



**Protocol on Water and Health – Improving health in Armenia  
through target setting to ensure sustainable water  
management, access to safe water and adequate sanitation**

**ROADMAP  
To ratification of the UNECE-WHO/Europe Protocol on Water  
and Health by Armenia**

**Yerevan, May 2014**

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## List of Acronyms

ARS	Armenian Rescue Service
ASH	Armenian State Hydro-meteorological Service
AWSC	Armenian Water and Sewerage Company
BMO	Basin Management Organization
CJSC	Closed Joint Stock Company
DRC	Dispute Resolution Commission
EECCA	Eastern Europe, Caucasus, Central Asia
EIMC	Environmental Impact Monitoring Centre
EU	European Union
HMC	Hydro-geological Monitoring Centre
IWRM	Integrated Water Resources Management
LWSC	Lori Water And Sewerage Company
MA	Ministry of Agriculture
MENR	Ministry of Energy and Natural Resources
MES	Ministry of Emergency Situations
MF	Ministry of Finance
MH	Ministry of Health
MNP	Ministry of Nature Protection
MTA	Ministry of Territorial Administration
NAWSC	Nor Akunq Water and Sewerage Company
NCDPC	National Centre for Disease Prevention and Control
NGO	Non-Governmental Organization
NPD	National Policy Dialogue
NWC	National Water Council
PSRC	Public Service Regulatory Commission
RED	Renewable Energy Department
SCWS	State Committee on Water Systems
SEI	State Environmental Inspectorate
SHI	State Health Inspectorate
SNCO	State Non-Commercial Organization
UNECE	United Nations Economic Commission for Europe
WFD	Water Framework Directive
WPD	Water Policy Division
WRMA	Water Resources Management Agency
WUA	Water Users' Association
YWSC	Yerevan Water and Sewerage Company

## 1. Introduction

The Republic of Armenia signed the Protocol on Water and Health to the 1992 UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention) on 17 June 1999 in London. Since then, the process of ratification has been initiated.

In order to facilitate the target setting process, as required by Article 6 of the Protocol, and foster experience in the implementation of the Protocol in Armenia, UNECE has initiated an assistance project in close cooperation with Ministries of Nature Protection and Health of Armenia and with the financial support of Finland through its FinWaterWei<sup>1</sup> programme.

One of the main objectives of the project was to facilitate the ratification of the Protocol on Water and Health by the Republic of Armenia, by providing a forum for policy dialogue and decision-making on the issues covered by the Protocol and through the development of a roadmap for ratification of the Protocol by Armenia.

This technical report is prepared based on consultations with the relevant Armenian authorities. It analyzes the benefits of accession to the Protocol for Armenia and the required legislative and institutional reforms and changes, taking into consideration the baseline analysis and draft national targets and target dates already developed under the project by the working group of national experts and the international consultant and adopted by the project Steering Committee in May 2014. Case studies on recent completed ratifications of two UNECE treaties are also presented.

Finally, the report provides an overview of the process of ratification of the UNECE-WHO/Europe Protocol on Water and Health since its signature in 1999 and outlines the steps required to complete the process of ratification.

## 2. Analysis of the benefits of accession to the Protocol for Armenia

Armenia will greatly benefit from the accession to the Protocol. Despite the fact that Armenia is not a Party to the UNECE Water Convention, Articles 21 and 22 of the Protocol on Water and Health allow countries to become Parties to the Protocol without becoming Parties to the Water Convention. In addition, the principle “polluter pays” in the Protocol is applied only within the country, and cannot serve as a basis for claiming compensation by downstream countries in case of transboundary impacts. As for employing the principle at national level, it is fully in line with the Water Code of Armenia, and particularly Article 5 of the Code (Basic Principles of Management, Use and Protection of Water Resources and Water Systems), which clearly states that the “polluter pays” principle shall be applied.

In order to avoid any impact on the environment of downstream countries Article 5(c) of the Protocol envisaged a consultation process between the neighboring countries instead of compensation claims.

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<sup>1</sup> FinWaterWei is the programme for Finland’s water sector support to the EECCA countries under the Wider Europe Initiative. The FinWaterWEI programme is managed on behalf of the Finnish Ministry for Foreign Affairs by SYKE ( <http://www.environment.fi/default.asp?contentid=405313&lan=EN> )

Of particular interest is Article 14 of the Protocol, which refers to possible international support to national action related to the following:

- Development of water management plans and schemes for improving water supply and sanitation;
- Formulation of projects, particularly infrastructure development ones, in order to mobilise sources of finance;
- Preparation of legislation to implement the Protocol,
- Education and training of key technical and professional staff;
- Research and development of cost-effective means and techniques for prevention, control and reduction of water-related diseases.

Such an approach is fully in line with the Law “On the National Water Programme of the Republic of Armenia”, and particularly its phased programme of measures, which includes short-, medium- and long-term measures to address issues related to legal requirements, institutional development, water resources management needs and water system management needs.

Among the numerous advantages that Armenia can obtain by becoming a Party to the Protocol, the following are worth mentioning:

- By becoming a Party to the Protocol, Armenia can join to the institutional regime established by the Meeting of the Parties – its Bureau, subsidiary bodies and the joint UNECE-WHO/Europe Secretariat. Such institutional structures can provide support to Armenia in implementing and further developing the provisions of the Protocol, including through guidelines and recommendations. This will establish a collective forum, within which exchange of experience and practices occurs;
- Armenia will also significantly benefit from improved institutional framework of managing water within the country. The Protocol encourages cooperation among different sectors at both national and local levels, as well as representatives of public and private organizations and NGOs. Such cooperation includes information sharing and data exchange, consultations, joint research and measures particularly to achieve targets, as well as early warning and response systems for water-related diseases;
- The Protocol envisages collective and expert support mechanisms, which increase the national capacity for management of the water resources of the country, including protection of water ecosystems, and prevention, control and reduction of water related diseases;
- Article 5 of the Protocol, which sets out the precautionary principle, “polluter pays” principle, principle of sustainable development between generations, and other principles and approaches, is a very useful guide to internal relationships, and is fully in line with the principles set out in Article 5 of the Water Code of Armenia, which defines the basic principles of management, use and protection of water resources and water systems;
- By applying individual and joint measures to prevent, control and reduce water-related diseases, which is one of the targets of the Protocol, Armenia will certainly reach higher health care and safety standards at both national and international levels;
- Armenia will also benefit from applying the IWRM principle, which is one of the main principles of the Protocol. The Protocol encourages an integrated approach, taking into consideration

complex interactions between the hydrological cycle, soil, flora and fauna, based on the thinking that water resources are an integral part of the ecosystem. Such an approach is fully in line with Water Code, National Water Policy and National Water Programme of Armenia, through which the IWRM principle and ecosystem-based approach have been introduced into water resources management of the country in the last decade;

- Having the status of Party to the Protocol might directly or indirectly provide benefits of having access to international funding of projects (preparation of water management plans, infrastructure development, establishment of early warning and response systems, development of legislative framework, education and training of key professional and technical experts).

Finally, by becoming a Party to the Protocol Armenia will have much greater possibilities to show its achievements in prevention, control and reduction of water-related diseases, participate in the international processes of decision-making on issues regulated by the Protocol, and apply for additional financing and methodological support to implement specific actions.

It should be noted that the Protocol does not require implementation of any action until the country formally completes the process of becoming a Party to the Protocol. The first important requirement is setting targets and target dates within 2 years after becoming a Party to the Protocol. Though Armenia is not yet a Party to the Protocol, it took a first important step in its implementation by recently developing draft national targets and targets dates within the UNECE-FinWaterWei project “Protocol on Water and Health – Improving health in Armenia through target setting to ensure sustainable water management, access to safe water and adequate sanitation”. The draft targets were approved at the 12<sup>th</sup> meeting of the Steering Committee of the National Policy Dialogue on IWRM in Armenia held on May 6, 2014. The final draft targets have already been sent to the Ministry of Nature Protection for further dissemination among the stakeholder Ministries for their official review.

### 3. Required Legislative and Institutional Changes

#### 3.1 Summary

The existing legislative and institutional framework in the water sector of Armenia does not need significant adaptation and harmonization with standards and approaches of the Protocol, given that many requirements of the Protocol are already in place in Armenia, including the following:

- The Protocol stresses that, to the extent possible, the management of water resources shall be carried out in an integrated way, based on the watersheds, with the objective of ensuring the close linkage of socio-economic development with the protection of natural ecosystems, as well as the inter-relation of the water resources management with legislative measures to regulate the quality of other aspects of the environment. Such an approach is fully in line with the Water Code of Armenia, and particularly Article 5, which defines the basic principles of management, use and protection of water resources and water systems;
- The Protocol requires that all members of society, particularly those who are disadvantaged or suffer from social isolation, have equitable access to water both in terms of quantity and quality. This is in line with Article 6 of the law “On Fundamental Provisions of the National Water Policy of the Republic of Armenia” which defines the national water policy principles.

Particularly, it requires that sustainable water resources management in Armenia is ensured by applying several principles, including the provision of water of the required quantity and quality to meet the basic needs of socially disadvantaged groups;

- Access to information and public participation in the process of decision making on water and health issues, among other things, are needed to improve the quality of decisions, to inform the public about corresponding issues, to provide opportunities to the public to express its concerns and to the competent authorities to properly take into consideration these concerns. Again, the legal framework in Armenia also envisages this approach. Thus, the Republic of Armenia Water Code includes provisions on information accessibility and public participation in the decision-making process. Particularly, Article 5 (Basic Principles of Management, Use and Protection of Water Resources and Water Systems) of the Code recognizes the importance of public participation and awareness in the process of management and protection of water resources, Article 20 (Public Participation) lists the items which are subject to public notice (draft river basin management plans, pending water use permits, draft water tariff strategy and draft water standards) and Article 106 (Participation of Non-Governmental Organizations and Citizens in the Protection of Water Resources and Water Systems) defines the roles of NGOs and public participation in the maintenance of water resources and water systems, and states that, in the conduct of activities aimed at the protection of water resources and water systems, the authorized national management bodies have the right to take into consideration the recommendations of public organizations and citizens.

### **3.2. Legal Framework**

The reforms in the water resources management sector of the Republic of Armenia were initiated since 1999-2000 through the World Bank supported "Integrated Water Resources Management" project. As a result of the implementation of this project the water resources of Armenia were assessed, structural reforms for water resources management were suggested, and an outline scheme for the management of water supply and demand was formulated. In addition, the idea of river basin management was proposed through the introduction of annual and long-term planning mechanisms of water resources.

Taking into consideration the recommendations of the "Integrated Water Resources Management Programme" in 2001 the Government of the Republic of Armenia initiated a targeted programme for improving the water sector in the country, and revised the legal and institutional framework in this field. All this was incorporated in Resolution No. 92 on "Concept for Water Sector Reforms in the Republic of Armenia", adopted by the Government in February 2001. The resolution clearly presented the strategy of legal and institutional reforms of the Armenian Government in the field of water resources.

Based on the above-mentioned Government Resolution No. 92 the new Water Code of Armenia was adopted on June 4, 2002, which is considered as one of the most important steps in water sector reforms. The Water Code shows the way forward for water resources management, in line with international best practice. It declares Armenian water resources to be state property, and provides for their use and disposal to be controlled through economic instruments, employing water use permits to be issued and enforced on the basis of monitoring information, contained in a computerized National Water Cadastre. Important innovations in the Water Code strengthen the basin-oriented principles of water resources management and the importance of public awareness

and participation. The Water Code establishes a balanced approach to water resources management in Armenia, with provisions for the proper regulatory, management, and operational divisions of responsibilities in the water sector. It also establishes a number of new Government agencies to carry out these varying responsibilities.

In 2005 the Republic of Armenia Law on "Fundamental Provisions of the National Water Policy" was adopted, which presents a long-term development concept for strategic use and protection of water resources and water systems. In 2006 the "Law on the National Water Programme of the Republic of Armenia" was adopted. The overall goal of the law is development of measures aimed at satisfying the needs of the population and economy, ensuring ecological sustainability, formation and use of the strategic water reserve, and protection of the national water reserve.

In order to ensure the proper application of the new Water Code of Armenia, since 2002 over 120 regulations and by-laws, which relate to the procedures of issuing water use permits, river basin management, transparency and public participation in decision-making processes, information accessibility, establishment of the state water cadastre, formation of water resources monitoring, management of transboundary water resources, new surface water quality standards, outline of a model river basin management plan, and others were adopted in Armenia.

Thus, in general the Armenian legal framework already exists and no significant changes are required to implement the Protocol on Water and Health. Moreover, the Government of Armenia has adopted a range of laws and by-laws to ensure many of the provisions of the Protocol. This includes particularly the following:

*Table 1: Summary of legal acts incorporating provisions of the Protocol on Water and Health*

Type of legal act	Title	Adoption year	Comment
Constitution	Constitution of the Republic of Armenia	1995	Article 31 requires that the State protects the interests of consumers and takes measures to exercise quality control over goods, services and works. Article 33 stresses that everyone has the right to live in an environment favorable to his or her health and welfare.
Code	Land Code	2001	Article 26 contains provisions on water related lands, which among other things, can be used for public water supplies, as well as sanitary protection zones to prevent any impact from other sources on the health of the population.
Code	Water Code	2002	Among the main objectives of the Code are conservation and protection of water resources, prevention of any harmful impact on water, ensuring the supply of water to the population in the necessary quantity and quality, safe and smooth operation of the water supply and wastewater systems, and organization of the management, protection and development of water systems. Article 20 of the Code includes provisions on ensuring public participation and awareness raising in decision-making processes. Article 70 includes provisions on drinking water standards, and Article 120 deals with specific aspects of operation of drinking water supply and sanitation systems. Articles 101 and 103 of the Code include provisions on irrigating agricultural lands with wastewater.
Law	On Provision of Sanitary-Epidemiological Safety of the Population of the Republic of Armenia	1992	The law defines the legal, economic and organizational aspects of the public health security of the population of Armenia, as well as the safeguards envisaged by the State to prevent the impact of environmentally harmful and

Type of legal act	Title	Adoption year	Comment
			<p>hazardous factors on the human organism and to ensure favorable conditions for the well-being of the population and of future generations.</p> <p>Article 16 of the law indicates the general requirements for ensuring the public health safety of the population concerning public water supply and consumption, including quality of water used, and prevention and reduction of contamination of drinking water sources.</p>
Law	On Freedom of Information	2003	The law ensures access to information and public awareness, among other things, on the services provided to the public, including water supply services. According to Article 12 of the law the holders of such information are required to ensure access to information and public awareness, and provide truthful and complete information to any person seeking information.
Law	On Fundamental Provisions of the National Water Policy	2005	The Law defines the basic concepts for strategic use and maintenance of water resources, and is aimed at ensuring the access to water resources of the required quantity and quality to provide for human well-being, socio-economic development, and economic and ecological needs at present and in the future. The objectives of the law are to: (a) ensure the assessment of the availability of water resources, describe the national aquatic resources, define the process of determining water resources supply and demand, (b) set priorities for the use of water resources and (c) apply the principles of basin management, draw up basin management plans and prepare the grounds for the National Water Programme.
Law	On National Water Programme	2006	<p>The law regulates the relations associated with establishment and implementation of the National Water Programme of Armenia, including the assessment of national water resources, the strategic water reserve, usable water resources, and the demand for water supply, and the main issues and prospects of water sector maintenance and development.</p> <p>The law defines priority issues in the water supply sector as follows: ensuring the sustainable operation of drinking water systems and improving management mechanisms; ensuring the financial sustainability of water supply companies; ensuring continuous and reliable water supply; increasing access to public water supply services; providing access to water services for poor consumers; involving the private sector in the operation of water supply systems and services, and in developing participatory management systems; monitoring the activities of water supply companies; monitoring the quality and management of the drinking water supply; improving the monitoring of water supplies by water users to protect water resources from pollution; introducing a water accounting system; reducing water losses in the water supply system; ensuring the necessary level of investments to improve water supply services; using modern technologies in the rehabilitation, construction and operation of water supply systems.</p>
Government Resolution	On Approval of the List of Infectious Diseases	2001	The list includes all kinds of infectious diseases transmitted by water: intestinal infectious diseases (all forms), viral hepatitis, tularemia, etc. The number of people treated is included in the national standards approved for each year with regard to

Type of legal act	Title	Adoption year	Comment
			infectious diseases.
Government Resolution	On Reforming the Water Management System	2001	The Resolution sets out the approach to reforming the water sector of the country, including the financial rehabilitation of water supply companies, improvement of quality of service of these companies, improvement of tariff policy, and implementation of economic reforms in the sector.
Government Resolution	On Approving the Classification of Exploitable Underground Water Deposits and Estimated Resources	2002	The Resolution provides for classification of exploitable deposits of underground waters in Armenia and estimated resources.
Government Resolution	On Approving the Water Abstraction Quantities from Water Resources and the Order for Approving the Water Abstraction Regime	2003	The Resolution outlines the main principles and basis of water quantity abstraction and regimes of water resources use, according to water use purpose.
Government Resolution	Approval of Procedures for Free Water Use	2003	The Resolution, among other things, regulates the legal relationship related to free water use, including the use of groundwater on privatized land. It mentions that free water use can be restricted in case of a danger of spreading water-related diseases, and in case the water resource is contaminated to the extent that it can cause damage to human life and health.
Government Resolution	On Approving the Order of underground Waters Located on Private Land		The Resolution defines the process for using underground waters on private land.
Government Resolution	On Defining the Rules for the Use of Sanitation Systems and Wastewater Treatment	2003	The Resolution defines the organization of the use of sanitation and water treatment systems; issues involved in the operation of the drainage network and monitoring of its maintenance; the facilities for water treatment systems and mechanisms for their laboratory, manufacturing and technological monitoring; the types of mechanical and biological wastewater treatment facilities; and wastewater sludge treatment facilities, operating procedures and monitoring mechanisms.
Government Resolution	On Approving the Order for Alternative Inventory of Water Resources	2003	The Resolution sets out the main principles for calculating water resources abstraction volumes in those areas of Armenia, which do not have hydrological posts.
Government Resolution	On Approving the Order of Using Drainage Waters	2003	The Resolution sets out the procedures for using drainage water, taking into consideration the relationship between the state management and local government bodies and legal and physical entities.
Government Resolution	On the Order of Providing Information on Transboundary Water Resources	2003	The Resolution sets out the procedures for providing information on different indicators and regimes of transboundary water resources of Armenia.
Government Resolution	On Approving the Order of Implementation of Water Resources Monitoring and Registration of their Reports	2003	The Resolutions defines the procedures for water resources monitoring, the collection, processing and compiling of operational data, and the registration of reports.
Government Resolution	On Approving the Order of Use of Water Resources for the Needs	2003	The Resolution outlines the water resources use functions for fish farming needs.

Type of legal act	Title	Adoption year	Comment
	of Fish Farms		
Government Resolution	On Approving the Order of Using Natural Medicinal Water Resources	2003	The Resolution sets out the procedures for the use of natural medicinal waters.
Government Resolution	On Approving the Order for Use and Outflow Permit of Wells Absorbing Drainage Water, former and active Mines	2003	The Resolution sets out the procedures for providing water use and discharge permits for wells absorbing drainage wastewater, and former mines and active mines.
Government Resolution	On Approval of the Procedures for Defining the Rules for Drinking Water Supply and Sanitation, of the Model Forms of Contracts for Water Supply and Sanitation, and of the Technical Requirements for Connection to Water Supply and Sanitation Systems	2004	The rules contained in this Resolution and the Appendix thereto define the procedures for drinking water supply and sanitation, accounting and payment for water supplied and wastewater treated, the technical regulations for connections to drinking water supply and sanitation systems, and the rights and liabilities of the parties involved in these relationships.
Government Resolution	On Criteria for Definition of Areas for Sanitary Conservation of Aquatic Ecosystems, Flow Formation, Conservation of Groundwater, and Identification of Water Protection Zones, Ecotones, and Inalienable Areas	2005	The Resolution approves the criteria for definition of areas for sanitary conservation of aquatic ecosystems, flow formation, conservation of groundwater, and identification of water protection zones, ecotones, and inalienable areas in Armenia. The Annex to the Resolution defines the criteria for definition of areas for sanitary conservation of aquatic ecosystems, flow formation, conservation of groundwater, and identification of water protection zones, ecotones, and inalienable areas.
Government Resolution	On Regulations for Establishing Water Standards	2005	The Resolution sets out procedures for development of water standards for drinking, productive, cultural and municipal needs, taking into consideration the recommendations of the statutory entities of the water sector. Particularly, according to the Resolution water used for drinking and productive purposes shall comply with the parameters defined by the hygiene standards and regulations, and by the provisions of Article 70 of the Water Code of the Republic of Armenia for bacteriological, radiological, organoleptic, and hazardous substances which could affect the health of present and future generations, irrespective of their age and sex.
Government Resolution	On Establishing Norms and Instructions for the Use and Protection of Water Resources in Emergency Situations, and on the Minimum Quantity of Water to be Supplied to the Population, as well as Compensation for Damages that the Water System Operator May Suffer	2005	The Resolution provides instructions for the use and protection of water resources in disaster zones, including drinking water sources located in disaster areas.

Type of legal act	Title	Adoption year	Comment
Government Resolution	On Defining the Application of Modern Technologies, Improving Monitoring of Water Resources and Pollution Reduction and Prevention Measures	2010	The Resolution identifies the priority technologies in water resource management, application of which will ensure sustainable long-term management of water quality and quantity, and particularly ensuring adequate quality of water resources, reduction of water losses and more efficient use of water resources.
Government Resolution	On Defining Water Quality Norms for Each Water Basin Management Area, taking into Consideration the Peculiarities of the Locality	2011	The law is based on the principles and approaches of the EU WFD, and defines a system of mutual inter-relationship of surface waters according to purpose of water use or quality class. It further defines ecological norms proposed for surface waters, and sets out surface water quality norms for 14 large rivers basins and separate sections of rivers of the country.
Government Resolution	On Defining Water Demand According to RA Water Basin Management Areas for Drinking, domestic , and Agricultural Purposes, as well as Evaluation of Environmental Flows	2011	The Resolution aims to ensure the ecological equilibrium of water resources, protection of the national water reserve and efficient organization of water resources management.
Ministerial Decree	Decree of the Minister of Health “On Defining Boundaries of Sanitary Protection Zones for Sanitary Springs”	2002	According to the Decree three zones for sanitary protection are established. The first zone (strict regime) includes locations of water abstractions, and locations under the management of water supply and sewage companies. The purpose of the first zone is to protect water abstractions and water supply structures from pollution and damage. The second and the third zones (constrained regime) include areas targeted for prevention of the pollution of the water supply springs. In each of the three zones, in accordance with their purpose, special regimes and lists of measures to prevent degradation of water quality are defined.
Ministerial Decree	Order of the Minister of Health “Drinking water. Requirements Imposed on Water Quality for Centralized Systems. Quality Control Sanitary Rules”	2002	The Decree defines the hygienic requirements for drinking water quality, as well as requirements for drinking water produced and supplied to human settlements through water supply systems.

The only gap in the legal sector, which needs to be addressed, is the development of a law “On Potable Water”, which is also required by Article 121 (Transitional Provisions) of the Water Code of Armenia. Actually, the draft law was supposed to be developed within 2 years from the adoption of the Water Code, but it has not been done yet.

### **3.3. Institutional Framework**

With the adoption of the new Water Code in Armenia in 2002 a new institutional system was introduced, according to which the management of the water sector is implemented by the following authorities:

1. Ministry of Nature Protection of the Republic of Armenia, and its Water Resources Management Agency, which manages and protects water resources,

2. State Water Management Committee under the Ministry of Territorial Administration of Armenia, which implements the state management of water systems,
3. Public Services Regulatory Commission of Armenia, which implements tariff policy in the water sector.

Table 2: Main functions of the agencies involved in water sector management

	Management and Protection of Water Resources	Regulation of Tariffs	Management of Water Systems
Responsible Agency	Water Resources Management Agency	Public Services Regulatory Commission	State Water Management Committee
Main Functions	Monitoring and allocation of water resources, strategic management and protection of water resources	Regulation of tariffs for non-competitive water supply and discharge services in drinking, household and irrigation water sectors; Protection of consumers' rights	Management of water systems under state ownership; Support to establishment of Water Users' Associations and Unions of Water Users, arrangement of tenders on management of water systems
Enforcement Tools	Water use permits	Water system use permits	Management contract

In order to promote more efficient, targeted and decentralized management of water resources, 6 territorial divisions (Northern, Akhuryan, Araratian, Sevan, Hrazdan and Southern) have been established under the auspices of the Water Resources Management Agency.

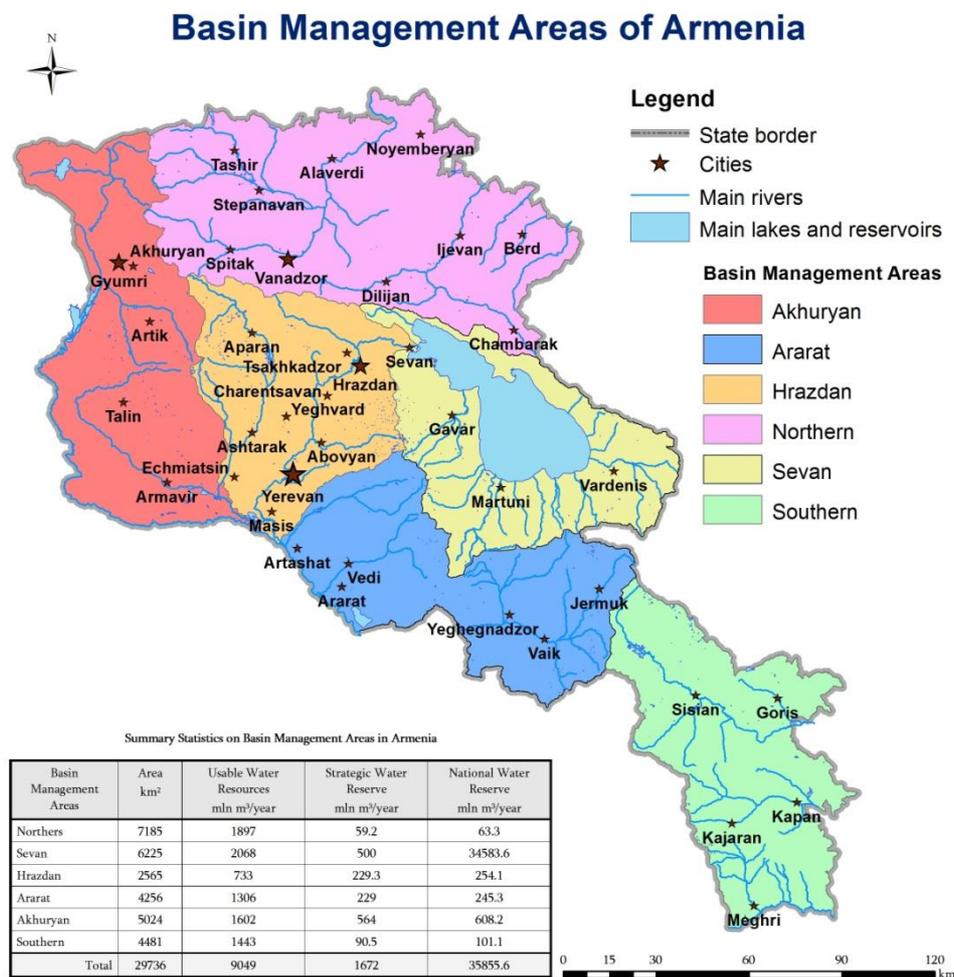


Figure 1: Water basin management areas of Armenia

Basin Management Organizations are responsible for development of river basin management plans, registration of water use permits, protection of water resources, compliance assurance of water use permits, definition of water regime, as well as development of water resources allocation plans for the six water basin management areas.

Another key player in terms of the scope of the Protocol on Water and Health in Armenia is the **Ministry of Health**, which is responsible for safeguarding the sanitary/epidemiological safety of the population. Through its structural sub-divisions the Ministry develops and supervises the implementation of sanitary/epidemiological regulations and standards, including those for the drinking water sector. It also controls through inspections the quality of water sources that are used for drinking purposes.

In 2013 structural reorganizations occurred in the Ministry of Health. In particular the State Hygiene and Anti-Epidemiological Inspectorate of the Ministry of Health and the State Labour Inspectorate of the Ministry of Labour and Social Security were merged into the State Health Inspectorate under the Ministry of Health of Armenia. The newly established inspectorate, among other things: (i) ensures the sanitary safety of the population; (ii) implements state hygiene and anti-epidemiological control; and (iii) organizes sanitary-hygiene and anti-epidemiological measures and preventive actions to control infectious and non-infectious diseases, including water-related ones.

As a result of merging several State Non-Commercial Organizations and CJSCs in 2013, the “National Centre for Disease Prevention and Control” SNCO under the Ministry of Health of Armenia was established. The newly established centre, among other things, is in charge of the following: (i) implementation of integrated measures for preventing infectious and non-infectious diseases; (ii) disinfection of sources of infectious and parasitic diseases; (iii) ensuring preparedness and response of the population in case of threats to public safety; (iv) observation, analysis and assessment of the sanitary-epidemiological safety of population; and (v) implementation of social-hygiene monitoring of the environmental factors on the health of the population.

Other institutes, which have certain roles in different aspects covered by the Water and Health Protocol, are described in summary in the table below:

*Table 3: Other institutes with functions related to different aspects of the Water and Health Protocol*

Ministry/Agency	Brief description of functions
National Water Council	High-level inter-sectoral advisory body, chaired by the Prime Minister, responsible for providing guidance on National Water Policy, the National Water Programme, and other areas of responsibility that are given to it by regulation. The Dispute Resolution Commission has also been established under the National Water Council. By using mediation, the Commission may resolve disputes that relate to water use permits.
Transboundary Commission	The basic functions of the Commission include the following: (i) Formulation and submission to the Government of draft inter-State agreements; (ii) Notification to the relevant agencies of the Republic of Armenia of issues not regulated by inter-State agreements and requiring due resolution; (iii) Provision of information to agencies in Armenia concerning the state of transboundary waters and transboundary impacts.
Ministry of Nature Protection (other divisions)	Water Policy Division under the Ministry is in charge of formation of state policy on water resources protection, development of policy programmes and strategic directions and monitoring of their implementation. One of the specific functions of the Division is development of National Water Policy and monitoring its implementation. Environmental Impact Monitoring Centre of the Ministry is the agency responsible for surface water resources quality monitoring in Armenia.

Ministry/Agency	Brief description of functions
	Hydro-geological Monitoring Centre of the Ministry assesses the main patterns of drinking water formation on the territory of Armenia, quantitative and qualitative properties, and regional changes. State Environmental Inspectorate of the Ministry is in charge of compliance assurance and enforcement of water and environmental legislation.
Ministry of Agriculture	State authorized body for development of agricultural policy and strategies, including irrigation and drainage policies. It also develops irrigation standards and regimes for agricultural crops.
Ministry of Energy and Natural Resources	Develops and implements policy and strategies in the energy sector, including the hydropower sub-sector.
Ministry of Finance	Organizes and implements auditing of financial-economic activities of Government agencies, SNCOs, and commercial organizations with Government participation. It conducts inspections in the sphere of water systems and environment, coordinates loans and grants from international financial organizations and donors, and monitors the implementation of programmes funded by loans.
Ministry of Emergency Situations	Through its Armenian Rescue Service is responsible for emergency situations and civil defence, including water-related disasters, such as flooding, mudflows, inundations and etc. It carries out prevention, reduction and liquidation of possible consequences of emergency situations, civil defence functions, protection of population and economic objects in emergency situations. Through its Armenian State Hydro-meteorological and Monitoring Service monitors surface water quantity within the framework of the provision of hydro-meteorological services in the country.
Water Users Associations	Currently existing 42 WUAs are in charge of operation of irrigation systems.

The diagram below summarizes the organization chart of the Government of Armenia ministries and agencies in charge of different aspects of management, use, protection and monitoring of water resources and water systems.

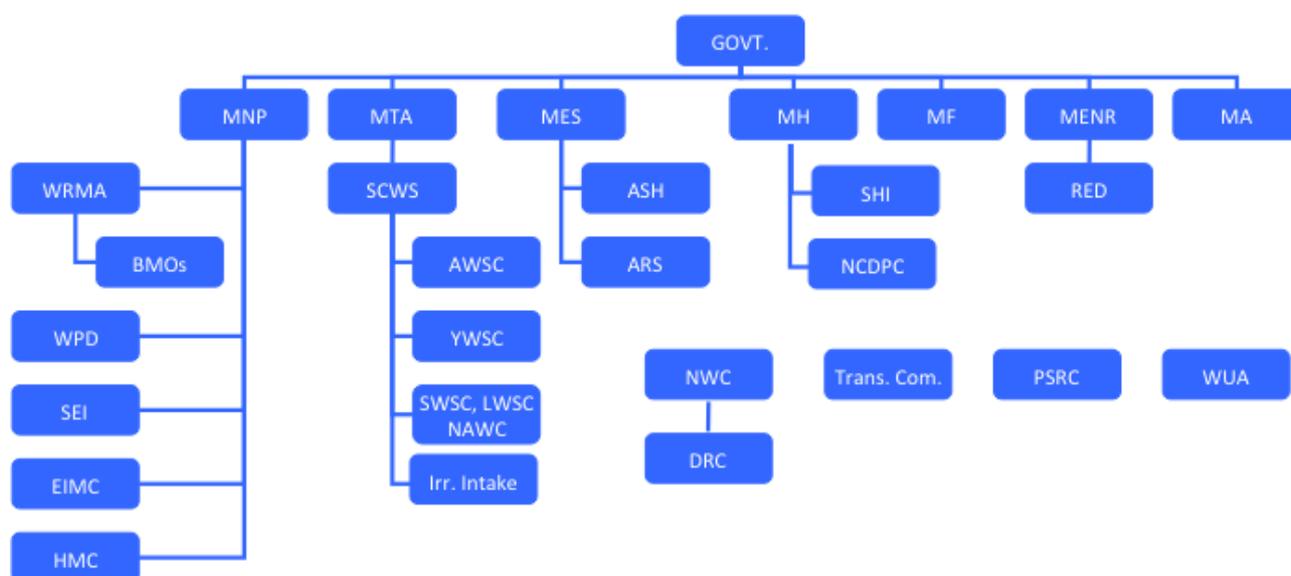


Figure 2: Institutional framework of water management in Armenia

Thus, as seen from the analysis above, the ratification of the Protocol on Water and Health does not require any significant change in the institutional framework of Armenia.

#### 4. An overview of the process of ratification

Since signing the Protocol in 1999 Armenia initiated the process of ratification of the Protocol twice. The first attempt was made in 2005, which was the initiative of the Ministry of Nature Protection of Armenia, but perhaps due to changes in the Ministry the process did not continue.

The second initiative to start the ratification process in Armenia commenced in 2011 by the Ministry of Nature Protection and the Ministry of Health of Armenia, which jointly prepared reference information on ratification of the Protocol. The text box below provides the translation of the reference information jointly prepared by the Ministry of Nature Protection and the Ministry of Health.

##### Box 1 - REFERENCE INFORMATION

On Ratification of the Protocol on Water and Health to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes (UNECE Water Convention)

*Jointly prepared in 2011 by the Ministry of Nature Protection and the Ministry of Health and submitted to the Ministry of Foreign Affairs of the Republic of Armenia*

The Protocol on Water and Health of the UNECE Water Convention is a standalone document and countries can join it without joining the Convention.

The Protocol aims to ensure individual and public health and prevent, control and reduce water-related diseases through improvement in the management of water resources. It relates to all types of water resources and defines the following principles:

- “Polluter pays”, according to which all the costs related to prevention, control and reduction of pollution should be carried out by the polluter;
- Water resources management shall be carried out in a way that ensures the needs of the current generation, without compromising the needs of future generations;
- Implementation of the water resources management action shall be coordinated at the lowest administrative level – water basin territorial management level;
- Initiative of preventing measures to control water-borne diseases and to protect drinking water sources;
- Water has social, economic and environmental value, and according to this, management of water resources, to the extent possible, shall be carried out through the most sustainable combination of these values;
- Acknowledgement of importance of public participation and access to awareness in the process making decisions on health issues;
- Provision of equitable access to water of sufficient quantity and adequate quality.

The Protocol is also aimed at integrated water resources management, comprehensive and efficient protection of water resources, and introduction of efficient water management mechanisms pursuant to the requirements of the EU Water Framework Directive. Such mechanisms shall be introduced at national level, and include development of methodologies for calculation of ecological flows for river basins and individual rivers, definition of maximum allowable abstraction volume for each water resource, development of river basin management plan, and composition of an outline of water resources demand.

At the same time the Protocol expands the possibilities of international cooperation, stressing that Parties to the Protocol shall cooperate and if necessary support each other, both in case of implementing actions to achieve the objectives of the Protocol and in case of implementing national and local actions to address specific problems.

The Protocol on Water and Health suggests implementing corresponding measures in the areas of management, use and protection of water resources and water systems to prevent, control and reduce water borne diseases. The measures shall be directed towards improving access to drinking water, ensuring adequate water quality for human health and protection of water ecosystems.

As of today, Armenia has significant issues related to watercourses and their treatment.

All domestic and industrial wastewater in the cities of Armenia (annually 1.8-2.0 billion m<sup>3</sup> on average) is collected and discharged through sewers and sewage networks. The existing sanitation systems allow collection and discharge of about 70-80% of wastewater in the urban communities, whereas most of the rural communities do not have sanitation systems.

The domestic and industrial wastewater from the urban and rural communities are mostly discharged into surface water bodies.

About 30-40 years ago about 20 wastewater treatment plants were constructed in Armenia, which are mostly out of order and degraded due to absence of investment and financing of operation and maintenance activities. The Yerevan "Aeration" wastewater treatment plant operates partially, limited to incomplete mechanical treatment of wastewater.

In terms of wastewater discharge and treatment the most vulnerable areas are Yerevan and several other large cities, the Lake Sevan basin, health resorts and tourist zones.

In this regards, the Protocol is quite realistic and requires the participating countries to develop action plans to solve the water and health problems in the given country. The action plan shall include target indicators with specific deadlines, and once every 2-6 years the countries shall review those targets, and if necessary, revise them. The monitoring of implementation of the actions is the sole responsibility of the given country, which informs the Meeting of the Parties and the Secretariat of the Protocol about progress.

Thus, the main objectives and tasks of the Protocol on Water and Health are in line with the requirements of the Water Code of Armenia, Republic of Armenia law "On Ensuring Sanitary-Epidemiological Safety of the Population of RA", action plan on environmental hygiene, as well as requirements of the EU Water Framework Directive. Ratification of the Protocol by Armenia will help solve many problems in the above-mentioned fields.

The information above, together with the Armenian translation of the Protocol was submitted to the Ministry of Foreign Affairs of the Republic of Armenia for further dissemination among the Ministries for their official opinions. However, the Ministry of Foreign Affairs has some reservations about the ratification process, taking into consideration the "polluter pays" principle and the reference to the Convention in the point 2 of Article 13 of the Protocol. To overcome this problem, it is suggested to revise the above-mentioned reference information on ratification of the Protocol, and clearly state that: a) the principle "polluter pays" in the Protocol is applied only within the country, and cannot serve as basis for claiming compensation by downstream countries in case of transboundary impacts; and b) the reference to the Convention mentioned in the Article 13 of the Convention is applied only to those countries, that are at the same time Parties to the UNECE Water Convention.

Another important aspect is that the statement that States have the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction, implies consultations between the neighboring countries, instead of compensation payments by upstream countries to downstream countries for the damage caused. This aspect should also be clearly indicated in the revised reference information.

## 5. Recent ratifications of UNECE treaties

In recent years Armenia ratified 2 UNECE treaties: (a) the Protocol to the 1979 Convention on Long-range Transboundary Air Pollution on Long-term Financing of the Co-operative Programme

for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP), and (b) the SEA Protocol to Espoo EIA Convention.

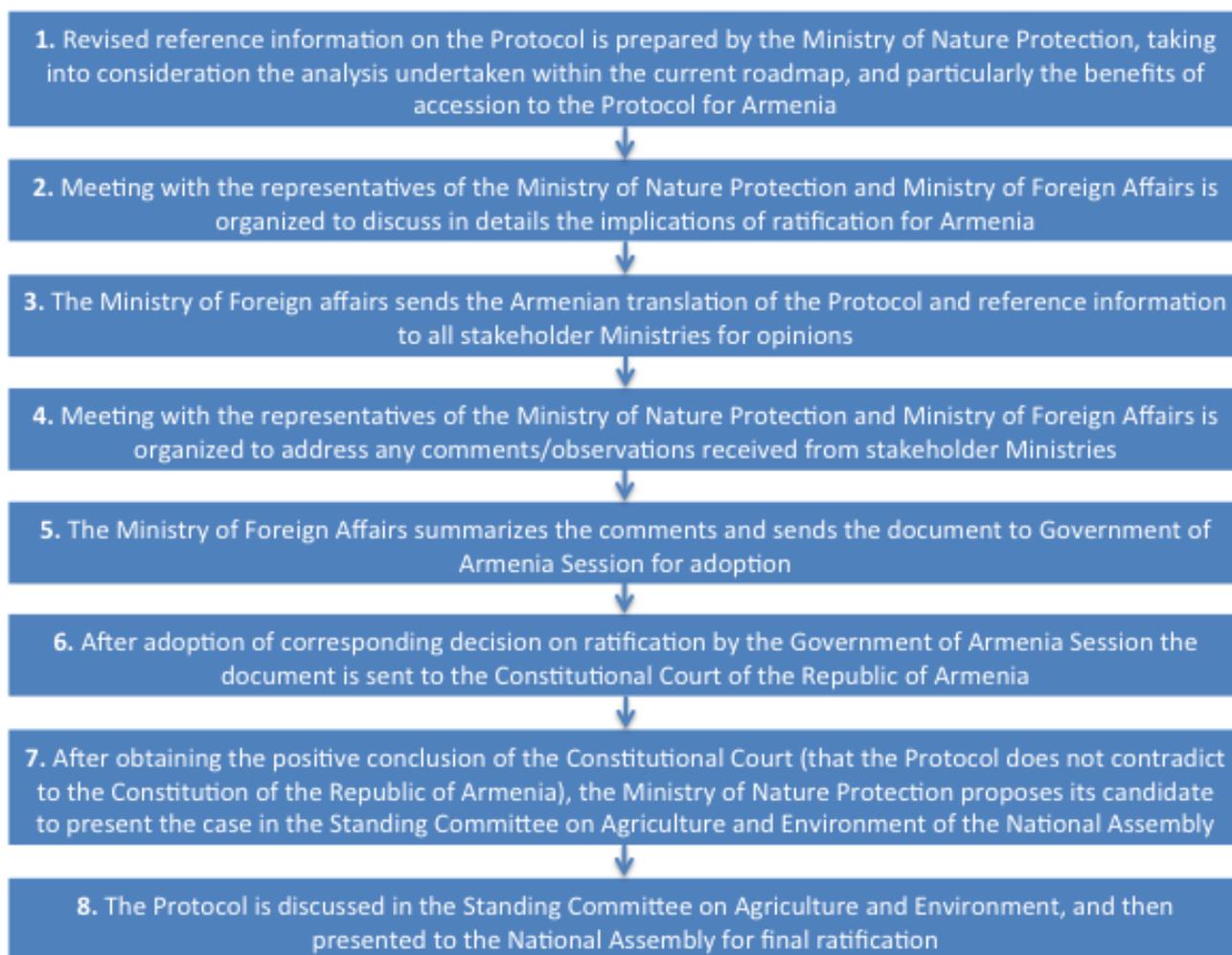
The 1979 Convention on Long-range Transboundary Air Pollution entered into force on March 16, 1983. Armenia ratified the Convention in 1996, and it entered into force in Armenia on February 21, 1997. Its Protocol on Long-term Financing of the Co-operative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe is in force since 1988. It was signed by Armenia in 2008, and since then the process of ratification started. The Ministry of Nature Protection sent reference information together with translation of the Protocol to the Ministry of Foreign Affairs of the Republic of Armenia, which circulated it for official comments to all stakeholder Ministries. After positive opinions were received from all the Ministries, the Protocol was sent to Constitutional Court of Armenia, and when a decision was made that the Protocol does not contradict to the Constitution of Armenia, it was sent to the National Assembly for ratification. The Protocol was thus officially ratified in Armenia on October 20, 2013.

The Espoo Convention on Assessment of the Environmental Impact in Transboundary Contexts sets out the obligations of Parties to assess the environmental impact of certain activities at an early stage of planning. The Convention was adopted in 1991 and entered into force on September 10, 1997. Armenia ratified the Convention on May 14, 1996, and it entered into force in Armenia on September 10, 1997. The Protocol on Strategic Environmental Assessment was adopted in Kiev in 2003, and entered into force on July 11, 2013. Armenia became the 21<sup>st</sup> Party to the Protocol on January 24, 2011 going through the same ratification process as described above.

## **6. Steps Required for Ratification**

As a first step to initiate the ratification process again, it is proposed that the Ministry of Nature Protection revises the reference information on the Protocol, taking into consideration the statements mentioned in section 4 of this report. Also, it is suggested to incorporate in the reference information some of the analysis conducted within this report, particularly the section related to the benefits of accession to the Protocol for Armenia.

The sequential steps required for ratification of the Protocol on Water and Health in Armenia are provided in the figure below.



*Figure 3: Steps required for ratification of the Water and Health Protocol in Armenia*

## 7. Conclusion

- Armenia will greatly benefit from the ratification of the Protocol on Water and Health. Implementation of the principles and approaches of the Protocol, which are fully in line with the Armenian legislation, will increase the national capacity to manage water resources of the country, including protection of water ecosystems, and prevention, control and reduction of water-related diseases. Also, the ratification of the Protocol will help Armenia to implement many provisions, which are already required by the water legislation of the country, and where the progress sometimes lags;
- The necessary legal and institutional framework is already in place in Armenia, thus no significant changes will be required for implementation of the Protocol. Moreover, the Water Code, National Water Policy and National Water Programme of Armenia contain basic principles, approaches and provisions, which have very much in common with those of the Protocol. The only law, which needs to be developed, is the law “On Potable Water”, which at the same time is a requirement of the Water Code of Armenia;

- Despite not being a Party to the Protocol yet, Armenia is already actively working with Parties to the Protocol and the Secretariat and participates in activities under the Protocol. Along with Parties to the Protocol, Armenia has submitted two country summary reports on the Protocol implementation in 2010 and 2013. Moreover, within the UNECE-FinWaterWei project “Protocol on Water and Health – Improving health in Armenia through target setting to ensure sustainable water management, access to safe water and adequate sanitation” a baseline situation analysis and draft targets under Protocol have been developed, which are currently in the process of circulation among the Ministries for official endorsement;
- Armenia has made efforts to ratify the Protocol twice (in 2005 and 2011), but has not succeeded yet due to some concerns related to the “polluter pays” principle and the reference to the Convention in Article 13 of the Protocol. It is thus proposed to initiate the process of ratification again by revising the reference information on the ratification of the Protocol. The revised reference information should include the findings of this technical report, including the benefits of ratification of the Protocol for the country, as well as clear indication that: a) the principle “polluter pays” in the Protocol is applied only within the country, and cannot serve as a basis for claiming compensation by downstream countries in case of transboundary impacts; and b) the reference to the Convention mentioned in the Article 13 of the Convention applies only to those countries, that are at the same time Parties to the UNECE Water Convention. Also the updated reference information on the Protocol should clearly indicate that the statement, according to which State have the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction, implies consultations between the neighboring countries, instead of compensation payments by upstream countries to downstream countries for the damage caused;
- Recent ratifications of the Protocol to the 1979 Convention on Long-range Transboundary Air Pollution on Long-term Financing of the Co-operative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe, as well as the SEA Protocol to Espoo EIA Convention by Armenia, indicate that the process of ratification of the Protocol on Water and Health can be completed in a relatively short period, given the level of knowledge, awareness of the issues and discussions on details of the Protocol in recent years.

## References

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