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WASTE CLASSIFICATION & INVENTORY SYSTEMS IN SOUTH CAUCASUS COUNTRIES

Draft Background Paper

1.0 INTRODUCTION

At present, waste management issues rank among national environmental priorities in all three South Caucasus countries and these priorities are stated in National Environmental Action Plans. Existing waste management systems, if such are very weak and disintegrated, and data on waste generation, transport, treatment and disposal lack or are absent, due to non-existence of effective state inventory systems.

There was no waste management law in the Soviet Union. Although the waste production, use, utilization and treatment issues were regulated by the law on nature protection. Almost all Soviet Republics adopted such laws. Besides there were sanitary-hygiene norms and rules addressed the transportation, disposal, utilization or treatment of certain types of wastes (industrial and toxic wastes). There was strict control over radioactive waste. The management of municipal wastes was organized, being under responsibility of local authorities.

In late 1980s, the general inventory of industrial wastes was made in the Soviet Union and the statistical forms for industrial waste reporting were developed. However, the system was never introduced widely, due to the break-up of the Soviet Union.

2.0 GEORGIA

2.1 Waste classification and inventories

Currently there is no state inventory system for wastes in Georgia. Therefore, data on amounts of wastes generated annually, waste types, disposal, utilization and rendering harmless are practically absent. Very limited data are scattered among different agencies. These data are not digitized and accessible to different users. Due to the lack of financial and technical resources comprehensive waste inventories have not been yet conducted, nor the state register has been

established which should include waste catalogue, inventories of wastes and their disposal sites, as well as databases on wastes and technologies of their utilization and rendering harmless. Similarly, there are no exact data on application of pesticides, amounts of obsolete pesticides and their storage facilities. The Department of Land Resources Protection, Wastes and Chemicals Management under the Ministry of Environment (MoE) has recently developed the state program on the inventory of obsolete pesticides and contaminated sites, but could not realize it due to the absence of finances.

Unified classification system is a set of statistical standards, making different management systems and databases compatible in terms of information. Without such systems it is impossible to conduct data collection, reporting, data processing as well as to achieve data compatibility at the international level.

Waste classification is one of the major components of the unified classification system and is aimed at supporting decision-makers with information in the fields of waste management and natural resources use, on the basis of record keeping and reporting in accordance with international standards.

Currently, Georgia is moving towards adoption of new system of data collection and statistical reporting. The transition is being conducted from sector-based to enterprise-based (source-specific) statistics. Because of that, new formats and methodologies for data collection and reporting are being elaborated based on international requirements.

Waste classification system existing in Georgia is based on Soviet approach, which divides wastes into five classes according to level of hazard (toxicity). These five classes are ranging from extremely toxic to non-toxic classes. However, there are neither exact criteria for the classification of waste types nor definitions for a "hazard".

At present, the State Statistical Department is working towards the development and setting-up of modern national system of classification, waste classification being one of the parts of it. The document will have a regulatory status and its application will be mandatory for all users. Under this system, all types of wastes (either substances or items) and services related to them are subject to classification. The source of origin (genesis) and the level of hazard serve as criteria for setting waste classification system, the first being the major criteria. As an initial step towards setting new classification system, comprehensive waste inventory should be conducted throughout Georgia and waste catalogue developed. This catalogue should serve as a basis for the development of national standard on Waste Classification System. Unfortunately, the catalogue has not yet been developed, hindering the timely adoption of waste classification system.

Under the suggested scheme, major classification criteria for wastes will be the source of origin (raw material, economic activity and technological process). The level of hazard will be added to above criteria. The system will cover the whole life cycle of waste management and will be compatible to the National Classification System on Economic Activities, based on European standard NACE. The structure of the system will be divided into two parts. The first part will classify all wastes and the second – services related to these wastes. The classification code will consist of eight-digit number (XXXX * X * X* XX) for both wastes and services. The code for wastes will take into consideration economic activity, the phase of process, the type of process and the type of waste.

2.2 Legal Basis

The Law on Environmental Protection (1996) sets a legal framework in the fields of environmental and natural resources protection in Georgia. It defines general objectives of environmental protection, as well as the principles, guidelines and mechanisms for their implementation. It also defines rights and duties of citizens and responsible authorities and sets criteria for division of responsibilities among these authorities. The law requires that industrial facilities conduct an integrated pollution control and monitoring as well as develop emergency preparedness and response plans in agreement with designated authorities. According to the law, new owner of a company should meet environmental requirements, which were set for former owner. All new industrial and commercial developments, as well as major industrial modifications are subject to environmental permitting issued by designated authorities.

Laws on Environmental Permits (1997) and State Environmental Examination (1997) regulate significant potential impact on environment imposed by human activities, through Environmental Impact Assessments (EIAs), State Environmental Examination (SEEs) and issuance of integrated environmental permits. The Ministry of Environment of Georgia grants environmental permits provided the applicant will suggest mitigation measures and meet all environmental standards and requirements. The applicant is responsible for carrying out of EIA and the MoE – for carrying out of SEE. EIA and SEE costs are covered by the applicant, as part of the cost of permitting process. The law guarantees public participation in all stages of EIA.

The Law on Waste Management has not yet been adopted in Georgia. A draft law is now under consideration by the Georgian Parliament. Among other major goals, the law aims at establishing of state waste management system and promoting of gradual introduction of EU standards and requirements in this field. It regulates generation, collection, transport, recycling, reuse, disposal, rendering harmless of municipal, and hazardous wastes. The law sets waste classification and inventory systems.

Under the law, wastes are classified according to their source of origin, as well as according to health and environmental hazards. Based on source of origin there are five types of wastes:

- Municipal wastes;
- Industrial wastes;
- Medical wastes;
- Agrochemical wastes;
- Biological wastes.

The group of hazardous wastes is separated from all above types of wastes. Any types of wastes are designated to be hazardous if they contain hazardous substances defined in appropriate Georgian laws (Law on Hazardous Substances). Hazardous wastes are divided into sub-groups based on type of hazard (terratogenic, cancerogenic, toxic, etc.). However, the law does not define the threshold for "hazard".

The law requires the keeping of national waste catalogue, where all wastes should be registered by using of six-digit trade codes set in Foreign Economic Activity Trade Code System. In addition, wastes can be described according to waste registration and coding systems laid down in Basel Convention and #259/93/EEC directive. State waste catalogue

should be maintained according to classification system set under this law as well as according to waste classification system set in the European Waste Catalogue approved by the #2000/532/EC decision in accordance with #/75/442/EEC and #/91/689/EEC directives. Waste identification should be conducted according to the national rule on waste identification, which should be based on waste identification requirements laid down in #2000/532/EC EC decision. Before the rule is adopted, wastes should be identified in accordance with Basel Convention and EU #259/93/EEC directive, as well existing national standards, sanitary-hygiene norms and rules and relevant Georgian laws. All types of wastes listed in yellow and red lists of EU #259/93/EEC directive, are classified as hazardous.

The law on Waste Management requires that the country set-up and keep the state system of waste inventory. Under this system, waste generators should conduct waste inventories at source and in an approved format and rule, on a regular basis, report to designated authorities (MoE and State Statistical Department). All this information should be gathered in State Waste Register, which should include qualitative and quantitative information on waste generation as well as information on waste sources, based on technological processes. The classification of waste sources should be based on the national classification system as well as on the economic activities identification and coding system laid down in Economic Activities National Classification Catalogue.

The law on Waste Management does not designate one specific management authority in the waste management field. It requires the setting of state steering committee under the Ministry of Environment for coordination of waste management activities for all types of wastes.

Other major laws in the field of waste and hazardous chemicals' management are as follow:

- ***The Law on the Transit and Import of Wastes Into and Out of the Territory of Georgia (1995, Amended in 1997)*** regulates the movement of "green", "amber" and "red" list wastes through Georgia. It bans import and transit of hazardous and radioactive wastes in Georgia;
- *The Law on Hazardous Chemical Substances (1998)* sets the legal and institutional base for chemicals safety management. It requires registration of hazardous chemicals, licensing of new chemicals and keeping of database on chemical registration, use and storage. In addition, the law contains provisions on the permitting of import/export of chemical substances. The ministry of Health is a major responsible authority in the chemicals' management field, among others having the responsibility to set-up and maintain the state register on chemical substances and, jointly with the Ministry of Environment share co-responsibility in the field of chemicals safety management.
- ***The Law on Pesticides and Agrochemicals (1998)*** regulates import, production, transportation, storage and usage of agrochemicals. Among others, it requires the examination and registration of new agrochemicals, keeping of the list of allowed chemicals, development of the state catalogue on agrochemicals and setting-up of the state register on agrochemicals by the Ministry of Agriculture and Food or its subordinated bodies. Banned pesticides are regulated under the Law on Hazardous Substances, by the provisions on the ban and restriction of hazardous substances.
- ***The Law on Radioactive Safety (1998)*** sets legal framework in the field of nuclear and radioactive safety. Among others, the law contains provisions on the inventory of radioactive wastes and their sources. Specifically, Nuclear and Radiological Safety Service, MoE is responsible for keeping the state register on radioactive wastes and

their sources, which should include data on existing nuclear and radioactive facilities, quantities of radioactive substances used as feedstock, radioactive substances and wastes imported, exported, used or generated and locations and technical conditions of their storage and disposal facilities. Owners/operators of nuclear and radioactive facilities, holding the licenses are responsible for radiation operational control and measurements of ambient pollution levels. Along with this, they are responsible for conducting inventories at source, keeping records on their activities, technical parameters of facilities owned/operated, quantitative and qualitative parameters of radioactive substances and wastes, used or/and generated, etc. and annual reporting to MoE. State register maintained my MoE should be based on these reports.

Georgia is a party to the Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and their Disposal. Recently it signed the Stockholm Convention on Persistent Organic Pollutants and GEF-funded enabling activities to develop National Implementation Plan and ratify the convention are currently underway. In addition, preparatory works are being conducted within the Ministry of Environment to accede the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.

2.4 Institutional Setting

Several agencies are involved in waste and chemicals management in Georgia. Their responsibilities are not stated clearly and delineated from each other. There is little cooperation among them and limited data kept by these agencies are not shared or exchanged.

The Ministry of Environment is responsible for developing and implementing national waste management policies, strategies and regulatory documents, as well as for enforcing existing norms and standards for environmentally sound disposal and treatment of industrial and municipal wastes. The Ministry is also responsible for implementing international treaties in waste management field, specifically the Basel Convention. The national focal point, who at the same time is a deputy head of the Department of Land Resources Protection, Waste and Chemical Substances has a primary responsibility for coordinating activities under the Convention.

- *The Department of Land Resources Protection and Waste Management* consists of three divisions handling with land protection, wastes and chemicals. Two staff, not enough for effective waste management deal wastes and Chemicals. The department gathers information on contaminated sites, industrial and municipal wastes and chemicals. Major sources for information on land contamination are MoE local authorities, MoE analytical labs (land contamination by pollution sources) and Hydromet (data on ambient pollution). MoE regional departments gather information on industrial wastes. They use standard questionnaires, prepared by the Department and to be filled out by owners/operators of industrial facilities. City municipalities and MoE local authorities are the main sources for information on municipal wastes. Regarding the chemicals, MoE regional authorities gather information within the regions, while central office collects data from the Ministry of Health, responsible for the maintaining registers on hazardous substances, and the Ministry of Agriculture, responsible for the maintaining state registers on agricultural chemicals and fertilizers. Information is collected via special questionnaires, developed by department's staff. Information is collected upon requests made by the MoE to other data

collecting authorities. There are no legally binding reporting requirements for wastes. Existing data are not entered in computers and are stored in paper formats.

- *Nuclear and Radiation Safety Service* coordinates and carries out an inventory of radiation sources and radioactive wastes at former Soviet military bases and plans measures for their rehabilitation. It has a staff of 10 people, which is not enough for effective performance by the Service.

The Ministry of Economy, Industry and Trade is responsible for licensing export and import of ferrous and non-ferrous scrap and other industrial wastes.

The Ministry of Labor, Health and Social Affairs is responsible for setting and enforcing sanitary-hygiene standards, including soil and food product standards. It also is responsible for setting-up and operating state register on hazardous substances.

The Ministry of Agriculture and Food is responsible for coordinating activities in agrocheimicals management, including state inventory of agrochemicals, development of agrochemicals catalogues and approval of the list of permitted agrochemicals.

Municipalities and local governing bodies are responsible for collection and disposal of municipal wastes, as well as providing information on this category of wastes.

State Statistical Department is responsible for setting-up and operation of national system of classification, including waste classification. Jointly with the State Department of Standards and Metrology it develops regulatory documents for national classification, coordinates national classification activities, publishes and distributes national codes of classification and related regulatory-guidance documents. Apart from this, the agency is responsible for maintaining and reporting of national statistics on all social and economic indicators, including environmental indicators.

State Department of Hydrometeorology through the National Center for Ambient Environmental Monitoring is responsible for regular collection of data on soil contamination on agricultural lands and in industrial areas. The Center has an analytical laboratory for soil analyses. At present soil quality monitoring is not conducted due to financial shortage.

3.0 AZERBAIJAN

3.1 Waste classification and inventories

Unlike Georgia, Azerbaijan has state system of waste inventory and reporting. Existing waste classification system is based on Soviet approach giving distinction among different types of wastes, especially, for hazardous wastes. However, this system of classification does not meet international standards.

There are very limited data on wastes, especially for municipal wastes in Azerbaijan. The Ministry of Ecology and Natural Resources plans to conduct comprehensive inventories of municipal wastes both generated and accumulated in four cities (Baku, Sumgayit, Mingechavir and Ganja). More or less full data exist for total amounts of wastes generated. However, there is no data on waste composition, except for Baku, where the system of data

collection and reporting is more functional and reliable, than in other cities and rural areas. There are many illegally operated dumps in small towns and rural areas, and data on them are not available.

Regarding the pesticides, approximate data are available for total amounts of pesticides used annually and stored in warehouses. According to these data, about 500 tons of pesticides are imported annually and about 8,000 tons buried. There is no exact information on the composition of these agrochemicals as well as the technical and environmental conditions of their storage facilities. Data on pesticide application are approximate as well, due to the non-existence of state control over the use and distribution of agrochemicals.

Since 1991, Azerbaijan conducts regular inventories of toxic industrial wastes. Following indicators are used for state statistical reporting:

- Quantities of wastes at the beginning of the year;
- Wastes accumulated within territories of industrial facilities;
- Annual waste generation;
- Transfer of wastes from other organizations or countries;
- Waste utilization at source;
- Transfer of wastes to other organizations for utilization;
- Waste utilization;
- Waste storage by industrial facilities;
- Waste burial;
- Quantities of wastes at the end of the year.

The industries are required to keep regular records on toxic wastes and on an annual basis report to the State Statistical Committee, which processes, aggregates and publishes all this information in statistical yearbooks or in special publication entitled "Environment". Currently, the comprehensive inventory of all sources of hazardous wastes is underway in Azerbaijan.

A Hazardous Waste Management Inspection under the Ministry of Ecology and Natural Resources has developed a reporting format called "passport for hazardous wastes" for qualitative assessment of hazardous wastes generated by companies. Reporting requirements cover waste classification under Basel Convention, toxicity, general description and composition, chemical and physical characteristics, proposed treatment and use, and contact information of responsible company or person. On 31 March 2003 the Cabinet of Ministers by the ordinance No.41 approved the Rules for Pasportization of Hazardous Wastes. On July 2003, the Ministry of Justice registered the Classification and Rules for Waste Inventory during Industrial Activities and in Services Sector.

The State Control Committee and the Radiation Medicine Department of the Republican Center gathers information on radioactive wastes and radiation sources for Sanitary and Epidemiology.

Since April 2003 Azerbaijan has been participating in a program (RAIS) aiming at establishment of computerized registry of radioactive materials. At present, 482 radiation sources are mapped in the country.

The Ministry of Ecology and Natural Resources intends to conduct comprehensive inventory of contaminated sites, develop criteria for their rehabilitation and conduct decontamination projects. The inventory is scheduled for 2004.

3.2 legal Basis

The Law on Environmental Protection (1998) is a framework act in the field of environmental protection defining general environmental protection objectives and principles and requiring the development of detailed media specific statutes and regulations.

In relation to wastes, the Law on Environmental Protection authorizes the government:

- To set rules and procedures for environmental monitoring and auditing;
- To issue permits on environmentally hazardous economic activities, wastes and pollutants releases into the environment.

Special licenses are required for pollutant releases, transportation, storage and disposal of hazardous industrial and municipal wastes, environmental auditing and economic activities that may have significant impacts on environment. Industrial facilities should conduct self-monitoring and keep records on their emissions and wastes. The law requires setting-up of pollution taxes on air and water emissions and waste disposal, and imposition of penalty on the non-compliance to emission limits. Juridical or natural persons conducting economic activities that may have significant impact on environment should hold environmental insurance. The law also requires setting-up of emission and waste generation limits. Finally, the law guarantees public participation in decision-making process.

The Law on Ecological Safety (1999) regulates the issues of liability, access to information and justice and public court suits. It also sets restriction and banning regimes on certain types of activities that may have adverse environmental impacts.

The Law on Industrial and Municipal Wastes defines the legal and policy framework for waste management, including hazardous wastes. Specifically, it defines duties and rights of designates authorities, sets responsibilities for waste owners, defines environmental requirements for waste generation, disposal, treatment, re-use and movement. Later this law was supplemented by Presidential Decree # 26.10.98, which set detailed responsibilities of designated authorities and listed rules and measures to be implemented by the Government. None of the provisions, except for the rule for licensing, set under Presidential Decree, have been approved. Among other issues, these provisions regulate record keeping and reporting procedures, certification of import/export of wastes and waste inventories.

The Law on Wastes does not have a definition for wastes. In addition, its definition for hazardous wastes is not clear enough and does not define the 'hazard'. The law requires licensing of waste treatment, rendering harmless, disposal and recycling. All the applicants should be registered in the state registry kept by the Ministry of Ecology and Natural Resources. The law requires that waste owners keep records on their wastes and regularly report to the Ministry of Ecology and Natural Resources. The law also requires the registration of wastes during their transportation though, not defining the terms and conditions, rules and procedures for it. Finally, the law requires the registration of waste disposal sites in state registry.

All provisions related to waste classification, inventory and reporting need further development. The draft National Waste Management Strategy envisages the development of new waste legislation that among other issues would regulate waste definition and classification issues, inventory and rehabilitation of contaminated sites, record keeping and reporting.

Since 2001, Azerbaijan is a party to Basel Convention and Hazardous Waste Management Authority is directly responsible for its implementation.

3.3 Institutional Setting

City municipalities are responsible for municipal waste collection, transportation and disposal.

Ministry of Ecology and Natural Resources is a regulatory body for hazardous wastes and issues permits to industrial facilities for disposal of hazardous wastes. In addition, it carries our compliance assurance monitoring and control (law enforcement) in the fields of municipal and industrial waste management and keeps state waste registry containing information on municipal and industrial wastes, including hazardous wastes.

For managing hazardous wastes, a Hazardous Waste Management Inspection was established under the Ministry of Ecology and Natural Resources in March 2003. The agency is responsible for hazardous waste management, including policy-making. It is also responsible for the enforcement of the hazardous waste legislation. Waste licensing and inspection authorities will be delegated to its regional offices by 2004.

Ministry of Health is responsible for medical waste management (collection, treatment and disposal).

The Radiation Medicine Department of the Republican Center for Sanitary and Epidemiology and the State Control Committee are responsible for collecting and keeping data on types and quantities of isotopes used in the country. The latter also carries out testing of construction material and food products for radioactive contamination.

State Statistical Committee is responsible for maintaining and publishing national statistics on municipal and industrial wastes.

4.0 ARMENIA

4.1 Waste classification and inventories

Republic of Armenia lacks reliable information on wastes generated in the country. The system of their identification is weak and does not meet international requirements.

Since 1997, Armenia carries out systematic state inventory on waste generation, re-use and removal. Waste generator/owner companies provide primary data to the Environmental Inspectorate of the Ministry of Environment on an annual basis and in a statistical format approved by the Ministry of Justice. Annual statistical reports consist of information on the

volumes of wastes generated and there dynamics. In addition, the reports indicate types of wastes: hazardous, non-hazardous, household wastes. Statistical reporting format covers all types of wastes, except for radioactive wastes, livestock wastes, air emissions and water discharges.

The inventory of wastes is conducted according to the classification system, which is based on the level of hazard. The system defines five classes of hazard and divides wastes according to these classes:

I class – extremely hazardous wastes;
II class – highly hazardous wastes;
III class – moderately hazardous wastes;
IV class – slightly hazardous wastes;
V class – non-hazardous wastes.

Annual statistical reports provided by juridical or natural persons, engaged in economic activities, are divided into three parts. The first part consists of data on waste classes according to hazard (household wastes are indicated separately) and quantitative data on waste generation and flow:

- Total waste quantities at the beginning of year;
- Wastes, received from other organizations;
- Total waste generation during the year;
- Wastes transferred to other organizations;
- Wastes rendered harmless or eliminated (removed);
- Wastes, including household wastes, transported and disposed to waste disposal sites on the expense of waste generators/owners;
- Wastes utilized;
- Total waste quantities at the end of year.

The second part consists of aggregated data on financial expenditures. The third part consists of indicators similar to the first one, with a difference that indicators are given for each type of wastes. It also contains information on waste source, technological process, physical and chemical characteristics (aggregate state, composition) of wastes, type and total area of a waste disposal site.

In practice, only 10-15% of reporting organizations could give physical and chemical characteristics of wastes.

Annual reports received by regional offices of State Environmental Inspectorate after verification are sent to the National Statistical Service for data entry, processing and analyses. Aggregated national statistical data are published in monthly reports entitled “Social and Economic Situation in the Republic of Armenia”, statistical yearbooks and separate publication entitled “Environment and Natural Resources in Armenia”. National statistics include total waste volumes and waste volumes according to waste types and classes of hazard. Normalized data per capita, per area and per waste generator/owner organization are also reported. Annual data on waste flows (generation, transportation, treatment and disposal) and financial expenditures on services related to wastes both total and per classes and types of wastes. Apart from annual data, national statistics consist of trends of waste generation, waste flow and financial expenditures.

In addition to above data, State Statistical Department keeps records and maintains national statistics on solid household wastes generated in cities, on the bases of special reporting format "1-Specialized Transport – Mechanical Sanitary Cleaning of Cities". Statistical reports also include information on financial expenditures for cleaning services. City municipalities and companies conducting sanitary cleaning of cities keep records on household wastes and report to the State Statistical Department. In urban areas, solid domestic wastes are transported to waste disposal sites, which do not meet minimum sanitary-hygiene requirements and represent one of the major sources of environmental pollution.

4.2 Legal Basis

Armenia does not have laws regulating wastes and chemicals. The Ministry of Nature Protection has drafted a law "On Wastes", which among others, includes economic incentives for organizations processing and utilizing wastes. The draft law was submitted to the Secretariat of Basel Convention for international examination.

Current legal and regulatory documents addressing the hazardous and other wastes and chemical substances management issues are as follow:

- Law on Taxes for Environmental Protection and the Use of Natural Resources;
- Law on Base Rates of Environmental Protection Taxes;
- Law on Licensing;
- Law on Population Sanitary-Hygienic Safety;
- Law on Medicines;
- Law on Plant Protection and Quarantine Service;
- Armenian Code of Mineral Resources;
- Decision No. 518 on the Provision of State Hygienic and Epidemiological Services (adopted 12 October 1993)
- Government decision No. 97.02.03.2000, dealing with the transboundary transport of hazardous wastes, including their import, export and transit.
- Government Decision No.121-H.30.01.2003 on the Rules and Procedures of Licensing of Re-Use, Rendering Harmless, Storage, Transport and Disposal of Hazardous Wastes in the Republic of Armenia;
- Government Decision No. 902.31.12.2000 on the Ban of Movement of Specific Goods Through Customs of the Republic of Armenia according to Customs Regimes;
- Instruction Manual No. 10.09.1999 on Identification of Regulated and Non-regulated Wastes, Listing of their Hazardous Characteristics, Reporting and Waste Removal;
- Government Decision No. 487.31.07.1999 on the Designation of State Body in the Field of Removal of Obsolete Medicines;
- Government Decision No.581.20.09.2000 on the Approval of the Rule of Export/Import of Medicines in Armenia;

- Government Decision No.347.25.04.2001 on the Approval of the Rule of State Registration of Medicines and the Rate of the Payment of Examination of Medicines Conducted for the Purpose of Their Registration in the Republic of Armenia;
- Government Decision No.12.08.01.2002 on the Approval of the Rule State Registration of Plant Protection Remedies;
- Government Decision No.57.24.01.2002 on the Approval of the List of Chemical Substances, Bionic Components, Heavy Metals or Substances with Heavy Metal Content or Other Substances, Having Negative Impacts on the Ecosystems of Lake Seven;
- Presidential Decree on Governmental Structure and Regulation Framework, issued 15 January 1996, specifying responsibilities of the provincial chief administrator for waste management;
- Government Decision No. 51 on communal property, which establishes communal ownership over landfills;
- Law on the 1996-97 program for the transfer of state enterprises and unfinished construction, encouraging the privatization of waste management services (adopted on 20 March 1996)
- Decision No. 405 on State Inventory of Wastes, requiring the collection of information on the generation, transport and disposal of wastes, including their transboundary movements (adopted on 17 October 1997)
- Instruction Manual on the Registration, Taxation and Safe Disposal of Wastes, as approved by the Minister of Nature Protection in 1997;
- Instruction Manual on the Classification of Wastes according to the Level of Hazard, as approved by the Ministerial order No.180.05.12.1996;
- Government Decision No. 864 of 30 September 1998 on the levying of taxes and fines for the use of surface water, groundwater and mineral water, for air and water pollution and for disposal of industrial wastes
- Government Decision No. 1702 of 11 November 1998 Concerning an Ecological Passport for Industrial Enterprises.

Armenia is a party to Basel Convention, ratified by the Armenian National Assembly (Parliament) in 1999. In 2000, the National Assembly also ratified an agreement among CIS countries on the Control of Transboundary Movement of Hazardous Wastes. Government Decision No.97.08.12.1995 is a major regulatory document setting general principles for regulation of transboundary movement of hazardous and other wastes in Armenia. Two other Conventions Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (1998) and Stockholm Convention on Persistent Organic Pollutants are signed by the country and enabling activities to ratify these conventions are currently underway.

4.3 Institutional Setting

The Division of Hazardous Chemicals and Waste Management of the Ministry of Nature Protection is responsible for development of state policy in the field of waste and chemicals management as well as for setting-up of the system for collection and analysis of information on safe management of chemicals and generation, storage, recycling and disposal of municipal and industrial wastes, including hazardous wastes. The Division maintains the list of

organizations, reporting on their wastes, as well as the computerized registry on quantities of wastes generated and their quantitative and qualitative characteristics.

Regional branches of the State Inspectorate of the Ministry of Nature Protection are responsible for environmental law enforcement, including:

- Enforcement of the requirements of import, export and transboundary movement of hazardous wastes in Armenia;
- Enforcement of the norms and requirements set for waste disposal, rendering harmless, utilization, transportation and burial;
- Enforcement of requirements set for the use, transport and storage of hazardous chemical substances;
- Enforcement of hazardous waste inventory and reporting requirements;
- Checking of validity of records;
- Control over environmental tax payment;

The Agency of Hydrometeorology and Environmental Quality Monitoring under the Ministry of Nature Protection and The Center for Environmental Impact Monitoring, subordinated to the Ministry conduct studies on environmental impacts. On the bases of ambient environmental quality data, collected by the center (non-profit public organization) the analyses of state of the environment and quantitative and qualitative analyses of chemicals is carried out (Government Decisions No. 1619.26.09.02 and No411.06.03.03).

Local authorities (marzpetarans) and the governor of the city of Yerevan carry out their responsibilities according to the Presidential Decrees No. 726.06.1997 on the State Government in Marzs of the Republic of Armenia and No. 727 on the State Government in the City of Yerevan. In the field of environmental management, they are responsible for:

- participation in the development of state environmental protection programs and within their terms of references for implementation of these programs;
- compliance assurance control in the field of environmental protection;
- cooperation with NGOs and local communities to implement environmental protection programs.

Other institutions, involved in safe management of hazardous chemicals are as follow:

- Ministry of Health is responsible for sanitary-epidemiological control and safety of population, as well as for the regulation of chemical substances and wastes through its structural services and organizations:
    - State Hygienic and Epidemiological Inspection of the Ministry of Health organizes social and hygiene studies (monitoring) of the health impacts of environmental factors; conducts sanitary-hygienic examination/testing and gives recommendation on burial of hazardous wastes, use of polymeric materials and other substances, food products and use of plant protection remedies; conducts compliance assurance control over the implementation of sanitary hygienic standards;
    - Institute of Environmental Hygiene and Preventive Toxicology deals with research and monitoring of the migration of pesticides in the environment (air, soil, water and biota)
    - Institute of General Hygiene and Occupational Diseases deals with development of ambient environmental quality standards and emission limits as well as permissible

exposure limits in the air of the work environment; conducts scientific-health, epidemiological, hygienic and laboratory studies.

- State Statistical Service is responsible for keeping and publishing of national statistics on waste generation and flows;
- Ministry of Agriculture is responsible for conducting pest control as well as for compliance assurance control of food product safety, phyto-sanitary and veterinary requirements.
- Ministry of Trade and Economic Development jointly with state governing bodies develops recommendations on setting quotas on export/import of consumption goods, imposing state monopoly regimes on export/import of certain goods, as well as on setting banning and restriction regimes on goods, including chemicals;
- Research Center of Agriculture and Plant Protection tests the ability/properties of pesticides, including new products and preparations, to protect crops from diseases and pests;
- Soil Sciences and Agrochemistry Institute carries out research into the rational use of agricultural chemicals and their impact on the environment;
- The Center for Ecological and Neosphere Studies of the National Academy of Sciences is involved in the management of contaminated sites. Activities are planned to develop technologies for remediation or cleaning-up of the sites contaminated with heavy metals, cyanic and nitrogen compounds and pesticides.

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