation of Stockholm Convention on POPs in Armenia”</p> <p>(2007-2009)</p>	UNITAR	Ministry of Nature Protection of the Republic of Armenia	Assistance in public awareness raising on the main about potentially toxic releases. Design of the National Register of Releases and Transfers of Persistent Organic Pollutants(POPs), which will become the efficient tool for expanding information access for general public, as well as serve the basis for development of effective approaches and actions on reduction of the harmful impact of chemicals, including POPs towards human health and the environment
<p>“Inventory, Monitoring and Analysis of Obsolete Pesticides in Armenia for Environmentally Sound Disposal”</p> <p>(NATO SfP – Armenia Pesticides) in the framework of NATO Science for Peace Programme</p> <p>(2008-2010)</p>	NATO “Science for Peace” programme	Ministry of Nature Protection of the Republic of Armenia	Facilitation in implementing the national implementation Plan on POPs, studies on the state of the environment through carrying out systematic science-oriented monitoring investigations; establishment of the institutional base, including the analytical laboratory accredited for and aimed at determination of pesticides and other chemicals in environmental media, foodstuffs and biomedica (breast milk); assessment of pesticides-associated risks for human health and the environment and elaboration of scientifically substantiated recommendations on reduction of their unfavourable impact to human health and the environment; ensuring conditions for environmentally sound disposal and elimination of hazardous wastes (obsolete pesticides, PCB-containing oils, etc.) for securing environmental safety in the Republic of Armenia
Armenia and UNEP Partnership Initiative	QSP Trust Fund	Ministry of Nature Protection of the	Development of the National Strategy on risk assessment for

Name of Project	International/ Bilateral Donor Agency Involved	National Contact Point	Relevant Activities
for Sound Management of Chemicals and Implementation of SAICM in Armenia” Project (2008-2010)		Republic of Armenia	priority chemicals, risk reduction in order to ensure sound management on chemicals and hazardous wastes in accordance with SAICM principles
Prioritization of Chemical Risks at National Level in a Global Context: Argentina, Armenia, Ghana, Syria (2008, Project proposal is under consideration)	QSP Trust Fund	Ministry of Nature Protection of the Republic of Armenia	Identification of problems related to chemical hazards and risks for the environment and human health, taking into account differences of environmental, ecological, economic, social, geographic/climatic and political conditions of countries from UN 4 regions: Argentina, Armenia, Ghana, Syria) . The Project is aimed at prioritization of the most important chemical risks, their characterization using methods of screening acknowledged at the international level (Tool Box), that will facilitate enhancing the capacity at the national level, information exchange/sharing between scientists of different countries and raising the professional /scientific knowledge. The obtained results will facilitate strengthening methods of chemicals environmentally sound management.

In implementation of the projects were and still continue to be involved Ministries, Agencies, Research Institutes and Centres under the National Academy of Sciences, Ministry of Health, Ministry of Agriculture, Ministry of Economy, NGOs, including:

- Ministry of Health
- Ministry of Economy (former Ministry of Trade and Economic Development)
- Ministry of Energy and Natural Resources (former Ministry of Energy);
- Ministry of Defence
- Ministry of Foreign Affairs
- National Statistical Service
- National Academy of Sciences
- Research Institute of General Hygiene and Occupational Diseases at the Ministry of Health

- Research Institute of Environmental Hygiene and Preventive Toxicology at the Ministry of Health
- Research Institute of Hydrology and Ichthyology at the National Academy of Sciences
- Center of Ecologic and Noospheric Researches at the National Academy of Sciences
- Institute of Microbiology at the National Academy of Sciences
- Research Centre of Agriculture and Plant Protection (State CJSC) at the Ministry of Agriculture
- Institute of Biotechnology at the Ministry of Economy
- National Institute of Standards
- Research Centre of Hydrometeorology and Ecology at the State Department of Hydrometeorology
- “Narek” scientific-industrial organization
- “Nairit – 2” CJSC
- Yerevan State University
- Yerevan State Medical University
- State Engineering University of Armenia
- NGO “EcoTox”
- NGO “Green Union”
- NGO “Armenian Women for Health and Healthy Environment”
- NGO “Centre for Legal Protection of the Environment”
- NGO “Center for Environmental Studies”, etc.

Chapter 12: Awareness and Understanding of Workers and the Public

The problems of awareness concerning the potential risks associated with chemicals and wastes in public, employees (specialists and workers), involved in different processes of production and having occupational contact with chemicals and wastes require strengthening by means of legal/legislative mechanisms, as well as through implementation of targeted special educational/training programmes.

Comprehension and resolution of issues relevant to integrated, harmonized management on chemicals and wastes requires undertaking definite steps in legal/legislative and institutional areas in order to create the holistic management system that will regulate all “life-cycle” stages including such issues as production, generation, storage, import/export, packaging, labeling, use, placement/disposal, registration, etc. It is also necessary to mention that amongst the mentioned issues the appropriate regulation of issues related to POPs is the most urgent problem nowadays.

At industrial enterprises, there are special services and personnel on safety engineering responsible for instruction and training the employees (workers and specialists) in concern of on-the-job safety, including that of applying/handling different chemicals. The personnel on safety engineering bear responsibility for giving instructions to workers and getting acquainted with safety rules while handling chemicals and wastes, as well as for ensuring safe working conditions at production both in chemical industry and at other industrial sites.

Workers both prior to employment and in the process of professional activity gain information and regular/periodical instructional advice on safety measures and techniques, when handling chemicals, as well as on actions to be implemented with the aim to protect themselves from chronic or acute exposure to hazardous chemicals and other harmful industrial factors. The annual check is performed to examine the knowledge of production managers and workers in concern of safety measures and actions, as well as on their proper application at the working place in the process of production.

However, instructions-based training programmes on safety measures and techniques for production managers and workers engaged in handling of different chemicals are somehow obsolete and require up-dating/up-grading. In particular, it is expedient to amend the available information adding recent data in concern of such group of compounds as Persistent Organic Pollutants (POPs), which differ by the most unfavourable impact to human health and the environment. Up-dating is also required for the criteria of knowledge checkouts and control on implementation of requirements set out for activity dealing with hazardous chemicals handling, especially POPs.

Alongside with this, there is no sufficient public awareness on unfavourable impact of chemicals and pesticides on human health, on the after-effects of improper use of chemicals, in particular of chemicals and pesticide application, to human and environmental health.

Proceeding from the above mentioned it is necessary to raise the awareness of workers and farmers on such issues as safety measures and equipment while working with chemicals and pesticides, to raise knowledge and awareness of the general public on risks that can be posed

by different chemicals and pesticides, including POPs towards the environment and human health.

Elaboration and carrying-out training and public-awareness information programmes on POPs, including issues of unfavourable impacts and delayed consequences of POPs to human health and the environment, as well as possibility to use POPs-alternatives, etc. will also facilitate participation of general public in decision-making on issues related to POPs and in working-out appropriate measures aimed at reduction and liquidation of POPs releases. Development of different programmes on POPs would undoubtedly facilitate in raising public awareness and especially awareness of women, children and less educated persons.

Purposeful, awareness-raising programmes should be developed from the point of view of the complex harmonized approach, involving identification of priority directions on chemicals and wastes management issues, the realization of which will facilitate implementation of integrated national approaches for ensuring environmentally sound management on chemicals and wastes in the Republic of Armenia.

Materials dealing with issues of chemicals and wastes management in Armenia, in particular those related to problems of POPs, are periodically published by country mass-media. However, such information is non-regular, occasional. Similar problems require broad coverage by both serial publications and TV and radio programmes on regular basis.

Arrangement and holding special public awareness and training programmes aimed at teaching safety-at-work measures/procedures while handling plant protection chemicals, programmes elucidating probable symptoms/signs of poisoning due to pesticide application, preventive measures against poisoning, rendering first aid will undoubtedly facilitate in raising the level of knowledge on the unfavourable impact of chemicals and pesticides in owners of small and middle-sized farms of Armenia. Preparation and publication of popular guidances and visual aids, as well as their dissemination would also facilitate awareness raising in both workers and general public.

In Armenia NGOs, which take an active part in discussion and decision-making on POPs related problems and implementation of actions and country obligations under Stockholm Convention at the national level, perform significant activity towards public awareness raising on the potential risks, health problems and safety in respect of chemicals and wastes and especially connected to persistent organic pollutants.

In this concern issues dealing with chemicals and waste management, including persistent organic pollutants, should be dealt as a specific nation-wide problem of cross-sectoral, inter-ministerial character, setting of which would be expedient from the point of view of a complex/holistic approach accompanied by identification of priority directions, implementation of which will facilitate development and implementation of integrated approaches to harmonized environmentally sound management on chemicals and wastes in the Republic of Armenia.

Similar problem setting for holistic approach embracing POPs relevant issues will undoubtedly facilitate in attracting the attention of the Government and state structures involved in decision-making and resolution of these issues.

Awareness raising of concerned Ministries, Agencies and general public will facilitate creation of favourable conditions for resolution of the above mentioned problems in Armenia by joint efforts of parties concerned and involved in the process.

Chapter 13: Resources Available and Needed for Chemicals Management

In the Republic of Armenia there are highly qualified specialists possessing professional skills and knowledge in the area of chemicals and wastes management. However, their number does not satisfy the current demand for executive personnel. Therefore, both training and re-training, continuing education of young specialists will facilitate successful solution of problems in the sphere of sound management on chemicals and wastes, including POPs

A number of high schools of Armenia train various specialists capable to solve problems dealing with the environment: hygienists, ecologists, chemists, etc. Education and continuing education (professional advanced development) takes place at the research institutes, universities, and research centres as well. It is mainly done in the form of post-graduate education as post-graduate course/study and application for doctor of sciences degree.

At present in the area of chemicals and waste management there is a certain lack of both manpower and professional skills. Generally, the difficulty is in lacking or limited financial resources for training of young specialists, for arranging and holding further professional development courses, re-training of available specialists aimed at strengthening/improvement of the entire system on management chemicals and wastes, including POPs, in the Republic of Armenia.

Taking into account the direction of initiatives undertaken at the state level in the area of chemicals and wastes management and preparedness of the public to establish collaborative relations with different state structures and bodies one should mention that the situation that arose in Armenia facilitates preparation and implementation of the entire complex of educational actions (programmes, trainings, workshops, contests) aimed at the increase of national capacity and oriented at public awareness raising, raising the level of environmental knowledge, formation of systems for distant/post-diploma education and appropriate information technologies.

The successful resolution of manpower preparation problem will be facilitated by re-orientation and replenishment of curricular at higher educational institutions of Armenia by subjects, thematic areas dedicated to issues relevant to methods of sound chemicals and waste management/handling, potential hazard thereof and possible unfavourable consequences to human and environmental health, inclusive POPs issues.

Strengthening national capacity and increasing the level of professional knowledge and skills of the specialists will be undoubtedly facilitated by arrangement and holding of various special training programmes, courses for continuing education and postgraduate education, re-training of specialists, organization of post-diploma education adequate to programmes related to management of chemicals and wastes, including POPs, both in the system of the National Academy of Sciences and in research institutions functioning within Ministry of Health, Ministry of Agriculture, etc.

At the international level during the recent years a very important part is devoted to awareness raising of women, children and persons of little education, as well as their involvement in training/educational and public-awareness programmes on issues of possible unfavourable impact of chemicals and wastes towards human health and the environment, including POPs.

It is especially important to hold trainings on environmental policy, marketing, audit, insurance, expertise and safety for officials of different levels, for decision-makers, businessmen-entrepreneurs. It is also necessary to initiate preparation of programmes for carrying out workshops devoted to chemicals and wastes associated risk assessment and risk management, on safety issues, environmental expertise and methodology for assessment/evaluation of impacts to the environment and human health resulting from different types of activity.

In the Republic of Armenia both occupational groups of population and decision-makers dealing with chemicals production and application issues due to professional activity are poorly aware and do not have sufficient information on unfavourable impacts of different chemicals and wastes. This lack of information and occupational training is mostly evident in concern of issues relevant to priority chemicals and wastes (PCB-containing oils and equipment, obsolete pesticides, etc.), as well as issues of contaminated sites, assessment/evaluation of their risks, consequences of the impact to human health and the state of environment.

Implementation of Programmes on cooperation, harmonization of interests of governmental bodies and different layers of general public, as well as programmes on environmental awareness and knowledge raising on hazardous chemicals, wastes, pesticides, including persistent organic pollutants, programmes on risk assessment and management, and risks of impacts thereof is necessary and urgent not only for decision-makers, but for businessmen-entrepreneurs involved in production sphere, for farmers, representatives of customs-house services and security service, schoolchildren and students, as well other representatives engaged in different spheres of economic activity.

In the sphere of raising knowledge and skills of decision-makers on issues of environmentally sound management on chemicals and wastes, risk assessment and risk management for such priority chemicals and wastes as PCB-containing oils and equipment, obsolete pesticides, as well as issues of areas contaminated by hazardous chemicals and wastes, etc. the main aim of actions is strengthening state-public cooperation.

Table 13.1 reflects data on human resources available in state institutions of Armenia, as well as financial assignments according to Ministries/ Agencies. Financial resources are defined for the bodies of state governance and bodies of local self-government in accordance with the following legal documents:

- Republic of Armenia Law “On State Budget of the Republic of Armenia for 2003” (adopted December 26, 2002);
- Republic of Armenia Law “On State Budget of the Republic of Armenia for 2005” (adopted December 24, 2004);
- Republic of Armenia Law “On State Budget of the Republic of Armenia for 2006” (adopted November 11, 2005);
- Republic of Armenia Law “On State Budget of the Republic of Armenia for 2007” (adopted November 29, 2006);
- Republic of Armenia Law “On State Budget of the Republic of Armenia for 2008 (adopted November 28, 2007).

Table 13.1

Resources Available in Government Ministries/Agencies

Ministry/ Agency Concerned	Number of Professional Staff Involved (approved by the Governmental Decision No. 368 of May 15, 2001)	Type of Expertise Available	Financial Resources Available in the state Budget (in thousand Armenian Drams as January 1 of the current year)					
			2003	2004	2005	2006	2007	2008
Ministry of Nature Protection	527	Environmental (Nature protection) expertise of the impact of planned/ performed activity to the environment in order to comply with the ecological safety while handling chemicals and wastes	1,683,952.1	3,232,743.8	2,727,301.8	3,560,526.4	3,785,365.7	4,582,949.0
Ministry of Health	612	Sanitary-hygienic expertise of planned/ performed activity to the environment in order to prevent harmful impact of chemicals and wastes to human and environmental health	21,010,700.3	24,907,539.2	32,255,631.8	39,030,397.6	46,607,463.4	53,844,695.0
Ministry of	212	Arrangement and holding	6,098,784.9	5,838,211.4	5,333,416.8	9,371,495.6	11,774,875.1	13,873,356.6

Ministry/ Agency Concerned	Number of Professional Staff Involved (approved by the Governmental Decision No. 368 of May 15, 2001)	Type of Expertise Available	Financial Resources Available in the state Budget (in thousand Armenian Drams as January 1 of the current year)					
			2003	2004	2005	2006	2007	2008
Agriculture		of the State Registration procedure of plant protection means with the purpose to ensure necessary measures on sound use of pesticides in agriculture. Registration and inclusion of new plant protection means in the «List of chemical and biological plant protection means allowed for use in the Republic of Armenia”						
Ministry of Economy (former Ministry of Trade and Economic Development of the Republic of	423	Development and implementation of republican and community programmes on safety-at-work, on prevention of natural and technogenic disasters, as well as executive control on observance of safety	696,124.7	1,783,824.9	1,382,100.0	1,933,207.6	2,011,618.4	2,251,738.7

Ministry/ Agency Concerned	Number of Professional Staff Involved (approved by the Governmental Decision No. 368 of May 15, 2001)	Type of Expertise Available	Financial Resources Available in the state Budget (in thousand Armenian Drams as January 1 of the current year)					
			2003	2004	2005	2006	2007	2008
Armenia, renamed in 2007)		conditions, carrying out analysis and assessment of risk of technogenic accidents, carrying out of safety expertise						
Department of Standardiza- tion, Metrology and Compliance Confirmation at the Ministry of Economy	70	Expertise of produce for quality compliance; Organizing and implementation of unified state policy on working-out standards and requirements on chemicals and wastes, control on implementation thereof	Financial resources of the Department are included in state budget assignment presupposed for the Ministry of Economy of the Republic of Armenia	Financial resources of the Department are included in state budget assignment presupposed for the Ministry of Economy of the Republic of Armenia	Financial resources of the Department are included in state budget assignment presupposed for the Ministry of Economy of the Republic of Armenia	Financial resources of the Department are included in state budget assignment presupposed for the Ministry of Economy of the Republic of Armenia	Financial resources of the Department are included in state budget assignment presupposed for the Ministry of Economy of the Republic of Armenia	Financial resources of the Department are included in state budget assignment presupposed for the Ministry of Economy of the Republic of Armenia
Ministry of Foreign Affairs	273	Coordination and analysis of the policy taken in concern of chemicals and	5,271,435.0	5,833,564.5	6,141,290.9	6,308,738.8	6,772,801.7	6,957,860.2

Ministry/ Agency Concerned	Number of Professional Staff Involved (approved by the Governmental Decision No. 368 of May 15, 2001)	Type of Expertise Available	Financial Resources Available in the state Budget (in thousand Armenian Drams as January 1 of the current year)					
			2003	2004	2005	2006	2007	2008
		wastes management						
Ministry of Finance (former Ministry of Finance and Economy, renamed in 2007)	752	International cooperation in the sphere of macro- and micro economic policy; implementation of programmes of International financial institutions and monitoring on the process of their implementation	87,932,920.5	42,120,558.5	52,230,865.6	77,293,655.8	58,560,896.0	-
Ministry of Energy and Natural Resources (former Ministry of Energy renamed in 2007)	136	Strategy development for stable development in the area of energy production; ensuring safety and reliability of energy supplies, implementation of programmes and actions for realization of the a.m.	12,222,860.5	13,238,493.6	10,882,451.6	4,364,270.4	16,862,257.9	19,209,201.3
Ministry of	216	Ensuring safe	11,423,	14,923,733.7	16,826,451.0	19,683,780.7	21,666,361.9	26,128,243.2

Ministry/ Agency Concerned	Number of Professional Staff Involved (approved by the Governmental Decision No. 368 of May 15, 2001)	Type of Expertise Available	Financial Resources Available in the state Budget (in thousand Armenian Drams as January 1 of the current year)					
			2003	2004	2005	2006	2007	2008
Transport and Communication		transportation of hazardous chemicals and wastes	855.3					
Ministry of Justice	2230	Expertise examination, approval and registration of all regulating legal documents in the area of chemical and waste management	3,863,278.9	5,651,947.4	6,105,728.3	6,533,734.6	8,249,385.0	11,030,131.0
National Statistical Service of the Republic of Armenia	358	Gathering data on chemicals and wastes; processing and dissemination of relevant statistical information	500,326.0	572,529.5	580,300.6	707,366.6	785,540.5	875,885.1

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