

UNOFFICIAL WORKING TRANSLATION

**SETTING OF TARGETS AND EVALUATION OF A PROGRESS
TOWARD THE PROTOCOL ON WATER AND HEALTH
(GEORGIA)**

BRIEF REPORT

TBILISI

2010

INTRODUCTION

A present report has a goal to provide a preliminary assessment of the current situation under requirements of the Protocol on Water and Health in Georgia. It is assumed, that a report would be a source of succinct and useful information allowing an evaluation of a progress on implementation of provisions of the Protocol. It is expected, that a present report will give a chance to evaluate a progress and results of works held in the country and more precisely formulate the particular goals for the future.

An approach for the present report is in using of the information stored in different ministries and agencies. Its info is combined from both the public database and the data which is rarely known and taken into account. An additional value of the present report is in its sphere of coverage and a laconism. It means that, despite a report is based on using characteristics, only a limited number of them are included.

This is a first report composed similar to the brief reports under the Protocol on Water and Health in compliance with the guidelines on setting of targets, evaluation of progress and reporting for reviewing the issues mentioned in such documents. But, it should be noted, that some issues from the above mentioned documents are not considered in this report due to an absence of the relevant information.

The generalised analysis of the issues mentioned in the brief reports is provided within the chapters 1-20. General indices (and targets) for each issue are used to illustrate a progress for various directions covered by the requirements of relevant sections of the Protocol. There are mentioned some institutions and major sources of information that contributed to implementation of various targets.

A report has some limitations. The coverage of some sections is not always equal. Not all the questions and topics in the sources investigated are identically and fundamentally covered. The data available to assess a progress and to create a better set of indicators in some cases is limited. In some cases, the available figures are too general; it would be more relevant to have more specific baselines for each target to demonstrate a progress in some areas for both the long-term and short-term perspectives.

An analysis of the present data will give an opportunity to create a real basis helping to identify and discuss the issues related to water resources management, water supply, sanitation and health care as the cross-cutting issues for various policy sectors. It will create a platform for harmonisation and integration of various sectors under a Protocol as well as for consolidation of the various stakeholders to implement requirements of the Protocol on Water and Health on the different levels.

Geographical location and general information about the country

Georgia is located in the Caucasus on the border of Europe and Asia.

It neighbours with the Russian Federation on the north, with Azerbaijan on the east and south-east and with Turkey and Armenia on the south. It is washed by the Black Sea on the west. **(Figure 1).**

- The total area of a country is 69.7 thousand km²
- The State language is Georgian
- The Capital is Tbilisi.
- Its population is 4,382,100 people (according to the Department of Statistics).

- The length of the state border is 1969 km.
- 32.19% of its territory is covered by forests.
- Water bodies consist of 10.94% of the territory.
- Agricultural lands - 39.6%.
- The average annual rainfall in the capital city of Tbilisi is 42 mm.

Natural Resources of Georgia

Georgia disposes the necessary raw materials to develop its industrial capacity. The potential of mineral resources of the country is presented by 450 deposits, its stocks are included in the state balance sheet.

There are 27 mineral resources on the territory of Georgia. The major mineral resources of Georgia are:

- Manganese ores. Balance reserves - 200 million tons, annually extraction - up to 6 million tons;
- Copper ores. Estimated reserves - 250 thousand tons;
- Coal. Estimated reserves - 400 million tons;
- Oil. The total volume – 600 million tons;
- Gas – 126 billion m³;
- Rich resources base for development of the pharmaceutical industry;
- Forest resources with a total area of 3 million hectares.
- Water resources with capacity of 30 billion kWh. However, the level of its use is less than 10%;
- Near 2 thousands of the fresh water resources are officially registered on the territory of Georgia with the annual yield about 250 billion litres;
- There are also 22 underground deposits of mineral waters including for medicinal purposes with the annual yield about 40 billion litres;
- Recreational resources are unique: there are numerous resources of mineral waters (2300 springs) with total daily yield about 130 million litres, etc.

The longest rivers within the country are Alazani - 390 km (basin area - 12.0 thousand km²), Kura - 351 km (basin area 21.1 km²), Rioni - 333 km (basin area 13.4 km²), Enguri - 206 km (basin area 4.1 km²). The largest lakes are Paravani - with surface area of 37.5 km² and Kartsakhi - 26.3 km².

BRIEF DESCRIPTION OF THE WATER RESOURCES OF GEORGIA

The water resources of Georgia, including underground ones, are significant among other numerous environmental assets of the country and occupy a leading position; but, at the same time, the physical-geographical and climatic conditions contribute to a wide variety of hydrological characteristics across the country as well as in some regions.

The water resources of Georgia are unified within two basins of both the Black Sea and the Caspian Sea and include:

- over 26,000 rivers of which 17,676 ones are in the Black Sea Basin, 8,384 rivers are in the Caspian Sea Basin, its total length is 35,500 and 24,500 km respectively;
- 860 lakes with a total area of surface waters (water table) of about 170 km². The largest lakes are the Ritsa, Paravani, Paliastomi, Sagamo, Tabatskuri (74% of the total water reserves);
- 43 artificial water reservoirs of which 35 are located in the eastern part of Georgia in the Caspian Sea Basin, and 8 are in the Western Black Sea Basin. These reservoirs are used mainly for field irrigation and hydropower production.

The average cumulative volume of the runoff of all rivers is 65.8 km³ including the runoff generated from the territory of Georgia - 53.6 km³ per year, of which 40.7 km³ or 76.4% goes to the Black Sea and 12.9 km³ or 23.6% goes mainly through territory of Azerbaijan to the Caspian Sea. It is produced 810 thousand m³ of water per 1 km² on the average yearly.

The surface water resources are unevenly distributed across the territory of the country: it is mentioned a very high rainfall (up to 4,000 mm/year) in the western part of Georgia, while its eastern part is much more arid (in some places less than 300 mm). 1,340 m³ of water per 1 km² of the territory is formed in the western part of Georgia, while in the eastern part it constitutes 370 m³/km² only.

➤ A total annual runoff of all rivers is the western part of Georgia (the Black Sea Basin) constitutes 49.7 km³ or 75%.

➤ In the eastern part of Georgia (the Caspian Sea Basin) it is 16.1 km³ or 25%.

Despite the fact, that per 1 km² of the Georgian territory is formed 769 thousand m³ of water on the average, in the most arid parts of Georgia the issue of water supply is quite acute.

With approximately equal areas of the eastern Georgia with 37.0 thousand km² and the western one with 32 thousand km², and population of 2.8 and 2.3 million people respectively, it accounts per capita:

➤ In eastern Georgia – 4,600 m³ of water per year;

➤ In western Georgia – 17,700 m³, i.e. approximately four times higher.

As noted above, Georgia is rich in underground waters as a basis for drinking water supply to the population of a country. The natural ground water resources amount up to 18 km³ (representing 32% of the total runoff of the rivers in a country and almost 20% of its precipitation), 8 km³ of which belong to the underground waters in the eastern Georgia. The estimated available prognostic and operational resources of fresh waters from underground sources in the country constitute about 10.6 km³; 6.7 km³ or 63.2% of which are in the western Georgia, 2.6 km³ or 24.5% are in the eastern Georgia, and 1.3 km³ or 12.3% are in the southern Georgia. The estimated annual resources of fresh waters from underground sources constitute in the country near 2.4 m³/daily per capita¹.

Approved reserves constitute up to 2.9 km³. In many cases such waters have good drinking quality with low mineralization. However, unequal distribution of such waters across the territory of a country makes it difficult to use because the large cities are located far from the watery productive complexes. 135 from the numerous springs have capacity over 5 l/s.

Among the most abundant springs located in the three districts of southern Georgia, it could be mentioned a group of springs with capacity from 1,100 to 3,500 l/s, it is a large group from major karsts resources located mainly in three regions, in particular, in the Abkhaz A/P with capacity from 1,500 to 26,000 l/s, in the Colchis Lowland with capacity from 300 to 3,500 l/s and in the Imereti region.

Hydrogeological zoning of Georgia is presented by 5 hydrogeological areas, in particular:

1. region of the crystal substrate ground waters;
2. region of the water drive systems of the southern slopes of the Caucasus;
3. region of the artesian basins belts;
4. region of the water drive systems of the Southern Georgia;
5. province of Artvin-Armenian ground water belts.

Hydrogeological zoning of Georgia is shown on the **Figure № 2**.

Over 2,000 of the wells have been drilled for water supply in the country. In the majority of cases it is a confined water flow. Many of the drilled wells have a large capacity.

¹ Promotion of Achieving of the Millennium Development Goals on Water Supply and Sanitation (WSS) in Georgia through Extending of the Financial Strategy for WSS in Rural Areas and Facilitating of the Related National Policy Dialog (Interim Report), 2007.

As noted above, the drinking water supply in the country is based mainly on the underground waters use. The efflux zone of these waters is mostly a high mountain area which is healthier from the ecological point of view in comparison with the lowlands and the quality of these waters is very high.

Debit of the natural fresh waters is 571.7 m³/s (49.4 million m³/daily) and they are distributed very uneven, in particular:

- in the western Georgia - 362.5 m³/s or 63.4%;
- in the eastern Georgia - 137.9 m³/s or 24.1%;
- in the southern Georgia - 71.3 m³/s or 12.5%.

The State Commission for Mineral Reserves has adopted the operational reserves in amount of 285 m³/s, including:

- for the western Georgia - 136.8 m³/s or 48%;
- for the eastern Georgia - 129.1 m³/s or 45.3%;
- for the southern Georgia - 19.1 m³/s or 6.7%.

Taking into account all reserves approved in the country, it is provided 2.2 m³/daily per person and 0.88 m³/daily per high (industrial) category.

In many cases the level of mineralization is low (0.2-1.0 g/l) and water from the underground sources may be used for drinking water supply. Water resources, including underground waters, are polluted due to the human impact.

On the basis of recent 10 years of researches, there was a map of inventory of pollution sources developed for the different types of underground waters; it was also compiled and published an informational bulletin "About the Environmental Conditions on the Underground Hydrosphere" as well as a unique by its content the information and statistical database of the underground waters including those from the karst areas.

Despite the fact that Georgia is rich in water resources, the overall level of its utilization does not exceed 10%, and, in accordance with the 4th Assessment of the European Environmental Agency (2007), the water regime in Georgia is not stressed, the threshold stress index of exploitation of the water resources (IEWR) in 2004 was less than 10% in comparison with 1990. Index of the water resources used is represented in the **Figure 3**.

Each year, the population uses 450-500 million m³ of water for drinking purposes of which 90% are used by urban and 10% - by rural population.

All surface water bodies in the country are divided into very important to the state and of the national importance categories according to the Law "On Water" and the Order of the Minister of Environment and Natural Resources of Georgia no. 61 from May 7, 1998, "On Approval of the List of Surface Water Bodies as Very Important to the State and of the National Importance".

As it is noted above, despite the fact, that Georgia is rich in water resources, the problem of water supply to the population of the country with sufficient amount of the drinking water still remains acute as the country's water resources are unevenly distributed. Due to this problem, the population of eastern Georgia has traditionally experiencing an acute shortage of drinking water.

PART 1. GENERAL ASPECTS

In the process of setting the targets in Georgia are involved:

- Ministry of Environment and Natural Resources;
- Ministry of Health, Labour and Social Protection;
- Ministry of Agriculture;
- Ministry of Economic Development;
- Ministry of Regional Development and Infrastructure.

The Ministry of Environment and Natural Resources leads and coordinates the relevant activities. This coordination is achieved through regular meetings between representatives of the above mentioned ministries.

With regard to public participation in the management of water resources, prevention and control of diseases, including those related with water, as well as the target setting, it should be noted, that Georgia is a Party of the Aarhus Convention. The requirements of this Convention are regulated by the General Administrative Code and by the relevant special laws.

On the basis of these laws, information on environmental quality and morbidity as well as information regarding the situation with water quality in the collective water supply systems, its management and decisions taken can not be classified as the state secrets, respectively:

- the Internet sites are developed by the ministries of Environment and Natural Resources; Labour, Health and Social Protection; Agriculture; Economic Development; Regional Development and Infrastructure, etc, that are updated on a regular basis and publish information about planned and ongoing work ([www. moe.gov.ge](http://www.moe.gov.ge); www.moh.gov.ge; www.fvp.ge; www.gac.gov.ge), etc;
- special services for public and media relations are established in these ministries;
- a computer network system "Code" for publishing of all the legal and subordinated texts, orders issued by the ministries and departments including the Ministry of Environment and Natural Resources and the Ministry of Health, Labour and Social Protection, etc, was created under jurisdiction of the Georgian Parliament and the Ministry of Justice;
- the Ministry of Environment and Natural Resources is publishing the “National Report on the State of the Environment” every three years; the Ministry of Health, Labour and Social Protection is publishing the national report “On the Health Status of the Country's Population” as well as annual statistical publication "Public Health", all of them are posted on the website of the Ministry;
- the Ministry of Environment and Natural Resources is developing the “National Action Plan on Environmental Protection - NEAP" every 5 years; and the Ministry of Health, Labour and Social Protection – the “National Action Plan on Environmental Hygiene - Environment and Health - NEHAP" issued in printed format and posted on the website. Since January 2010, the Ministry of Environment and Natural Resources started the development of the next "National Action Plan for Environmental Protection - NEAP" with the support of experts from the Netherlands;
- there is a network of environmental Caucasian NGOs (CENN), etc, established in the country;
- the public hearings are initiating by the different ministries on a regular basis for discussions on the draft laws and regulations as well as the documents developed by various organisations on the assessment of impact on the environment. The results of public hearings (the comments and proposals) are taken into account while drafting the final versions of the above documents.

In the development of this report have participated:

The Office of Water Resources under the Ministry of Environment and Natural Resources;
The National Centre of Disease Control under the Ministry of Health, Labour and Social Protection;

The National Service of Food Safety, Veterinary and Plant Protection under the Ministry of Agriculture;

The Regional Development Agency for Water Supply under the Ministry of Regional Development and Infrastructure;

The United Water-Supply Company of the Ministry of Economic Development of Georgia;

The National Accreditation Centre under the Ministry of Economic Development.

The Ministry of Environment and Natural Resources of Georgia has led the drafting of a summary report in accordance with the Protocol on Water and Health.

The Ministry of Health, Labour and Social Protection has provided information about a work done for:

- a) the development and implementation of the national standards on water quality of different use;
- b) the reduction of outbreaks and cases of infectious diseases potentially related to water.

The Ministry of Agriculture in a process of preparation has submitted to the report:

- a) information on quality control of the drinking water supplied in 2006-2009;
- b) information on the quality of waters used as sources for drinking water.

The Ministry of Regional Development and Infrastructure provided information for:

- a) the work done to improve water supply for population in the country;
- b) the actual condition and priorities for water supply and sanitation in the Eastern and Western Georgia, etc;

The United Water-Supply Company of the Ministry of Economic Development of Georgia has provided information on legal, institutional and administrative aspects in the field of provision of the water supply to population in the regions of the country; on implementation of the modern management systems for water supply to the population; on development of the water supply systems, etc;

At the federal level, these ministries and the local administrative bodies (e.g. municipalities of Tbilisi, Batumi) take appropriate decisions within the limits of their competence on drinking water supply to the population with water of relevant quantity and quality as well as financing and carrying out the construction and rehabilitation of water supply and sanitation systems.

Based on a fact that, along with the reforms held in recent years in a country, a special attention was paid to the development of social sphere, and particularly, to ensure a safe environment for human health; and a number of changes was held within executive power structure and legislation, we consider as appropriate an information on legal framework and some systematic institutional, administrative and organisational changes in the structure of executive power bodies presented within a report in the context of improving management in water supply, sanitation, water quality (including drinking water), and prevention of morbidity due to water-related diseases.

PART 2. GENERAL QUALITY INDICES OF DRINKING WATER SUPPLIED (II.2 a) UNDER ARTICLE 6)

LEGAL FRAMEWORK, INSTITUTIONAL AND ADMINISTRATIVE ASPECTS IN THE SPHERE OF WATER QUALITY MANAGEMENT (INCLUDING DRINKING WATER) AND MORBIDITY

LEGAL PROVISIONS

The legal framework in Georgia for ensuring the safe living conditions as well as water quality management (including drinking water) and prevention of morbidity is stipulated by the special laws and regulations. Below are presented some laws and regulations.

➤ Laws:

- “On the Environmental Protection“ (1996);
- “On Water“ (1997). The basic principles of this law, theoretically, reflect to the principles of the European water policy, particularly to the principles of the European Community

Framework Directive no. 2000/60/EC (2000) and the core conventions – the Helsinki (1992) Convention and the Aarhus Convention²;

- “About the Construction for Protection and Regulation of the Sea Shores, the Water Reservoirs and the Rivers of Georgia Shores“ (2000);
- "On the Licenses and Permits (2005);
- "On Health Care (1997);
- "Sanitary Code" (2003). Lost power in 2007 due to adoption of the Law on Public Health by the Parliament of Georgia;
- "On the Safety and Quality of Food" (2005);
- "On Public Health" (2007);
- "On the Environmental Impact Permits" (2007);
- "On the Ecological Expertise" (2007);
- "On the Local Self-Government" (1997);
- "On the State Control over Protection of the Environment" (2005);
- "On the Subsoil Assets" (1996).

➤ **Decrees and Orders of the President of Georgia:**

- Decree no. 531 from September 23, 1998, "On the Reform of Housing in Georgia, its Concept and Activities to Improve the Sanitary Conditions on Water Supply and Sanitation Systems”;
- Order no. 1089 from February 9, 2002, "On Measures to Provide the Georgian Population with the Drinking Water of Good Quality”;
- Decree no. 326 from March 24, 2003, "On Approval of the National Action Plan on the Environmental Hygiene of Georgia " Environment and Health” (NEHAP);
- Decree no. 93 from February 22, 2005, "On Approval of the Provisions on Socio-Hygienic Monitoring”;
- Decree no. 245 from April 10, 2008, "On Measures to Improve the Drinking Water Supply in Tbilisi, Rustavi and Mtskheta”;
- Decree no. 284 from May 30, 2008, "On Structure of the Governmental Commission on Water Supply and Energy”;
- Decree no. 415 from August 26, 2008, "On Approval of the National Plan to Response the Extraordinary Situations of Environmental and Technological Matter”;
- Decree no. 192 from April 21, 2009, "On Creation of a Public Legal Entity – the Regional Development Agency for Water Supply”.

➤ **Governmental Decisions:**

- No. 52 from March 9, 2006, "On Determination of the Scope of Supervision, Monitoring and Control for the National Service of Food Safety, Veterinary and Plant Protection”;
- No. 30 from February 15, 2007, "On Creation of the Governmental Commission on Policy Development for Water Supply and Sanitation for the Population (no longer in effect according to the Governmental Decree no. 104 from June 5, 2009, "On Becoming Inoperative of Some Legal Acts”);
- No. 73 from March 24, 2008, "On Approval of the Task State Programme on Equipping of the Health Institutions for the Timely Response and Medical Assistance during Natural Disasters, Accidents and Emergency Situations;
- No. 104 from June 5, 2009, "On Becoming Inoperative of Some Legal Acts”.

➤ **Subordinated legal acts:**

² «Reducing of Transboundary Degradation in the Kura-Araks River Basins», UNDP-SIDA (Swedish International Development Agency) Programme, 2004.

- **Orders of the Ministry of Environment and Natural Resources:**

- No. 59 from May 7, 1998, "On the Approval of Regulations on the Water Protection Belts";
- No. 61 from May 7, 1998, "On the Approval of a List of the Surface Water Bodies with a Special and the National Importance Status";
- No. 139 from June 15, 2005, "On the Approval of Regulations for the Special Board on the Environmental Impact of the Ministry of Environment and Natural Resources";
- No. 246 from March 19, 2007, "On Approval of the Strategy for Inspection on the Environmental Protection";
- No. 745 from November 13, 2008, "On Approval of the Environmental Technical Regulations";
- No. 765 from November 27, 2008, "Amendments to the Order of the Ministry of Environment and Natural Resources No. 59 from May 7, 1998, "On the Approval of the Water Protection Belts";
- No. 8 from March 9, 2009, "On the Approval of Regulations "On the Environmental Impact Assessment".

- **Orders of the Ministry of Health, Labour and Social Security:**

- No. 297/H from 16.08. 2001, "On the Approval of Characteristics on the Surface Water Quality";
- No. 297/H from 16.08. 2001, "On the Approval of Characteristics on the Environmental Quality Conditions";
- No. 297/ H from 16.08. 2001, "On the Approval of Sanitary Rules and Regulations Regarding the Sanitary Zones of Water Resources and Water Supply Systems for Household and Drinking Purposes";
- No. 304/H from 18.09. 2009, "On Amendments to the Order of Ministry of Health, Labour and Social Security No. 297/H from 16.08. 2001, "On Approval of the Sanitary Rules and Regulations Regarding the Sanitary Zones of Water Resources and Water Supply Systems for Household and Drinking Purposes";
- No. 251/H from 15.09. 2006, "Amendments to the Order of Ministry of Health, Labour and Social Security No. 297/H from 16.08. 2001. "On Approval of the Sanitary Regulations on Protection of Groundwaters from Contamination;
- No. 308/H from 05.11.2002 "On the Approval of the Regulations 2.1.9. 001-01 "About Limits for Water Use of the Population in Case of Changes in Quality of the Environment, Living Conditions and Other Special Circumstances";
- No. 16/H from 22.01.2004, "On Approval of the Methodical Recommendations mm 2.1.4. 007-04. "Hygienic Evaluation of the Materials, Reagents, Devices and Technologies Used for Water Supply Systems";
- No. 250/H from 15.09.2006, "On Approval of the Regulations 2.1.4. 010-06 "Sanitary Rules of the Chlorine Disinfection for Households and Drinking Water Supply in the Central and Local Systems, and Disinfection of the Water Supply Facilities";
- No. 290/H from 01.11.2006, "On Amendments to the Order No. 250/H from 15.09.2006, "On Approval of the Regulations 2.1.4. 010-06 06 "Sanitary Rules of the Chlorine Disinfection for Households and Drinking Water Supply in the Central and Local Systems, and Disinfection of the Water Supply Facilities";
- No. 349/H from 17.12. 2007, "On Approval of the Technical Regulations on Drinking Water."

- **Orders of the Ministry of Regional Development and Infrastructure:**

- No. 6/H from May 6, 2009, "On Approval of the Status of Public Legal Entity - the Regional Development Agency for Water Supply".

- **Orders of the Ministry of Economic Development:**
 - No. 1-1/13 from January 11, 2010, "On Creation of the LLC United Water-Supply Company of Georgia".

- **Orders of the Ministry of Urbanization and Construction:**
 - No. 81 from October 21, 1998, "On Approval of the Regulation on Use of Public Water Supply and Sanitation;
 - No. 05 from February 9, 1999, "On Approval of the Technical Conditions for Wastewater Discharges from Industrial Enterprises into Sewerage System";
 - No. 70 from December 25, 2000, "On Approval of the Regulations on Technical Maintenance of Water Supply and Transportation Systems of the Settlements".

INSTITUTIONAL AND ADMINISTRATIVE ASPECTS OF THE WATER QUALITY MANAGEMENT (INCLUDING DRINKING WATER) AND MORBIDITY

According to the above mentioned legislation and the "Sanitary Code" valid till 2006, the country had a system of water quality control and monitoring (including for drinking water) and morbidity related to water, it is shown on the **Figure 4**.

In recent years, along with the reforms held by legislative and executive powers in 2006 and 2007, a number of systemic institutional, organizational and administrative changes were held in the country, in particular:

➤ Since December 31, 2005, it was dissolved the State Inspectorate on Sanitary Supervision under the Ministry of Health, Labour and Social Protection that conducted a state control and supervision over the quality of drinking water nationwide as well as a control and supervision over the quality of surface waters used for recreation and bathing during a holiday season;

➤ In accordance with the Law "On Public Health", in 2007 it was reorganized the Department of Public Health that carried out the epidemical surveillance. The scheme of reorganization of the system on control and monitoring of the water quality (including drinking water) as well as morbidity associated with water in 2006 - 2007 is shown on **Figure 5**.

➤ In accordance with the Law "On the Safety and Quality of Food"(2005), it was created under the Ministry of Agriculture the "National Service of Food Safety, Veterinary and Plant Protection" assigned by the Governmental Decree No. 52 from March 9, 2006, "to control and supervise over the quality of drinking water"; and by the Law "On Public Health" (2007) it was obliged to conduct "the selective external laboratory quality control on drinking water."

➤ According to the Presidential Decree No. 192 from April 21, 2009, and the Order of the Minister of Regional Development and Infrastructure № 6/H from May 6, 2009, under the Ministry of Regional Development and Infrastructure it was established the "Regional Development Agency for Water Supply. However, the process of institutional development of this authority is still continued. And as a result, by the Order No. 1-1/13 from January 11, 2010, of the Ministry of Economic Development it was established the "United Water-Supplying Company of Georgia". This company bears responsibility for the drinking water supply to the population in regions of the country, introduction of the modern management systems for water supply to the population, development of the water and sanitation systems (except for Tbilisi, Rustavi, Gardabani, part of Mtskheta and urban settlements of Adzharia A/R). The Regional Development Agency for Water Supply will be dissolved since April 1, 2010.

For present, after 2006-2007 reorganization, the system of water quality control and monitoring (including drinking water) and the incidence of water-related diseases outbreaks is shown on the **Figure № 6**.

It should be mentioned, that the Ministry of Environment and Natural Resources of Georgia, for transition to a modern system of water management, including water supply to the population sector, in 2009 has developed a project concept on the draft law of Georgia "On Water" with the support of the TACIS/2008/137-153 (EU) project "Water Resources Management in the Countries of Western EECCA". A draft plan for approximation with the main EU directives in the field of water management was developed at the same year.

ORGANISATIONS INVOLVED IN THE PROCESSES OF LAWMAKING, MANAGEMENT AND CONTROL

According to the laws of Georgia, after the adoption by the Georgian Parliament on certain of the above mentioned laws and institutional, organisational and structural changes conducted in 2006-2007 in some executive power bodies in the field of management and control over water sources and water-related diseases, are involved (**Figure 6**):

- The National Regulatory Commission for Energy and Water Supply (Regulation No. 4 on February 4, 2008). The Commission sets tariffs for water supply;
- The Governmental Commission on Water and Energy Supply created by the Presidential Decree No. 284 from May 30, 2008. This Commission contributes to improving the water supply system and settlement of processes in the energy sector as well as policy development and coordination of the relevant agencies;
- The Ministry of Labour, Health and Social Protection is developing and approving the quality indicators for environmental objects including setting of the standards and technical regulations on drinking water safety and use for other purposes, it is conducting the epidemical surveillance, monitoring and registering of the infectious diseases (including those related to water); and is carrying out the sanitary measures in cases of the diseases outbreaks (including the water-related ones);
- The Ministry of Environment and Natural Resources is providing some activities in the sphere of water management, like identifying and carrying out the public policy; providing protection of the water bodies from the negative impacts that may harm the human health, to worsen the conditions for water supply and change its quality; it is carrying out the lawmaking activity, conducts the state registration of water use;
 - it was establishing and approving the regulations on water intake and drainage for each industrial facility till December 14, 2007, but after adoption of the Law "On Amendments to the Law on Licenses and Permits" (2005) the establishing and approval on regulations for intake and wastewater standards was cancelled;
 - it is carrying out by means of its structural units (the Water Resources Office, the National Agency on Environment, the Nature Conservation Inspection) the monitoring and control over the quality of surface, coastal and transboundary water bodies, and compliance with the rules established for the industrial enterprises activities on water consumption, compliance with the standards and rules for collection and treatment of waste water discharges, etc, for industrial enterprises.
- The National Service on Food Safety, Veterinary and Plant Protection of the Ministry of Agriculture is carrying out "the control and supervision over the quality of drinking water", in particular, it provides a selective external quality control of drinking water. The Ministry is also responsible for policy in the field of agriculture, including water use for land irrigation.
- The internal laboratory control and monitoring of the quality of drinking water is carried out by a supplier.
- The independent accredited laboratories are carrying out the external laboratory audits of the drinking water quality.
- The Municipal Development Fund is conducting the nationwide rehabilitation and construction of the water supply and sanitation systems. By the Decree of the Government of Georgia No. 184 from September 8, 2008, it was approved a new structure of the Supervisory

Board of Fund. In 1997-2009, with the support of this Fund, the water-pipe systems in 251 settlements were rehabilitated, constructed or renovated. 71 projects are developing in present.

➤ Till February 2010, the responsibility on providing the drinking water supply to population in regions of the country, on the introduction of modern management systems for water supply to population as well as on the development of water supply and sanitation systems were attributed to the Regional Development Agency for Water Supply of the Ministry of Regional Development and Infrastructure of Georgia (except for Tbilisi, Rustavi, Gardabani, part of Mtskheta and urban settlements of Adzharia A/P).

➤ Since February 2010, these functions are assigned to the United Water-Supply Company of Georgia of the Ministry of Economic Development. The same ministry is issuing the licenses for use of underground water sources;

➤ In the big cities (Tbilisi, Rustavi, Mtskheta, Gardabani) and other locations the responsibility for supply, purification and provision of drinking water to populations bear the operators.

Thus, in present, the country's competent authority which is responsible for drinking water supply to the population in the regions of the country, including 56 cities, is the United Water-Supply Company of Georgia of the Ministry of Economic Development; the competent authority responsible for monitoring and quality control of drinking water is the National Service on Food Safety, Veterinary and Plant Protection of the Ministry of Agriculture.

It should be concluded on a basis of analysis of the legal frameworks in the field of water quality control (including drinking one), management and morbidity as well as certain organizational, institutional and structural changes in this field, that the relevant ministries and departments in Georgia are conducting some work on harmonisation of the country's legislation with the European one, implementation of the international standards and best practices in water management.

PART 2. GENERAL QUALITY INDICES OF DRINKING WATER SUPPLIED (II.2 a) OF ARTICLE 6)

A. Database context

Sources for water supply and quality of water

A special feature of the Georgia's water supply is that most of the waters are from the underground sources and have a stable composition and good quality that basically meets the requirements of both the national and WHO-recommended standards in the places of intake by organoleptical, chemical, toxicological and microbiological requirements. Surface water intakes are rarely used.

A combination of the underground and surface water intakes is used in the big cities with population over 100 thousand people while in the small towns are mostly used the underground sources.

For the water supply to population in such big cities as Tbilisi, Batumi, Borjomi the water intake is provided from the surface water sources where the water quality is significantly lower and requires a good water treatment and disinfection. Waters from the underground sources in Georgia is usually supplied to the water-pipe without any treatment, but in majority of big cities it is using disinfection.

The types of water sources for 20 major cities and the rural settlements are presented in the **Figures 7 and 8.**

The drinking water supply for some villages is provided from the big water header (Gary, Schroma, Kavshiri, Kalinovka, Zemo Osiauri, Boladzhuri) to transport water over the long

distances to the urban municipalities passing by the villages. In this case, the population from rural settlements does not pay anything for water lifting, treatment, disinfection and pumping.

The rural water supply is not always safe for human health because:

- there is no monitoring, specialised laboratories and institutional structures that could provide services on permanent monitoring and water quality control in rural areas;
- absence, in many cases, the sanitary zones for water intakes;
- the fresh water treatment is not always provided at the appropriate level;
- the water headers and distribution networks are worn and could provoke the secondary pollution of drinking water.

With the reference on the above it should be noted that, the primary issue was to create an institutional framework, a kind of a coordination WSS unit for the urban and rural areas. This coordination unit became the Regional Development Agency for Water Supply of the Ministry of Regional Development and Infrastructure of Georgia, and, since February 2010, it was the United Water-Supply Company of the Georgian Ministry of Economic Development.

The existing situation with water supply in Georgia

The first water systems in Georgia were built in the late 19th, the date of establishing the centralised water supply system in Tbilisi was 1862. Thus, a lifetime of some water supply and sanitation facilities has exceeded a century. Most of the facilities are fully amortised and require complete replacement or major reconstruction.

One of the major tasks for the water supply and sanitation sector is to reduce water losses in the systems of centralised water supply. In particular, the reduction of water losses requires at the stages of:

- Water supply (water headers, distribution networks, submain networks) and
- Water consumption (water consumption by the population, in-house water pipes).

According to the mentioned above, a situation in Georgia since 2004 in the field of the centralised water supply for population due to activities of the central and local governments has been considerably improved. For example, in 2000-2001, the centralised water supply system in Georgia was provided to 1977 cities and settlements, including 6 of the first category (with 1,500 people), 43 of the second category (from 1,500 to 10,000 people), 12 of the third category (from 10,000 to 25,000 people), 9 of the fourth category (from 25,000 to 50,000 people), 3 of the fifth category (from 25,000 to 100,000 people – Zugdidi, Poti, Gori), 4 of the sixth category (over 100 000 people - Tbilisi, Kutaisi, Rustavi, Batumi); then, in 2008, the centralized water supply system was provided to 85 cities and district centres. The main technical parameters of centralized systems for water supply to the settlements of Georgia (except Abkhazian Autonomous Republic) are presented in the **Table № 1**.

These systems include 156 main intake facilities. The total estimated capacity of underground sources for drinking water is 3.1 million m³ per day or 1,131.5 billion m³ per year.

The coverage of population by water supply services

According to the State Inspection on Sanitary Supervision of the Ministry of Health, Labour and Social Affairs of Georgia, in 2004, the water supply to population was provided by 4,846 water-supply systems, 1,212 of which were the centralised water systems, 800 were the small local "village type" water-supplying system using both the underground and surface

waters for supply, and 2,834 were decentralised water systems of supply (protected wells, springs, etc)³.

Each year, the population is using 450-500 million m³ of water for drinking purposes. 90% of the volume of water consumption is used by urban and 10% by the rural population. Despite the fact, that Georgia has a large volume of water with acceptable quality, the rural areas are suffering from a lack of reliable water supply. Lack of capacity and poor technical condition of water facilities is a key issue for the WSS sector in rural areas.

In recent years, the condition of water supply to the rural population is gradually improving. For example, in 1998, from 4,488 rural settlements only 898, or 20%, had a system of centralised water supply that provided water to about 550,000 inhabitants; in 2008, 1,570 of the rural settlements, or 35%, were connected to the water pipes through gravity schemes. The rest of population in rural areas, the majority of them (particularly, from the Western Georgia), is using drinking water from the individual wells and boreholes with hand pumps, natural springs, protected springs and taps; the population from the mountainous areas is using water from different mountain springs and streams.

According to the Danish company COWI (that conducted the analysis and forecast of the Millennium Development Goals implementation in water supply and sanitation by finalising a financial strategy for the WSS sector in rural areas and facilitating of appropriate dialogue on the national environmental policy (2007)), in 2003, 68% of urban and 60% of the rural population had access to the drinking water.

Despite the fact, that Georgia is rich in water resources, the problem of ensuring the country's population of sufficient volume of water is important as the country's water resources are distributed unevenly. Because of this fact, the population of Eastern Georgia is traditionally experiencing an acute shortage of the drinking water.

In 2009, the Regional Development Agency for Water Supply of the Ministry of Infrastructure and Regional Development, on a basis of situation analysis on water supply in the rural areas, has prepared a basic overview of the subject.

Availability and reliability of the information about situation with water quality in the public water supply systems

According to the Law "On Public Health (2007) and "Technical Regulations on Drinking Water", the internal laboratory control and monitoring of drinking water is carried out by the means of suppliers.

By the same documents, it is established that the scheme, the frequency of state control and the monitoring of drinking water quality as well as the indices and the number of tests investigated determines the appropriate supervising state agency. This organ is the National Service of Food Safety, Veterinary and Plant Protection of the Ministry of Agriculture, it conducts "the selective external laboratory control of drinking water quality."

The legislation also allows to provide the external laboratory audit of drinking water by the independent accredited laboratories. Thus, in Georgia, it is established a legal framework and a system for the internal and external state quality control of drinking water.

Concerning the issues on accreditation of the laboratories conducting drinking water quality control, it should be noted, that according to the data of a centre of the unique national accreditation body under the Ministry of Economic Development, there are only 12 accredited laboratories in Georgia that conduct the laboratory tests of water, including 11 laboratories conducting tests of the drinking water.

The potential of these laboratories (resources and personnel) is quite sufficient for carrying out the chemical and bacteriological quality tests of drinking water. It should be noted, that in 2008, in comparison with 2005, the level of bacteriological contamination of drinking water

³ Report of the Inspection on State Sanitary Surveillance of the Ministry of Labour, Health and Social Protection of Georgia, 2003.

had a tendency to decrease. Regarding to the tests of drinking water on the enterococcus, it should be mentioned that such a study was not held in 2008 (**Table 2**).

In 2005, the content of fluorides, nitrates and nitrites as well as of arsenic, lead, and iron in drinking water was not tested, because in 2005 it was closed down the State Inspectorate on Sanitary Surveillance of the Ministry of Health, Labour and Social Protection specialised in a nationwide state control and supervision of the drinking water quality. At the same period, the Ministry of Agriculture were working on establishing of the "National Service for Food Safety, Veterinary and Plant Protection" assigned by the Governmental Decree No. 52 from March 9, 2006, "to control and supervise the quality of drinking water"; and by the Law "On Public Health "(2007) the service was ordered to carry out "the selective external laboratory quality control of drinking water".

According to the information of Ministry of Agriculture, the concentration of fluoride, nitrate, nitrite, arsenic, lead and iron in the tests of drinking water quality did not exceed the requirements established by the technical regulations for drinking water (2007) (**Table 3**).

Taking into account the local conditions, in Georgia, there were selected additionally such substances as manganese, copper, petroleum products, zinc and cadmium for the future priority testing (**Table № 3**). An integral value that reflects a general adherence of a standard on chemical quality of the drinking water is not calculated yet.

II.

REDUCING THE SCALES OF OUTBREAKS AND THE INCIDENTS OF DISEASES POTENTIALLY RELATED TO WATER

In 2005-2008, in Georgia, the incidence of diseases associated with water like cholera, EHEC and typhoid fever were not registered. As to the number of cases related to the bacillary dysentery (shigellosis), in 2008, in comparison with 2003, it decreased by 66.8% and amounted to 103 cases. The levels of morbidity from viral hepatitis-A in 2003 and 2008 were identical and constituted 889 and 888 cases respectively. The number of cases of outbreaks for diseases related to water is presented in the **Table 4**.

The campylobacteriosis and cryptosporidiosis are not diagnosed in Georgia. The number of cases of giardiasis, legionellosis and acute gastroenteritis of unknown but the alleged origin (A09 diagnosis according to ICD-10) are presented in the **Table 5**.

In order to improve the control system for early detection, investigation, response and reporting of infectious diseases (including those transmitted with water) with operation on a permanent basis, since 2004, it was introduced a new surveillance system that greatly improved the tracking and accounting on the infectious diseases, including diarrhoea, in comparison with previous years. In addition, the ministry had developed plans of actions in the emergency situations including those resulting from the water pollution or the extreme weather events.

The information on epidemical outbreaks is transmitting from the primary health care institutions to the district public health centres in a form of urgent warning by any available means of communication and further distributes by the same ways and means to the national level. From the moment of receiving an alert, the personnel of relevant medical institution and an epidemiologist from the district public health care institution are starting investigation of the area with effective disease. The information from the primary health institutions and the district public health centres is transferred to the National Centre for Disease Control and Prevention and Public Health in two formats:

1. emergency alert about 59 nosological forms of diseases and
2. monthly report on 17 nosological forms of diseases.

Laboratory researches on the cases of epidemical outbreaks are conducting mainly by a laboratory of the National Centre for Diseases Control and Public Health, because of a weak

basis or, in some cases, lack of laboratories at the district centres that significantly hampers the early diagnosis of diseases, including those transmitted with water.

The monitoring system for early detection, investigation, response and reporting about infectious diseases (including those transmitted with water) is operating efficiently on a permanent basis, but it should be noted, that *in order to improve the control over diseases, including those related to water, it should be provided in the future at the national, regional and local levels, the organizational and technical measures on further development and improvement of material and technical basis of the laboratories.*

At the National Centre on Disease Control and Public Health it is used the GPs system for health protection within an appropriate institutional structure. For the national monitoring system it is used a clear definition of an outbreak, in particular, for a single event of such nosologies like cholera, typhoid fever it is recognised as an outbreak while for other nosologies it is registered for three or more interrelated cases. The existing laboratory system in Georgia and capacities of its labs can afford an identification of the certain pathogens causing outbreaks.

The Centralized Information System for Infectious Diseases (CISID) is used by the Centre for Disease Control and Public Health since 1999. It is also using the database of "Health for Everybody" and the WHO program "Emergency Preparedness and Response (EPR)".

By the National Service on Food Safety, Veterinary and Plant Protection of the Ministry of Agriculture, since 2006, it is developing the database on drinking water quality status for cities and regional centres, including water quality and public water supply. The data on drinking water quality status has a high degree of reliability because this office is a main customer and organiser of a tender (according to the state programs of the Ministry of Agriculture) to conduct the laboratory tests of drinking water quality by the independent accredited laboratories. This service has its urban and rural units that provide the drinking water quality control at the local level in 59 cities and regions of the country. In 2009, the drinking water quality was tested in 48 cities and regions.

According to the Law "On Public Health", the Decision of the Government of Georgia no. 189 from Sept. 10, 2008, and joint Order of the Ministry of Health, Labour and Social Protection and Ministry of Agriculture no. 41/H - 2-23 from February 16, 2010, it was approved the "Regulation on the Alerts Information and Activities to Eliminate the Incidents and Outbreaks of the Diseases Related to Food and Alimentary Products, including Those Related to Water, between the Ministry of Agriculture and the Ministry of Labour, Health and Social Protection". However, by the Governmental Decision no. 57 from February 23, 2010, the Decision of the Government of Georgia no. 189 from September 10, 2008, was announced inoperative.

III. ACCESS TO DRINKING WATER

The legal framework, institutional and administrative aspects in the field of drinking water supply are presented in the Section 2 "General indicators".

In recent years, in particular, since 2004, it is increasing systematically the number of people with access to water sources with improved water quality (households connected to water pipes, public water stand pipes, protected wells and springs) due to a wide-scale construction and rehabilitation of the water supply systems, but since 2005 the domestic water consumption per capita is also increasing. The indicators on household water consumption per capita in Georgia are presented in the **Figure 9**.

According to the 4th assessment of the European Environment Agency (2007), the overall percentage of population in Georgia with access to water sources with improved water quality (households connected to water pipes, public water stand pipes, protected wells and springs) is 80% in the average nationwide. The indicators of access to improved water quality sources

(households connected to water pipes, public water stand pipes, protected wells and springs) are presented in the Figure 10.

Given the above index (the total percentage of population with access to improved water quality sources as 80%, and the Georgian population in 2005 and 2008) for calculation of the appropriate data, this index constituted in 2005 - 3,613.2 million and in 2008 – 3,505.7 million of people. The number and percentage of population with access to the drinking water of higher quality are presented in the **Table 6**.

According to the Final report on WSS financial strategy for Georgia (Volume 1. 2005), and to the Interim Report of the EECCA EU Water Initiative Working Group (Bucharest, 2008), as well as to the Regional Review on Water and Sanitation in the Countries of Central Asia and South Caucasus (2009), an average coverage by the water services for big cities of Georgia with population over 140 thousand people has reached 100%. In the resort towns on the Black Sea shore this figure is 82%, while in the other localities it is 63.7%. The average rate of coverage with water services by the groups of cities in Georgia is presented in the **Table 7**.

In line with the data forecast and expert evaluation of the Danish company COWI (2009), the coverage rates for improved system of centralized water supply should reach 90% by 2015 for the urban population and 84% - for the rural population.

As regarding to the individual supply of drinking water (industrial and agricultural enterprises), it is carried out on a basis of a contract between the supplier and the consumer.

The provision of assistance from the State as well as financial tools for communities to organise the supply of drinking water in 2010 is carried out in accordance with the Order of the Government of Georgia no. 40 from January 13, 2010, "On Disbursing Financial Resources to the Local Authorities from the Projects Supporting Fund to the Regions of Georgia".

The legal framework of the issues related to the drinking water supply in emergency situations is regulated by the Presidential Decree no. 415 from August 26, 2008, "On Approval of the National Plan to Respond in Emergency Situations of the Natural and Industrial Occurrence"; by the Order of the Ministry of Labour, Health and Social Protection no. 73 from March 24, 2008, "On Approval of the Task State Programme on Equipping of the Health Institutions for the Timely Response and the Medical Assistance during Natural Disasters, Accidents and Emergency Situations"; and by the Order of the Ministry of Health, Labour and Social Protection no. 308/H from 05.11.2002. "On Approval of the Sanitary Regulations 2.1.9.001-01 "About Limitations in Water Use by the Population in Case of Changes in Quality of the Environment, Living Conditions and Other Special Circumstances".

Regarding the economic aspects, in particular, the ability to reliably measure the quantity of water supplied and consumed, it should be noted, that the industrial enterprises that use water are equipped with water meters.

The Agency of Regional Development for Water Supply under the Ministry of Regional Development and Infrastructure has developed in 2009 a plan of basic actions, a short-term programme (2010-2013 years) at the national level and the priorities for improvement and development of water supply and sanitation in human settlements (56 cities and districts) of the Eastern and Western Georgia to increase public access to water-pipes. By this document, it was determined the number of families to provide water meters and financial resources for these purposes in 56 cities and district centres. Currently, these works are carried out by the newly-established United Water-Supply Company of Georgia of the Ministry of Economic Development. It was announced a tender for design and execution of construction and rehabilitation works for water-supply systems in 31 districts of the country within the limits of financial support from the European Investment Bank (40,000,000 Euros). Implementation of construction and rehabilitation works is scheduled for 2010-2012.

The country has a system of the state subsidies for development of water supply systems and access to drinking water of good quality at the individual level. The National Regulatory Commission for Energy and Water sets tariffs on the water supply.

IV. ACCESS TO SANITATION

The legal framework, institutional and administrative aspects in the field of drinking water supply are presented in the Section 2 "General Indicators".

The drainage system in Georgia is operating in 41 city (out of 84) and in a district centre; 33 of them have the waste water treatment plants with a total design capacity of 1.6 mln m³/daily (including the regional wastewater treatment plants in the area of Gardabani with capacity of 1.0 mln m³/daily that serves the city of Tbilisi and Rustavi).

The facilities for mechanical waste water treatment are available in 7 districts with a total capacity approximately 165 thousand m³/daily. Such treatment plants were built before 1990. Their initial design technology is outdated and does not meet modern requirements, particularly, for removal of nutrients and a sludge treatment. No one from biological treatment plants is functioning. The mechanical waste water treatment are operating in some extent in Tbilisi, Rustavi, Kutaisi, Tkibuli, Gori and Batumi but most of them are totally inoperative or do not work properly.

In the localities where no waste water treatment facilities exist, the waste waters go directly into receiving waters. In the locations where waste water treatment plants are available and functioning, the waste waters are treated mechanically, in best cases. In the other settlements the waste waters are discharged directly into receiving waters through emergency releases bypassing the sewage treatment plants or coming through the whole (or part) of the technological chain without any purification.

In the 90th of the last century, the critical situation in the sector of collection and treatment of domestic and industrial waste waters has appeared. The lack of funding and other factors have negatively influenced on the work of almost all WWTP in the country. The technological processes of treatment stopped, the microorganisms used for biological wastewater treatment died, the pipes and channels clogged. Therefore, the majority of waste water treatment plant became inoperable and the waste waters are discharging into the open receiving waters without any treatment or after a primitive mechanical treatment, provoking the permanent pollution of the rivers and basins of the Black and the Caspian Seas.

The centralized waste water treatment systems are absent in the rural areas. With the specific regard to the collection and wastewater treatment it should be noted that, in accordance with the Law "On Local Self-Government" (1997), they were transferred to the local authorities and have the status of a Joint Stock Company or Limited Liability Company. In the both cases 100% of the companies' ownership belongs to the state. Since 2008, in the partial ownership were transferred the "Rustavivodokanal" LLC, the "Mtskhetavodokanal" LLC, the "Tbilisi Water" LLC and the "Gruzvodocanal" LLC.

However, it should be noted, that by delegation of the functions of business management in water supply and waste water treatment to the local authorities it was actually eliminated the central authority at the governmental level that implement the state policies and strategies in this area.

A similar situation is mentioned regarding the centralised systems of rural water supply. As a result, 18 regional rural water supply systems that were supplying the drinking water to more than 500 thousands of rural inhabitants, remained, in fact, abandoned.

Taking into account the above mentioned and the necessity to improve water supply and sanitation in the country, on April 10, 2008, the President of Georgia has issued the Decree no. 245 "On Measures to Improve the Drinking Water Supply in Tbilisi, Rustavi and Mtskheta". By the same Decree were also provided the works on rehabilitation and modernisation of waste waters treatment facilities in the Gardabani region within 10 years from the date of a contract execution, the rehabilitation of waste water system networks and the development of a new main drainage channel in the Gardabani region within 5 years from the date of a contract execution.

Until February 2010, the responsibilities on providing drinking water supply to the population in regions of a country, introduction of a modern management for the systems of water supply to the population, development of the water and sanitation systems were attributed to the Regional Development Agency for Water Supply of the Ministry of Regional Development and Infrastructure of Georgia (except Tbilisi, Rustavi, Gardabani, part of Mtskheta and urban settlements of Adzharia A/R). Since February 2010, such functions were entrusted to the United Water-Supply Company of Georgia of the Ministry of Economic Development.

According to the expert analysis and calculations of the Danish company COWI (2007 and 2009 years) with similar experience in the EECCA countries, it was estimated, that about 11% of the population has no access to a basic sanitation.

Currently, the United Water-Supply Company of the Georgian Ministry of Economic Development is preparing to design a full rehabilitation of drainage systems in 11 big cities in the country with the support of the Asian Development Bank.

Given that a large-scale of construction and rehabilitation works on water-supply systems and, partially, sanitation systems, are carried out at present in the country, the large-scale construction and rehabilitation works on sanitation systems will be provided at the second stage.

V. OPERATING EFFICIENCY, PROTECTION AND USE OF FRESH WATER SOURCES

There is no a standard classification for water bodies, including for underground waters, in Georgia. However, according to the Regulations (orders) issued by the Ministry of Environment and Natural Resources and the Ministry of Labour, Health and Social Protection for water bodies, including underground waters, there are some categories established for water use and approved the sanitary classification of water bodies according to their degree of pollution.

According to the Order of Ministry of Environment and Natural Resources no. 130 from September 17, 1996, "On Approval of the Regulations on Protection of Surface Water Bodies from Pollution", the three categories of water use are established. The categories of water use are presented in the **Figure 11**.

According to the "Sanitary Regulations and Standards for Surface Waters Protection from Pollution" approved by the Order of Ministry of Health, Labour and Social Protection no. 297/H from August 16, 2001, "On Approval of the Standards of Environmental Quality", (Annex 2), the two categories of water bodies for use (reservoirs of the first and second category) were introduced (**Figure 12**), the sanitary classification of water bodies by the degree of contamination and 4 levels of pollution (the allowable level of pollution, moderate pollution level, high level of pollution, and extremely high level of pollution) were adopted. The hygienic classification of water bodies by the level of pollution is presented in a **Table 8**.

According to the "Sanitary Regulations on Underground Waters Protection from Pollution" approved by the Order of the Ministry of Health, Labour and Social Protection no. 251/H from September 15, 2006, "On the Approval of Regulation on Environmental Quality", (Annex 16), there was introduced a sanitary and hygienic classification of underground waters adopted in the country. This classification is based on the degree of anthropogenic pollution and provides 4 classes. The sanitary-hygienic classification of underground waters is presented in the **Figure 13**.

Consequently, a presentation of characteristics of the surface waters in a form of summary reports, according to the Protocol on Water and Health, is difficult as such a classification does not exist in the country (**Table 9**).

Conditions for underground waters

As noted above, Georgia is rich in the underground waters used for basic economic activities and drinking water supply to population of the country (see the Chapter "Brief Characteristics of Water Resources in Georgia").

There are over 2000 wells drilled in the country for drinking water supply. In majority of the cases is received a water spouting. Many of the wells drilled have a great yield rate.

Given the fact that the forecast-operating resources for fresh water from the underground sources in Georgia are about 10.6 km³ and the approved reserves of good quality drinking water with low salinity constitute nearly 2.9 km³, the percentage of underground waters with good quality for drinking purposes is 27.4% (**Table 9**).

Concerning data on underground waters pollution, it should be mentioned, that such data is not available as no monitoring of the underground water quality is carried out nowadays (**Table 10**).

WATER USE

Despite the fact that Georgia is rich in water resources, the country extracts annually, in general, the relatively small part of its renewable water resources. As noted above, the overall level of utilisation does not exceed 10%, and, in accordance with the fourth assessment of the European Environment Agency (2007), the water regime in Georgia does not stressed, the threshold of water resources exploitation index (WEI) in 2004, compared with 1990, was less than 10%. By this indicator, Georgia is among 47 of EECCA and SEE countries, on the 15th place after Sweden, Finland, Switzerland, Belarus and Luxembourg (see **Figure 3**).

The overall index of an average annual intake of fresh water in conversion to average total annual freshwater resources at a level of the country was 1.45% in 2005 and 1.92% in 2008. The overall index of an average annual intake of fresh water in conversion to average total annual freshwater resources is presented in the **Table 11**.

It should be noted, that a classification of water use for surface waters in Georgia has not developed yet. In 2009, the TACIS/2008/137-153 (EU) Project "The Water Resources Management in the Western EECCA Countries" and the Ministry of Environment and Natural Resources of Georgia have jointly developed the proposals for development of a new classification on surface waters use.

PART 3: TARGETS AND TARGET DATES, AND EVALUATION OF A PROGRESS

I. QUALITY OF DRINKING WATER SUPPLIED (PARAGRAPH 2a) OF ARTICLE 6)

Setting of quality standards on drinking water supplied to the population of Georgia according to recommendations of the World Health Organization until 2008, and the approximation of the country's legislation with the EU legislation

This target in Georgia was set up at the national level only. The quality standards for drinking water supplied at the national level are developing, establishing and approving by the regulatory act (order) of the Ministry of Health, Labour and Social Protection. This regulatory act (order) is obligatory to perform by all organisations relevant to the issues of drinking water supply and quality of drinking water supplied to the population. A new technical regulation on drinking water was adopted in 2007.

Description of measures taken (for example, measures of a legal/regulatory, financial/economic and informational/educational as well as managerial) in order to achieve this target

Despite the fact, that a legal framework that ensuring safe living conditions, including water quality control and prevention of morbidity in Georgia is regulated by a number of special laws and regulations. With regard to legislation on the basis of the fifth article of the Agreement ("Cooperation in the Sphere of Legislation") between Georgia and the EU from March 22, 1996, (in force since June 1, 1999), Georgia is pledged to approximation of the legislation (including the environmental one) of the country with EU legislation. Based on the Article 43, Georgia should gradually implement the approximation of its legislation (including the environmental one) with the EU legislation, and according to the Article 57, Georgia is pledged to approximation to the EU standards by improving its legal framework.

Apart from the above stated, on September 2, 1997, the Georgian Parliament has passed a Decree no. 828 "On Harmonization of the Georgian Legislation with the EU Legislation", and on June 14, 2001, the President of Georgia has issued an Order no. 613 "On the Strategy of Harmonization of the Georgian Legislation with the EU Legislation. By this decree were approved the program and the strategy of harmonisation of the Georgian legislation with the EU legislation.

Thus, the necessary basis for improvement and development of the legal framework, including legislation on environmental protection and public health, exists in Georgia.

Taking the above mentioned in consideration, one of the main objectives in the social sphere for the Government in a country is, particularly, improving the quality of drinking water supplied under *Provision of the State assistance and financial instruments to the communities by organisation of construction, rehabilitation and improvement of drinking water supply. For its implementation the Government of Georgia has approved an Order no. 40 from January 13, 2010, "On the Allocation of Funds to the Local Government from the Fund for Developing Projects in the Regions of Georgia". By this order, the long-term goals were specified for 2010-2011.*

Apart from the above stated goal, the government has also the long-term goals in the sphere of legislation, in particular:

- *a gradual transition and approximation of the water legislation of Georgia with the EU legislation, in particular, with the water directives. This implies an approximation of the standards and procedures of the EU Water Framework Directive stipulated by the agreement – Target dates – Permanently – by Stages;*
- *an ensuring of the safe living conditions and welfare of the nation by setting realistic targets for public water supply in sufficient quantity and good quality - Target dates – Permanently – by Stages, according to the Millennium Development Goals by 2015.*

Till 2001, the quality of drinking water in Georgia was controlled according to the old Soviet standards. In 2001, the Ministry of Health, Labour and Social Protection introduced the updated standards on drinking water quality by the Order no. 297/H from August 16, 2001. However, given the fact, that those standards (maximum allowable concentration of pollutants (MAC) in drinking water) were actually the developed versions from the GOST system, they were too strict in comparison with the requirements of the WHO and the EU, and difficult to accomplish. In this regard, in 2006-2007, it was developed and approved the "Technical Regulation on the Drinking Water" by the Order of the Ministry of Health, Labour and Social Protection no. 349/H from December 17, 2007. This technical regulation was developed according to the Law "On Public Health" (2007), the recommendations of the WHO with taking into account the climatic and geographical conditions of a country, and it is establishing the standards of safety for human health and sanitary standards for drinking water. The Order of the Ministry and the text of the technical regulation were posted on the Internet "Code" website that contains the texts of legal and subordinated acts and orders issued by the ministries and agencies.

Evaluation of a progress in reaching target

Technical regulation is composed from 4 articles. A first article presents the general provisions, the second one is devoted to the sanitary requirements to the drinking water quality, the third article presents the mechanisms for internal monitoring and control of drinking water carried out by the operators of drinking water supply, and the fourth article determines the mechanisms of a state control for drinking water quality.

The requirements established by this regulation are extended to:

1. the natural and treated water used for drinking, cooking and other domestic purposes, regardless of origin and ways of presenting (through the distribution network, reservoirs, tanks, bottles or containers);
2. water for food and alimentary products.

The following indicators and quality standards for drinking water are defined by this regulation:

- a) organoleptic indices;
- b) microbiological, virological and parasitological indices;
- c) chemical indices (total, inorganic and organic substances);
- d) indicators of radioactive safety;
- e) standards for harmful chemicals formed during water treatment.

Given the above mentioned, we conclude that since adoption of the technical regulations on drinking water quality in Georgia, the control system and the benchmarks indices of drinking water quality were greatly improved.

II. THE REDUCTION OF THE SCALE OF OUTBREAKS AND INCIDENTS OF WATER-RELATED DISEASES (PARAGRAPH 2 B) OF ARTICLE 6)

Targets:

- ***Restructuring and improving of a system for monitoring, control and registration of the infectious diseases, including those related to water; the target dates, by stages, up to 2015.***

The number of diarrhoeal diseases in the country has increased over the past 5 years. It is related to the functioning of the laboratories in the urban and rural settlements that made available timely registration of the diseases.

After implementation of a programme on free emergency medical care in the country, the population got access to the primary health care, referral to a doctor, including the cases of diarrhoeal diseases, and, consequently, a number of the registered diseases increased.

A new surveillance system for early detection and an improved system of response and reduction of the outbreaks and incidents of water-related diseases that is functioning in Georgia now has drastically improved the recording and registration of diseases, including diarrhoea, in comparison with the previous years.

Based on a signed cooperation agreement between the WHO Regional Office and the Ministry of Labour, Health and Social Protection of Georgia, in 2010-2011, the priority directions will be "Environment and Health" and "Safety of Drinking Water in the Small Systems of Water Supply". The studies are planned to detect the diseases related to water, to make quality assessment and recommendations to the public.

In order to reduce the scale of outbreaks and the number of incidence of water-related diseases as well as to provide a timely response, the Government of Georgia has adopted a Decision no. 189 from September 10, 2008, "On Regulation of Warning between the Ministry of Agriculture and the Ministry of Labour, Health and Social Protection for the Incidents of

Diseases and Outbreaks of Alimentary Toxicosis Including Those Related to Water as well as Prevention Measures". Based on this decision, until February 23, 2010, there was a successfully functioning system between the Ministry of Agriculture and the National Centre for Disease Control and Public Health on warning of the incidents of diseases and outbreaks, including those related to water. However, on February 23, 2010, the Government of the country has adopted a new Decree no. 57 that made the Decree no. 189 from September 10, 2008, invalid.

In present, the Zonal diagnostic laboratory is functioning in a system of public health in Tbilisi, Kutaisi and Batumi. In 2008-2009, there were established the centres of public health under the local government jurisdiction in all the districts to carry out the supervision and early warning of the outbreaks or the incidents of water-related diseases as well as incidents in cases of water pollution or extreme weather events.

Despite everything mentioned above, it is necessary to carry out:

- *Further improvement of the system on surveillance, control and registration of the infectious diseases, including those related to water, upgrading and improvement at the national, regional and local levels of the material and technical base of the laboratories;*
- *Introduction of the express-diagnostics for drinking water quality and water-related diseases jointly with the Ministry of Agriculture - Target dates – by stages up to 2015;*
- *In order to promote the effective protection of human health, the recommendations from a Chapter 1.2.2 “Public Health” from the Guidelines for Drinking-Water Quality developed by the World Health Organization, should be implemented - milestones, by stages up to 2015.*

Problems in setting the targets:

- Complexity to obtain automatically the results of water quality monitoring
- Lack of experience in setting the targets
- Absence of financing for the activities on setting the targets (seminars, information).
- Difficulties with assessment of implementation of the targets (economic and technical).

Risks and difficulties for implementation of the Protocol:

- Insufficient funding to ensure the reaching of targets.
- Lack of technical and human resources.

From the above mentioned it should be concluded:

- Despite the fact that a legal framework in Georgia for water quality (including drinking water) and morbidity management is regulated by the special laws and regulations, the existing structures are not able to fully provide the water quality control and prevention of water-related diseases.
- The mechanisms of coordination and cooperation are not established at the appropriate level yet.

III. ACCESS TO DRINKING WATER (PARAGRAPH 2 c) OF ARTICLE 6)

Millennium Development Goals (MDG) for water supply and sanitation

189 UN member states has adopted in September 2000, the Millennium Development Goals (MDG) setting the clearly defined goals within timeframe that will contribute to the progress development.

Georgia was one of the countries that signed the Millennium Declaration and thus committed its obligation to integrate the MDG into the national development strategies and to report periodically on progress in achieving these goals.

In order to fulfil the obligations assumed on August 26, 2003, the Government issued a Decree "On Establishing the Governmental Commission to Prepare a Report on the MDG Implementation". The Commission was headed by the Prime Minister of Georgia. There were five working groups formed to relevance of the development goals: poverty alleviation, education, health care, environmental protection and the achievement of equality between men and women. The working groups included representatives of the ministries and governmental agencies as well as experts from the non-governmental and international organisations.

After the revolution in November 2003, the new Georgian Government has adopted several decisions on this subject, inter alia:

- Resolution no. 7 from March 31, 2004, «On the Governmental Permanent Commission to Work with the Issues Related to MDG».
- Decision no. 119 from March 31, 2004, "On Amending Resolution of the Government of Georgia no. 7 from March 31, 2004, «On the Governmental Permanent Commission to Work with the Issues Related to MDG».

By these decisions, the Government has updated the Commission and ensured its activities on the standing basis. As for goals, it should be noted, that the short-and the long-term goals had been formulated in Georgia.

One of the Millennium Development Goals is a goal number 7, "To ensure environmental sustainability". This goal includes the objective number 10, "***By 2015, to reduce twice the number of population without sustainable access to quality water supply and improved (permanently) water disposal systems in comparison to the basic 1990 year. The relevant indicators are identified.***" The Millennium development goals in the world and in Georgia are presented in the **Table 12**.

In 2004 it was drafted and published the first national report which presented the results of monitoring on implementation of the Millennium Development Goals in Georgia. The Herculean efforts were aimed to estimate the cost of achieving the above mentioned objective number 10 at a global scale as well as nationwide⁴, as a result, it was prepared a large number of calculations, depending on the assumptions.

An approach designed to address the issues related to MDG requires using of the scenarios based on a status of achieving the MDGs presented in the official statistics as well as an assessments of indices for 2008 that also includes other indicators such as frequency, water quality, etc.

Targets:

- ***By 2015, to reduce twice the proportion of population without a sustainable access to safe drinking water;***

a) To improve the system and increase of a share of the urban population served by a centralised water supply up to 90% with the uninterrupted water supply 24 hours a day in 5 priority cities (Tbilisi, Kutaisi, Poti, Batumi, Rustavi) - the target date - 2015;

b) To improve the system and increase of the proportion of rural population served by the centralised water supply up to 84% - the target date for implementation - 2015.

The above mentioned targets should be attributed to the short-term goals. Regarding the ***long-term goals***, it should be noted, that in accordance with the requirements of standards and the EU Water Framework Directive:

- ***Until 2035, each family should be provided with water of good quality;***

⁴Calculations of costs on implementation of the objective no. 10 of MDG are related to water supply and disposal: a comparative analysis of the obstacles and recommendations, World Water Council/Forum on the World Water Resources, March 2006;

a) To provide each family with drinking water running, at least, from one plug, and to bring the quality of drinking water into compliance with the requirements of the EU Directive not later than until 2035;

b) Provide until 2035 with the quality of drinking water supplied to the population of 5 priority urban settlements in full compliance with the requirements of the EU Water Framework Directive;

c) Provide the rest of the population in other cities and regions of the country with 24-hour supply of potable water until 2025 and bring water quality into compliance with the requirements of the EU Directive until 2035;

d) For the rural population that is using non-centralised water supply systems, to provide an access to drinking water with quality mentioned in the legal requirements of the EU to the drinking water quality.

In line with the data forecast and the expert assessment of the Danish company COWI (2009), by 2015, the coverage with the improved system of centralised water supply nationwide will reach 87% on the average. For the urban population this index should reach 90%, for the rural one - 84%. Such targets are set at the national level. However, the local governments, in accordance with the regional plans of social and economic development can identify targets at the local level and to make appropriate suggestions for corrections.

Functions of the main body which is carried out the policy and management in the drinking water supply, were transferred to the Ministry of Regional Development and Infrastructure established in 2008. Under this ministry, it was established the Regional Development Agency on Water Supply that provided introduction of the modern management systems for water supply to population, the development of systems for water supply and the efficient provision with water sources of population. ***As a result, until March 2010, the responsibility to provide it to the population of regions of a country was attributed to this organisation.***

In 2009, the Ministry of Regional Development and Infrastructure has made some arrangements, resulting in:

- reunion of all state enterprises specialised in the drinking water supply to population of a country. The aim of reunion of these organizations was improving the management system of providing the drinking water supply within a country;
- creation of two regional companies the LLC "Waters of the East" and the LLC "Waters of the West";
- development of a plan for basic actions at the national level, the short-term programmes (in 2010-2013) and the priorities in improvement and development of the water supply and sanitation systems in the settlements (56 cities and regions) in the eastern and western Georgia, targeted on the enlargement of access to water supply services for the population;
- the document that provides reduction in number of settlers without access to the drinking water supply services, improvement of the quality of drinking water supplied to the population, the public access to information about the quality of water supplied;
- creation of a map with information about water supply and sanitation in the regions of a country;
- designing of a draft strategy for development of regions in Georgia at the national level. This draft has identified the existing problems of water sources (surface and underground waters). The document includes the necessary recommendations to resolve the existing problems identifying them at the national, regional and local levels, etc.

Since February 2010, the above mentioned work was continued by the United Water-Supply Company of Georgia of the Ministry of Economic Development as the Regional Development Agency on Water Supply was closed on April 1, 2010.

Given the above targets and data of the Department of Statistics (on the annual average population growth for 2004-2008 in 1.5% per year), by the forecast calculated, in 2015 the number of population will reach 4,724,980 people. The total percentage of population with access to improved water resources will constitute 87% on the average. According to the data

calculated, in 2008, the number of population was 3,505,700 people, for 2015 it is forecasted 4,187,360 people. The number and percentage of population with access to drinking water with high quality is presented in the **Table 13**.

Considering, that it is necessary "till 2015 to reduce twice the share of population without sustainable access to safe drinking water", the calculations were made for 2015 and showed that a number of people without sustainable access to safe drinking water in case of double reduction will be 161,400 people ($4,704,900 - 4,382,100 = 322,800 : 2 = 161,400$).

According to the final report (Volume 1, 2005) of financial strategy of WSS in Georgia, there were indices on target coverage calculated for 20 cities in Georgia. The estimated target coverage on sustainable safe water supply for 20 cities in Georgia is presented in the **Table 14**.

Based on the above, we must conclude that the targets on access to safe drinking water in Georgia were already settled and the intensive work is carried out for their implementation in the country.

IV. ACCESS TO SANITATION (PARAGRAPH 2 d) OF ARTICLE 6)

According to the Millennium Development Goal (MDGs) for sanitation, there were some relevant indicators identified for Georgia.

Targets:

➤ *To reduce twice the share of population without sustainable access to "basic sanitation" until 2015.*

These targets were settled at the national level. However, the local authorities, in accordance with the plans of social and economic development of regions, can identify the targets at a local level and to make appropriate proposals for their correction.

Functions of the main body, which is carried out the policy and management in this sphere, were transferred to the Ministry of Regional Development and Infrastructure established in 2008. Under this ministry was established the Regional Development Agency on Water Supply that provided introduction of a modern management systems for water supply to population, and the efficient development of water supply and sanitation systems. However, as it was mentioned above, since February 2010, the above mentioned work is continued by the United Water-Supply Company of Georgia of the Ministry of Economic Development as the Regional Development Agency on Water Supply was closed on April 1, 2010.

According to the final report on financial strategy for WSS in Georgia (Volume 1. 2005), and to the Interim Report of the EECCA Working Group for EU Water Initiative (Bucharest, 2008.), as well as to the Regional Review on Water Supply and Sanitation Issues in the Countries of Central Asia and South Caucasus (2009), the number of people with access to improved sanitation in Georgia was, in general, 4,062,210 people in 2005 or 94% of the total population. For the urban population it was 96%, while for the rural one - 91%. Indicators of population with access to improved sanitation for Georgia are presented in the **Table 15**.

With regard to the data on population having access to improved sanitation in 2008-2009, it should be mentioned, that this info is not available.

According to the final report on financial strategy for WSS in Georgia (Volume 1. 2005), the Interim Report of the EECCA Working Group on EU Water Initiative (Bucharest, 2008) and the Regional Review on Water Supply and Sanitation in the Countries of Central Asia and South Caucasus (2009), the average coverage with sanitation service in the major cities of Georgia, with population of over 140 thousand people, is 93.2%. In the resort towns on the Black Sea shore this index is 32.3%, while in the rest of the settlements it is 28.7%. The average level of sanitation service coverage by the groups of cities in Georgia, with population over 140 thousand people, is presented in the **Table 16**.

The target coverage on a stable "basic sanitation" calculated for 20 major cities in Georgia is presented in the **Table 17**.

It should be mentioned, that in 2005-2009 the works were performing mostly for rehabilitation and construction of the water supply systems in urban and rural areas. The rehabilitation of sanitation systems in urban settlements is expected to be the next step.

V. THE LEVELS OF PERFORMANCE FOR COLLECTIVE AND OTHER SYSTEMS OF WATER SUPPLY (PARAGRAPH 2e) OF ARTICLE 6)

Water treatment and average duration of water supply

The drinking water in Georgia is extracted from the underground sources and is usually supplied to a network without any treatment and disinfection. However, in a case of surface water intake, especially in the mountainous areas, or extraction of water from the rivers or streams with high sediment content, it is using a method of water treatment. As a rule, it is a simple filtration through the sand gravitation filters, and in the majority of big cities it is using disinfection. When the services of centralised water supply to population are not available, the simple solutions like wells, boreholes with hand pumps, protected springs equipped with the distributing valve or without it, are using.

A common used practice is to supply water to the consumers directly from wells (in the small towns) or immediately after passing by the second lift pumping stations. This practice often leads to unstable water supply, and in cases of absence of the network zoning, aqualising tanks and elevated water tanks it provides poor quality of services.

According to the final report on financial strategy for WSS in Georgia (2005, Volume 1) and estimations of the Danish company COWI which conducted the analysis and forecast of reaching the millennium development goals on water and sanitation by further development of the financial strategy for the WSS sector in rural areas and facilitation of the appropriate dialogue on the national environmental policy (2007). The data forecasted and expert evaluations of the Danish company COWI (2009) were summarized in a table for water supply and its average duration for 20 cities in the country. Summary of water supply and its average duration for 20 cities in the country is presented in the **Table 18**.

It was estimated that the average duration of a potable water supply to the population in cities and towns depends on the sanitary condition of water supply systems and it varies from 4-5 to 24 hours. These data correspond to the results of studies carried out in 2009 by the Agency for Regional Development on Water Supply of the Ministry of Regional Development and Infrastructure of Georgia (the Action Plan, the short-term programs in 2010-2013 and priorities for improvement and development of water supply and sanitation in the settlements (56 cities and districts) of eastern and western Georgia (2009).

Evaluating the sanitary condition of water supply systems, it should be noted, that it is unsatisfactory. According to the main Action plan (2010-2013) and priorities for improvement and development of water supply and sanitation in the settlements (56 cities and districts) of eastern and western Georgia (2009), compiled by the Agency for Regional Development on Water Supply, the bigger part of water pipes, reservoirs, pumping equipment and other technical systems is deteriorated and requires replacing. This fact leads to high water losses. Direct and undocumented water losses reach 50-60% of the total volume of water supplied to the network, which is in 4-5 times or even more is higher than the "standard" losses in the properly operated and hydraulically-debugged network in the cities of Western Europe, or at least 1.5 -2 times higher than the average level of losses in water supply systems in many cities of the CIS. Challenges in the quality of water are shown in **Figure 14**.

The specific water losses in water supply networks for the big cities (with a population over 100 thousands of people) are shown on the **Figure 15**. But the specific water losses in water supply networks for other cities with a population of 100 thousands of people are

presented on the **Figure 16**. The graph shows the so-called "high specific level of losses in the networks".

Thus, the water supply networks in many settlements are in a poor condition. The poor state of the internal networks also deserves attention because it is mentioned the country-wide unjustified overrun of water.

Due to the large number of accidents and failures of the networks resulting from the slow renovation (planned replacement) of pipes and valves deteriorated, the consumers are facing even the greater interruptions in water supply, sometimes reaching up to several days. All this leads to a *significant reduction in the service quality*.

Water supply to the network "by schedule" leads to a number of additional problems:

- reduction of the network lifetime due to accelerated processes of corrosion and increased deterioration of main water pipelines and its valves due to frequent hydraulic shocks;
- stagnation of water in the networks and formation of the low pressure zones in the pipelines (with possible suck-in of ground waters and other waters, and, as a consequence, a secondary pollution), etc.

Based on the above, one of the main objectives for the Government of a country in a social sphere, particularly, in improving the efficiency of public water supply systems, is:

➤ *rendering an assistance and providing the financial instruments from a state for organisation of construction, rehabilitation and improvement of drinking water supply in 2010-2011. For doing this, the Government of Georgia has approved a Resolution no. 40 from January 13, 2010, "On the Allocation of Funds to the Local Government from the Fund for Developing Projects in Regions of Georgia";*

➤ *conducting the construction and rehabilitation works to improve the water supply in 31 districts of a country within the limits of financial support from the European Investment Bank (40,000,000 Euros) (Ministry of Economic Development – the United Water-Supply Company of Georgia).*

VI. THE LEVELS OF PERFORMANCE TO BE ACHIEVED BY SUCH COLLECTIVE SYSTEMS AND BY SUCH OTHER MEANS OF SANITATION (continued PARAGRAPH 2e) OF ARTICLE 6)

The targets for this issue had not been established yet. Despite this, it is planned a rehabilitation of the collective and other sanitation systems as well as a construction of the treatment plants in several cities and settlements of the country.

The degree of purification is regulated by the Law "On Permits for the Environmental Impact" (2007) and by the Order of the Ministry of Environment and Natural Resources no. 745 from November 13, 2008, "On Approval of the Technical Regulations on Environment Protection".

VII. THE APPLICATION OF RECOGNISED GOOD PRACTICE TO THE MANAGEMENT OF WATER SUPPLY (PARAGRAPH 2 f) OF ARTICLE 6)

At present, the water management in Georgia is performed according to the principles of administrative-territorial governance.

The Georgian Law "On Water" adopted in 1997 is regulating, in fact, the management of surface water only; it is practically out of date and does not reflect the current trends and requirements. The principles of integrated surface and groundwater management as well as management of water supply were not laid down in this law.

So far in the country:

➤ it is not introduced the Integrated Water Resources Management (IWRM);

- it is not developed the National Strategy for Water Resources Management;
- there are no plans developed for water safety;
- there are no plans developed for river basin management;
- there were no groundwater quality monitoring conducted in recent 20 years.

Currently, by the Ministry of Environment and Natural Resources of Georgia:

- *is carried out the preparatory work for organization of the National Policy Dialogue on Integrated Water Resources Management – target dates - 2010-2012;*
- *will be improved the water legislation of a country, in particular, to be developed a draft of the new Law "On Water";*
- *was developed a draft of the "Strategic Directions for the Ministry of Environment and Natural Resources of Georgia in 2010-2014" with a section for water management;*
- *will be developed 2011-2014 management plans for some river basins according to a draft of the "Strategic Directions for the Ministry of Environment and Natural Resources of Georgia in 2010-2014"*
- *was initiated in 2010 the development of the "National Environmental Action Plan (NEAP)";*
- *will be reformed the water management system with transferring to the principles of river basin management;*
- *will be considered the opportunity to start working with international projects for groundwater monitoring;*
- *was estimated, that despite assessment of the climate change impact on some surface water bodies in the previous years, this impact on the level of underground waters and drinking water supply has not been evaluated yet.*

As it was mentioned above, the accreditation of laboratories on the quality control of drinking water since 2006 holds the Centre of Accreditation of a Unitary National Accreditation Authority of the Ministry of Economic Development which carried out its activity according to the Laws "On Certification of Products and Services", "On Standardisation", "On Providing the United System of Measurements" as well as to the international treaties and agreements, the technical regulations and provisions of accreditation system.

Information about accredited laboratories is available on a website of the Accreditation Centre - www.gac.gov.ge.

With the regard to creation of improved systems on protected zones it should be noted, that creation of protected areas for drinking water resources as well as zones of sanitary protection of drinking water resources and water protection strips is regulated by the Law "On Water" and several regulations of the Ministry of Health, Labour and Social Protection, and the Ministry of Environment and Natural Resources.

For the processing of raw/water resource of diverse quality are using the traditional technologies followed by chlorination.

The Regional Development Agency for Water Supply of the Ministry of Regional Development and Infrastructure of Georgia has prepared on a basis of research the **"Plan of Actions to Improve and Develop Water Supply and Sanitation Systems in the Settlements of Eastern and Western Georgia"**. The plan includes new construction or rehabilitation of the existing technical infrastructure for water supply to the population in 56 cities and regions of the country including improvement of water intake, treatment, storage and distribution of the drinking water, rehabilitation of main water supply networks in certain localities and sanitary protection zones, etc. The Agency is working on implementation of the internationally accepted standards, in particular, a system of ISO 9001 was introduced in 2009. Currently, this work is continued by the United Water-Supply Company of Georgia of the Ministry of Economic Development.

Such international standards as ISO 6222; 9308-2; 6340:2007; 10705-2:200, 12020-07, etc., has been already introduced in the accredited laboratories that are conducting the drinking water quality tests. The introduction of international standards is supported by the National Agency for Standardisation, Technical Regulations and Metrology with a simple registration process.

VIII. THE APPLICATION OF RECOGNISED GOOD PRACTICE TO THE MANAGEMENT OF SANITATION (continued - PARAGRAPH 2 f) OF ARTICLE 6)

As it was mentioned above in the Section IV (Access to Sanitation), the system of water disposal is functioning in 41 cities (out of 84) and district centres; in 30 of them are functioning the treatment plants with a total design capacity of 1.6 mln m³/daily (including regional treatment facilities in the Gardabani district with a capacity of 1.0 mln m³/daily that are serving the city of Tbilisi and Rustavi). Wastewaters are coming into the centralised city systems of disposal and in majority of cases flow to the wastewater treatment plants by gravity due to topographic features. The traditionally constructed facilities for mechanical and biological treatment of wastewater discharged are located in 26 cities.

The total extension of sanitation networks and collectors in 41 cities is 4.0 thousand km, the total extension of drainpipes is about 18 thousand km of which a significant part is not used.

Only in 4 from 20 cities the total volume or a part of wastewaters entering to the water disposal system is passing through mechanical treatment. A large share of wastewater entering to the water disposal system is discharged into receiving waters without any treatment and disinfection. The technologies used in all wastewater treatment facilities are outdated and do not meet modern requirements, particularly, on removal of nutrients and treatment of sludge. The general condition of sanitation infrastructure as well as wastewater treatment facilities is inadequate.

The biological wastewater treatment plants are operating now only in 1 city (Sachkhere), the treatment facilities in Tbilisi and Rustavi operate only with mechanical processing.

Given the above mentioned, on April 10, 2008, the President of Georgia has issued the Decree no. 245 on Measures to Improve the Drinking Water Supply in Tbilisi, Rustavi and Mtskheta. By this Decree, the rehabilitation and modernisation works on wastewater treatment in Gardabani region were also provided - within 10 years from the date of a contract execution, rehabilitation of a sanitation network and construction of a new collector system in Gardabani region - within 5 years from the date of a contract execution.

It should be noted right there, that based on the results of studies conducted by the Agency for Regional Development on Water Supply of the Ministry of Regional Development and Infrastructure of Georgia in 2009, it was drawn up the *"Plan of Actions to Improve and Develop the Water Supply and Sanitation Systems in the Settlements of Eastern and Western Georgia"*. This plan provides a new construction or rehabilitation of the existing technical infrastructure of water supply and sanitation in 56 cities and districts of the country (treatment on the second stage) as well as construction of the wastewater treatment plant. It is planned to complete in 2011 a rehabilitation of water supply and sanitation systems in 11 cities of a country with the financial support of the Asian Development Bank.

IX. THE OCCURENCE OF DISCHARGES OF UNTREATED WASTE WATER (PARAGRAPHS 2g) and i) OF THE ARTICLE 6)

The legal regulation on processing of industrial waste waters in conformity with the local situation is based on the relevant legislation (see - Part 1. "General Aspects", Section "Legal Framework in the Sphere of Water Quality Management (including drinking water) and

Morbidity). The several laws and regulations from the existing legislation are regulating this issue directly.

The objectives and basic principles of the laws "On Licenses and Permits" (2005) and "On Permits for the Environmental Impact" (2007) are ensuring the safe living conditions and protection of human health.

In accordance with the Law "On Permits for the Environmental Impact" there were defined the industries and activities that are subjects to the environmental expertise. The necessary measures, technologies and commitments on treatment of contaminated waters in conformity with the local situation are indicated in the reports on the environmental impact developed on the basis of this law;

The technical regulations on discharges of industrial and other waste waters into surface water bodies were approved by the Order of the Ministry of Environment and Natural Resources no. 745 from November 13, 2008, "On Approval of the Environmental Technical Regulations". Such technical regulations are covering all production and manufacturing units that carry out the discharges of waste waters into surface water bodies having no activities as subjects to the environmental expertise. These technical regulations are established for the relevant ingredients in waste waters by definition of maximum allowable concentrations.

Regarding the standards on various types of the untreated water storage, it should be mentioned, that such standards had not been developed yet until now.

The regular monitoring and implementation of appropriate administrative sanctions in case of a failure to comply with obligations and requirements of the current legislation is carried out by the Inspectorate on the Environment Protection of the Ministry of Environment and Natural Resources of Georgia.

The issues of information reliability: the surface water quality monitoring is conducted by the National Agency of the Environment of the Ministry of Environment and Natural Resources of Georgia. The results on the surface water quality tests are regularly (on a monthly basis) published on the website of the Aarhus Centre of Georgia (www.aarhus.ge). The groundwater quality tests were not conducted in the last 20 years.

The management issues: the legal framework on prevention of accidental pollution caused by the industrial and other types of accidents, readiness and mitigation as well as setting of priorities based on the environmental impact assessment is regulated by the special laws in Georgia, such as:

- "On the Environmental Protection" (1996);
- The Law "On Water" 1997);
- "On the Security of Dangerous Industrial Objects" (1997);
- "On the Hazardous Chemicals" (1998);
- "On the Compensation of a Damage Caused by the Hazardous Substances (1999);
- "On the Licenses and Permits" (2005);
- "On the State Control over Protection of the Environment" (2005);
- "On the Permits for the Environmental Impact" (2007);
- "On the Protection of Population and Territory in the Extreme Situations of Natural Disasters and Industrial Accidents" (2007), as well as a number of decrees of the Government.

By these laws are defined such substantial issues like:

- development of the action plans aimed at the reduction or prevention of the negative impacts on the environment and elimination of the possible consequences of the accidents in industry;
- measures on the prevention of emergency situations in case of using hazardous chemicals and elimination of results of the accidents according to the preliminary developed safety plans;
- obligatory registration of the hazardous chemicals within enterprises;

- an urgent transmission of information about accidents to the relevant governmental authorities;
- notification and transfer of information to the countries affected in case of accidents;
- access to the information about hazardous chemicals, etc.

There was a system established on a basis of legal framework for:

- development and adoption of the technical standards for enterprises;
- approval of the action plans for emergency situations within enterprises;
- issuing of the authorizations for work of installations with the potentially dangerous activities that can cause the large accidents;
- regulatory procedure for handling the chemicals and determining various procedural restrictions designed to ensure their safe storage, transportation, use, etc;

The above mentioned legislation allows:

- to identify on a basis of technological processes the hazardous production processes, types of works and hazardous industrial objects;
- to identify the categories of the production processes, its degree and significance for the impact on the environment;
- to determine the hazard degree and class for chemicals, etc.

Regarding to the setting priorities based on assessment of the impact on the environment, it should be mentioned, that this area is regulated by the Law "On Permits for the Environmental Impact" as well as by the "Regulations on the Assessment of the Environmental Impact", approved by the Order of the Ministry of Environment and Natural Resources of Georgia on March 9, 2009".

By this provision, with the consideration to the regional and local factors, there were identified the key priorities to study the direct or indirect effects of the proposed activities for safety and health; the quality of air, water, the impact on climate, ecosystems, etc.

The ability to respond in emergency situations (to foresee possible unpredictable events) is regulated by the Law "On Protection of the Population and Territories in the Extreme Situations of the Natural Disasters and the Industrial Accidents" (2007).

By this law are defined the following objectives:

- ***Prevention of the appearance and spread of the emergency situations;***
- ***Reduction of the damage caused by the emergency situations;***
- ***Elimination of the results caused by the emergency situations***

In the emergency cases, in a country would become operational the ***"Task State Programme on Equipping of the Health Institutions for the Timely Response and Medical Assistance during the Natural Disasters, Accidents and Emergency Situations"*** approved by the Governmental Resolution no. 73 from March 24, 2008, and the Order of the Ministry of Health, Labour and Social Protection no. 308/H from 05.11.2002 ***"On Limitation of the Water Use by the Population in Case of Changes in the Quality of the Environment, Living Conditions and Other Special Circumstances."***

In recent years, the project "Development and Introduction of the Measures on Prevention of Accidents in the Kura River Basin" was implemented in Georgia as well as held several seminars on the subject, developed and published the "International Plan of the Alerts and Warnings about the Dangerous Situations in the Kura River Basin";

It should be also noted, that Georgia cooperates with the North Atlantic Treaty Organization (NATO) under the "Partnership for Peace" process, in particular, in a field of the environment through prevention of the natural disasters and industrial accidents, readiness and mitigation as well as strengthening of the rescue services.

With the regard to awareness-raising, education, special education, information of public, small companies, water suppliers and authorities, etc., related to a severity of the impact of the

untreated waste waters on human health and the environment, it should be noted, that it is realised mostly by using the small publications of non-governmental organizations and individual experts. This issue is included in the curriculum of higher educational institutions of the medical and technical profiles.

X. THE OCCURENCE OF DISCHARGES OF UNTREATED STORM WATER OVERFLOWS FROM WASTE-WATER COLLECTION SYSTEMS TO WATERS UNDER THE SCOPE OF THIS PROTOCOL (PARAGRAPH 2g) ii) OF ARTICLE 6)

The system of processing of the storm water overflows from the collection systems does not exist and its construction is not planned for the near future. The storm water overflows are permanently discharged into surface water bodies without any treatment. *That is why the targets for this position are not established yet.*

XI. THE QUALITY OF DISCHARGES OF WASTE WATER FROM WASTE-WATER TREATMENT INSTALLATIONS TO WATERS WITHIN THE SCOPE OF THIS PROTOCOL (PARAGRAPH 2h) OF ARTICLE 6)

The majority of settlements do not have waste-water treatment installations. According to the Law "On the Permits for the Environmental Impact" (2007), the quality standards for waste water discharges from the objects, whose activities are the subjects to the environmental expertise, are determined in each case on a basis of the relevant calculations coordinated with the Ministry of Environment and Natural Resources. For other objects, in accordance with the Order of the Ministry of Environment and Natural Resources no. 745 from November 13, 2008, "On Approval of the Environmental Technical Regulations", are established the fixed standards for waste waters discharges.

XII. THE DISPOSAL OR REUSE OF SEWAGE SLUDGE FROM COLLECTIVE SYSTEMS OF SANITATION OR OTHER SANITATION INSTALLATIONS (PARAGRAPH 2 i) OF ARTICLE 6 - PART 1)

The sewage sludge is usually removed and stored at the sludge drying beds of the waste water sanitation installations. As a rule, such sludge is not used later on.

XIII. THE QUALITY OF WASTE WATER USED FOR IRRIGATION PURPOSES (PARAGRAPH 2 i) OF ARTICLE 6 - PART 2)

The irrigation in Georgia is carried out on a basis of the Law "On Land Irrigation" (1997, 2007). According to this law, the Ministry of Agriculture defines an integrated state policy, develops the state programs, provides an integrated technical policy and conducts the state control in this area. In order to improve the management of water for irrigation purposes and irrigation services, the act of the Ministry of Agriculture sets up the associations of irrigators. The Act also provides creation of the associations of water users, the associations of drainage users and the associations of users for pasture irrigation.

With the purpose of rational use of the water resources from irrigation reservoirs and improvement of its exploitation, the Ministry of Agriculture has issued an Order no. 2-25 from February 19, 2001, "On Approval of the Rules on Operation of the Reservoirs for Irrigation Purposes".

In the districts with irrigated territories there are the systems of irrigation channels of local importance that receive water from the main canals. The surface waters are mostly used for irrigation purposes. The underground waters, waste waters and liquid wastes are not used for irrigation.

According to the laws "On Health Care", "On the Environmental Protection" and "On the Soil Conservation", the Ministry of Health, Labour and Social Protection has developed and approved by the Order no. 297/N from 16.08.2001 "On the Approval of Rules on the Environmental Quality" the sanitary rules and regulations "The Hygienic Requirements for Wastewater and Sludge Used for Irrigation and Fertilisers Purposes". By these sanitary rules and regulations are set the requirements to the choice of agricultural territory for irrigation; the quality of waste waters and sludge by the chemical, microbiological and parasitological indices; the scheme of treatment and use of waste waters in irrigated agricultural fields; the preliminary treatment methods for waste waters and its sludge; the organization of production control in the process of operational irrigation of the agricultural fields and control settings; the agronomic, sanitary and hygienic, sanitary and veterinary requirements for waste waters; to the sludge used as fertiliser, the quality control of waste water and sludge used for irrigation and as fertilisers, etc.

Requirements to the safety of alimentary products are regulated by the Law "On the Safety and Quality of Food" (2005) and by the regulations of the Ministry of Health, Labour and Social Protection.

To control the quality of food and alimentary products, in accordance with the Law "On the Safety and Quality of Food", since 2005, under the Ministry of Agriculture was established the National Service of Food Safety, Veterinary and Plant Protection.

Currently, the monitoring of water for irrigation is not carried out. To support high productivity in agriculture, the canal system of local and trunk channels of the existent irrigation systems is using. In present, the Government is carried out the cleaning and rehabilitation of the local and main channels of the existent irrigation systems. It should be noted, that in the case of large-scale works on design, construction and operation of the new irrigation systems, the appropriate building codes and other technical documents will be used.

XIV. THE QUALITY OF WATERS WHICH ARE USED AS SOURCES FOR DRINKING WATER (PARAGRAPH 2 J) OF ARTICLE 6 – PART 1)

The legal framework, institutional and administrative aspects in the sphere of protection of waters used as sources for drinking water, including water protection zones, are presented in the Section 2. The overall performance is the quality of the drinking water supplied.

Regarding to the creation of improved systems of the protection zones it should be mentioned, that creation of the protected sanitary zones for drinking water sources as well as creation of the water protection belts is regulated by the Law "On Water" and by several other regulatory acts, in particular, by two orders of the Ministry of Health, Labour and Social Protection no. 297/H from 16.08. 2001 "On the Approval of Sanitary Rules and Norms for Sanitary Zones of the Water Supply Sources and Water Pipes for Households and Drinking Purposes" as well as orders no. 304/N from 18.09. 2009 "On Amendments to the Order no. 297/N from 16.08.2001 "On Approval of Sanitary Rules and Norms for Sanitary Zones of Water Supply Sources and Water Pipes for Households and Drinking Purposes", and such orders of the Ministry of Environment and Natural Resources, as:

- Order no. 130 from September 17, 1996, "On the Approval of Rules for Protection of the Surface Water Bodies from Pollution;
- Order no. 59 from May 7, 1998, "On the Approval of Regulations on the Water Protection Belts";
- Order no. 765 from November 27, 2008, "About the Amendments to Order of the Ministry of Environment and Natural Resources no. 59 from May 7, 1998, "On the Approval of Regulations on the Water Protection Belts".

As noted above, the Georgian economic and drinking water supply to the population is based mainly on the underground waters. These sources and the surface water bodies are used

as drinking water sources in accordance with the Law "On Water" and the regulations of the Ministry of Health, Labour and Social Protection from 2001 and 2009; and have three levels of protection (I, II and III zones of the sanitary protection). The existing laws define and set up the size of each zone of the sanitary protection with various regimes of protection, give the necessary characteristics to define such zones and the main activities that should be systematically undertaken in each zone. By the regulations of the Ministry of Environment and Natural Resources there were established the sizes of the water protection belts for surface water bodies, etc.

Regarding the protection of water bodies it should be mentioned that it is carried out by the structural units of the Ministry of Environment and Natural Resources (Environmental Protection Inspectorate), these activities are implemented effectively using legal requirements.

The standards on quality of waters used as raw material, in accordance with the laws "On Health Care" and "On Public Health" (2007), are developed and approved by the Ministry of Health, Labour and Social Protection; the monitoring of the quality of water for drinking purposes and for the food industry is conducting, according to the laws "On the Safety and Quality of Food" (2005) and "On Public Health" (2007), the National Service for Food Safety, Veterinary and Plant Protection of the Ministry of Agriculture. The centralized database for the quality of waters used as raw materials and as a final product exists in this organization since 2006.

For processing of the raw/source of water of different quality (for the water supply headwork systems), in order to gradual achieving of the standards (the requirement of the technical regulation for drinking water), are applied and used the conventional technologies followed by chlorination

XV. THE QUALITY OF WATERS USED FOR BATHING (PARAGRAPH 2j) OF ARTICLE 6 – 2 PART)

Legal, institutional and administrative aspects

The legal provision on management for waters used for bathing and recreation, which includes quality and monitoring requirements, protection of surface waters used for bathing and recreation, measures to improve the situation, etc, are carried out in accordance with the water legislation of Georgia.

Despite the fact, that in a country, in accordance with the regulations of the Ministry of Environment and Natural Resources and the Ministry of Health, Labour and Social Protection, are established the requirements to water quality of the water bodies of different categories of water use, a list of the specific water bodies for different purposes, including for bathing and recreation has not been developed and approved until now.

Quality requirements

The quality of waters used for bathing is determined by the Order of the Ministry of Environment and Natural Resources, no. 130 from September 17, 1996, "On the Approval of Rules for Protection from Pollution of the Surface Water Bodies" and the "Sanitary Rules and Norms of the Protection from Pollution of the Surface Water Bodies" approved by the Order of Ministry of Labour, Health and Social Protection no. 297/H from August 16, 2001, "On the Approval of Rules of the Environmental Quality" (Annex № 3).

In accordance with the above mentioned the "Sanitary Rules and Norms of the Protection from Pollution of the Surface Water Bodies" are defined two categories of water use (water bodies of the first category and water bodies of the second category). The first category includes the water bodies used as sources for centralised or non-centralised drinking water supply and for the food industry, while the second category refers to the water bodies used for

cultural and domestic purposes, for recreation and sports including the water bodies within the settlements.

For the above mentioned water bodies including those used for cultural and domestic purposes (recreation and sport, the aquatic objects within settlements) was set up the maximum allowable concentration (MAC) of 1346 harmful substances and 4 levels of degree of their contamination (the permissible level of pollution, the moderate pollution, the high level of pollution, and the particularly high level of pollution).

Monitoring requirements

As the competent authority to carry out the monitoring of water quality for the surface water bodies according to the legislations of country was defined the National Environmental Agency (with its units) of the Ministry of Environment and Natural Resources of Georgia. The scheme of service for monitoring of the water quality of surface water bodies, including water used for bathing is shown on the **Figure 17**.

The present agency and its subdivisions are carried out the nationwide testing of the quality of water in 42 observing points of 24 surface water bodies according to the plan of monitoring approved. Tests of the quality of surface water bodies in the eastern part of Georgia, including the water bodies used for bathing and recreation within Tbilisi (the Tbilisi reservoir, the Turtle Lake and the Lisi Lake) is carried out by the National Environmental Agency of the Ministry of Environment and Natural Resources of Georgia in 23 observing points of 13 surface water bodies.

The studies of water quality in 13 observing points of 5 surface water bodies in the western Georgia are conducted by the laboratory for monitoring of the environmental pollution in Kutaisi, and testing of the coastal water quality for the Black Sea and the surface water bodies in the Autonomous Republic of Adzharia is conducting in 6 observing points for 6 surface water bodies (including the Lake Paliastomi) and in 10 observing points in the Black Sea by the Centre of Monitoring for the Black Sea in Batumi of the National Environmental Agency of the Ministry.

It should be noted, that in previous years (2007-2008), due to the fact that the monitoring system was not set up and the laboratories were not supplied with the appropriate equipment, the process of quality testing of the water bodies, including those used for bathing and recreation, had a non-system character. Since 2009, the testing is planned and conducted annually, systematically from May until October. For determination of the quality status of waters are measured 33 physico-chemical parameters and 4 microbiological benchmarks (*content of E. coli, total coliforms, streptococci, total number of microbes*).

Besides mentioned above, and a fact that a competent authority has the ability to exercise the quality control of waters used for bathing, due to insufficient financial resources other surface water bodies used for swimming and recreation were not covered by the monitoring and a full program of monitoring for other water bodies had not been developed yet.

Taking into account the foregoing, it is necessary to develop a target on development and implementation of the complete program on monitoring for other water bodies used for bathing and recreation in 2013 – 2015.

During summer time, with the coming holiday season, the local self-government bodies put the warning signs near the recreational areas of the surface water bodies, publish this information in the media, etc, in case of deterioration of the quality of water.

It should be noted, that Georgia has not been developed yet an integrated classification system for water use of the surface water bodies. Given this, in 2009, there were designed proposals for development of a new classification system for the surface waters in the framework of the TACIS/2008/137-153 (EU) project "Water Resources Management in the Western Sector of EECCA" with the Ministry of Environment and Natural Resources of Georgia.

Based on the above, the proposals for determination of the following targets were prepared, the details of which will be refined after a public discussion, in particular:

1. The development of a new system of the quality standards and classes of water use for the surface water bodies of Georgia – target date - 2015.

1.1. The development of a new system of the quality standards for the surface waters of Georgia

1.2. The development of a new system of classification on water use for the surface waters of Georgia.

A description of the taken measures (for example, the measures of legal/regulatory, financial/economic and informational/educational character as well as of the managerial one) to achieve this target.

These targets are set up in Georgia at the national level only. Given the nature of the above mentioned targets, and that a new system of the surface water quality standards as well as a system of classes for surface water use in Georgia should be developed jointly with the Ministry of Health, Labour and Social Protection, the adoption of those targets is planned by the regulation act for the 2014. This regulation act will be obligatory for all organisations related to the issues of water use and providing the quality of surface water bodies.

Protection of the surface waters used for recreation

As noted above, the legal support for protection of the surface waters used for bathing and recreation is provided by the Georgian legislation, in particular, by the Law "On Water" and the relevant regulations of the Ministry of Environment and Natural Resources as well as the Ministry of Health, Labour and Social Protection. In accordance with the Georgian legislation, the sanitary protection zones and water protection zones are defined for such water objects. The economic activity in such zones is limited. In addition, the legislation strictly requires from all businesses and individuals to carry out the water conservation measures, etc.

The "Blue Flag" Programme in the country has not been implemented yet.

Evaluation of a progress in reaching a target

As for the water objects used for different purposes the water quality may be established by the different requirements, for the surface waters of Georgia could be established the respective quality standards and classes of water use. It is proposed to achieve this through establishment of five different classes of water use, each one will determine what type of water use is provided by a certain quality of surface waters. In addition to distribution of varieties of water use and requirements within five classes, this approach represents an important step to approach to the EU requirements, in particular, to the Water Framework Directive (WFD).

XVI. THE QUALITY OF WATERS USED FOR AQUACULTURE OR THE PRODUCTION OR HARVESTING OF SHELLFISH (PARAGRAPH 2j) OF ARTICLE 6 – PART 3)

At the moment, there are no such waters in Georgia.

XVII. THE APPLICATION OF RECOGNISED GOOD PRACTICE TO THE MANAGEMENT OF ENCLOSED WATERS GENERALLY AVAILABLE FOR BATHING (PARAGRAPH 2 k) OF ARTICLE 6)

A legal support for the issues related to the public recreational indoor water objects (like indoor and outdoor swimming pools) that includes establishing sanitary requirements to the

design, construction and operating conditions for the indoor waters as well as to the quality of water supplied and contained in the basin, its decontamination, etc, is carried out on the basis of sanitary rules and regulations "The Hygienic Requirements to the Arrangement, Operation and the Quality of Water in Swimming Pools", approved by the Order of the Ministry of Health, Labour and Social Protection no. 2306/n from August 16, 2001, as well as the construction standards and rules like "The Construction Standards and Rules - Public Buildings and Constructions 2.08.02.-89", "A Support Catalogue for the Sanitary Norms and Rules 2.08.02.-89. - Design of Water Pools (M. 1991)", "Instructions and a Guidance on the Maintenance, Operation and Sanitary Control of the Swimming Pools with Sea Water, no. 1437-76. 5/6/1976 ", etc.

The procedure for issuing permits for design and construction is regulated by the laws on construction, in particular: by the Law "On the Building Permits" (2004), "On the Basic Principles of Spatial Planning and Urban Development" (2007); the Decree of the Georgian Government no. 57 from March 24, 2009, "On the Rules of Issuing the Construction Permits and Conditions for Permits", etc.

It should be noted, that the requirements of the above mentioned sanitary rules and norms do not cover the therapy pools for treatment that require the specific mineral water content.

Carrying-out of the requirements of these sanitary rules and regulations is ensuring the epidemic safety and prevention of transmission of the fungal, viral, bacterial and parasitic diseases; protects the human body from possible harmful impacts from chemical composition of water, intoxications caused by the harmful substances entering into human body with breathing, through the damaged skin, etc.

One of the requirements of the above mentioned sanitary norms and rules is to ensure the exchange and recycling of water in the pools for its refreshing. By the character of water exchange, in accordance with these sanitation rules and regulations, the following types of pools may operate in the country: the pools of recirculation type, of the flow type (including swimming pools with sea water) and with periodical water exchange. The water recycling should be carried out without interruption to guarantee that every 8 hours at least 10% of water is recycled. In the sports and recreational pools, the main methods of decontamination are chlorination, bromination, ozonation, ultraviolet radiation, etc.

By the sanitary rules and regulations is defined a list of substances for decontamination and disinfection of water. Regarding the procedure for issuing permits on use of substances and means for decontamination and disinfection of water, this procedure is regulated by the Order of the Ministry of Health, Labour and Social Protection no. 64/H from March 19, 2002, "On the Improvement of Medical and Preventive Disinfection Activities in the Country."

The requirements to water quality are determined by the relevant sections of the above mentioned sanitary rules and norms.

The State control over the sanitary condition of swimming pools and the quality of their water was carried out till 2005 by the State Inspection of Sanitary Supervision of the Ministry of Health, Labour and Social Protection. In parallel, the control of water quality (self-control) was conducted by the production laboratories. However, since 2006, after a closure of the State Inspection of Sanitary Supervision of the Ministry of Health, Labour and Social Protection, the state control over such kinds of objects is not carried out. The above mentioned is related to any pool, regardless of its form of ownership.

XVIII. THE IDENTIFICATION AND REMEDIATION OF PARTICULARLY CONTAMINATED SITES (PARAGRAPH 2 I) OF ARTICLE 6)

Legal, institutional and administrative aspects

The development of the legal framework in the country for ensuring the safe living conditions for human health, prevention of pollution of the environmental objects and its impact on human health started from 1993, in particular:

- In accordance with a Resolution of the Cabinet of Ministers of Georgia from July 24, 1993, "On the Exchange of Information on Chemicals, Proclaiming the London Guidelines and Accession to the International Register of Potentially Toxic Chemicals", the country joined the international register of chemicals;
- In 1995, a Law "On the Transit and Import of Wastes on the Territory of Georgia" was approved, in 1997 this law was approved in a new version;
- By the Presidential Decree no. 232 from May 4, 1999, "On the Accession to the Basel Convention of 1989 and on the Control over the Transboundary Transportation of the Hazardous Wastes and their Placement", the country acceded to this convention;
- In accordance with the Presidential Decree no. 82 from March 17, 1998, "On the National Programme on Management of the Chemicals Infrastructure", it was established the State Commission to develop a national programme on management of the infrastructure related to chemicals;
- By the Order of the Minister of Health from September 29, 1998, (no. 372/o) "On the Establishing of a National Coordination Council on Chemicals Substances Management", the National Coordination Council was established with a task to develop the National Profile on Chemical Substances Management.

Based on the above documents, it was prepared "A First Version of the Final Summary of the National Profile on Assessment of the Infrastructure of the Chemicals Management", in 1998 it was published "A Guidance to the National Profile on Assessment of the Infrastructure of the Chemicals Management"

The Georgia's accession to international processes of the global environmental security and sustainable development, development of a systematic reform in various fields, creating of the safe and healthy living conditions has contributed to the development of the most essential guidance documents, such as:

- "The National Health Policy of Georgia";
- "The Strategic Plan for Health Development on Georgia - 2000-2009";
- "The National Programme of Action for the Environmental Protection in Georgia".

These documents were approved by the Decree of the President of Georgia no. 324 in 2000.

By these documents, the following tasks were introduced:

- *the development of the National Action Plan on the Environmental Hygiene - Environment and Health "(NEHAP) – target date - 2003 (a plan was developed and approved by the Presidential Decree no. 324 from 24.03.2003);*
- *the development of the national hygienic standards and regulations and their harmonization with the EU requirements - target dates - from 2001 and permanently in subsequent years (the first national sanitary standards and rules were developed and approved in 2001. Since 2001, it was carried out an intensive work on creation and development of the national database for sanitary norms and rules. From 2000 to 2009, over 100 sanitary-hygienic norms and rules were developed and introduced in practice);*
- *the perfection of a legal framework for the chemical safety of population – target dates – on a permanent basis;*
- *the conduction of inventory and rectification of unusable amounts of chemicals for industrial and agricultural purposes and the development of respective inventory – target dates - 2004-2009;*

➤ *the identification of contaminated sites, the monitoring and risk assessment of their impact on public health and the environment, etc.*

With the reference to the above, starting from 1998, it was carried out an active work for drafting of the new laws, in particular, the laws "On the Hazardous Chemicals" and "On the Pesticides and Agrochemicals" were developed and adopted.

Regarding to the stable chemical pollutants, it should be noted, that according to the data of 1970-1976, such substances as DDT, aldrin, dieldrin, endrin, chlordane, mirex, and others were forbidden to use (data of 1976). However, until 2001, there were no legal acts at the national level regulating prohibition or restriction of their usage.

With the reference to the above, as well as to the requirements of the laws "On the Hazardous Chemicals" and "On the Pesticides and Agrochemicals", etc, it was an Order no.133/h issued by the Ministry of Health, Labour and Social Protection on March 26, 2001, "On the Approval of a List of the Prohibited or Strictly Limited Hazardous Chemicals for Production, Use or Export-Import Operations". This list covered 55 chemicals including 34 ones listed in Annex III of the Rotterdam Convention. From those 55 chemicals, 45 are prohibited and 9 - strictly limited, including 7 chemicals for industrial use and 2 pesticides (dicofol, maleikgidrazin and its salts).

Such important regulations like "The Standards of the Environment Quality", "The Hygienic Standards for Pesticides in the Environment" approved by the order of the Minister of Health, Labour and Social Protection back to 2001, were developed in the country.

By the Presidential Decree, in June 21, 2002, (no. 307) "On the Establishment of the Interdepartmental Council on Regulation of the Safe Use of the Hazardous Chemicals and Approval of the Board Guideline", was set the interdepartmental council with a task to manage and coordinate the safe use of hazardous chemicals on the territory of Georgia.

In accordance with the Laws "On the Health Care" and "On the Hazardous Chemicals", the Ministry of Labour, Health and Social Protection is one of the leading agencies in the development of legal acts and technical documentation to ensure the safe environment for human health. It prepared and approved such important regulations as "The Rules on Prohibition or Strict Limitations of the Hazardous Chemicals", "The Rules on the State Examination and Testing of the Hazardous Chemicals", "The Regulations on Export and Import of the Hazardous Chemicals", "The Regulations on Classification of the Hazardous Chemicals", "The Regulations on Labelling of the Hazardous Chemicals", "The Rules on Registration and Recording for the State Register of the Hazardous Chemicals", "The Leaflet on the Safe Use of the Hazardous Chemicals", etc.

By the reference to the above, it should be noted, that the legislative and executive authorities of Georgia are carried out the work on the development of legal basis and implementation of measures to ensure the safe living conditions for population including by chemical safety. However, Georgia has not adopted the law "On the Waste Management" yet.

**The possibility of intervention
(the mechanisms available for society and the state for taking measures on bringing the sites to order).**

The competent authority for conducting the monitoring, detection and supervision of the contaminated sites is the Ministry of Environment and Natural Resources (the Environmental Protection Inspectorate and its territorial bodies); until 2005 it was the Ministry of Health, Labour and Social Protection (before a closure of the State Inspection on Sanitary Supervision and its territorial bodies).

The historically contaminated sites and territories in Georgia is a serious environmental problem. The main sources of such types of pollution are delinquent and unusable pesticides, illegal landfills including those on the shores of surface water bodies; the territories of the former military bases and certain units of the former Soviet Army, the ruins of the arsenic treatment plants and storage facilities for arsenic wastes.

It should be noted, that up to '90s, the pesticides and other crop protection chemicals were widely used in the country. However, the volume of imports exceeded the volume of their usage. As a result, the large number of aged and unusable pesticides and other crop protection chemicals brought in 80-90s have been accumulated in the country. But since 1992 up to 2004 its inventory has not been performed.

Based on the above, the goal was set:

According to the Stockholm Convention, *to develop the National Action Plan for Persistent Organic Pollutants*, the Ministry of Environment and Natural Resources of Georgia has performed in 2004-2006 an inventory having a support from the UN Development Programme (UNDP); as a result, up to 3,000 tons of aged and unusable pesticides were detected, 2,700 tons of them have been stockpiled at the site Ialgudzha for toxic wastes as well as in the different regions of the country in 46 deposits were stored more than 300 tons.

On the second stage, in 2006-2008, with the support of the Government of the Netherlands and the Dutch NGO - Milieukontakt International, within a project "Reduction of the risk factors from inappropriate use of the aged pesticides in the Kakheti region", 222 tons of unusable pesticides and 105 tons of contaminated soil were placed in a secure place.

On the third stage, in 2008-2009, the Ministry of Environment and Natural Resources of Georgia placed 105 tones of the unusable pesticides and 300 tons of contaminated soil in a secure place (in the landfill Ialgudzha for toxic wastes).

For these measures, it was spent \$1,115,348 in total (including \$970,348 of investments), from those on the first phase - \$470,000 (investments from the Global Environmental Fund - GEF), on the second - \$500,000 (investments of the Government of the Netherlands), on the third - \$145,000 (funds allocated from the budget of the country).

Notwithstanding the mentioned above, the problem of aged and unusable pesticides in the country has not been completely solved yet. In this regard, one of the strategic directions and a goal for the Ministry of Environment and Natural Resources of Georgia is:

➤ *the collection of aged and unusable pesticides, their re-packaging, the temporary accommodation in a secure place followed by neutralization - target dates – 2010 - 2013.*

In 2006-2008 there was accomplished a country-wide inventory and identification of the illegal landfills on the shores of surface water bodies. As a result of examination, a map with the locations of landfills and the likely points of contamination of surface water and ground objects in the GIS system was developed and posted on the website.

Currently, the problems in the country are contaminated sites with the ruins of processing plants and warehouses of arsenic (or ruins of deposits) for storage of the waste products of arsenic located near by the surface water bodies. In this regard, one of the strategic directions and a goal of the Ministry of Environment and Natural Resources of Georgia is

➤ *disposal and decontamination of the residual arsenic in mining and chemical industry - the target dates - 2010 -2013.*

The identification of contaminated sites where the military bases of the former Soviet Army were located and the various poisonous chemicals (chloropicrin, etc) are often found is a particularly acute issue in the country. This question has not yet been sufficiently studied yet. Accordingly, it is necessary to put the following targets:

➤ *The identification of contaminated sites on the territories used for location of the military bases of the former Soviet Army and the examination of extent of their pollution in order to conduct the appropriate rehabilitation measures;*

According to the data of the Inspection on Environment Protection of the Ministry of the Environment and Natural Resources, in 2007-2009, there were registered the incidents of different nature throughout the territory of a country, including 8 cases observed with contamination of surface water bodies and 6 cases of soil pollution.

The public campaigns were carried out to increase public awareness, were provided education and trainings related to the danger of contaminated sites in the period of 2004-2006, in particular:

- In 2004, it was an exhibition organised in Tbilisi to show the conditions of aged and unusable pesticides in the country, their likely impact on the environment and human health and activities that is necessary to bring contaminated sites in order;
- In 2006, this exhibition was also organized in Brussels in the building of the European Union;
- There were systematically broadcasts news related to this issue on the TV, etc.

XIX. THE EFFECTIVENESS OF SYSTEMS FOR THE MANAGEMENT, DEVELOPMENT, PROTECTION AND USE OF WATER RESOURCES (PARAGRPH 2 m) OF THE ARTICLE 6)

Information about the legal framework of the management, protection and use of water resources is presented in the Chapter II and Chapter V.

The water resources management in Georgia is carried out accordingly to the territorial principle. The basin administrations are not established at both the national and transboundary levels. The control functions are shared between the Ministry of Environment and Natural Resources; the Ministry of Health, Labour and Social Protection; and the Ministry of Agriculture.

The supervision over the use and protection of water resources as well as over the following conditions stipulated by the permits and licenses is carried out by the Inspectorate for the Environment Protection of the Ministry of Environment and Natural Resources of Georgia. The level of fines for violating water protection laws is set up by the Administrative Code of the Administrative Rule of Georgia.

The record of impact is carried out by the Ministry of Environment and Natural Resources of Georgia, all water users provide the annual statistical reports on water use to the Ministry, including information on the amount of the pollutants discharged with waste waters. These data is processed with the special programme and the results are transmitted to the Department of Statistics and published in the Statistical Yearbook of Georgia.

The surface water monitoring is carried out by the Agency on the Environmental Protection of the Ministry of Environment and Natural Resources of Georgia. Samples are taken monthly at 41 points of the major rivers. Under the project of the European Commission "Management of the River Basin of the Kura-Araks, Phase 2", starting from 2009, the monitoring of quality of the transboundary waters in the rivers Kura, Khrami, Alazani and Debeda is carried out jointly on a quarterly basis (with the appropriate agencies of Azerbaijan and Armenia). The data on monitoring of the surface water quality is published on a monthly basis on the web page of the Aarhus Centre. The biomonitoring is not carried out in the country. It is carried out only a control over the physical and chemical indicators (up to 33 parameters).

As the monitoring data shows, the concentrations of pollutants in the water bodies of the country do not exceed in general the maximum of the allowable concentration (MAC) set by the normative documents of the Ministry of Environment and Natural Resources of Georgia and the Ministry of Health, Labour and Social Protection. As a rule, MAC is only exceeded by ammonia nitrogen, which is, apparently, is caused by the discharge of untreated municipal wastewaters and a diffused pollution from the agricultural lands.

A planning of the water conservation measures is carried out by the large enterprises in the framework of preparation to the Impact assessment on the environment. The integrated plan for a country has not been developed yet.

In 2010 the development of the "National Action Plan for the Environment Protection" started. In addition, in the framework of the European Commission Project "Management of the River Basin Kura-Araks, Phase 2", it is carried out the development of the river basin management plans for 3-Pilot basins – the Alazani River (the transboundary basin shared with

Azerbaijan), the Debeda River (the transboundary basin shared with Armenia) and the Aragvi River.

The economic evaluation mechanisms for water and associated ecosystems are not developed yet. The "polluter-pays" principle works only in a form of fines imposed in the cases of the water legislation violation.

As noted above, some issues related to the water management are solving in the framework of the international projects funded by the European Commission and other international organizations.

The public participation in water management is limited mostly by participation in the examination of "Assessment of the Environmental Impact" developed by the enterprises-water users. The public hearings are held for presentation of such documents; the comments and observations made during such hearings are taken into account in a process of formulation of the final conclusion.

As noted above (Chapter VI. "The Effectiveness of systems for the management, development, protection and use of water resources"), the standard classification of water bodies, including for the underground waters, does not exist in Georgia. However, in accordance with the regulations (orders) issued by the Ministry of Environment and Natural Resources and Labour, Health and Social Protection for the water bodies, including the underground waters, are established the categories of water use and adopted the sanitary classification of water bodies by the degree of their contamination.

The rate of exploiting water resources at the national level and by sectors (agriculture, industry, utilities) are presented in the Chapter III (Access to drinking water) and in a section about water use.

The issues related to the reaching the goals formulated as the Millennium Development Goals are highlighted in the Chapter III (Access to drinking water).

With regard to the some transboundary agreements, it should be noted, that in 1997 there were signed the agreements on cooperation for environmental protection between Georgia and Azerbaijan, as well as between Georgia and Armenia. The Article 6 of the Agreement between the Government of Georgia and the Government of the Republic of Azerbaijan says that "Parties unite their efforts with a goal to protect their basins from pollution and for the rational use of water resources", and the Article 2 of the Agreement between the Government of Georgia and the Republic of Armenia says that "Parties make efforts to establish the interlinkages between the national systems of monitoring for the environment and the relevant information databases.

In the framework of the UNECE and OSCE project «Performance of the Water Convention of UNECE and the Preparation of an Agreement for Management of the Transboundary Waters between Georgia and Azerbaijan", the development of a draft of "The Agreement on Cooperation in the Field of Transboundary Water Resources between Georgia and Azerbaijan Republic" started.

There was a draft developed on the "Strategic Directions of Activities of the Ministry of Environment and Natural Resources of Georgia" with one of the sections devoted to the management of water resources.

Since 2004 it was established "The Joint Intergovernmental Commission for Economic Cooperation between Azerbaijan and Georgia" with one of the areas for cooperation in the field of environmental protection, including the use and protection of the transboundary water resources.

The joint authorities for transboundary water resources management and the councils on the river basin management are not established yet. The joint bodies on the management of transboundary water resources between Georgia and Azerbaijan will be created after the signing of the developing "An Agreement on Cooperation in the Field of the Transboundary Water Resources between Georgia and Azerbaijan".

The integrated water resources management (IWRM) has not been implemented yet in Georgia. It is planned to reform a system of the water management by transition to the principles of the river basin management.

XX. THE FREQUENCY OF THE PUBLICATION OF INFORMATION ON THE QUALITY OF THE DRINKING WATER SUPPLIED AND OF OTHER WATERS RELEVANT TO THE PROTOCOL (PARAGRAPH 2n) ARTICLE 6)

The issue on the frequency of the publication of information on the quality of the drinking water supplied and other waters relevant to the protocol is covered in the section “Part 1. General Aspects”.

PART 4: GENERAL ASSESSMENT OF A PROGRESS REACHED DURING THE IMPLEMENTATION PROCESS

In the recent years, Georgia has made the significant steps toward reforms in the environment and health policy and institutions. The relevant ministries and agencies are carrying out a work on approximation of legislation of the country with the EU legislation, implementation of the international standards and best practices in the water resources management and improved diseases control, including water-related ones. As a part of the reform process, the legislation framework on the environment and health protection, the laws on some components of both the environment and provision of safe and healthy living conditions, other relevant laws and regulations are developed and updated in a country. However, the regulatory reform has not been completed yet, in particular, in the water resources management and provisions of safe and healthy living conditions, for the early warning control systems, for investigations of the infectious diseases outbreaks (including water-related) and response to it, as the current Law of Georgia "On Water", adopted in 1997, is practically out-dated and does not reflect the current trends and requirements. The water management is carried out according the principles of administrative-territorial governance. The principles of the integrated water management for surface and underground waters as well as the management of water supply were not included in this law.

In order to improve the control over diseases, including for water-related ones, it is necessary to provide organisational and technical measures at the national, regional and local levels for further improvement as well as modernisation and improvement of the material and technical basis of the laboratories.

Despite the fact, that Georgia is rich in water resources, the overall level of its use does not exceed 10%, hence, the problem of supply of the sufficient volume of drinking water to the population in the country still remains acute due to the fact, that water resources in the country are unevenly distributed and the sanitary conditions of the existing wide-spread networks for the water supply and sanitation as well as wastewater treatment installations are still in a poor condition in a number of cities and regions of the country. Because of this, the population in some cities and towns (especially the rural ones) is experiencing a shortage of drinking water.

The major risks to the human health are related to the unsafe water quality. These problems are redoubled by the fact that the water-supply systems are located close to the sanitation systems that lead to infiltration of waste waters into the water supply network. The level of connectivity to the water supply and sanitation systems in Georgia remains high. However, the problems of coverage still exist, especially in the rural areas where the majority of population lives. In some areas of the country, a certain number of the rural households are directly

connected to the networks, but even those connected often receive water by the schedule, a few hours a day.

In recent years, at the time of reforms in a country, a particular attention was paid to the development of social sphere, especially to providing a safe environment for human health. In this regard, a number of changes was made in a structure of the executive power bodies and in the legislation, in particular, in 2005 there were closed some organizations that carried out the official control and supervision over the drinking water quality and over the quality of the surface waters used for recreational purposes and bathing during a holiday season. The National Service for Food Safety, Veterinary and Plant Protection was established under the Ministry of Agriculture. The Regional Development Agency for Water Supply was created under the Ministry of Regional Development and Infrastructure in 2009. However, the institutional design of the responsible authority in this area is developing until now. As a result, on January 2010, the Ministry of Economic Development has created the United Water-Supply Company of Georgia. Currently, the United Water-Supply Company of Georgia of the Ministry of Economic Development is the country's competent authority responsible for the supply of the drinking water to the population in regions of a country, and the competent authority responsible for monitoring and quality control of the drinking water is the National Service for Food Safety, Veterinary and Plant Protection under the Ministry of Agriculture.

In the recent years, the Government of Georgia set a target to put into an order the major infrastructure networks in a country including the water supply system. A rehabilitation of the water supply networks is carried out in a parallel with the perfection of a system of the management, mostly by privatization that significantly improves regularity of water supply and its quality.

The quality of surface water bodies is not reliable almost everywhere and often not safe for the ecosystems and the human health. There is a risk to harm the human health while bathing.

The significant contamination of water bodies is mentioned in the urban and rural settlements as a result of the untreated wastewater discharges.

The reason of pollution of water and coast is a non-developed system for collecting of the solid wastes or a low level of its functioning. The rivers, ravines, river banks, etc, are often used as the illegal landfills. In addition, the drainage waters are not treated and represent a serious source of pollution for the nearby water bodies.

The integrated water resources management is still in its initial stage, there is no the National Strategy on Water Resources Management; not developed the plans to ensure water safety, the river basin management plans; the monitoring of the ground waters quality had not been conducted within the last 20 years, etc.

The branch integration in the environmental sphere as well as coordination and cooperation mechanisms for inter-ministerial integration in the field of water and health are not developed yet at an adequate level.

With the regard to the public participation in the management of water resources, prevention and control of diseases, including water-related ones as well as in setting targets, it should be noted, that Georgia is a Party of the Aarhus Convention. Requirements of this Convention are regulated by the General Administrative Code and by the relevant special laws. Based on these laws, an information on the environmental quality and morbidity as well as an information

regarding the situation with water quality in the public water supply systems, its management and related decisions can not be classified as the state secrets and are open to the public access.

By the Ministry of Environment and Natural Resources is carried out a work on creation of the management system for the environmental information, including in the sphere of water resources, in order to raise public awareness on the issue. The environmental education and, in a more broader sense, the education for sustainable development, has received a wide distribution, but further efforts are needed to integrate all levels of a big conceptual work into a curricula.

Starting from a fact that some of the topics highlighted in the report are related to the transboundary issues, the analysis of the existing materials on a subject provides a basis to conclude that Georgia and the neighbouring states are interested in collaboration aimed at the transboundary nature of the hazards, including those related to the transboundary water resources and public health. There is a positive attitude towards establishing good ties for cooperation within transboundary water basins. There are potential opportunities for further cooperation in this field.

PART 5: INFORMATION ABOUT A PERSON SUBMITTED A REPORT

A present report is submitted on behalf of Georgia

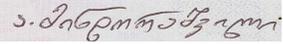
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Name and the address of the National Authority: Ministry of Environment and Natural Resources of Georgia

Signature: 

Date: 25.03. 2010.