



Republic of Moldova

# SETTING TARGETS AND TARGET DATES UNDER THE PROTOCOL ON WATER AND HEALTH IN THE REPUBLIC OF MOLDOVA



United Nations  
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**Swiss Agency for Development  
and Cooperation SDC**

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The views, opinions, positions or strategies expressed in this publication do not necessarily reflect those of the SDC or UNECE.

## FOREWORD

It is our great pleasure to introduce this publication, which presents the process of setting targets and target dates in the Republic of Moldova, in accordance with article 6 of the UNECE/WHO-EURO Protocol on Water and Health, as well as its results.

Water and health issues are crucial for the sustainable development of the country and for the well-being of population. Therefore the process of setting targets and target dates was a major undertaking, involving a broad number of national institutions, international and national experts. For the first time, it allowed the creation of a platform for cooperation between various stakeholders and different levels of government, and allowed elaboration of concerted national actions. The civil society was actively involved in all stages of setting targets, particularly in the identification and prioritization of problems, the consultations on the proposed targets as well as the final agreement on the targets and target dates.

Whether we take the quality of drinking water, access to water and sanitation or sustainable management of water resources, the figures presented in this publication call for further action. The process of target setting helped to analyze and identify the main water and health related problems that the Republic of Moldova is facing today. Several Ministries mobilized and joined forces to tackle such problems in a more coherent and integrated manner. The general agreement reached on the targets is an important step in improving the overall situation.

This project allowed Moldova to fulfill its international obligations and paved the way for a comprehensive implementation of the Protocol. It is important that this work will be continued, and we do commit ourselves to do what is necessary to implement proposed programme of measures and reach the targets set within the agreed timeframe.

This whole exercise would not have been possible without the support we received from the Swiss Agency for Development and Cooperation (SDC) and the United Nations Economic Commission for Europe (UNECE). We are very grateful for the assistance received from both organizations and from the international experts involved in the process.



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## SUMMARY

The UNECE/WHO-EURO Protocol on Water and Health to the 1992 UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes was adopted in London on 17 June 1999, and entered into force on 4 August 2005. It is the first international agreement, adopted specifically to attain an adequate supply of safe drinking water and adequate sanitation for everyone. The main aim of the Protocol is to protect human health and well being by better water management, including the protection of water ecosystems, and by preventing, controlling and reducing water-related diseases.

To meet these goals, the Parties to the Protocol are required to establish national and local targets and the dates to achieve them in areas covering the entire water cycle and the related health consequences, such as for the quality of drinking water, the quality of discharges, as well as for the performance of water supply and wastewater treatment. Parties are also required to reduce outbreaks and the incidence of water-related diseases.

The Republic of Moldova became a Party to the Protocol on 15 December 2005, it faced difficulties in complying with the Protocol's basic provisions.

In July 2009 the Swiss Agency for Development and Cooperation (SDC) and the United Nations Economic Commission for Europe (UNECE) concluded an agreement on the implementation of the Protocol on Water and Health in the Republic of Moldova. The main objective of this agreement was to provide assistance to this country to set targets and dates to achieve these targets, as requested by article 6 of the Protocol on Water and Health.

As a result of this project, on 20 October 2010, the Minister of Environment and the Minister of Health signed the Order No. 91/704 On the approval of the list of targets and target dates for the implementation of the Protocol on Water and Health. The Ministers also decided that the Steering Committee, a high level, multi-stakeholder body established within the project to oversee the target-setting process, should further develop measures for the achievement of the targets and target dates and include them in the forthcoming new Action Plan for Environment and Health for submission to the Government for approval.

*Part I of the publication describes the target setting process, whereas Part II presents the current situation and issues to be dealt with under the Protocol on Water and Health together with the targets, target dates and proposed measures. The annex contains the text of the Order signed by the Ministers.*

Names of organizations, institutions and other bodies that appear in the Summary as well as in Parts I and II and the annex are those in effect at the end of the project, i.e. in October 2010:

Ministry of Environment  
Ministry of Health  
Ministry of Education  
Academy of Sciences of Moldova  
State Service for Public Health  
National Centre for Public Health  
Apele Moldovei Water Agency  
National Emergency Commission of Public Health  
State Environmental Inspectorate  
Apa-Canal operators  
Local authorities  
NGO Eco-TIRAS



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Ministerial Order № 91/704 of 20 October 2010 on the Approval of the List of Targets and Target Dates to Implement the Protocol on Water and Health

## Part I

# THE TARGET SETTING PROCESS IN THE REPUBLIC OF MOLDOVA

### Introduction

The Republic of Moldova has 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 10 March 2000. Based on Moldovan Law № 207 of 29 July 2005, the instrument of ratification was deposited on 16 September 2005 with the United Nations. The Republic of Moldova became a Party to the Protocol on 15 December 2005.

According to the Protocol, the Republic of Moldova had the obligation to establish and publish targets and target dates referred to in paragraph 2 of article 6 within 2 years of becoming a Party. This work should have been accomplished by December 2007. The Government of the Republic of Moldova was however unable to establish such targets and target dates as required as it faced difficulties in developing and implementing appropriate measures to achieve the purposes of the Protocol.

In 2008, at the first meeting of the Ad Hoc Project Facilitation Mechanism<sup>1</sup> (AHPFM) the Minister of Environment and the Deputy Minister of Health submitted a project proposal with regard to assistance to the Republic of Moldova in setting targets in accordance with article 6 of the Protocol. At the same meeting, the representatives of Switzerland expressed interest in supporting the project.

The project proposal, submitted at the AHPFM meeting, was based on the outcome of the National Policy Dialogue on integrated water resources management, conducted in the Republic of Moldova as part of the EU Water Initiative, with UNECE as key strategic partner.

The assistance project requested by the Republic of Moldova was further elaborated by UNECE on the basis of consultations with representatives of the Swiss Agency for Development and Cooperation (SDC), representatives of the Moldovan Ministry of Environment, the Ministry of Health and the Agency Apele Moldovei, and in consultations with representatives of NGOs.

In June 2009, representatives of the Government of Switzerland and UNECE concluded an Agreement concerning the project “Protocol on Water and Health” in the Republic of Moldova.

The *overall objective of the project* was to assist the Republic of Moldova in the implementation of the Protocol on Water and Health, thereby rendering assistance “to promote at all appropriate levels, nationally as well as in transboundary and international contexts, the protection of human health and well-being, both individual and collective, within a framework of sustainable development, through improving water management, including the protection of water ecosystems, and through preventing, controlling and reducing water-related disease” (article 1 of the Protocol). In order to achieve this overall purpose, the Parties shall pursue the aims of access

<sup>1</sup> The Ad Hoc Project Facilitation Mechanism, established by the Parties to the Protocol, is one means of providing “International support for national action” as stipulated in article 14 of the Protocol. See [http://www.unece.org/env/water/meetings/documents\\_AHPFM.htm](http://www.unece.org/env/water/meetings/documents_AHPFM.htm)

to drinking water for everyone; and provision of sanitation for everyone within a framework of integrated water-management systems aimed at sustainable use of water resources, ambient water quality which does not endanger human health, and protection of water ecosystems.

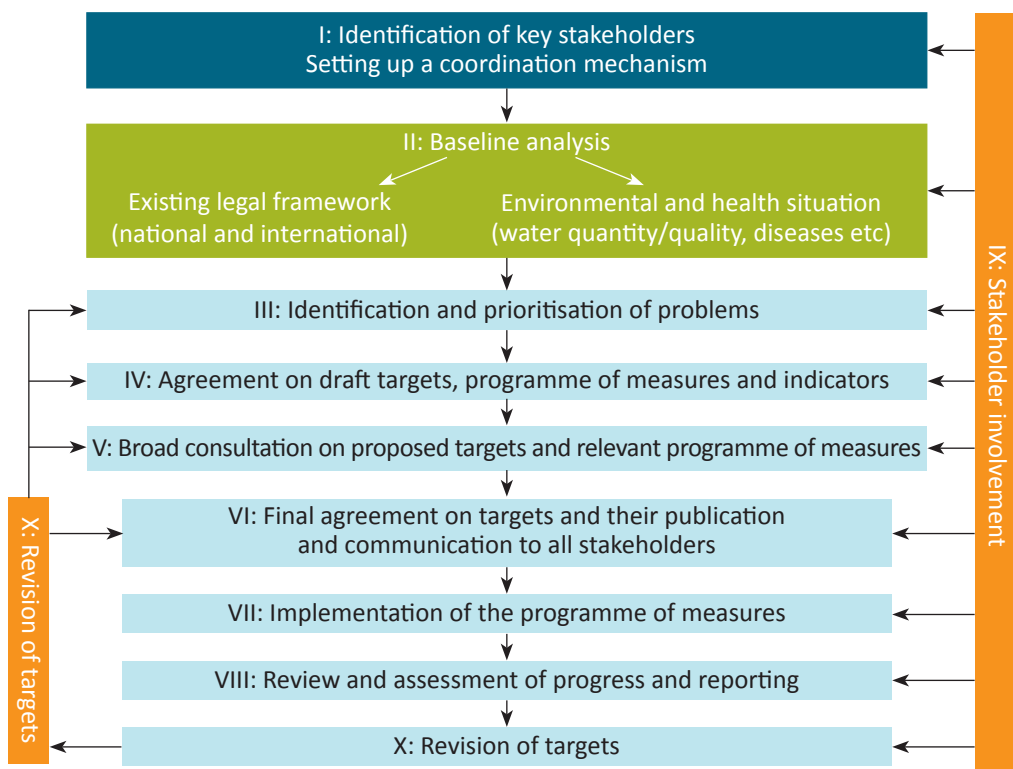
The *specific objectives of the project* were to provide assistance to the Republic of Moldova to establish and publish national and/or local targets for the standards and levels of performance that need to be achieved or maintained for a high level of protection of human health and well-being and for sustainable management of water resources.

Such national and/or local targets for the standards and levels of performance apply to 20 areas identified by article 6 of the Protocol (hereinafter referred to as Target areas).

The establishment of targets and target dates is based on the methodology and logical framework developed by the Task Force on Indicators and Reporting (a subsidiary body under the Meeting of the Parties to the Protocol on Water and Health), with Switzerland as lead country, and contained in the Guidelines on the setting of targets, evaluation of progress and reporting<sup>2</sup>. This methodology illustrates steps, which need to be taken, and aspects that should be considered when setting targets, implementing relevant measures and reporting on the progress achieved.

Figure 1 illustrates the logical framework of the target setting process.

**Figure 1: Logical framework**



<sup>2</sup> UNECE and WHO/EURO, 2010: Guidelines on the setting of targets, evaluation of progress and reporting, ECE/MP.WH/5 EUDHP1003944/4.2/2/1 [http://www.unece.org/env/water/publications/documents/guidelines\\_target\\_setting.pdf](http://www.unece.org/env/water/publications/documents/guidelines_target_setting.pdf)

Based on this framework, two major project outputs were derived:

- An Order on targets and target dates, signed on 20 October 2010 by the Minister of Environment and the Minister of Health;
- A detailed analysis of the current situation and issues that was at the root of the targets and target dates as well as the proposed measures to achieve these targets and target dates.

Part I of this publication describes the target setting process, whereas Part II presents the current situation and issues to be dealt with under the Protocol on Water and Health together with the targets, target dates and proposed measures. The annex to the publication contains the text of the Order signed by the Ministers.

## **I. Identification of key stakeholders and setting up a coordination mechanism**

### **A. Governance structure**

Problems related to management of water resources, water supply, sanitation and health are scattered across different policy sectors in the Republic of Moldova and call for close cooperation among various authorities at the policy as well as the management levels. Therefore, the project created a platform for discussion and promoted coherence, harmonization and integration between different sectors, bringing together various stakeholders (such as governmental and non-governmental organizations, scientific community, private sector and general public). The process of target setting also provided a vertical communication channel between different levels of administration (i.e. local and national administrations) and helped to translate national targets into the local context.

Following the provisions of the Protocol, particularly the requirement to establish a transparent and fair framework for public involvement in decision-making, the project incorporated key requirements of good governance. This was ensured through the transparency of the entire process of target setting that involved all key stakeholders, including access to the documents drawn up during project implementation. Moreover, the project helped to improve the Government's accountability (nationally vis-à-vis the country's population, and internationally vis-à-vis the other Parties to the Protocol) in establishing the targets under the Protocol. The civil society was actively included in the project implementation, particularly the identification and prioritisation of problems, the consultations on the proposed targets and the relevant measures as well as the final agreement on the targets and target dates.

After the completion of the project, the Government remains under the obligation to involve the civil society in the implementation of the measure and the review and assessment of progress, as laid down in the Ministerial Order (see Annex).

### ***Steering Committee***

Key stakeholders for the target setting process have been jointly identified in consultation with representatives of the Ministry of Environment, the Ministry of Health, the Agency Apele

Moldovei, the project institute Acvaproiect, the NGO ECO-Tiras, and the Swiss Agency for Development and Cooperation/Chisinau office. At the proposal of the UNECE secretariat, a representative of Hungary actively participated in various project meetings; he was invited to share his experience with the country's stakeholders, as Hungary was the first country that had set target and target dates.

The Deputy Ministers for Environment and Health, senior staff of the two ministries and representatives of the subordinated agencies (Apele Moldovei, Centre for Public Health) decided at the "start up" project meeting with representatives of the Swiss Agency for Development and Cooperation/Chisinau office and UNECE in September 2009, to establish a Steering Committee, which supervised the activities under the project.

The Steering Committee was officially established by the Joint Order of the Ministers of Environment and Minister of Health No.11/75 of 19 February 2010.

The Steering Committee was composed of representatives of main ministries and other Governmental entities and a representative of the NGO community. The two Moldovan focal points for the Protocol on Water and Health acted as Co-Chairpersons of the Steering Committee. Representatives of UNECE and the Swiss Agency for Development and Cooperation, who provided advice in project implementation, were designated as non-voting participants.

It is important to note that the Steering Committee was also entrusted with the supervision of further work on the subject area after the completion of the project. The latter provision was taken up and specified in the Order of the Minister of Environment and the Minister of Health on targets and target dates, dated 20 October 2010 (see Annex).

The Steering Committee has held four meetings; three of them back-to-back with the Stakeholders meetings (see below). At its fourth meeting on 29 September 2010, the Steering Committee finalized its work on the target setting process (see Part II) and also prepared the draft text of the Ministerial Order.

### ***Stakeholder meetings***

Whiting the framework of the project, three Stakeholder meetings were held with the participation of up to 70 key stakeholders, including national and international NGOs and foreign experts.

These meetings provided a platform for the sharing of substantive information on the implementation of the Protocol on Water and Health both in the Republic of Moldova and abroad, and for in-depth discussion and decision-preparation on targets and target dates as well as the draft programme of measures.

All background information (as drafts or revised drafts) has been made available to the participants both in hardcopy and electronic format through the web sites of the Ministry of Environment, the Ministry of Health, and the Institute Acvaproiect.

### ***Expert Group***

Under the guidance of UNECE, an expert group was in charge of the practical work on target

setting. The expert group was composed of experts from the Ministry of Environment, the Ministry of Health, the Agency Apele Moldovei, the Centre for Public Health, the project institute Acvaproiect, the Academy of Science, the NGO Eco-TIRAS and other NGOs and representatives of the UNECE secretariat. The expert meetings were organized almost every second month.

### ***Coordination meeting of NGO representatives***

The NGO community was broadly involved in the target setting process by participation in the Stakeholders meetings. Moreover, the NGO Eco-TIRAS was a voting member of the Steering Committee.

In order that the NGO community comprehensively prepares its representative in the Steering Committee, the project also foresaw three specific coordination meetings of relevant NGOs, carried out in Comrat (South of Moldova), Balti (North of Moldova) and Chisinau. A number of working documents and suggestions on targets and target dates have been prepared by NGOs and circulated among the participants of various meetings.

It is worthwhile mentioning that the focal points for the Protocol, being at the same time the Co-Chairs of the Steering Committee, participated in one or more NGO coordination meetings.

#### **BOX I**

##### **PUBLIC PARTICIPATION IN ENVIRONMENTAL MATTERS IN THE REPUBLIC OF MOLDOVA**

Following the ratification of the 1998 UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention) in 1999, the Government adopted on 25 January 2000 the Decree № 72 on the Approval of the Regulation on Public Participation in the Development of, and Decision-Making in, Environmental Matters. This document basically repeats the procedures for public participation determined by another Governmental Decree (№ 951 of 14 October 1997 on the Approval of the Regulation on Public Consultations in the Process of Development and Approval of the Documents on Territorial and Urban Development).

In the period 2005-2008, important cross-cutting laws were adopted, which establish the procedures for public participation in the decision-making process at the level of the Parliament, the Government, the ministries and their departments as well as the local authorities (the 2005 Concept on Cooperation with the Civil Society and the 2008 Law on Transparency in the Decision-Making Process). These documents are binding to the public authorities and shall ensure public participation in the decision-making process in all spheres, including environment and health matters. Accordingly, the public authorities are obliged to place beforehand draft laws, draft regulations and other relevant draft decisions on their websites, or shall bring them to the attention of citizens by other ways and means. The citizens and/or their associations will thereafter provide their suggestions, which should be taken into account in the decision-making process. Moreover, the public authorities annually report on the implementation of the participation procedures.

The above requirements were adhered to in the target setting process.

## ***Consultations with the Ministers of Environment and Health***

The Minister for Environment and the Minister for Health (or their designated senior officers), representatives of UNECE and representatives of the Swiss Agency for Development and Cooperation have met regularly to keep the project implementation under control and make jointly and collectively all relevant decisions for implementation.

Such consultations were also in line with the National Health Care Policy (see Box II) as well as the basic legislative acts on water management (see Boxes IV and V).

### **BOX II**

#### **THE NATIONAL HEALTH CARE POLICY**

The National Health Care Policy, approved by Government Decision № 886 on 6 August 2007, is a priority document for Governmental and the civil society's actions as it focuses on the strengthening of public health care and the improvement of the socio-economic situation in the country.

The experience of other European countries was taken into account in the development of the national health care policy. The principles of the World Health Organization Policy Initiative „Health for All” in the European region, of the Millennium Development Goals adopted by the UN as well as the “Action Plan for the Republic of Moldova – the European Union” were also taken into account.

There are obligatory requirements for health care like economic and social security; a harmonious interpersonal and social relations; a safe and healthy environment for working and living; a good quality of drinking water, air and soil; the adequate and balanced diet, supplemented by a healthy lifestyle and access to the good quality health services.

The provision of social, economic, environmental and food safety as well as the promotion of a healthy lifestyle require a new approach to health care and health protection as well as to the elimination of differences regarding to the health of different population groups. It requires “the creation of the best basic conditions for health care by reducing the risks and by implementing the measures on prevention of diseases for individuals and society”.

The National Health Care Policy provides a tool for a systematic approach to water-and-health issues and is aimed at improving of the quality of life and the health of population during the entire life cycle (and especially during periods of increased risk to health: the early period of life, the adolescence period and the old age). The principles include: health promotion, diseases' prevention and the accessibility to good-quality health services for all citizens regardless of their social status.

The National Health Care Policy is the basis for political decision for the next 15-year period. Targets and targets dates as well as draft measures for their implementation, developed under the current project, are mainly based on this document.

### **Other meetings**

UNECE and the Swiss Agency for Development and Cooperation (Chisinau office and Headquarters) met regularly during project implementation.

## **II. Baseline analysis**

The baseline analysis is the first substantive technical step under the target setting project and covered the analysis of the existing legal framework (national and international) and the environmental and health situation in the Republic of Moldova.

### **BOX III**

#### **BASELINE ANALYSIS OF LEGISLATION**

The Republic of Moldova has drawn up and adopted a number of legislative acts, regulations and other arrangements on environmental protection, water management, the provision of drinking water, wastewater treatment, the reduction of the outbreaks of water-related diseases and other issues that fall under the 1999 Protocol on Water and Health to the 1992 UNECE Convention on the Protection and Use of the Transboundary Watercourses and International Lakes. The baseline analysis examined to which extent these documents comply with the requirements of the Protocol on Water and Health, while noting that most of the existing documents have been drawn up and agreed before the Republic of Moldova was bound by the provisions of the Protocol. The baseline analysis also examined which of the earlier adopted documents serve or may still serve as a reference source for the setting of targets and target dates and the establishment of a programme of measures. Thus, the baseline analysis was streamlined to the purposes of the Protocol on Water and Health, mainly regarding its provisions in article 6, paragraph 2. Apart from specific water and health aspects, the baseline study also includes an analysis of the ways and means the public consultation process on setting targets and target dates was organized under the country's legislation.

At the very outset it was noted that the existing legislation on water and environmental issues, with the exception of the Law № 207-XVI of 29 July 2005 on the ratification of the Protocol on Water and Health, does not directly regulate issues that fall under the Protocol on Water and Health. However, for establishing targets, target dates and a programme of measures, it was important to analyse the provision of the existing legislation as well as policies, strategies and national programmes on water management, water supply, wastewater treatment and related issues.

It is also important to recall that the competence on water-and-health issues, as stipulated by the Protocol lies with the Ministry of Environment and the Ministry of Health. Other ministries, such as those responsible for economy, finance and agriculture, as well as local authorities – and in some cases the general public - do also have certain competences, rights and responsibilities under the Protocol on Water and Health. Therefore, the current baseline analysis of the legislation also makes references to these legal and natural persons.



This baseline analysis clearly pointed to the following **priority issues for action** under the Protocol:

- Improving wastewater treatment;
- Increasing the access of urban and rural populations to improved sources of drinking water and establishing water safety plans;
- Strengthening measures that will lead to intergraded water resources management, including River Basin Management Plans;
- Safeguarding the relative good status of the existing response systems on water-related diseases.

The compilation in Part II clearly shows the interdependence of action on the 20 Target areas. For example, improved wastewater treatment will have a positive effect on the quality of water resources, will lead to an improvement of the sources of drinking water, improve bathing waters, and decrease the potential of water-related diseases. Another example is the access of the population to improved sources of drinking water; this will sharpen the requirements for wastewater treatment, and calls for the establishment of protection zones adjacent to water intakes. Therefore, targets and measures established under one Target area have an implication for other Target areas.

It should also be mentioned that the baseline analysis was intended to develop action to be taken under the Protocol. Such a “limitation” is quite important, and climate change adaptation and/or mitigation may serve as an example. The purpose was not to evaluate the efficiency of these measures, but to determine which measures would fall under the Protocol’s activities. There was, for example, the need to better deal with extreme weather events or the consequences of these events (e.g. flooding) by requiring that “Operators of collective systems of water supply and sanitation should be able to respond to extreme weather events and large-scale emergency situations” (see Part II, Target area V: Level of performance of collective and other systems for water supply).

When working with representatives of central authorities, such as ministries and nation-wide agencies, there is always a tendency that these representatives stress action to be taken at the national level, for example, to establish centralized systems. Therefore, an important aspect of the target setting process – starting with the baseline analysis – was also to seek solutions for local problems and look for decentralized approaches. One example is the requirement to “Increase the number of settlements and the share of its population which is served by small (individual and/or collective) systems of improved sanitation (e.g. dry ECOSAN toilets, constructed wetlands, septic tanks, or other technologies)” that became part of the Target area IV: Access to sanitation (see Part II).

The baseline analysis has shown that many of the existing legislative acts and strategies are outdated, piece-meal in nature or not being implemented as foreseen. Rather than requiring a complex revision of the legal basis, the Steering Committee has selected very specific issues that would call for more specific legislative acts, such as the drawing up of specific regulations on drinking water, bathing water, surface water and groundwater issues.

## BOX IV

### LEGISLATION ON WATER MANAGEMENT ISSUES

With the Law № 1532-XII of 22 June 1993, the Republic of Moldova adopted the *Water Code*. The Code is a framework law, which defines the basic principles and structures for the management and protection of water resources. Today, the law is outdated: it does not contain the up-to-date principles of the integrated water resources management, and only partly requires the involvement of stakeholders in the decision-making process on the protection and use of water bodies.

As the Code was adopted before the Protocol was drawn up, targets and target dates can be hardly derived from it. It should be noted that at the moment, a new piece of legislation on water issues is under development (see below). The draft includes up-to-date requirements as to the management and protection of water resources, mainly based the EU Water Framework Directive and other water-related Directives, and was used as reference for setting draft targets and target dates under the project.

By Decision of the Parliament № 1938-XV of 14 February 2003, the *Concept of the National Policy in the Field of Water Resources* was adopted. The document aimed to integrate international experiences and requirements as to water resource management and adapted them to existing socio-economic conditions of the country. Under this Concept, priority short-term and medium-term tasks on the development of the regulatory framework in the field of water resources management were agreed and the provision of high-quality drinking water to meet the needs of the population was stipulated. Major requirements included:

- To create conditions that ensure food safety, based on irrigational agriculture adapted to the needs of agricultural customers;
- To maintain the current risk level as to adverse effects of water (e.g. floods) and, if possible, to minimize the adverse effects through preventive and regulatory measures;
- To promote the rational use of water.

Under the Concept, the direct responsibility on water issues was given to the Ministry of Environment and the Ministry of Health; other ministries (agriculture and food processing industry, economy, finance) as well as the local authorities, businesses and individuals have also certain rights and responsibilities. The Concept – developed after the adoption of the Protocol on Water and Health – does not refer to any specific provision of the Protocol; however, it should be taken into account when setting targets and target dates.

## BOX V

### MOST RECENT LEGISLATION ON WATER MANAGEMENT ISSUES

The Government has adopted the Decision № 1141 of 10 October 2008 on the Approval of the Regulation on Urban Wastewater Discharges into Water Bodies as part of the approximation process to EU water-related directives, particularly Directive 91/271/EEC on urban wastewater treatment. It is rooted in the National Policy Dialogue Process on Integrated Water Resources Management under the EU Water Initiative with UNECE as strategic partner of the Republic of Moldova.

The main purpose of this regulation is the protection of the environment from pollution caused by wastewater discharges, the establishment of basic conditions for the treatment and discharge of wastewater into the natural water bodies as well as the maximum allowable values for major water-quality determinands.

The Regulation's requirements became part of the target setting process, using the following parameters:

Requirements for discharges from the urban waste-water treatment facilities	
Discharge into water bodies	Discharge into water bodies in sensitive zones
BOD <sub>5</sub> : 25 mg/l O <sub>2</sub> COD: 125 mg/l O <sub>2</sub> SS: 35mg/l	Total Phosphorus: 2 mg/l P (10,000 – 100,000 p.e.) 1 mg/l P (more than 100,000 p.e.)  Total Nitrogen: 15 mg/l N (10,000 – 100,000 p.e.) 10 mg/l N (more than 100,000 p.e.)

The purpose of the Draft Regulation on the identification, delimitation and classification of water bodies and the draft Regulation on Surface Water Quality is the establishment of a new procedure for water-quality classification of water bodies, which takes the requirements of the EU Water Framework Directive into account. The water-quality classification for surface waters is based on a combination of almost 80 biological, hydro-morphological and physical-chemical determinands.

At the moment, both regulations are subject to a consultative process within the Government. Due to the novelty of these regulations, the target setting process under article 6, paragraph 2 (m), of the Protocol ("Effectiveness of systems for the management, development, protection and use of water resources") proposes the use of the new classification system for the Dniester and Prut Rivers.

An important issue of the legislation is linked to the existing technical standards for the design of water supply, sanitation and treatment systems. Requirements for the installation of "Western" technology for water supply and sanitation often clash with the requirements of the national construction standards and regulations. Moreover, small-scale solutions to water supply and sanitation (e.g. constructed wetlands, ECOSAN toilettes as discussed above) require innovative approaches to the revision of construction standards. Experience with international assistance projects, such as the Swiss supported projects on small-scale water supply and sanitation systems, shows that this will be a long process on which the Steering Committee will also have to focus its activity.

## BOX VI

### NATIONAL LEGISLATIVE ACTS ON HEALTH CARE

The Law № 411-XII of 28 March 1995 on Health Care is in line with the principles of the Constitution of the Republic of Moldova. It is *inter alia* based on the following principles:

- The responsibility of central and local public authorities, enterprises, institutions, organisations and officials regarding the implementation of the public health care policy;
- The responsibility of authorities and health institutions for the availability, promptness, quality and quantity of the medical services;
- The use of the achievements of modern medical science, technology and practices in the health care institutions.

Prevention is a key principle in the protection of public health, particularly the improvement of the environment, the creation and maintenance of the favourable hygienic working and living conditions, health protection and care for the public and individuals (women, children, elderly), and sanitary education of the population.

The Law № 10-XVI of 3 February 2009 on the State Supervision on Public Health regulates the establishment of a State supervision on public health; stipulates the general requirements for public health, the rights and responsibilities of individuals and legal entities; and establishes operational rules for the State supervision.

The priority areas for the State supervision over public health include:

- Prevention and control over the transmissible diseases; prevention and control over the non-transmissible and chronic diseases;
- Health promotion, awareness raising and education on health;
- Control and prevention of the international spread of diseases and the state supervision in accordance with the International Health Regulations.

Articles 39-40 of this Law regulate the provision of drinking water, including requirements on the sources of drinking water. Basis requirements include:

- The quality of the drinking water supplied should not bring a risk to human health;
- The volume of the potable water supplied should meet the physiological and other needs of the population;
- The legal entities are obliged to implement measures on the development of drinking water and sanitation systems;
- Waters used for domestic purposes, recreation and irrigation of crops must comply with the applicable sanitary legislation;
- The use of water sources is subject to sanitary authorisation;
- All water sources should have sanitary protection zones.

The Sanitary Standards on Drinking Water Quality, established by Government Decision № 934 of 15 August 2007, include the WHO recommendation of 2004 and the requirements of the EU Directive 1998/83/EC.

For the establishment a comprehensive regulatory framework for drinking water quality it is still necessary to adopt two important draft documents: the standards on small systems of water supply and the standards on the supervision over the quality of drinking water.

Finally, the baseline analysis revealed gaps in the existing information system. Apart from some specific management processes, which are not yet subject to measurement/monitoring and/or reporting (e.g. due to ongoing research or missing regulatory acts), a huge body of information exists in the ministries, agencies and the private wastewater and water supply companies, which is not reported to the public and/or other data and information users. Therefore, the baseline analysis – and consequently the targets and target dates – call for appropriate measures to increase the accessibility of data/information. Striking examples are those that were included in Target area XX: Frequency of publication of information on the quality of drinking water supplied and of other waters relevant to the Protocol. One of the most prominent actions is the “Creation of a Clearing House on the Protocol on Water and Health”, which was – on the proposal of the NGO community – included as one of the targets to be already achieved by 2012.

Major findings of the baseline analysis were incorporated in the relevant sections on “*current situation and issues*” of each of the 20 Target areas (see Part II).

### **III. Identification and prioritisation of problems**

The baseline analysis of the existing legal framework (national and international), the environmental and health situation in the Republic of Moldova as well as existing administrative, institutional, managerial and financial frameworks were at the root of the step “identification and prioritisation of problems”. During the phase “prioritisation of problems” particular attention was paid to the question, whether the setting of a specific target under one Target area would also help solving an issue that is part of another Target area. An example of such “multipurpose targets” is the target “Setting up of water safety plans” (Target area I), which helps achieving the purposes of other Target areas related to the quality of drinking water supplied. Vice-versa, targets as to the reduction of the percentage of non-compliance with drinking water standards will help achieving the purposes of the water safety plans.

Another important aspect of the prioritisation phase was the consideration whether there were already activities ongoing or planned, for example, under national action plans or international assistance programmes. Moreover, the question was considered whether an activity was strictly related to the Protocol on Water and Health or would fall under other international agreements on environmental and health issues.

A specific issue required particular examination: from the baseline analysis of the legislation it became clear that some of the legislative acts contained requirements, which seemed to be unrealistic to be achieved under the current (economic, financial) situation and over the next period of time. An example was the Government Decision on the Adoption of the Millennium Development Goals № 288 of 15 March 2005, as the goals adopted with the Decision have been revised by the Government with its Decision № 191 of 25 February 2008 “On the Approval of the Action Plan to the Strategy”. This Action Plan was a good basis for further developing targets and target dates under the Protocol in the field of water supply and sanitation until 2020 (e.g. rehabilitation of water supply systems as well as sanitation systems in a number of urban and rural settlements). At the same time, the Expert Group, the Steering Committee and the other bodies established under the project carefully analysed the status

of the measures, proposed in the Action Plan for achievement by 2010, in order to establish a realistic draft programme under the Protocol until 2020.

Altogether, the prioritisation phase has led to a reduction targets: from some 100 draft targets, drawn up at an early stage, to the final set of around 30 targets, which realistically can be achieved until 2020.

#### **IV. Agreement on draft targets, programme of measures and indicators**

Reaching an agreement on draft targets, a draft programme of measures and draft indicators has been an iterative process, which started with some very preliminary suggestions tabled at the first Stakeholders meeting and Steering Committee meeting in January 2010, followed by a substantive revision of the latter compilation particularly as a result of the Stakeholders meetings and Coordination meetings of NGO representatives, and the drawing up of a more advanced version, which was finally adopted at the final Steering Committee meeting.

#### **V. Broad consultation on proposed targets and relevant programme of measures**

The target setting process requires broad consultations with all relevant stakeholders, and article 6, paragraph 2 specifically calls for the establishment of a transparent and fair framework for public participation. This was the main reason for convening specific consultations with the NGO community (see section A above). Other forums for broad consultations were the Steering Committee as well as the Stakeholders meetings.

## BOX VII

### MOLDOVAN NGOs AS PARTNERS IN THE IMPLEMENTATION OF THE PROJECT

One of the driving forces in the design phase of the target setting project was the International Conference “From policies to practice: projects on sustainable development in water and health in the Republic of Moldova”, conducted in May 2009 under the MANTRA programme of the Netherlands Ministry of Foreign Affairs through the Dutch NGO Women for Water, the Moldovan NGOs Women in Business and WISDOM, and others. This conference concluded that the forthcoming target setting project would be a milestone in improving water and health in the country, and suggested the involvement of all relevant Moldovan NGOs in the design, the drawing up of targets and target dates, and the implementation of a programme of measures.

With the help of the NGO Eco-TIRAS, national and local NGOs were identified that were competent on water-and-health issues and that were willing to participate in the projects’ development. At the same time, e-mail communications with them helped to identify the level of knowledge about the Protocol on Water and Health, the specific local issues that require solutions, and the contributions NGO were ready to make.

Contrary to the national NGOs, the knowledge about the Protocol was very weak among most of the local NGOs, including those from the Trans-Dniester region. Therefore, communications with them provided tailor-made information about the Protocol and outcome of the work of the Protocol’s bodies. Items discussed included the implementation process in the Republic of Moldova, public participation issues, and the work of the Protocol’s Compliance Committee. Moreover, the agendas of the three NGO consultation meetings and three Stakeholder meetings included information about the implementation of the Protocol in other countries, and most importantly, about the target setting process.

The NGO consultations were part of the “drafting process” of targets and target dates, and each of the three consultations were devoted to specific local problems in the South of the country (Comrat), the North of the country (Balti) and the municipality area of Chisinau. This helped to identify the need for local solutions for sanitation problems (e.g. constructed wetlands, ECOSAN toilettes), and the need for capacity building. One of the most striking proposals from the NGO community was the establishment of a Clearing House on Water-and-Health Issues, which will be realized by 2012 as one of the targets under Target Area XX “Information on the quality of drinking water supplied and of other waters relevant to the Protocol”.

The NGO consultations also revealed the readiness of the NGO community to participate in the implementation process of the targets and the programme of measures.

It is worthwhile mentioning that the participants confirmed that the different forums established under the project provided transparent and fair frameworks for consultations, in general, and the decision making process on targets and target dates, in particular.

Moreover, the Stakeholders meetings were open to representatives of the media, who reported through press articles and a television audition on the project’s activities.

## VI. Final agreement on targets and their publication and communication to all stakeholders

With the Order of the Minister of Environment and the Minister of Health, dated 20 October 2010, a final agreement on the targets for all 20 Target areas as well as deadlines for their implementation (i.e. target dates) were reached. This Order also contains provisions as to the publication of these targets and target dates as well as their communication to all stakeholders.

## VII. Implementation of the programme of measures

This part of the target setting process did not fall under the project. The above-mentioned Order of the Minister of Environment and the Minister of Health foresees that the “Steering Committee shall:

- (a) Promote and manage activities to achieve the targets and target dates;
- (b) Develop measures<sup>3</sup> for the achievement of the targets and target dates and include them in the new Action Plan for Environment and Health for submission to the Government for approval.”

### BOX VIII

#### RECOMMENDATIONS ON THE FORTHCOMING IMPLEMENTATION OF THE PROJECT OUTCOMES

To speed up and enhance the successful implementation of the programme of measures, it is of crucial importance that the Steering Committee regularly reports to the Sector Coordination Council “Environment, Water and Sanitation”, established under the leadership of the Minister of Environment, as this Council involves national key ministries and other entities as well as representatives of donor organizations and countries. The first such meeting took place end of September 2010, at which the Council was informed about the major results of the project and possible follow up, including the preparation of new project documents for assistance in the area of water-and-health.

Moreover, the Steering Committee shall make use of the work achieved, present the results of the project – the agreed targets and developed programme of measures – to obtain international donors assistance and enhance the possibilities of funding to achieve the targets.

## VIII. Review and assessment of progress and reporting

This part of the target setting process did also not fall under the project. However, the Republic of Moldova submitted in May 2010 a preliminary report to the UNECE secretariat, which already contained some draft targets and target dates drawn up until then. It is expected that the Republic of Moldova will also report on achievements at the second Meeting of the Parties

<sup>3</sup> A set of proposed measures was already drawn up under the auspices of the Steering Committee (see the compilation in Part III)



to the Protocol (Romania, November 2010). A substantive progress report is due in 2013 prior to the third Meeting of the Parties.

## IX. Stakeholder involvement

The involvement of stakeholders was key to the success of the project implementation. Major steps undertaken were reported above under section V.

## X. Revision of targets

This part of the target setting process did also not fall under the project. The targets and target dates have been drawn up in a pragmatic way, noting the good potential of the country to achieve them together with the assistance of the international community.

### BOX IX

#### THE FIVE KEY CONCLUSIONS

The establishment of targets and target dates followed step-by-step the methodology developed by the Task Force on Indicators and Reporting. It was of great advantage that the two Co-Chairs of the Steering Committee were members of this Task Force and had all important background information on the target setting process. Thus, they were also able to share their experience with the other members of the Task Force and adapt knowledge gained in other countries to the specificity of the target setting process in the Republic of Moldova.

The target setting process is both a political undertaking and a managerial task. As concerns the political dimension, the well-built project supervision by the Ministers of Environment and Health and their senior staff as well as the continued involvement of Moldovan stakeholders and representatives of the Swiss Agency for Development and Cooperation (SDC) was key to success. It goes without saying that the Joint Order of the Ministers of Environment and Minister of Health № 11/75 of 19 February 2010 has bound stakeholders to spend sufficient human resources for the target setting and the implementation processes. Consequently, the final Ministerial Order № 91/704 of 20 October 2010 on the Approval of the List of Targets and Target Dates to Implement the Protocol on Water and Health does not only approve the project outcome, but sets important task for the implementation process by governmental authorities.

The political commitment for the target setting process arose from the National Policy Dialogue process under the EU Water Initiative. Subsequently, the implementation process will become part of the dialogue process as agreed with UNECE as the country's key partner under this initiative. Moreover, the follow up process will become part of the work of the Sector Coordination Council "Environment, Water and Sanitation", established under the leadership of the Minister of Environment. The continued involvement of the Swiss Agency for Development and Cooperation and other donor countries and organizations in the implementation process will pave the way for the compliance of the Republic of Moldova with the obligations of the Protocol on Water and Health.

The involvement of competent NGOs is a basis requirement of the target setting process. As there are always a multitude of these organizations, sometimes with limited mandates, it is important to find the right “driver” for the establishment of a fair and transparent framework for public participation. It was of great advantage that the NGO Eco-TIRAS was both competent on Moldovan water-and-health issues and was a recognized partner of the international community as concerns the implementation of the 1998 UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention). Thus, the project could benefit from the experience of this umbrella river basin NGO in the public consultation process and as “spokesman” of the NGO community. Moreover, only through this NGO the water-and-health experts from the Trans-Dniester region could participate in Steering Committee meetings, as under the current political situation their participation in official meetings is still limited.

As concerns the managerial task, the project extensively relied on in-country experience through the involvement of leading experts from relevant ministries, agencies, academic and the NGO community. Such a multidisciplinary team was needed to develop a shared vision of the desired conditions of water and human health and the sustainable use of water resources. Involving these in-country experts, including women, ensured ownership and the integration of local experience and traditional knowledge. Local consultations and the discussion of action programmes involving user groups to develop and implement measures on water and health became best practices as stipulated by the Protocol on Water and Health and the target setting methodology.

## Part II

# TARGETS, TARGET DATES, AND PROPOSED MEASURES TO ACHIEVE THESE TARGETS AND TARGET DATES

### Introduction

The present compilation presents one of the most important outcomes of the project as the Minister of Environment and the Minister of Health have approved the targets and target dates for each of the 20 Target areas (see Annex).

For each of the 20 Target areas, derived from article 6, paragraph 2, of the Protocol on Water and Health, the present technical compilation provides the following information:

- A. Background rationale
- B. Current situation and issues
- C. Targets and target dates<sup>4</sup>
- D. Proposed measures to achieve the targets and target dates

It should be noted that the sections on “*current situation and issues*” are based on a so-called baseline analysis of the legislation. Despite the very critical evaluation of the existing situation and the many challenging problems, one should also admit the huge progress achieved in the Republic of Moldova to comply with the provisions of the Protocol on Water and Health.

The sections on “*targets and target dates*” contain both the targets and target dates approved by the above Ministerial Order, and an additional column on “responsibilities”. The latter is, for obvious reasons, not part of the Ministerial Order as it also refers to responsibilities of entities that do not operate under the auspices of the Ministries of Environment and Health (e.g. local authorities, the Apa-Canal enterprises).

The sections on “*proposed measures to achieve the targets and target dates*” is one of the most important compilations to be further used in the drawing up of the forthcoming new Action Plan for Environment and Health, as stipulated in the Ministerial Order.

This compilation, originally in Russian, was approved by the Steering Committee at its final meeting on 29 September 2010. Editorial changes have been made by the UNECE secretariat afterwards.

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<sup>4</sup> As adopted in the Order of the Ministers of Environment and Health, see Annex

## TARGET AREA I - Art. 6, 2 (a) - Quality of the drinking water supplied

### A. BACKGROUND RATIONALE

Article 6, paragraph 2 (a), of the Protocol requires the setting of targets and target dates regarding the quality of the drinking water supplied, taking into account the WHO *Guidelines for Drinking-water Quality*.

### B. CURRENT SITUATION AND ISSUES

The Sanitary Standards on Drinking Water Quality, approved by Government Decision № 934 of 15 August 2007, is the basic document that regulates the drinking water quality. The established standards include the WHO recommendations of 2004 and the requirements of the EU Directive 1998/83/EC.

For the creation of a complex regulatory framework for drinking water quality, it is still necessary to draw up and approve two other important documents: standards for small systems of water supply and standards regarding the control of drinking water quality (see "Proposed measures" below).

The bacteriological quality of drinking water has practically not changed from the year of ratification of the Protocol on Water and Health by the Government of the Republic of Moldova (2005) until 2009; it is given in table 1 below.

Table 1: Bacteriological quality of drinking water

WatSan_S2	Initial value (2005)	Current value (2009)
Coliform bacteria	21.9%	20.8%
<i>E. coli</i>	-	12.6%*
Enterococci	-	9.6%*

\* Note: Analyses regarding *E.coli* and Enterococci became mandatory from 2007 onwards, i.e. after the adoption of the Sanitary Standards on Drinking Water Quality. The analyses regarding coliform bacteria started before 2007.

The chemical quality of drinking water by five basic and five additional chemical determinands for 2005 (ratification of the Protocol) and the most recent value (2009) is given in table 2.

**Table 2: The chemical quality of the drinking water – percentage of samples that do not comply with standards**

Determinands	Initial value (2005)	Current value (2009)
Fluoride	11.1%	14.5%
Nitrate and Nitrite	53%	42.7% [1]
Arsenic	0%	0%
Lead	0%	1.3% [2]
Iron	6.5%	11.1%
Additional chemical determinands:		
Boron	3.0%	6.5% [3]
Manganese	1.7%	5.95% [4]
Suspended load	4.0%	4.1%
Ammonium	6.5%	27.2% [5]
Dry solid	29.5%	25.3%
<p>[1] Data are cumulative for all sources of drinking water</p> <p>[2] In the Sanitary Standards for Drinking Water Quality, the value of the permissible level for lead was changed from 0.03 mg/l to 0.01 mg/l (with an intermediate permissible level up to 2015 of 0.025 mg/l)</p> <p>[3] Before 2007, boron was included in the list of mandatory chemical parameters, but analyses were made occasionally</p> <p>[4] In 2007, the permissible level for manganese was changed from 0.1 mg/l to 0.05 mg/l</p> <p>[5] In 2007, the permissible level for ammonium has changed from 2 mg/l to 0.5 mg/l</p>		
<p>Overall, the non-compliance with the standards for chemical quality for drinking water can be summarized as follows: 54% of samples in 2005 versus 55.1% in 2009.</p>		

## BOX X

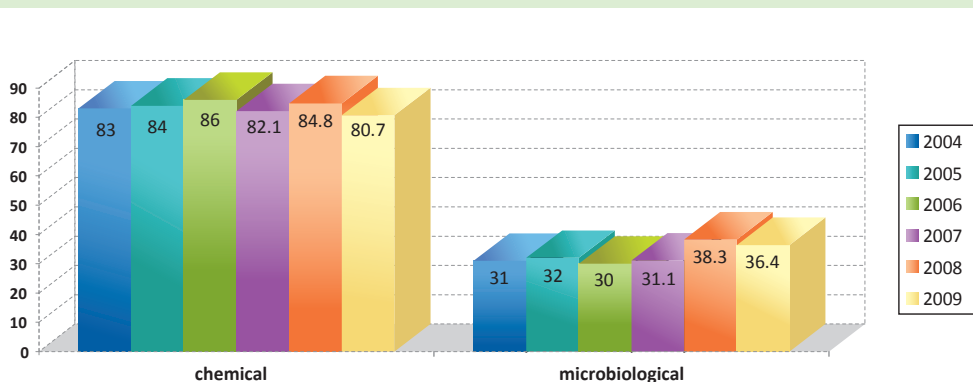
### QUALITY OF DRINKING WATER

The main source of the drinking water in the Republic of Moldova are groundwaters used for drinking purposes by almost 100% of the rural population and by 30% of the urban population (i.e. 65% of the total population). The most important surface water sources for drinking water are the Dniester River (supplied to 32% of the population) and the Prut River (supplied to 2.8% of the population); other surface waters are the source of water drinking water for 0.2% of the population.

A relatively high level of non-compliance with the standards of the drinking water quality from the water sources and from the distribution networks was observed in 2009. The proportion of the samples from groundwaters that did not comply with the sanitary-chemical standards was 70.8% compared to 58.3% in 2008. The most difficult situation was in the Calarasi, Glodeni, Taraclia, Ceadr-Lunga, Comrat, Ungheni, Causeni, Cahul, Hincesti, Anenii Noi, Sangerei, Falesti and Telenesti, where the non-compliance amounted to 85-100%. At the same time, the proportion of samples that did not correspond to the microbiological standards decreased (for urban water supply from 10% in 2008 to 8.4% in 2009; for rural water supply from 16.7% in 2008 to 14.8% in 2009).

A major challenge at the national level is the high content of fluorine in deep groundwaters (2 -14 mg/l) in the districts Glodeni, Falesti, Ungheni, Calarasi, Hincesti, Causeni, Criuleni, Nisporeni, the Autonomous Territorial Unit Gagauzia (Gagauz Yeri); the high content of sodium (200-560 mg/l) and ammonium (2-10 mg/l) in all districts, but more often in the central part of the country; the high content of strontium (7-12 mg/l) as observed for Orhei and the Municipality Chisinau; of hydrogen disulfide (3-20 mg/l) in Ungheni, Hincesti, Causeni, the Municipality Chisinau, and in the Autonomous Territorial Unit Gagauzia (Gagauz Yeri); and of iron (1-2,5 mg/l) in the Municipality Balti, and the towns Falesti, Edinet, Singerei, and Cahul. For shallow groundwaters, major problems include nitrates and microbiological contamination.

The proportion of the water samples from groundwater wells that did not comply with chemical and microbiological determinands is given in the figure below.



### C. TARGETS AND TARGET DATES

No.	Targets	Target dates <sup>5</sup>	Responsibility
1	Reduce the percentage of non-compliance with microbiological drinking water standards ( <i>E. coli</i> , enterococi)	<p>2015: Non-compliance in urban areas maximum 5% of yearly samples</p> <p>2020: Non-compliance in urban areas maximum 3% of yearly samples</p> <p>2015: Non-compliance in rural areas maximum 10% of yearly samples</p> <p>2020: Non-compliance in rural areas maximum 7% of yearly samples</p> <p>2025: Non-compliance in rural areas maximum 5% of yearly samples</p>	Apa-Canal operators, operators of water supply systems in rural areas, local authorities
2	Reduce the percentage of non-compliance with drinking water standards for five main chemical determinands (F, NO <sub>3</sub> , NO <sub>2</sub> , As, Fe, Pb)	<p>2015: Non-compliance maximum 25%</p> <p>2020: Non-compliance maximum 20%</p>	Apa-Canal operators, operators of water supply systems in rural areas, local authorities
3	Achieve compliance with all the existing chemical and microbiological drinking water quality standards in schools	<p>2015: In about 95% of all schools</p> <p>2020: In about 100% of all schools</p>	Local authorities, operators of water supply systems, Ministry of Environment
4	Set up water safety plans	<p>2015: For all cities</p> <p>2020: For all other settlements with a population over 5,000 people</p>	Local authorities, operators of water supply systems

<sup>5</sup> In the present English compilation, the original column “Target dates: intermediate dates/final dates” was combined in one single column “Target dates”

#### D. PROPOSED MEASURES TO ACHIEVE TARGETS AND TARGET DATES<sup>6</sup>

No.	Measures and activities	Time frame	Responsibility
1	Drawing up and publishing of a “Register of small water supply systems (wells and springs)”	2015	Ministry of Health
2	Drawing up of sanitary standards regarding the control of drinking water quality as well as small systems of water supply <sup>6</sup>	2011	Ministry of Health
3	Rehabilitation of water purification installations in Cahul, Ungheni and Soroca	2012-2017	Local authorities, the Apa-Canal operators
4	Putting in operation the water purification installation in Ceadir-Lunga	2012	Local authorities, the Apa-Canal operators in the town of Ceadir-Lunga
5	Installation of water filtration systems in 300 schools	2011-2015	Local authorities, Ministry of Education, the Apa-Canal operators
6	Drawing up of water safety plans	2011-2020	The Apa-Canal operators, Local authorities
7	Strengthening the technical base of laboratories in 5 regional <sup>7</sup> Centres of Public Health by equipping them with up-to-date systems for analysing sources of drinking water (surface waters, groundwaters)	2011-2015	Ministry of Health

<sup>6</sup> The sanitary standards for small systems of water supply will include requirements as to the quality and other criteria

<sup>7</sup> In this compilation, the term “regional” means a territorial unit below the level of State



## TARGET AREA II - Art. 6, 2 (b) - Reduction of the scale of outbreaks and incidents of water-related diseases

### A. BACKGROUND RATIONALE

Article 6, paragraph 2 (b), of the Protocol requires the setting of targets and target dates related to the reduction of the scale of outbreaks and incidents of water-related disease. Article 8 specifies the national and local actions to be taken to develop surveillance and response systems. Safe drinking and bathing water is vital for the health of the population, particularly children. The number of outbreaks of water-related disease provides an indication of the quality of the drinking or bathing water and is linked to the performance of the water supply and the upstream sanitation systems.

### B. CURRENT SITUATION AND ISSUES

The responsibilities regarding the reduction of outbreaks and incidents of water-related diseases are regulated by the national legislation, which includes laws and government decisions as well as orders and ordinances of the Ministry of Health.

The Ministry of Health, the central body for public health issues, is also responsible for assessing health risks related to the use of water and relevant information about it.

However, currently, there is no information system of the State on relevant public health issues, which can provide data on environmental factors and the health status of the population and which would allow stakeholders to access information on infectious and non-infectious diseases (e.g. a register). Moreover, the laboratories of the Centres of Public Health, subordinated to the Ministry of Health, and the laboratories of the Environmental Inspectorate, subordinated to the Ministry of Environment, are not yet integrated into a single information system.

At present, annual national data on drinking water quality are only included in the annual compilations of performance indicators of activities of the State Supervision over Public Health as well as on the web site ([www.cnspl.md](http://www.cnspl.md)) of the National Centre for Public Health (see also Target area 20).

In the period 2005-2010, there were no cases of outbreaks and incidents of water-related diseases; however, there was an increase in some infectious diseases over the past three years (2007-2009).

To address the challenges to reduce the incidence of diseases, including water-related diseases, special sanitary-epidemiological management measures were taken. Thus, in accordance with the Order of the Ministry of Health, information should be provided within 24 hours if three or more incidents of water-related diseases occur. Moreover, the unit for emergency situations in public health is working around the clock and ensures coordination between all sectors of health care in emergency situations; this unit was established within the National Centre for Public Health. In order to cope with emergency situations in public health, the Government

has also established the National Emergency Commission of Public Health, which decides – at the national level and the provincial/local level at the proposal by the Ministry of Health – on the application, suspension and cancellation of isolation and/or quarantine measures.

**C. TARGETS AND TARGET DATES**

No.	Target	Target dates	Responsibility
1	An “Integrated information System of the State Supervision over Non-infectious Diseases” in place	2014	Ministry of Health
2	Maintain a zero level of incidence of cholera and typhoid	2020	Ministry of Health
3	Reduce the incidence of viral hepatitis A and dysentery	2020: By 20%	Ministry of Health

**D. PROPOSED MEASURES TO ACHIEVE TARGETS AND TARGET DATES**

No.	Measures and activities	Time frame	Responsibility
1	Drawing up of a regulation on the “Information System of the State Supervision on Infectious and Non-infectious Diseases”	2011-2012	Ministry of Health
2	Improvement of sanitary and epidemiological management regarding infectious and non-infectious diseases including water-related diseases	2011-2017	Ministry of Health
3	Conduct awareness raising and other campaigns to strengthen health and apply hygienic rules	2011-2020	Ministry of Health, Ministry of Environment

## TARGET AREA III - Art. 6, 2 (c) - Access to drinking water

### A. BACKGROUND RATIONALE

Access to drinking water for everyone is among the most important objectives of the Protocol (art. 6, para. 1) and is fully in line with the recognition of water as basic human right by the United Nations. This includes the setting of targets and target dates as to the area of territory, or the population sizes or proportions, which should be served by collective systems for the supply of drinking water or where the supply of drinking water by other means should be improved.

The issue of access is linked not only to physical accessibility, but also to non-discrimination and economic accessibility (affordability) on the macro and micro levels (art. 5, para. I).

### B. CURRENT STATUS AND PROBLEMS

Access to water is defined as the ability to receive daily at least 20 litres of water per person from “improved” sources located within 1 km from a consumer’s residence. Improved water sources include household connections, public standpipes, boreholes, protected dug wells, and protected springs.

The level of access to improved drinking water sources (% of total population) has risen since 2000 and is specified in table 3 below.

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Percentage of total population	37.8	38.1	38.5	39.7	44.5	45.0	46.0	47.0	53.0	55.0

In 2009, 55% of the population (i.e. 1.958 million people), including 93% (1.4 million) of urban and 27% (558,000 people) of the rural population had access to improved drinking water sources; this share has increased mostly for the rural population since the ratification of the Protocol.<sup>8</sup>

Population	Access data	
	Initial value (2005)	Current value (2009)
Total	45	55
Urban population	92	93
Rural population	17	27

It is important to note that the existing reporting systems include the following:

- The official statistics on the number of water consumers in urban areas; data are provided by the operators, but they do not take into account unauthorized connections (1-3%);

<sup>8</sup> In 2009, the total population was 3.560 million, without the population in the Trans-Dniester region

- The Demographic Health Study (the most recent from 2005);
- Information on the implementation of the Order № 170 of the Ministry of Health of 23 June 2002 on surveillance over the quality of drinking water; the Public Health Centres estimate on a basis of questionnaires the number of people with access to improved drinking water sources;
- The system of socio-hygienic monitoring, which is managed by the National Centre of Public Health. National Reports on the health status in relation to the environment are published every second year.

### C. TARGETS AND TARGET DATES

No.	Targets	Target dates	Responsibility
1	Provide access of the population to improved water supply sources	2015: For 68% of the total population 2020: For 80% of the total population 2015: For 35% of the rural population 2020: For 45% of the rural population	Local authorities, operators of water supply systems
2	Increase the access of children in schools and pre-school institutions to improved water supply sources	2015: In 95% of schools and pre-school institutions 2020: In 100% of schools and pre-school institutions	Local authorities, operators of water supply systems, Ministry of Education

### D. PROPOSED MEASURES TO ACHIEVE TARGETS AND TARGET DATES

No.	Measures and activities	Time frame	Responsibility
1	Construction of water treatment installation and the provincial water supply system in Nisporeni <sup>9</sup>	2010-2013	Local authorities, the Apa-Canal operators in the town of Nisporeni, the "Apele Moldovei" Agency
2	Implementation of water supply projects in 23 villages with the support from the World Bank <sup>10</sup>	2010-2013	Local authorities, the "Apele Moldovei" Agency
3	Setting up of provincial water supply systems in the districts Orhei, Soroca, Floresti, Leova, Ciadyr-Lunga, Hincesti, Cahul on a basis of the existing networks <sup>11</sup>	2011-2015	Local authorities, the Apa-Canal operators, the "Apele Moldovei" Agency
4	Conducting an assessment regarding the achievement of the criteria of access to improved sources of drinking water and sanitation as part of a new demographic study <sup>12</sup>	2011	Ministry of Health

<sup>9</sup> As a result of the project, 30,000 people will get access to improved drinking water sources

<sup>10</sup> As a result of the project, at least 50,000 people will get access to improved drinking water sources

<sup>11</sup> Project implementation with EBRD support

<sup>12</sup> New data will be obtained about the access of the population to improved water sources and sanitation

### A. BACKGROUND RATIONALE

Provision of sanitation to everyone is among the most important objectives of the Protocol (art. 6, para. 1). Article 6, paragraph 2 (d), requires the setting of targets and target dates related to the area of territory, or the population sizes or proportions, which should be served by collective systems of sanitation or where sanitation by other means should be improved.

### B. CURRENT SITUATION AND ISSUES

The existing national legislation does not yet, clearly enough, define access to both collective and individual sanitation systems, and has still gaps regarding the access to sanitation for the population and the provision of incentives for the development of the safe individual sanitation systems for the population that does not have access to centralised sanitation systems.

Moreover, accurate national data on the number of people or areas provided with reliable systems of sanitation is often lacking due to the absence of adequate centralised statistical information for the sanitation sector. The most complete data sets are available for the cities that are being serviced by the municipal Apa-Canal enterprises. At the same time, the Apa-Canal enterprises are usually using the number of subscribers, but not the real number of the people served. Moreover, there is no accurate information about the number of people among the rural population that is connected to the sanitation systems: although the number of administrative and social institutions (e.g. schools, kindergartens, clinical or medical centres, Mayor offices) that are connected to sanitation systems is known, the exact number of people connected to the systems is rarely known. There is also no regular compilation – at the national level – of statistical data about individual sanitation systems (see also Target area 20).

Expert estimates on the provision of sanitation to the population indicate that 71% of the urban population is connected to sanitation and wastewater treatment systems. Currently, for the two major cities – Chisinau and Balti – the share of connection reaches 90%; 58% for medium-sized towns (Cahul, Orhei, Ungheni and Soroca), and 50% for the rest of towns (i.e. small towns). Thus, approximately 29% of the urban population is not connected to the urban sanitation networks.

The share of connections in the rural areas is significantly lower: 11.6% of the rural population has a technical connection to the sanitation networks (at the same time, as many sanitation systems in rural areas do not work, the actual proportion of the population served is much lower). There are also differences between regions (the share of connections on the South, the Centre and the North of the Republic of Moldova is 15%, 12% and 9%, respectively) and between the settlements of different size (for large villages with a population over 5,000 people, for medium-sized villages with a population of 3,000 – 5,000 and for small villages, the share is 21%, 16% and 7%, respectively). Other estimates suggest that not more than 2% of the rural the population in the Republic of Moldova is connected to really functioning sanitation systems.

According to recent reports of the Ministry of Health, the percentage of population with access to improved sanitation (mostly centralised systems) amounts to 57%; in the cities, the share of connections reaches 83%; and 38% in rural areas (including improved local sanitation systems).

However, taking into account the moderate growth of sanitation systems along with the continuing degradation of the existing systems over the past 5 years, one may suggest that the Republic of Moldova will not be in a position to fully comply with the Millennium Development Goals, unless extraordinary supplementary measures will be taken.

The existing practice for sanitation in small rural communities does not include large-scale constructions of decentralised sanitation systems. Nevertheless, some villages were provided with septic tanks that mostly serve the local socio-economic institutions.

Individual septic tanks are the most common sanitation installations in rural areas. It is still quite rare to see improved types of toilets (including ECOSAN dry toilets): currently, they were mainly installed by private initiatives of the residents. However, in recent years more and more “dry” or “environmentally friendly” toilets are being installed – a promising trend, which is intensively supported by the Swiss Agency for Development. In recent years, several types of such improved toilets have been tested for schools, kindergartens and individual households together with constructed wetlands for collective wastewater treatment. However, the implementation of this new technology faces huge problems due to the existing restrictive permitting procedures and inadequate construction standards.

### C. TARGETS AND TARGET DATES

No.	Targets	Target dates	Responsibility
1	Provide access of the population to improved sanitation systems	2015: 85% of the urban population 2020: About 90% of the urban population 2015: 45% of the rural population 2020: About 70% of the rural population	Local authorities, the “Apele Moldovei” Agency, operators of the “Apa-Canal” enterprises
2	Provide access of children in schools and pre-school institutions to improved sanitation systems	2015: About 90% of all schools and pre-school institutions 2020: About 100% of all schools and pre-school institutions	Local authorities, operators of the “Apa-Canal” enterprises, Ministry of Education
3	Increase the number of settlements and the share of its population which is served by small (individual and/or collective) systems of improved sanitation (e.g. dry ECOSAN toilets, constructed wetlands, septic tanks, or other technologies)	2015: About 50 settlements 2020: About 100 settlements	Local authorities

#### D. PROPOSED MEASURES TO ACHIEVE TARGETS AND TARGET DATES

No.	Measures and activities	Time frame	Responsibility
1	Undertake studies and research activities regarding the construction and rehabilitation of sanitation systems in order to increase the share of the urban population served by centralised sanitation systems	2010-2012	The "Apele Moldovei" Agency, local authorities, operators of the "Apa-Canal
2	Implement projects to improve the sanitary conditions in schools and pre-school institutions and achieve 100% access to improved sanitation systems	2012-2020	Local authorities, Ministry of Environment, operators of the "Apa-Canal
3	Draw up sanitary regulations for small improved systems of sanitation	2011-2012	Ministry of Health, Ministry of Environment
4	Create a database that provides information on the functioning of the water supply and sanitation infrastructure	2011-2015	National Bureau of Statistics, Ministry of Environment, Ministry of health, the "Apele Moldovei" Agency
5	Provide training for local authorities and the general public on the implementation and maintenance of eco-sanitation systems	2011-2020	Ministry of Health and Ministry of Environment with participation of NGOs

## **A. BACKGROUND RATIONALE**

Article 6, paragraph 2 (e), of the Protocol requires the setting of targets and target dates related to the levels of performance to be achieved by collective systems and by other means of water supply and sanitation.

## **B. CURRENT STATUS AND PROBLEMS**

To some extent, the existing legal framework covers the performance of systems of centralised water supply and the safety of other drinking water sources (wells, single drilled wells, springs). The focus in both the legal and regulatory framework is mostly on the improvement of the quality; to some extent it also refers to the amount of water supplied for drinking and sanitation purposes of the population, and to a lesser extent it deals with the performance of water supply to the population.

The reference level for the quality and quantity of drinking water in the Republic of Moldova is regulated by the sanitary norms and the relevant WHO requirements. For water extracted by the population from the non-centralized sources (wells, springs) benchmark levels of quality were set up.

Data on the average duration of water supply (hours/day) is available in each urban office of the Apa-Canal enterprises. However, such data have never been published in the official press, and the public authorities do not collect them. For the rural water supply systems, similar information does not exist.

According to estimates, a significant number of cities face serious problems with a permanent water supply to the population. Only in some relatively large cities water is supplied 24 hours a day. In the majority of medium and small towns, the water supply to population is usually 6-12 hours a day (according to a schedule of delivery). In some cities, water is supplied not more than on 2-3 days a week. The situation became better after the ratification of the Protocol; still – according to information by the Ministry of Health – an improvement of the performance level of water delivery is needed in 15-17 cities.

The main reason for the irregularity of water supply by the centralised systems is the poor condition of the infrastructure. In some cases, it is also related to the insufficient quality of water in the water sources. According to reports, 1,015 water supply systems are in satisfactory technical condition, 870 require rehabilitation, and 26 systems cannot be rehabilitated at all; there is no information about the condition for the remaining 54 systems. From the existing 271 pumping stations for water supply in the country, 226 stations are in a poor condition.

At the same time, a high level of pipe breaks occurs. The distribution network in the country has a total length of 8,994 km, from which 3,725 km are in a poor condition; as a result, the number of breaks reaches 4.9 cases per km/year. The level of unaccounted for water is also high. Information about the loss of water in the centralised systems of water supply is available



in the Apa-Canal offices, but this figure is usually estimated on the basis of design coefficients. Therefore, the accuracy of the data is low as the data are rarely obtained by measurements. By some estimated data, the distribution losses in the large and medium-size cities may reach 30% on average, and in the small towns up to 45-50%. Information about the water losses in rural systems of centralised water supply systems does usually not exist.

Complaints received by authorities and/or service providers on the quality of services of water supply are registered by the Apa-Canal enterprises, but the reports and information on measures taken are not publicly available.

The potential of the Apa-Canal enterprises to cope with extreme weather conditions or significant problems of water supply (e.g. an accidental release of pollutants into a water source, major accidents in the distribution network or water treatment installations) is very low. Specialised trucks for alternative water delivery are in bad conditions or do not exist anymore, the backup pumps and repair equipment is technically obsolete, and financial resources are practically not available. Potential sources of drinking water that may serve as alternative reserve of water in emergencies are practically unknown. Moreover, there are no clear-cut response plans within the cities' administrations as well as in the Apa-Canal enterprises. Particularly the rural settlements are very vulnerable in case of emergency situations and extreme weather conditions.

Criteria for the efficiency, sustainability and affordability of water services have not yet been fully drawn up at the State and the local levels, though some elements already exist. This is why the performance (by quality and quantity and/or level of maintenance) of public services is extremely difficult to verify. The price for the services of water supply in cities is usually based on the minimum requirements to maintain the viability of the structures for water supply (Apa-Canal enterprises) for a given settlement. In this regard, there are substantial differences in prices for water services between different cities as well as between the categories of water users (citizens, economic entities, State organisations). Throughout the country, the price for drinking water does practically neither depend on "social accessibility" nor on the quality of service delivery.

The chronic lack of money in the State and local budgets for the extension and maintenance of the water supply systems has many consequences: a reduction in the volume of repair works, delay of reconstruction as well as the expiration of stocks of reagents, disinfectants, equipment and materials.

### C. TARGETS AND TARGET DATES 13

No.	Targets	Target dates	Responsibility
1	Efficient <sup>13</sup> collective systems of water supply in place	2015: In 3 cities 2020: In 10 additional cities 2015: In 5 rural settlements 2020: In 15 additional rural settlements	Local authorities, operators of the “Apa-Canal” enterprises, the “Apele Moldovei” Agency, MoE
2	Operators of collective systems of water supply and sanitation that are able to respond to extreme weather events and large-scale emergency situations in place	2015: 2 operators 2020: 3 additional operators	Local authorities, operators of the “Apa-Canal” enterprises, the “Apele Moldovei” Agency, MoE

### D. PROPOSED MEASURES TO ACHIEVE TARGETS AND TARGET DATES

No.	Measures and activities	Time frame	Responsibility
1	Drawing up of the “Law on Public Services”	2011-2012	Ministry of Environment, the “Apele Moldovei” Agency
2	Rehabilitation of the water supply systems in the cities Cahul, Balti, Causeni, Floresti, Ungheni	2011-2013	Local authorities, the “Apele Moldovei” Agency, operators of the “Apa-Canal”
3	Supply of operators of public systems of water supply and sanitation with modern equipment and materials for an immediate response and mitigation of the effects of extreme weather events and other emergency situations in the cities Chisinau, Balti, Cahul, Ungheni, Orhei	2010-2020	Local authorities, the “Apele Moldovei” Agency, operators of the “Apa-Canal”, Ministry of Environment
4	Create a database that provides information on the performance of public systems of water supply and sanitation based on national efficiency criteria	2012-2014	The “Apele Moldovei” Agency

<sup>13</sup> Criteria for “efficiency” are still to be established by the relevant ministries/agencies

## **A. BACKGROUND RATIONALE**

Article 6, paragraph 2 (e), of the Protocol requires the setting of targets and target dates related to the levels of performance to be achieved by collective systems and by other means of water supply and sanitation.

Targets and indicators for the level of performance of collective systems for “sanitation” need to include issues in relation to the collection, transport, treatment and disposal or reuse of human excreta or domestic wastewater, whether through collective systems or by installations serving a single household or undertaking (see article 2, paragraph 9).

## **B. CURRENT SITUATION AND ISSUES**

The existing legal framework fragmentarily regulates the level of performance of collective systems for sanitation and other means of sanitation. Currently, the focus is on quality management of wastewater discharges from the wastewater treatment systems into natural water bodies; in practice, the legal framework does not cover such issues as the collection, transportation, treatment level and reuse of wastewater.

In this regard, clear-cut reference levels for the collection, transportation and reuse of domestic or municipal wastewater were not yet established in the Republic of Moldova. The only clear-cut and up-to-date requirements as to the treatment of wastewater are contained in the new legislative act<sup>14</sup> of 10 October 2008 regarding wastewater discharges from municipal sources, which includes requirements as to BOD, suspended solids and nutrients. However, the practical implementation of this new piece of legislation is still cumbersome as a plan of implementation is not yet available, some issues related to the amount of substances transported (e.g. from industries) through the collector system to the treatment plants are still to be solved, and the system of monitoring and reporting on the above determinands needs to be drawn up or revised.

At present, over 2,000 km of pipelines and about 130 wastewater-pumping stations are in operation. The main problems regarding the maintenance of the network include failures of pumps and clogging of sanitation pipelines. Operational information on these parameters is available in each of the Apa-Canal enterprises. However, the public authorities do not collect such information and do not publish it in the press. Similar information for rural sanitation systems is totally lacking.

According to some expert estimates, the number of clogged sanitation pipelines is quite high, given the serious technical degradation of the wastewater collection systems in urban areas (e.g. reduced capacity to transport wastewaters, design errors, destruction of the network integrity) and especially in rural areas (e.g. lack of maintenance and inspection of sanitation

<sup>14</sup> This legislative act was prepared under the National Dialogue on Integrated Water Resources Management under the EU Water Initiative, with UNECE as strategic partner of the Republic of Moldova

systems). The clogging of the system and lacking maintenance of pumping stations lead to a significant reduction in the volume and also change the physical characteristics of wastewater discharges (e.g. lower volume of discharges, lower flow speed, change in the percentage of the solid versus the suspended components of wastewater). Another problem is that people dispose off solid and non-degradable residues in toilets.

The effectiveness of wastewater treatment in terms of removal of organic matter, suspended solids and nutrients has never before been considered in the Republic of Moldova as a criterion for the level of performance of wastewater treatment systems. The level of performance was always evaluated by comparing the quality of discharged wastewaters with the relevant maximum allowable concentration of substances (MAC values) discharged into water bodies. The new requirements for wastewater treatment (see footnote to this Target area) that include BOD, suspended solids and nutrients in the discharged wastewater will be used as departing point for establishing efficiency parameters, but this still requires some period of time for setting up reporting and assessment procedures for specific installations, considering also the amount/composition of discharged wastewater and/or necessary exceptions.<sup>15</sup>

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<sup>15</sup> The new law distinguishes between big and medium-sized treatment plants (depending on the population equivalent) and also considers the specificity of wastewater discharges into sensitive areas

## BOX XI

### EFFICIENCY OF WASTEWATER TREATMENT

In 2008, 32 wastewater treatment plants were tested by the State Environmental Inspectorate for the level of treatment and for discharges of the untreated wastewater. In 1990, over 600 treatment plants were functioning; today only 154 treatment installations are in operation, but they do not always function properly. In 2008, only 28 plants were carrying out the treatment process according to the legal requirements.

Industrial wastewaters in the Republic of Moldova enter, after pre-treatment, the collector systems for further treatment at municipal wastewater treatment plants together with household wastewaters (the typical requirements for industrial wastewaters are specified in Regulations). Wastewater discharge into the urban sanitation network is carried out on a contractual basis with the „Apa-Canal” companies. The „Apa-Canal” enterprises discharge their treated wastewater into the natural water bodies on the basis of permits issued by the environmental authorities.

The effectiveness of treatment plants in 2007-2009 is given in table 5.

Due to the inefficiency of treatment plants, which cannot cope with the pollution load, wastewaters after treatment still contain a wide range of pollutants. This remains a major task that should be solved with the construction of new or the reconstruction/upgrading of existing treatment plants; examples include treatment plants in the towns Soldanesti, Telenesti, Taraclia, Straseni, Calarasi, Briceni.

In order to raise the performance level of the personnel, seminars were organised by the authorities for water and environment management as part of the design and construction process of wastewater treatment plants in the cities Soroca, Rezina, Otaci and Soldanesti; as well as by non-governmental organizations during discussions of the new draft laws and regulations in the field of water protection, water and health.

**Table 5: Effectiveness of the treatment plants [%]**

No.	Wastewater treatment plant	Suspended solids			COD			BOD <sub>5</sub>			NH <sub>4</sub> <sup>+</sup>		
		2007	2008	2009	2007	2008	2009	2007	2008	2009	2007	2008	2009
1	Bălți, Apă-Canal	94.5	94.9	94.5	71.6	72.8	75.5	93.2	91.4	91.8	83.4	85.2	89.7
2	Sîngerei, Apă-Canal	95.3	96.1	92.2	70.0	69.7	69.6	83.7	92.7	89.6	74.6	75.2	71.9
3	Glodeni, Fabrica de Zahăr	95.7	96.9	86.0	83.6	84.1	89.7	93.7	93.9	96.3	94.4	97.3	92.3
4	Rîșcani, Apă-Canal	92.0	93.4	91.5	70.9	71.5	56.4	78.3	84.4	77.5	57.8	57.6	60.1
5	Florești, SA „Serv. com.”	95.7	95.6	95.8	78.4	79.5	65.8	93.6	93.3	91.8	88.6	85.2	83.6
6	Fălești, DPGLC	95.1	94.9	85.9	53.6	52.7	60.9	88.9	88.4	86.4	81.9	79.2	67.2
7	Apă-Canal, Drochia	93.1	92.7	90.5	60.9	61.4	54.2	89.1	88.1	81.9	73.6	68.7	55.5
8	Drochia, „Moldova Transgaz”	83.3	76.9	70.9	55.2	54.6	10.3	85.0	79.6	68.0	51.1	30.5	51.6
9	Telenești, „Apă-Canal”	74.0	83.0	60.6	56.6	56.9	52.4	52.2	74.3	89.5	44.0	71.8	16.3
10	Otaci, SA „Beton”	65.9	68.3	70.2	57.8	73.9	68.4	59.3	73.5	71.1	67.3	68.3	69.4
11	Dondușeni, Apă-Canal	85.9	85.2	88.0	82.8	85.5	86.9	84.3	87.1	86.9	96.8	94.2	93.6
12	Țaul. SE Primăria	79.0	81.1	80.7	78.9	78.4	82.2	79.0	79.2	82.9	95.4	80.2	88.7
13	Edineț, ÎM „Apă-Canal”	92.6	88.6	89.3	90.6	92.4	90.1	90.9	92.7	89.8	91.8	64.0	87.1
14	Briceni, Gospodăria Com.”	-	76.5	91.2	-	75.7	76.7	-	77.1	76.6	-	85.5	82.0
15	Lipcani, „Com Prod.”	76.7	73.5	73.8	73.9	67.7	72.4	75.0	69.4	73.8	87.7	77.2	45.4
16	Ocnîța, Rețelile Termice	77.9	76.7	80.5	75.8	76.6	81.1	76.0	74.8	81.0	70.2	73.3	77.9
17	„Apă Canal”, Cahul	72.3	69.3	70.8	77.0		77.32	70.2	27.9	81.27	62.4		30.83
18	ÎMDPGLC “Apă Canal”, Leova	77.7	43.7	74.2	46.9	56.5	51.07	46.4	67.9	53.9	-	52.8	91.72
19	Î.M „Apă Canal”, Basarabasca	73.1	52.7	53.6	15.5	66.1	48.55	34.9	40.0	80.33	12.5	5.4	24.78
20	A ÎM „Apă Canal”, Taraclia	26.7	76.1	73.4	36.8	25.2	17.41	14.1	27.3	76.29	-	51.6	27.08
21	„Apă Canal”, Cantemir	23.0	-	4.2	-	0.0	5.43	-	-	9.72	16.0	3.8	7.61

Complaints received by the authorities and/or service providers on the quality of sanitation services are registered by the Apa-Canal enterprises, but reports and information on the measures taken are not publicly available.

The potential of the Apa-Canal enterprises to cope with extreme weather conditions or significant problems of wastewater transport (caused, for example, by flooding, submergence of pumping stations, polluted flood run-off from industrial installations, major accidents/incidents of the transportation and treatment systems) is very low. In recent years, specialised cars for the evacuation and transport of wastewaters and domestic sewerage, back-up pumps and repair equipment became morally and technically obsolete, and financial resources are practically not available for replacements. Moreover, alternative sites for the disposal of wastewater collected by these specialized cars are usually not defined. Both the city administrations and the Apa-Canal enterprises do not possess clear-cut response plans. Particularly vulnerable are the rural settlements, where drinking water sources or adjacent areas are often contaminated by the waters/excreta in cesspools.

Criteria for the efficiency, sustainability and affordability of wastewater removal and treatment services have not yet been fully drawn up at the State and the local levels, though some elements already exist. This is why the performance (by quality and quantity and/or level of maintenance) of public services is extremely difficult to verify. The price for the services in cities is usually based on the minimum requirements to maintain the viability of the structures for wastewater treatment (Apa-Canal enterprises) for a given settlement. In this regard, there are substantial differences in prices for wastewater services between different cities as well as between the categories of water users (citizens, economic entities, State organisations). Throughout the country, the price for wastewater treatment services does practically neither depend on “social accessibility” nor on the quality of service delivery.

The chronic lack of money in the State and local budgets for the extension and maintenance of the wastewater systems has many consequences: a reduction in the volume of repair works, delay of reconstruction as well as the expiration of stocks of reagents, disinfectants, equipment and materials.

### C. TARGETS AND TARGET DATES

No.	Targets	Target dates	Responsibility
1	Efficient <sup>16</sup> collective sanitation systems in place	2015: In 2 cities 2020: In additional 2 cities	Local authorities, operators of the “Apa-Canal” enterprises, Ministry of Environment, the “Apele Moldovei” Agency

### D. PROPOSED MEASURES TO ACHIEVE TARGETS AND TARGET DATES

No.	Measures and activities	Time frame	Responsibility
1	Rehabilitation and construction of sanitation systems in the cities Orhei, Balti, Vulcanesti, Nisporeni, Causeni <sup>17</sup>	2011-2013	Local authorities, the “Apele Moldovei” Agency, operators of the “Apa-Canal”, Ministry of Environment

<sup>16</sup> Criteria for “efficiency” are still to be established by the relevant ministries/agencies

<sup>17</sup> Provided that the necessary financial means are available

**TARGET AREA VII - Art. 6, 2 (f), first part - Application of recognized good practices to the management of water supply**

*and*

**TARGET AREA VIII - Art. 6, 2 (f), second part - Application of recognized good practices to the management of sanitation**

## **A. BACKGROUND RATIONALE**

Article 6, paragraph 2 (f), of the Protocol requires the setting of targets and target dates related to the application of recognized good practices in the management of water supply and sanitation. Thus, emphasis is put on good but not necessarily the best practices, which have to be adapted to the local circumstances (not necessarily internationally recognized) and to implementation.

## **B. CURRENT SITUATION AND ISSUES**

Currently, the responsibility for water-supply systems as well as systems of wastewater removal and treatment lies directly with the Apa-Canal enterprises. Although the law does not clearly stipulate criteria for good practice in the water supply and sanitation sector, usually, the water supply sector uses such criteria like quality, quantity and performance of the drinking water supply system. In the sanitation sector, the criteria for good practice usually include the quality of wastewater discharged after treatment and to a lesser extent such aspects as the level of pollutants' removal from wastewater or the overall performance level of the wastewater treatment installations in a given river basin or territorial unit.

Currently the Apa-Canal enterprises of three large cities (Chisinau, Balti, Cahul) are certified according to ISO 9000 and accredited according to the international standard SM SR EN ISO/CEI 17025:2006. The Apa-Canal enterprise of Chisinau is certified with ISO 14000, ISO 9000 and ISO 18000. The laboratory of this company is certified according to ISO 17025. It should be noted that not all Apa-Canal enterprises run their own analytical laboratories, but those Apa-Canal companies that operate such laboratories on their own (mainly in the big cities) have a national certification and accreditation.

On a basis of a programme approved by the Ministry of Health, all Apa-Canal enterprises have been involved in developing water safety plans. The implementation of these plans is however very difficult due to a lack of proper funding. In addition, these plans have not been published and were not widely discussed by stakeholders. At present, there is no experience in the implementation of water safety plans in the Republic of Moldova.

The sanitary standards on drinking water quality call for appropriate monitoring and supervision. Drinking water supplied through the public collective or individual systems is subject to water-quality monitoring according to a programme that shall include the obligatory monitoring of the level of performance of the treatment technology, especially disinfection, as well as the quality of produced, supplied and used drinking water. The territorial bodies of the State supervision over public health approve this programme. The laboratories for drinking water analyses must comply with the requirements as to the analytical method for investigation



of the established determinands. The Ministry of Health publishes a list of the registered laboratories authorized for water-quality monitoring. There are also requirements to develop standards for testing, sanitary authorization, registration and use of filters, materials or substances that are in a contact with drinking water. Only those substances or materials that were approved by the Ministry of Health are permitted for use.

Indicators, such as the percentage of removal (extraction) of pollutants from wastewater, have not yet been evaluated yet in practice as criteria for the effectiveness or good practice in wastewater treatment. This is due to the fact that the level of performance of the wastewater treatment installations was always evaluated on the basis of the quality of the wastewater before its discharge into the water bodies, and not on the basis of the percentage of the pollutants' removal from wastewater. Regardless of the wastewater quality entering the treatment installation, the Apa-Canal enterprises were supposed to clean it up to the standards corresponding to the "maximum allowable concentration (MAC)". However, the new requirements as to urban wastewater treatment are now based on the rate of removal of BOD, suspended solids and nutrients (see also Target area 6). Such requirements correspond to the EU Urban Waste Water Directive. For the practical implementation, however, additional supporting regulations have to be drawn up and a system of monitoring of, and reporting on, these parameters need to be established.

At the international level, elements of recognised good practice for the wastewater treatment included the "daily standard of quality of treated water" and the "number of cases of non-compliance with this standard"; however, this option is currently not yet defined by Moldovan law and, therefore, is not applied.

The number of cases of non-compliance with the quality of wastewater discharged into water bodies is currently not registered in the Republic of Moldova because the Apa-Canal enterprises do not report on this indicator and the possibilities for regular inspections of the quality of discharges by the State Environmental Inspectorate are very limited. There is no centralised system for the collection of information about compliance with the quality standards of the wastewater discharges into water bodies.

Codes of good practice for the construction, maintenance and operation of technical infrastructure for water supply and sanitation are not yet sufficiently well developed, and the access to, and use of, international standards is limited. Means to enhance the human capacity in this matter do exist, and the Apa-Canal Association is periodically preparing guidance material and distributes it.

The protection of water sources is an important aspect of good practice in the water supply and sanitation sector. The legislation requires the establishment, organization and management of water protection zones and strips along waterways as well as sanitary protection zones with various degrees of protection around the places of water abstraction for drinking purposes. However, the establishment of adequate water protection zones and their proper management still remains problematic in the Republic of Moldova. The sanitary-protection zones for all surface water and groundwater intakes are usually defined at the design stage, but the local authorities rarely control the compliance with the established protection regime.

Plans for integrated water management by river basins have not yet been drawn up in the Republic of Moldova. Plans for construction of wastewater treatment installations exist and, depending on the financial possibilities, are being implemented by some cities or rural settlements.

### C. TARGETS AND TARGET DATES

No.	Targets	Target dates	Responsibility
1	Regional associations of enterprises for collective and other systems of water supply and sanitation in place	2015: 2 associations 2020: 3 additional associations	The “Apele Moldovei” Agency, local authorities, operators of the “Apa-Canal” enterprises, Ministry of Environment

### D. PROPOSED MEASURES TO ACHIEVE TARGETS AND TARGET DATES

No.	Measures and activities	Time frame	Responsibility
1	Establishing regional associations in rural settlements for the management of collective and other systems of water supply and sanitation	2011-2020	The “Apele Moldovei” Agency, local authorities
2	Providing equipment for laboratories of the Apa-Canal enterprises in the cities Chisinau, Balti, Cahul, Ungheni, Comrat, Orhei, Sorooca, Cimislia, Floresti, Causeni to enable them to monitor the quality of water supplied	2011-2015	Operators of the “Apa-Canal”, local authorities, the “Apele Moldovei” Agency
3	Establishing inventories of the sanitary protection zones for 11 surface water intakes	2011-2020	Ministry of Health, the “Apele Moldovei” Agency, local authorities, operators of the “Apa-Canal”
4	Conducting assessments of the state and the performance level of collective systems of water supply systems in the cities Chisinau, Balti, Cahul, Ungheni, Comrat, Floresti, Cimislia, Sorooca	2011-2015	Ministry of Environment, Ministry of Health, the “Apele Moldovei” Agency, local authorities, operators of the “Apa-Canal”
5	Training of 30 specialists of the “Apa-Canal” enterprises in the use of ISO 9000 and 14000 certification systems	2011-2017	Operators of the “Apa-Canal”, the Department of Standardisation

## **A. BACKGROUND RATIONALE**

Article 6, paragraph 2 (g), i, of the Protocol requires the setting of targets and target dates related to the occurrence of discharges of untreated wastewater.

## **B. CURRENT SITUATION AND ISSUES**

The requirements as to wastewater discharges into water bodies are stipulated by the national legislation.

From 2005 onwards, the discharges of untreated wastewater into natural water bodies remained practically at the same level.

<b>Item</b>	<b>Years</b>	
	<b>2005</b>	<b>2007</b>
Total discharges	690	687
Relatively clean	556	551
Contaminated	9	10
Without treatment	0.6	0.7
Insufficiently treated	8.3	9.2
Treated according to standards	124	119

*Source: Reports of the State Ecological Inspectorate*

In comparison to the situation in 1990, when over 600 treatment installations were functioning, only 154 are at present operational, however, even these installations are not performing wastewater treatment according to the standards. Only 28 wastewater treatment installations, operational in 2008, complied with the standards.

The situation in rural areas is even worse, as in the majority of cases the collection systems do not exist or are neither connected to any treatment system or to collectors for the discharge of wastewaters into water bodies; thus, wastewater infiltrates into the soil and causes groundwater pollution.

## **C. TARGETS AND TARGET DATES**

<b>No.</b>	<b>Targets</b>	<b>Target dates</b>	<b>Responsibility</b>
1	Terminate the discharge of untreated urban waste waters into natural water bodies <sup>18</sup>	2015: 2 cities 2017: 2 additional cities	Local authorities, operators of the "Apa-Canal" enterprises, the "Apele Moldovei" Agency

<sup>18</sup> This target applies to cities that currently do not have any wastewater treatment plan

#### D. PROPOSED MEASURES TO ACHIEVE TARGETS AND TARGET DATES

No.	Measures and activities	Time frame	Responsibility
1	Drawing up of the design documentation (infrastructure: collectors, pumping stations) for the sanitation system in the city of Soroca	2011-2012	Local authorities, the "Apele Moldovei" Agency, operators of the "Apa-Canal"
2	Construction of the sanitation system (treatment installations, collectors, pumping station) in the city of Soroca <sup>19</sup>	2013-2015	Local authorities, the "Apele Moldovei" Agency, operators of the "Apa-Canal"
3	Drawing up of the design documentation (infrastructure: collectors, treatment station) for the sanitation system in the city of Orhei <sup>20</sup>	2012	Local authorities, the "Apele Moldovei" Agency, operators of the "Apa-Canal"
4	Construction of the sanitation system (collectors, treatment installation) in the city of Orhei <sup>21</sup>	2015	Local authorities, the "Apele Moldovei" Agency, operators of the "Apa-Canal"
5	Drawing up of the design documentation for the sanitation system in the city of Nisporeni <sup>22</sup>	2013	Local authorities, the "Apele Moldovei" Agency, operators of the "Apa-Canal"
6	Construction of the treatment installations in the city of Nisporeni <sup>23</sup>	2014-2015	Local authorities, the "Apele Moldovei" Agency, operators of the "Apa-Canal"

<sup>19</sup> Upon availability of the GEF grant

<sup>20</sup> Upon availability of the GEF grant

<sup>21</sup> Upon availability of financial resources

<sup>22</sup> Upon availability of financial resources

<sup>23</sup> Upon availability of financial resources

## **A. BACKGROUND RATIONALE**

The second part of article 6, paragraph 2 (g), of the Protocol requires the setting of targets and target dates related to occurrence of discharges of untreated storm water overflows from wastewater collection systems to waters within the scope of the Protocol.

## **B. CURRENT SITUATION AND ISSUES**

The legal framework for the protection of waters from discharges of untreated wastewater exists in the Republic of Moldova. This legal framework does, however, not include requirements for the management of these wastewaters. At the same time, there is a regulatory framework for the design of the storm water drainage systems and its construction and maintenance as well as for the treatment of storm water overflows.

Storm water collection systems exist in almost every city and municipality but not in rural areas. However, none of the existing wastewater collection systems do not have basic treatment installations for storm water though the pollution of the collected storm water sometimes exceeds in dozens times the maximum allowable concentration for wastewater discharges (especially in the run-off immediately after a rainfall event). The main pollutants for such run-offs are oil products, suspensions, BOD and other pollutants from urban areas, contained in the run-off from rainfall and snow melt.

In the Republic of Moldova, there are separate systems for wastewaters and run-off from storm water. In fact, there are no strict requirements as to the storm water systems in residential areas of the cities (although these requirements are stipulated by the regulations); such requirements are only applied to the storm waters from the sites of industrial enterprises. Such enterprises have a system for the collection, transportation and (pre-) treatment. The (pre-) treatment system includes the removal of sediments, BOD and oil products. According to specifications, after such (pre-) treatment, the wastewater is discharged into the urban collection system and then into the water bodies, if the area of industrial enterprise is recognised as “relatively clean”.

It should be noted, that the level of contamination of storm water runoff is high because of the inadequate management of solid wastes, the storage of these wastes in unauthorised places, the technical deficiency of transport means, inappropriate cleaning-up of sites/areas and other factors.

Usually, these aspects are taken into account in the general urban development plans and the collection of wastewater is planned simultaneously with the planning and landscaping; thus wastewater collection is an element of the urban development. The location of treatment installations for wastewater is also taken into account.

At present, despite the requirements as to the design and construction of the networks for collection and treatment of storm water runoff from urban areas, there are no specific

and planned measures taken to develop such infrastructure due to a lack of funds of local authorities.

### C. TARGETS AND TARGET DATES

No.	Targets	Target dates	Responsibility
1	Installations for the treatment of storm water that are currently discharged into natural water bodies in place	2020: 2 cities	Local authorities, the “Apele Moldovei” Agency

### D. PROPOSED MEASURES TO ACHIEVE TARGETS AND TARGET DATES

No.	Measures and activities	Time frame	Responsibility
1	Research on the impact of untreated storm water overflows on the quality of surface waters	2015	Local authorities, the “Apele Moldovei” Agency, Ministry of Environment, Academy of Sciences
2	Inventory of local storm water treatment systems in all enterprises	2015	The “Apele Moldovei” Agency, Ministry of Environment
3	Creation of favourable conditions to attract financial means for investments; design of the collection and treatments systems in 7 cities; and construction of the treatment installations in 2 cities	2011-2020	Local authorities, the “Apele Moldovei” Agency, Ministry of Environment
4	Drawing up of a strategy on the management of storm waters	Until 2015	Ministry of Environment, the “Apele Moldovei” Agency

## TARGET AREA XI - Art. 6, 2 (h) - Quality of discharges of waste water from wastewater treatment installations to waters within the scope of the Protocol

### A. BACKGROUND RATIONALE

Article 6, paragraph 2 (h), of the Protocol requires the setting of targets and target dates related to the quality of discharges of wastewater from wastewater treatment installations to waters within the scope of the Protocol. This indicator refers explicitly to the quality of wastewater discharges from wastewater treatment systems that are often not reported on and often do not reach legal requirements.

### B. CURRENT SITUATION AND ISSUES

A number of legal acts or other decisions by the Government as well as programmes were adopted to comply with this target area of the Protocol.

The existing sanitation systems serve industrial enterprises; residential, private, municipal and/or public buildings; other economic entities as well as the territories occupied by them and include: household, storm water and industrial wastewater systems. All wastewater collection systems are separate.

In general, the industrial wastewater produced by enterprises in urban areas is treated together with the household wastewater at municipal wastewater treatment installations after its local pre-treatment (i.e. at the site of an industry). Sometimes, selected enterprises (e.g. food processing industries) have their own wastewater treatment systems.

As the law prohibits untreated wastewater discharges into the natural water bodies, all sanitation systems should end up at treatment installations. According to the established practice, all wastewater treatment installations should be equipped with secondary (biological) treatment systems (bio filters, aeration tanks, sometimes additional treatment of wastewater in the reservoirs that receive/store wastewater discharges). Small wastewater treatment installations were built in the last 5-6 years (mostly in the private sector) according to up-to-date European technologies; also “constructed wetlands” are increasingly used.

In 1990, approximately 600 wastewater treatment installations were operational in the Republic of Moldova. At present, about 154 treatment installations are considered as “actually operational”, but the number of functioning – according to the standards – installations is far less (see also Target area IX). Due to the absence of official statistics and insufficient monitoring/reporting of the quality of wastewater discharged from treatment installations, these figures are varying from year to year and site to site.

At present, the majority of urban wastewater treatment installations are obsolete and poorly able – technically and operationally – to handle the amount of wastewater and its variability over time, and the varying composition and concentrations of substances in the received wastewater. Some installations are substantially damaged or half-ruined; these and other installations are not effectively serviced and, practically, not repaired/maintained. For example, in the Dniester River basin only the wastewater treatment installations at Floresti, Balti, and Telenesti (altogether 4 installations) comply with the quality permits for wastewater

discharges, and some 50-70 installations do not comply with the requirements for treatment. Besides the cities of Chisinau and Balti, the discharges from the urban wastewater treatment installations do not meet the necessary standards in 70% of cases, and the wastewater treatment installations in the villages do not function at all.

In the period from 2005 to 2009, the volumes of wastewater discharges into natural water bodies remained almost at the same level; and 85% of all wastewater is not treated.

According to the statistics, 6-7% of the wastewater volume is discharged with poor or inefficient treatment. The share of such discharges significantly differs for large, medium and small cities - 0,2%, 57% and 52%, respectively. In general, the quality of discharges from the functioning stations is gradually deteriorating due to lacking financial resources for maintenance and operation.

The Apa-Canal and industrial enterprises are discharging their treated wastewater into the natural water bodies on a basis of “permits for special water use” issued by environmental authorities according to the applicable legislation.

In this context, an important step was the adoption of a new legislative act on wastewater discharges from municipal treatment plants in October 2008, that establishes new and more realistic and economically achievable parameters of the waste water treatment (see also Target areas VI, VII and VIII).

### C. TARGETS AND TARGET DATES

No.	Targets	Target dates	Responsibility
1	Treat the wastewater discharged from treatment plants into natural water bodies according to standards <sup>24</sup>	2015: 4 cities 2020: 4 additional cities 2015: 8 rural settlements (constructed wetlands) 2020: 10 additional rural settlements	Local authorities, the “Apele Moldovei” Agency, Ministry of Environment

<sup>24</sup> These standards were established by the legislative act of 10 October 2008 (see also Target areas VI, VII and VIII)



#### D. PROPOSED MEASURES TO ACHIEVE TARGETS AND TARGET DATES

No.	Measures and activities	Time frame	Responsibility
1	Drawing up of a regulation on the conditions of waste water discharges into urban sanitation networks	2012	Ministry of Environment, the "Apele Moldovei" Agency
2	Drawing up of design projects for the rehabilitation of the treatment installations in the cities of Balti, Ungheni, Causeni, Vulcanesti, Cimislia	2012-2013	Local authorities, the "Apele Moldovei" Agency, operators of the "Apa-Canal"
3	Rehabilitation of the treatment installations in the cities of Balti, Ungheni, Causeni, Vulcanesti, Cimislia	2015-2017	Local authorities, the "Apele Moldovei" Agency, operators of the "Apa-Canal", Ministry of Environment
4	Conducting seminars for specialists of the "Apa-Canal" enterprises regarding the certification of enterprises according to ISO 9000 and 14000	Permanently	Ministry of Environment, the "Apele Moldovei" Agency, operators of the "Apa-Canal"
5	Conducting assessments of the impact of discharges of treated wastewaters, containing microbiological agents, into transboundary watercourses	2015	Operators of the "Apa-Canal", Ministry of Environment, Ministry of Health, the "Apele Moldovei" Agency

## **A. BACKGROUND RATIONALE**

The first paragraph of article 6, paragraph 2 (i), of the Protocol requires the setting of targets and target dates related to the disposal or reuse of sewage sludge from collective systems of sanitation or other sanitation installations taking into account the guidelines for the safe use of wastewater, excreta and grey-water in agriculture and aquaculture of WHO and UNEP.

## **B. CURRENT SITUATION AND ISSUES**

There are requirements that stem from the referred to, in earlier sections, legal and regulatory frameworks. However, there is no specific guidance in these documents regarding the use of sludge, only general requirements as to the prevention of pollution from wastewater treatment installations were made.

The requirements for sludge management are set up specifically in the design documentation for each treatment installation. These requirements are based on reference documents and specifications for the design of systems and installations for wastewater and sludge treatment and processing. The specifications cover sludge accumulation, the methods of its processing and neutralisation, requirements as to the amount and type of chemicals for dehydration and decontamination, and sludge storage.

Usually, sludge treatment includes its storage for dewatering on loamy/claylike soils. This practice is not sustainable as dehydration leads to pollution of the soil, groundwaters and air (by emissions of CH<sub>4</sub> and H<sub>2</sub>S), which often happens from sludge layers higher than 0.5 m, as it is the case at the treatment installations of Chisinau, Balti, Cahul and other sites.

There were projects on the reuse of sludge for biogas production, initiated in Chisinau in 2005 to 2008. The COWI Company (Consultancy within Engineering, Environmental Science and Economics, Denmark) has performed calculations on the amount of biogas production, and methane tanks for sludge fermentation were installed, however, due to a lack of financial resources, the works were terminated.

In order to solve the problems with the reuse of sludge, simultaneously with adoption of the National Programme on the Reuse of Industrial and Household Wastes (Governmental Order No. 606 of 27 June 2000), concrete steps included research on sewage sludge and the development of recommendations for its reuse. These activities were partially performed and, at present, some sludge is used in landscape management.

The environmental and health authorities carry out monitoring of compliance with the standards of sludge storage. In case of a contamination of the environment by stored sludge, sanctions are applied in accordance with the existing legislation. Because reliable methods for de-watering and proper disinfections are currently not used for sludge, it can be only be reused after two years of dehydration in open air.

### C. TARGETS AND TARGET DATES

No.	Targets	Target dates	Responsibility
1	A mechanism <sup>25</sup> for the reuse of sludge from treatment plants and the dry ECOSAN toilets in agriculture and landscape management in place	2015	Ministry of Environment, Academy of Sciences, the "Apele Moldovei" Agency

### D. PROPOSED MEASURES TO ACHIEVE TARGETS AND TARGET DATES

No.	Measures and activities	Time frame	Responsibility
1	Drawing up and adoption of a regulation on the reuse of sludge from the municipal treatment installations in the cities of Chisinau, Balti, Ungheni, Causeni, Vulcanesti, Cimislia <sup>26</sup>	2012	Ministry of Environment, Ministry of Health, the "Apele Moldovei" Agency
2	Development of an "Action Plan for the implementation of the Strategy on Water Supply and Sanitation" together with the creation of favourable conditions to attract financial means for investments in the water supply and sanitation sector	2011-2013	Ministry of Environment, the "Apele Moldovei" Agency
3	Conducting research on the reuse of sludge in agriculture from the existing treatment installations in the cities of Balti, Ungheni, Causeni, Vulcanesti, Cimislia	2012-2017	Ministry of Environment, Academy of Sciences, the "Apele Moldovei" Agency, local authorities, operators of the "Apa-Canal" enterprises
4	Conducting seminars for specialists of the "Apa-Canal" enterprises regarding the certification of enterprises according to ISO 9000 and 14000	Permanently	Ministry of Environment, the "Apele Moldovei" Agency, operators of the "Apa-Canal" enterprises
5	Drawing up of a "National Strategy on Waste Management"	2010-2011	Ministry of Environment, the "Apele Moldovei" Agency

<sup>25</sup> Legal, regulatory, administrative, institutional, technical and/or management frameworks

<sup>26</sup> Upon availability of the necessary financial means

## TARGET AREA XIII - Art. 6, 2 (i), second part - Quality of waste water used for irrigation purposes

### A. BACKGROUND RATIONALE

The second part of article 6, paragraph 2 (i), of the Protocol requires the setting of targets and target dates related to the quality of wastewater used for irrigation purposes taking into account the guidelines for the safe use of wastewater and excreta in agriculture and aquaculture of WHO and UNEP.

### B. CURRENT SITUATION AND ISSUES

The existing standards as to the quality of irrigation water do not apply to wastewaters, which might be used in irrigated agriculture. At present, treated wastewater is not reused for irrigation purposes and no national legislation in this field was developed.

### C. TARGETS AND TARGET DATES

No.	Targets	Target dates	Responsibility
1	Norms for the reuse of wastewater from treatment plants for irrigation purposes in place	2015	Ministry of Environment, the "Apele Moldovei" Agency

### D. PROPOSED MEASURES TO ACHIEVE TARGETS AND TARGET DATES

No.	Measures and activities	Time frame	Responsibility
1	Drawing up of a feasibility study on the reuse of wastewaters from treatment installations for irrigation purposes	2012-2014	Operators of the "Apa-Canal", Ministry of Environment, the "Apele Moldovei" Agency
2	Drawing up of a regulation on the reuse of wastewaters for irrigation purposes	2014	Ministry of Health, Ministry of Environment

## **A. BACKGROUND RATIONALE**

The first part of article 6, paragraph 2 (j), of the Protocol requires the setting of targets and target dates related to the quality of waters used as sources for drinking water. Raw water quality is the key factor to ensure drinking water safety as protection of the source represents the first and basic barrier in multi-barrier approach. Protection of raw water sources should be considered important, since: (a) Prevention of pollution is often cheaper and easier than treatment; (b) Even advanced treatment technology does not necessarily ensure drinking water safety for 100 per cent, as risk of failure should be still considered.

## **B. CURRENT SITUATION AND ISSUES**

Currently, there are no special regulations in the Republic of Moldova regarding waters, which are used as sources for drinking water. The requirements as to the quality of surface waters sources used for water abstraction are partially reflected in the hygienic regulation "Protection of Water Bodies from Pollution" No. 06.6.3.23 of 3 July 1997, approved by the Ministry of Health of the Republic of Moldova.

Water from deep groundwater aquifers is the main source of drinking water.; these deep aquifers provide approximately 100% of the rural population and 30% of the urban population (or altogether 65% of the total population) with drinking water. As to the surface waters, the Dniester River is the most important source (servicing 32% of the total population), followed by the Prut River (2.8% of the total population) and other surface waters (0.2% of the total population).

In 2004-2009, the chemical water-quality determinands in the surface waters used for water abstraction slightly improved (i.e. a decrease of the water pollution index, WPI). It was found that the water quality in the Dniester and Prut rivers varies within the limits of water-quality class II (i.e. clean water) at the monitoring sites at Egoreni, Soroca (Dniester) and Braniste - Camenca (Prut), and within the limits of water-quality class III (i.e. moderately polluted) at the sites of Vadul lui Voda (Dniester) and Ungheni, Leova, Cahul and Cantemir (Prut).

The level of microbial contamination of these rivers remains high. The proportion of water samples from the Dniester River that did not meet the requirements for microbiological determinands has increased from 29% in 2007 to 42% in 2009; and for the Prut River - from 44% in 2007 to 48% in 2009.

As to the quality of deep groundwaters used for drinking purposes, it should be mentioned that in 2009 the highest percentage of non-compliance, ever measured over the past 50 years of observations for chemical determinands, was 70% of the samples. The main quality problems are the high contents of ammonium (27% of samples), fluorine (14.5%), and boron (6.5%). For shallow groundwaters, the figure was 81%. The main problem for such shallow groundwater aquifers is the high content of nitrates (78% of samples).

### C. TARGETS AND TARGET DATES

No.	Targets	Target dates	Responsibility
1	Achieve the numerical values for Enterococci and E. coli set for the quality of surface water used as sources of drinking water	2015: Numerical values according to class III 2020: Numerical values according to class II	Local authorities, the “Apele Moldovei” Agency
2	A GIS that provides information on the quality of the sources of drinking water in place	2015	Ministry of Health, Ministry of Environment

### D. PROPOSED MEASURES TO ACHIEVE TARGETS AND TARGET DATES

No.	Measures and activities	Time frame	Responsibility
1	Drawing up and implementation of a “Sanitary Regulation on the Sanitary Protection Zones of Surface Water Sources Used for the Drinking Water Supply” in accordance with WHO Guidelines and EU Directives	2011-2012	Ministry of Health
2	Drawing up and implementation of a “Sanitary Regulation on the Quality of Surface Water Sources Used for Drinking Water Supply” in accordance with WHO Guidelines and the EU Directives 75/440/EEC and 79/869/EEC	2015	Ministry of Health, Ministry of Environment
3	Inventory and elimination of unauthorized sources of discharges of untreated waste waters within the areas of water intakes	2011-2015	Ministry of Health, Ministry of Environment, local authorities

## A. BACKGROUND RATIONALE

The second part of article 6, paragraph 2 (j), of the Protocol requires the setting of targets and target dates related to the quality of waters used for bathing.

## B. CURRENT SITUATION AND ISSUES

At present, the requirements for the quality of waters used for recreational purposes in the Republic of Moldova are laid down in Annex 1 to the Decision of the Government of the Republic of Moldova № 737 of 11 June 2002 "Regulation on the Recreational Zones of Water Bodies". However, this Decision does not take into account the requirements of the Directive 2006/7/EEC and the WHO "Guidelines for Safe Recreational Water Environments" (Volume 1: Coastal and Fresh Waters, 2003). The water quality control is carried out on the basis of indicators of the hygienic regulation "Protection of Water Bodies from Pollution» No. 06.6.3.23 of 3 July 1997, approved by the Ministry of Health of the Republic of Moldova.

### BOX XII

#### **HYGIENIC REGULATIONS „PROTECTION OF WATER BODIES FROM POLLUTION” № 06.6.3.23 OF 3 JUNE 1997, APPROVED BY THE MINISTRY OF HEALTH**

According to these regulations, fresh water (rivers and lakes) used for swimming should comply with the follow determinands: BOD<sub>5</sub> should not exceed 5.0 mg/l O<sub>2</sub>, COD should not exceed 30.0 mg/l O<sub>2</sub>, and the dissolved oxygen content should be at least 4 mg/l. The regulations also set maximum levels for E. coli (5,000 per litre) and coliphages (100 per litre). Moreover, the water should not contain helmet larvae; and harmful substances should not exceed the relevant maximum allowable concentrations (MAC) for water bodies.

Forthcoming work will focus on the harmonisation of the national requirements with the requirements of the EU Directive concerning the management of bathing water quality 2006/7/EEC.

According to the research carried out in 2009 at bathing sites, the water quality of the Dniester River, in general, did not comply with the sanitary-chemical determinands (in more than 12.5% of cases) and the microbiological determinands (in 42% of cases). In standing waters, which are generally used for bathing, the water quality did not comply with the requirements for chemical determinands (50% of the samples) and for bacteriological determinands (in over 40% of cases).

## BOX XIII

### BATHING SITES IN THE REPUBLIC OF MOLDOVA

In the Republic of Moldova, there is a general division of recreational sites: sites of national importance and sites of local importance. At the very outset, it should be noted that the quality of surface waters used for bathing, including the Dniester River, does not meet the hygienic requirements in most cases. At bathing sites, such as those near Soroca and Vadul lui Voda, a high level of microbiological contamination is still detected. Twenty-eight from 31 recreational areas of local importance were run without sanitary permits, noting that on average 5,000 people were daily visiting these areas. Sanitary permits were not given, as the areas did not meet the Governmental requirements.

The lack of rescue services for water bodies used for bathing also remains a significant problem for the country. Every year, on average 50 people drown in lakes and rivers because of the imperfection of this service.

#### C. TARGETS AND TARGET DATES

No.	Targets	Target dates	Responsibility
1	Achieve the bathing-water quality standards for Enterococci and E. coli that correspond to "sufficient water quality"	2015: For all bathing sites of "national importance" 2020: For all bathing sites of "local importance"	Local authorities
2	A "National Registry of Water Bodies Certified for Bathing" in place	2015	Ministry of Health

#### D. PROPOSED MEASURES TO ACHIEVE TARGETS AND TARGET DATES

No.	Measures and activities	Time frame	Responsibility
1	Drawing up and implementation of a "Sanitary Regulation on the Quality of Waters Used for Bathing" in accordance with WHO Guidelines and EU Directives	2011-2012	Ministry of Health
2	Inventory and elimination of unauthorized sources of discharges of untreated wastewaters located within the areas used for bathing	2011-2015	Ministry of Environment, Ministry of Health, local authorities
3	Creation and maintenance of water protection zones near water bodies used for bathing	2011-2020	Local authorities



## **A. BACKGROUND RATIONALE**

The third part of article 6, paragraph 2 (j), of the Protocol requires the setting of targets and target dates related to the quality of waters used for aquaculture or for the production or harvesting shellfish.

For the Republic of Moldova as a landlocked country, targets for the quality of waters used for the production or harvesting shellfish are not established.

## **B. CURRENT SITUATION AND ISSUES**

The Law on Fish Stock, Fishery and Aquaculture № 149 from 8 June 2006 regulates the procedures and conditions for the establishment and protection of fish stock, reproduction, cultivation and harvesting of aquatic organisms, amelioration of fishery water bodies, and aquaculture development. The law also defines the principles of activities of public authorities empowered to manage aquatic life and resources. In order to protect fish stock, the law establishes a series of prohibitive measures but does not include requirements as to the quality of water flowing out from fishponds into natural water bodies.

There is no regular State monitoring system regarding the water quality in fishponds; in the majority of cases, water quality monitoring is conducted at the request of farmers in periods of mass fish mortality, and sometimes during incubation. The Academy of Sciences, as part of its research projects, also provides assessments of the quality and conditions of some water bodies. On the basis of available documents regarding water quality analysis and on the basis of knowledge about the mass fish mortality phenomena as well as fish diseases, one may conclude that the waters in more than 50% of the fishponds do not comply with the standards. Reasons include the pollution of fishponds due to polluted run-off from farmland, the irresponsible use of fertilizers and fish food by the fish breeders, non-compliance with the norms for the maximum number of fish in the ponds, and the lack of plans for amelioration activities for the ponds.

In the case of diseases, potentially dangerous for human health and aquatic organisms, the Fish Protection Bodies and the Veterinary Service are obliged by law to inform the central and local public authorities as well as the population (including through the mass media) and to take measures for suspending the spread of such diseases; however, there is no State supervision over the implementation of these measures.

## BOX XIV

### AQUACULTURE IN THE REPUBLIC OF MOLDOVA

Aquaculture in the Republic of Moldova is mostly based on pond farming. Up to the year 1990, the total amount of fish production was about 10,000 tons per year. In 1994, this amount was 1,042 tons; and 1,643 tons in 2002. Fish was grown in the former State-owned fishpond farms.

At the turn of the century, the Ministry of Agriculture approved a programme on the development of the fishing industry for 2002-2010, which stipulates an increase in fish production up to 7,600 tons by 2010. Over 600 fish farmers were trained in 2003-2004 jointly with the Agency for Rural Development.

It is expected that in the coming years the number of fish farms will be around 500. By estimates, the income of such farms from fishing can reach over 8 million lei. Thanks to the development of fish farming, nearly 2,000 villagers will receive new job opportunities in their communities. The fish catch for these ponds is predicted to amount to 5,000 tons in 2010.

Ponds are located mostly in or next to small rivers, which are tributaries of the Dniester (19) and the Prut (9) Rivers. The total number of ponds in the Republic of Moldova is over 3,450; 1,856 of them are located in the basin of the Dniester River and 1,310 in the basin of the Prut River and the rest in other basins. The total area of artificial reservoirs is 27,000 hectares, and the volume of water amounts to 1,800 million m<sup>3</sup>.

Organic substances often pollute the water in fishponds; fertilizer use in agriculture and the subsequent surface run-off into fishponds leads to eutrophication and the development of blue-green algae instead of the preferred green ones. Fish feeding also provokes eutrophication of water bodies and/or leads to contamination and silting-up of waters, the reduction of self-purification of water bodies as well as an increase of suspended solids and particularly organic substances, which also leads to pollution. Thus, the outflow from fishponds, polluted by various substances and contaminated by parasites and microorganisms may have adverse effects on the downstream freshwater system. It should also be noted that rural fishery ponds are often used both as places of watering livestock and of aquaculture; this may result in heavy contamination with parasites (e.g. helminths).

The users of the natural fishery water bodies are obliged to ameliorate such water bodies in accordance with the existing rules and regulations in consultation with the Fishery Inspection. The cost of implementation of these measures is included in the price of the fish catch.

In the case of diseases dangerous to the human health and aquatic organisms, the fish farmers are obliged to inform the public authorities (central and local public administration) as well as the public on measures taken to control the further spread of these diseases.

### C. TARGETS AND TARGET DATES

No.	Targets	Target dates	Responsibility
1	Decrease the percentage of non-compliance with physical, chemical and biological standards of water samples from ponds used for aquaculture	2015: Non-compliance maximum 40% of yearly samples  2020: Non-compliance maximum 25% of yearly samples	Ministry of Agriculture, fish farms and fisheries

### D. PROPOSED MEASURES TO ACHIEVE TARGETS AND TARGET DATES

No.	Measures and activities	Time frame	Responsibility
1	Drawing up of recommendations regarding the conditions of water discharges from ponds used for aquaculture into surface water bodies <sup>27</sup>	2015	Ministry of Environment, Academy of Sciences
2	Drawing up of a “Regulation on norms for, and monitoring of, the quality of waters used for aquaculture”	2015	Ministry of Environment, Academy of Sciences
3	Setting up of a cadastre of water bodies used for aquaculture	2015	Ministry of Agriculture, Ministry of Environment, Academy of Sciences
4	Conducting systematic training on the correct management of water bodies used for aquaculture <sup>28</sup>	2011-2020	Ministry of Agriculture, Ministry of Environment, Academy of Sciences

<sup>27</sup> Containing procedures for monitoring and assessment of water quality by State and economic entities, and for reporting

<sup>28</sup> Training of fish-breeders and quality experts

## TARGET AREA XVII - Art. 6, 2 (k) - Application of recognized good practice to the management of enclosed waters generally available for bathing

### A. BACKGROUND RATIONALE

Article 6, paragraph 2 (k), of the Protocol requires the setting of targets and target dates related to the application of recognized good practice to the management of enclosed waters generally available for bathing. If not managed properly, enclosed waters can represent significant risks, including microbiological and chemical contamination. The WHO *Guidelines for Safe Recreational Water Environments* include a number of good practice principles and recommendations, but no quantitative parameters. Many countries have their own laws and standards, or if not, will set them.

### B. CURRENT SITUATION AND ISSUES

Currently, no national document regulates the application of recognized good practice to the management of enclosed waters generally available for bathing. A regulatory framework is the Law No. 10 of 3 February 2009 on the State Supervision over Public Health, approved by Government Decision No. 384 of 12 May 2010. The latter documents lay down that enclosed waters generally available for bathing should operate on the basis of sanitary permits issued by the Territorial Centres for Public Health. For decisions about compliance or non-compliance of such “swimming pools” with the standards, the Interstate Agreement for Countries of the Commonwealth of Independent States (SanPiN 2.1.2.1188-03 “Swimming Pools; Hygienic Requirements regarding Design, Maintenance and Water Quality; Quality Control”) is used.

Eight swimming pools (Chisinau - 7 swimming pools, Balti - 1 swimming pool) and 4 SPAs in sanatoriums (in the cities of Chisinau, Cahul, Calarasi, Vadul lui Voda) are registered by the Territorial Centres for Public Health. According to a study conducted in 2009, the water quality in indoor swimming did not meet the sanitary requirements for chemical indicators (for 11.5% of the samples) and microbiological indicators (for 12% of the samples).

### C. TARGETS AND TARGET DATES

No.	Targets	Target dates	Responsibility
1	Achieve the quality standards for enclosed waters generally used for bathing	2015: For all enclosed waters	Local authorities, owners and operators of enclosed waters

### D. PROPOSED MEASURES TO ACHIEVE TARGETS AND TARGET DATES

No.	Measures and activities	Time frame	Responsibility
1	Drawing up and implementation of a “Sanitary regulation on the quality of enclosed waters generally used for bathing” in accordance with WHO Guidelines	2015	Ministry of Health
2	Inventory of all enclosed waters generally used for bathing	2012	Ministry of Health, local authorities

## **A. BACKGROUND RATIONALE**

Article 6, paragraph 2 (I), of the Protocol requires the setting of targets and target dates related to the identification and remediation of particularly contaminated sites that adversely affect waters within the scope of this Protocol or are likely to do so, and that thus threaten to give rise to water-related diseases.

## **B. CURRENT SITUATION AND ISSUES**

Oil products, chemicals, used pesticides, polychlorinated biphenyls and other wastes rank as particular contaminants of sites in the Republic of Moldova. There are neither statistical records of such contaminated areas nor planned activities for their overall decontamination.

It is well known that oil products in the area of Iargora, Causeni and Marculesti contaminate groundwaters, but the boundaries of the contamination zones and the level of pollution are not yet estimated. Thus, there are problems with the supply of quality water to the population living in these locations. There is no database yet for these areas.

In the country, with the exception of the projects mentioned below, methods or technologies for the decontamination of sites are not available and there is no experience regarding the expenditures required for the decontamination of such sites.

The national legislation on environmental protection does still not include requirements as to the planning and implementation of specific activities on the decontamination of particularly contaminated sites and the duties of economic entities and local authorities to manage these areas. So far, the legal provisions are limited to measures to prevent contamination of environmental media without focusing on the specificity of particularly contaminated sites. Even a definition of “contaminated sites” does not exist in the national legislation, and there is no responsibility spelled out for managing “historically” contaminated sites.

Nevertheless, a number of actions were taken in the period from 2005 to 2010, including:

- An inventory of contaminated sites by POPs through the GEF Project “Management and Removal of POPs under the Stockholm Convention” and the SIDA Project “Decontamination of POP Contaminated Areas”;
- Specific measures to decontaminate three settlements (Bujor, Congaz and Step-Soci) under the above projects;
- Ongoing studies on the identification and mapping of contaminated areas in Marculesti with assistance from the Czech Republic;
- The continuation of the establishment of inventories of territories contaminated by PCBs.

### C. TARGETS AND TARGET DATES

No.	Targets	Target dates	Responsibility
1	Identify and map particularly contaminated sites	<p>2015: Identification accomplished for 15% of the country's territory</p> <p>2015: Mapping accomplished for sites particularly contaminated by pesticides</p> <p>2020: Identification accomplished for 100% of the country's territory</p> <p>2020: Mapping accomplished for sites particularly contaminated by oil products and other chemicals</p>	Ministry of Environment

### D. PROPOSED MEASURES TO ACHIEVE TARGETS AND TARGET DATES

No.	Measures and activities	Time frame	Responsibility
1	Drawing up of the "National Strategy on Waste Management"	2010-2011	Ministry of Environment
2	Establishment of a Waste Management Centre	2012-2013	Ministry of Environment
3	Equipment of laboratories to monitor particular contaminants in soil, water and other environmental media	Permanently	Ministry of Environment
4	Assessment of the required means for the decontamination of sites polluted by chemicals	2015	Ministry of Environment, local authorities
5	Conducting seminars and public awareness campaigns on possible negative impacts of contaminated sites on surface water and groundwater resources	Permanently	Ministry of Environment
6	Setting up and maintaining a database on contaminated areas	<p>2015: for pesticides and PCBs</p> <p>2020: for oil products</p>	Ministry of Environment

## **A. BACKGROUND RATIONALE**

Article 6, paragraph 2 (m), of the Protocol requires the setting of targets and target dates related to the effectiveness of systems for the management, development, protection and use of water resources, including the application of recognized good practice to the control of pollution from sources of all kinds. In addition, according to article 6, paragraph 5 (b), Parties shall establish water management plans in transboundary, national and/or local contexts, preferably on the basis of catchment areas or groundwater aquifers. The public shall be involved.

In accordance with article 5 of the Protocol: (a) water resources shall be managed in a sustainable way (art. 5, para. (d)); (b) action to manage water resources should be taken at the lowest appropriate administrative level ( article 5, para. (f)); (c) efficient use of water should be promoted through economic instruments and awareness-raising (art. 5, para. (h)); and (d) water resources should, as far as possible, be managed in an integrated manner on the basis of catchment areas, with the aims of linking social and economic development to the protection of natural ecosystems and of relating water resource management to regulatory measures concerning other environmental mediums. Such an integrated approach should apply across the whole of a catchment area, whether transboundary or not, including its associated coastal waters, and to the whole of groundwater aquifer (art. 5, para. (j)).

Moreover, article 13 of the Protocol encourages Parties to establish, with other Parties bordering the same transboundary waters, joint or coordinated water management plans.

## **B. CURRENT SITUATION AND ISSUES**

Water resources management in the Republic of Moldova is carried out on a basis of the existing legislation developed over the past 15-17 years. During this period, the legislation was often amended, however, up-to-date requirements as to integrated water resources management was not yet incorporated.

Over the past 2 years, there were some positive developments as to the institutional framework of decision-making on sustainable water management. Policy development, planning and management measures, and, at the same time, the protection of water resources, is now concentrated in one public authority - the Ministry of Environment – which will allow a more streamlined solution of water problems.

Although serious steps were taken to implement the principles of the EU Water Framework Directive (WFD), such as the creation of specialized departments within the “Apele Moldovei” Agency for Water Management responsible for water management by river basins (including transboundary basins), it is too early to speak about the implementation of Integrated Water Resources Management (IWRM) as set forth in the WFD. It is still necessary to develop a number of laws, regulations and measures to achieve the purposes of IWRM, including the development of management plans for river basins, the establishment of standards for a water classification system by five classes, the improvement of water monitoring programmes, and the improvement of the institutional mechanism of international cooperation.

In addition, it is necessary to establish a system/methodology for assessing the effectiveness of water management by river basins, and, which is most important, to plan activities to achieve the effectiveness of water management. Some of the activities to achieve an efficient use and protection of water resources have already been taken during the development of the “Action Plan Republic of Moldova – European Union” in 2005. Some others remain to be implemented over the next period of time as described below.

**BOX XV**

**SURFACE WATERS IN THE REPUBLIC OF MOLDOVA**

In the Republic of Moldova, there are approximately 3,600 rivers with a total length of 16,000 km; the average density ranges from 0.48 km/km<sup>2</sup> in the north of the country to 0.12 km/km<sup>2</sup> on the right bank of the Dniester. In addition, there are about 3,500 lakes and reservoirs.

Apart from the Prut (shared by the Republic of Moldova, Romania and Ukraine) and the Dniester (shared by the Republic of Moldova and Ukraine), other major transboundary watercourses - shared by the Republic of Moldova and Ukraine - include the Cogilnik, Sarata, Hagider, Cahul and Ialpuș Rivers.

The surface waters on the territory of the Republic of Moldova are heavily influenced, both quantitatively and qualitatively, by human activities as shown below.

<b>Water quality classification of surface waters – a comparison between 2005 and 2010</b>		
Water-quality class	Percentage (rounded) of surface waters belonging to these classes	
	2005	2010
I	–	–
II	60.7	81.9
III	38	17
IV	0.4	0.3
V	0.5	0.5
VI	–	–
VII	0.4	0.3

The present water-quality classification system is based the „Interim guidelines for integrated assessments of the quality of surface waters and marine waters” developed by the Rostov Hydrochemical Institute (Russia). It uses a water pollution index (WPI) calculated in the Republic of Moldova on the basis of the six determinands: BOD<sub>5</sub>, dissolved oxygen, N-NO<sub>2</sub>, N-NH<sub>4</sub>, oil products and phenols.

A new classification system, based on the EU Water Framework Directive is currently in a consultation process within the Government, and the targets established under article 6, paragraph 2 (m), foresee the application of the new systems within a short period of time. The new system was developed as part of the EU/TACIS project “Water Governance in the countries Belarus, the Republic of Moldova, Ukraine, Azerbaijan, Armenia and Georgia” and was also subject to consideration under the National Policy Dialogue on Integrated Water Resources Management under the EU Water Initiative with UNECE as key strategic partner.



## BOX XVI

### GROUNDWATERS IN THE REPUBLIC OF MOLDOVA

Groundwaters from deep and shallow aquifers are the main source of drinking water in the Republic of Moldova, which supply nearly 100% of the rural population and 30% of the urban population (i.e. in total 65% of the total population). As regards surface waters, the most important sources are the Dniester River (32%) and the Prut River (2.8%); other surface waters contribute with 0.2%.

Shallow groundwaters, located at a depth of 10-30 m represent a major source of water supply in those rural areas, where no centralised water supply systems are installed. However, the use of shallow groundwaters has significantly decreased over the past 10-15 years due to the deterioration of their quality and the development of water supply systems in some villages. In terms of quality, they do not always meet the drinking water standards for some specific physical-chemical and microbiological determinands.

Many recharge areas of groundwaters are generally highly polluted; there is also a poorly developed groundwater management system, a lack of registration and protection measures, insufficiently monitoring and research activities, and a lack of human and financial resources necessary for the development of integrated groundwater management.

The quality monitoring of deep groundwaters is carried out by the Agency for Geology and Mineral Resources and the State Sanitary and Epidemiological Service. From the total number of wells, only 170 were monitored by the Agency for Geology and Mineral Resources in the period 2007-2009. There is no system for groundwater classification.

On 1 January 2006, the exploitable deep groundwaters resources in the country amounted to 3,462,815 cubic metres/24 h. Approved by the State Commission on Reserves were 2,196,146 cubic metres/24 h, including:

- For the supply of drinking and household water 2,027,159 cubic metres/24 h;
- As non-potable waters 148,270 cubic metres/24 h;
- As approved potential reserves 77,991 cubic metres/24 h.

**Table 7: Water use by use categories**

Use of water resources	2005	2008
	Volume [million m <sup>3</sup> ]	Volume [million m <sup>3</sup> ]
<b>Fresh water abstracted, total</b>	<b>851.91</b>	<b>861.29</b>
From surface waters:	716.35	734.47
From groundwaters:	135.56	126.82
<b>Agriculture</b>	<b>84.71</b>	<b>90.87</b>
From surface waters:	60.48	64.95
From groundwaters:	24.23	25.92
<b>Industry</b>	<b>16.97</b>	<b>16.10</b>
From surface waters:	10.61	10.43
From groundwaters:	6.36	5.67
<b>Energy sector</b>	<b>555.26</b>	<b>555.46</b>
From surface waters:	553.36	553.36
From groundwaters:	1.90	2.10
<b>Household water supply</b>	<b>182.79</b>	<b>188.89</b>
From surface waters:	88.60	102.35
From groundwaters:	94.19	86.54
<b>Other sectors</b>	<b>12.18</b>	<b>9.97</b>
From surface waters:	3.30	3.38
From groundwaters:	8.88	6.59

**Table 8: Water use by major river basins**

River basin	2005	2008
	Volume [million m <sup>3</sup> ]	Volume [million m <sup>3</sup> ]
<b>All river basins, in total</b>	<b>851.91</b>	<b>861.29</b>
<b>Dniester River basin, in total [1]</b>	<b>817.83</b>	<b>825.34</b>
From surface waters:	704.46	719.30
From groundwaters:	113.37	106.04
<b>Prut River basin, in total [1]</b>	<b>23.75</b>	<b>25.17</b>
From surface waters:	9.67	12.70
From groundwaters:	14.08	12.47
<b>Other river basins, in total</b>	<b>10.33</b>	<b>10.78</b>
From surface waters:	2.22	2.47
From groundwaters:	8.11	8.31

[1] Data for transboundary river basins (Dniester, Prut) only refer to their Republic of Moldovan parts

### C. TARGETS AND TARGET DATES

No.	Targets	Target dates	Responsibility
1	River Basin Management Plans in place	2015: Prut River basin 2017: Dniester River basin	Ministry of Environment, the "Apele Moldovei" Agency

### D. PROPOSED MEASURES TO ACHIEVE TARGETS AND TARGET DATES

No.	Measures and activities	Time frame	Responsibility
1	Development and adoption of the Water Law	2010-2011	Ministry of Environment, the "Apele Moldovei" Agency
2	Development of a "Strategy on Water Management in Extreme Situations (Floods)"	2011-2012	Ministry of Environment, the "Apele Moldovei" Agency
3	Development of a "Strategy on Groundwater Management"	2013-2016	Ministry of Environment, the "Apele Moldovei" Agency
4	Development and adoption of a "Regulation on the Protection of Surface Waters"	2011-2012	Ministry of Environment, the "Apele Moldovei" Agency
5	Development and adoption of a "Regulation on the Designation of Water Bodies" <sup>29</sup>	2013-2014	Ministry of Environment, the "Apele Moldovei" Agency
6	Development and adoption of a "Regulation on Water Management Plans for River Basins"	2013-2014	Ministry of Environment, the "Apele Moldovei" Agency
7	Development and adoption of a "Regulation on Surface Water Monitoring"	2013-2014	Ministry of Environment, the "Apele Moldovei" Agency
8	Development of a "National Programme on Water Resources Monitoring"	2012-2013	Ministry of Environment, the "Apele Moldovei" Agency
9	Cooperation with, and signing of agreement(s) with, Ukraine on transboundary water management in the Dniester River basin	2012	Ministry of Environment, the "Apele Moldovei" Agency
10	Organisation of seminars and public awareness campaigns regarding the negative effects of economic activities on surface water and groundwater resources	Permanently	Ministry of Environment, the "Apele Moldovei" Agency
11	Accomplishment of the water-quality classification for the Dniester and Prut River basins <sup>30</sup>	Until 2014	Ministry of Environment, the "Apele Moldovei" Agency

<sup>29</sup> Based on the Water Framework Directive's definitions for bodies of water

<sup>30</sup> According to the new methodology

## **A. BACKGROUND RATIONALE**

Countries shall set the frequency of the publication of information on the quality of the drinking water supplied and of other waters relevant to the targets set, in the intervals between the publication of information on the collection and evaluation of data on the progress towards the targets. Such publication should take place every three years, as decided by the Meeting of the Parties to the Protocol.

## **B. CURRENT SITUATION AND ISSUES**

Currently, nationwide data on the quality of drinking and surface water are published in the annual publications of the State Service for Public Health as well as at the site of the National Centre for Public Health ([www.cnspl.md](http://www.cnspl.md)). At the local level, data on drinking water quality for the respective administrative territory are not published, although the Sanitary Standards on the Drinking Water Quality (approved by the Government Resolution No. 934 of 15 August 2008) require operators to submit these data on demand.

Information about the water quality in recreational areas is annually presented to the Government according to the Government Decision No. 737 of 11 June 2002 on the Approval of Regulations on the Maintenance of Recreational Zones Adjacent to Water Bodies, but these data are not published in a special edition.

The State Hydrometeorological Service – in addition to hydrological data - is annually publishing the State Water Cadastre, which provides summary information on the quality of surface water at its monitoring stations, and also provides information about cases of non-compliance with water-quality standards related to aquatic life (i.e. maintenance of fish life). The Water Cadastre has a limited distribution, usually among the ministries and departments concerned with water issues. The data are not publicly available.

The State Hydrometeorological Service also performs a specialised monitoring programme of the transboundary Prut River and the Dniester<sup>31</sup> River, but the reports on the joint monitoring programmes are also not publicly available in the Republic of Moldova.<sup>32</sup> Moreover, there is no monitoring of transboundary groundwaters yet.

According to the statistical report No. 1 “Water management”, all water users that have permissions for “special water use”, as determined by the “Apele Moldovei” Agency, report both on withdrawal of water from natural water sources, use and discharge (by volume). The Data Centre of the “Apele Moldovei” Agency processes data by river basin, by administrative-territorial units and by economic activities. All information, processed in this Data Centre is stored as a hard copy and in electronic format. Annually, the Agency submits information to the National Bureau of Statistics that is publishing selected information in the annual statistical reports of the Republic of Moldova.

<sup>31</sup> Jointly with the “Apele Moldovei” Agency

<sup>32</sup> The International Commission for the Protection of the Danube River is publishing the data and analysis of information on the transnational monitoring network including monitoring data from the Republic of Moldova

Every three years, the Ministry of Environment in cooperation with the Academy of Sciences draws up and publishes a National Report on the State of the Environment, which includes separate sections on the management and protection of water resources as well as water-and-health related policy issues.

Every year, the State Ecological Inspectorate draws up and publishes a National Report on the State of the Environment. The report includes sections on the protection of water resources, activities related to compliance with legislation on water protection, pollution prevention and efficient maintenance of infrastructure (wastewater treatment installations, sanitation collectors and water supply pipelines).

### C. TARGETS AND TARGET DATES

No.	Targets	Target dates	Responsibility
1	Publication of the “National Report on Drinking Water Quality”	Every 3 years from 2011 onwards	Ministry of Health
2	Publication of municipal/provincial reports on drinking water quality	Yearly from 2011 onwards	Ministry of Health
3	Publication of the “Report on the Quality of Waters Used for Bathing”	Yearly from 2011 onwards	Ministry of Health
4	Publication of national reports as required under the Protocol on Water and Health	Every 3 years from 2011 onwards	Ministry of Health, Ministry of Environment
5	A Clearing House on the Protocol on Water and Health established	2012	Ministry of Health

### D. PROPOSED MEASURES TO ACHIEVE TARGETS AND TARGET DATES

No.	Measures and activities	Time frame	Responsibility
1	Collection and processing of data and information on indicators that characterize the rational and effective management of water resources and the reduction of water pollution for subsequent publication in the National Report on the Environment	Every 3 years	Ministry of Environment
2	Collection and processing of data and information on the achievement of actions under the Protocol on Water and Health (rational and effective management of water resources, reduction of water pollution) for subsequent publication in the National Report on the Environment	Yearly	Ministry of Environment
3	Collection of information regarding the accomplishment of activities under the Protocol on Water and Health preparation of the National Report	Every 3 years	Ministry of Environment, Ministry of Health
3	Providing support to the Clearing House “Water and Health” on water-quality issues that are of relevance to the Protocol on Water and Health	Permanently	Ministry of Health, National Centre for Public Health

## **Annex**

### **Ministerial Order № 91/704 of 20 October 2010 on the Approval of the List of Targets and Target Dates to Implement the Protocol on Water and Health**

**MINISTRY  
OF ENVIRONMENT**

**of the Republic of Moldova**

**MINISTRY  
OF HEALTH**

**of the Republic of Moldova**

#### **ORDER**

**20 October 2010**

**No. 91/704**

**Chişinău**

#### **On the Approval of the List of Targets and Target Dates to Implement the Protocol on Water and Health<sup>33</sup>**

In order to ensure the implementation of the provisions of the Protocol on Water and Health to the 1992 UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes, ratified by the Republic of Moldova through the Law No. 207-XVI of 29 July 2005,

#### **WE GIVE THE FOLLOWING ORDER:**

1. The List of targets and target dates for the implementation of the Protocol on Water and Health (Annex) is herewith approved.
2. The Steering Committee for the implementation of the Protocol on Water and Health, established by Joint Order No. 11/75 of 19 February 2010, shall:
  - (a) Promote and manage activities to achieve the targets and target dates;
  - (b) Develop measures<sup>34</sup> for the achievement of the targets and target dates and include them in the new Action Plan for Environment and Health for submission to the Government for approval.
3. The focal point for the Protocol on Water and Health from the National Centre for Public Health and the focal point for the Convention on the Protection and Use of Transboundary Watercourses and International Lakes from the Ministry of Environment shall be responsible for monitoring and assessing the progress in achieving these targets and target dates, and for publishing and submitting the evaluation reports to the Joint Secretariat for the Protocol.
4. This Order shall be made public through the relevant mass media.

The Deputy Minister of Environment, Mr. Corneliu Mirza, and the Deputy Minister of Health, Mr. Mihai Magdei, shall assume the control over the implementation of this Order.

**Minister**

**Minister**

Signed in the Russian/Moldovan originals by Mr. Gheorghe SALARU, Minister for Environment, and Mr. Vladimir HOTINEANU, Minister for Health

<sup>33</sup> Note by the UNECE secretariat: This is an unofficial translation from the Russian and Moldovan originals. Footnotes contained in this Order do not appear in the originals; they are intended to provide further explanations to those who are not familiar with the relevant supporting documentation drawn up under the auspices of the Steering Committee

<sup>34</sup> A set of proposed measures was already drawn up under the auspices of the Steering Committee (see PART III of the present compilation)

## Appendix to the Order No.91/704 of 20 October 2010

### TARGET AREA I – Art. 6, 2 (a) – Quality of the drinking water supplied

No.	Targets	Target dates <sup>35</sup>
1	Reduce the percentage of non-compliance with microbiological drinking water standards (E. coli, enterococi)	2015: Non-compliance in urban areas maximum 5% of yearly samples 2020: Non-compliance in urban areas maximum 3% of yearly samples 2015: Non-compliance in rural areas maximum 10% of yearly samples 2020: Non-compliance in rural areas maximum 7% of yearly samples 2025: Non-compliance in rural areas maximum 5% of yearly samples
2	Reduce the percentage of non-compliance with drinking water standards for five main chemical determinands (F, NO <sub>3</sub> , NO <sub>2</sub> , As, Fe, Pb)	2015: Non-compliance maximum 25% 2020: Non-compliance maximum 20%
3	Achieve compliance with all the existing chemical and microbiological drinking water quality standards in schools	2015: In about 95% of all schools 2020: In about 100% of all schools
4	Set up water safety plans	2015: For all cities 2020: For all other settlements with a population over 5,000 people

### TARGET AREA II – Art. 6, 2 (b) – Reduction of the scale of outbreaks and incidents of water-related diseases

No.	Target	Target dates
1	An “Information System of the State Supervision over Non-infectious Diseases” in place	2014
2	Maintain a zero level of incidence of cholera and typhoid	2020
3	Reduce the incidence of viral hepatitis A and dysentery	2020: By 20%

<sup>35</sup> In the present English compilation, the original column “Target dates: intermediate dates/final dates” was combined in one single column “Target dates”.

**TARGET AREA III - Art. 6, 2 (c) - Access to drinking water**

<b>No.</b>	<b>Targets</b>	<b>Target dates</b>
1	Provide access of the population to improved water supply sources	2015: For 68% of the total population 2020: For 80% of the total population 2015: For 35% of the rural population 2020: For 45% of the rural population
2	Increase the access of children in schools and pre-school institutions to improved water supply sources	2015: In 95% of schools and pre-school institutions 2020: In 100% of schools and pre-school institutions

**TARGET AREA IV - Art. 6, 2 (d) - Access to sanitation**

<b>No.</b>	<b>Targets</b>	<b>Target dates</b>
1	Provide access of the population to improved sanitation systems	2015: 85% of the urban population 2020: About 90% of the urban population 2015: 45% of the rural population 2020: About 70% of the rural population
2	Provide access of children in schools and pre-school institutions to improved sanitation systems	2015: About 90% of all schools and pre-school institutions 2020: About 100% of all schools and pre-school institutions
3	Increase the number of settlements and the share of its population which is served by small (individual and/or collective) systems of improved sanitation (e.g. dry ECOSAN toilets, constructed wetlands, septic tanks, or other technologies)	2015: About 50 settlements 2020: About 100 settlements



**TARGET AREA V - Art. 6, 2 (e), first part – Level of performance of collective and other systems for water supply**

<b>No.</b>	<b>Targets</b>	<b>Target dates</b>
1	Efficient <sup>36</sup> collective systems of water supply in place	2015: In 3 cities 2020: In 10 additional cities 2015: In 5 rural settlements 2020: In 15 additional rural settlements
2	Operators of collective systems of water supply and sanitation that are able to respond to extreme weather events and large-scale emergency situations in place	2015: 2 operators 2020: 3 additional operators

**TARGET AREA VI – Art. 6, 2 (e), second part – Level of performance of collective and other systems for sanitation**

<b>No.</b>	<b>Targets</b>	<b>Target dates</b>
1	Efficient <sup>37</sup> collective sanitation systems in place	2015: In 2 cities 2020: In additional 2 cities

**TARGET AREA VII – Art. 6, 2 (f), first part – Application of recognized good practices to the management of water supply**  
*and*

**TARGET AREA VIII – Art. 6, 2 (f), second part – Application of recognized good practices to the management of sanitation**

<b>No.</b>	<b>Targets</b>	<b>Target dates</b>
1	Regional <sup>38</sup> associations of enterprises for collective and other systems of water supply and sanitation in place	2015: 2 associations 2020: 3 additional associations

**TARGET AREA IX – Art. 6, 2 (g), i – Occurrence of discharges of untreated waste water**

<b>No.</b>	<b>Targets</b>	<b>Target dates</b>
1	Terminate the discharge of untreated urban waste waters into natural water bodies <sup>39</sup>	2015: 2 cities 2017: 2 additional cities

<sup>36</sup> Criteria for “efficiency” are still to be established by the relevant ministries/agencies

<sup>37</sup> Criteria for “efficiency” are still to be established by the relevant ministries/agencies

<sup>38</sup> In this compilation, the term “regional” means a territorial unit below the level of State

<sup>39</sup> This target applies to cities that currently do not have any wastewater treatment plant(s)

**TARGET AREA X – Art. 6, 2 (g) (ii) – Occurrence of discharges of untreated storm water overflows from wastewater collection systems to waters within the scope of the Protocol**

No.	Targets	Target dates
1	Installations for the treatment of storm water that are currently discharged into natural water bodies in place	2020: 2 cities

**TARGET AREA XI – Art. 6, 2 (h) – Quality of discharges of waste water from wastewater treatment installations to waters within the scope of the Protocol**

No.	Targets	Target dates
1	Treat the wastewater discharged from treatment plants into natural water bodies according to standards <sup>40</sup>	2015: 4 cities 2020: 4 additional cities 2015: 8 rural settlements (constructed wetlands) 2020: 10 additional rural settlements

**TARGET AREA XII - Art. 6, 2 (i), first part - Disposal or reuse of sewage sludge from collective systems of sanitation or other sanitation installations**

No.	Targets	Target dates
1	A mechanism <sup>41</sup> for the reuse of sludge from treatment plants and the dry ECOSAN toilets in agriculture and landscape management in place	2015

**TARGET AREA XIII - Art. 6, 2 (i), second part - Quality of waste water used for irrigation purposes**

No.	Targets	Target dates
1	Norms for the reuse of wastewater from treatment plants for irrigation purposes in place	2015

**TARGET AREA XIV – Art. 6, 2 (j), first part – Quality of waters which are used as sources for drinking water**

No.	Targets	Target dates
1	Achieve the numerical values for Enterococci and E. coli set for the quality of surface water used as sources of drinking water	2015: Numerical values according to class III 2020: Numerical values according to class II
2	A GIS that provides information on the quality of the sources of drinking water in place	2015

<sup>40</sup> These standards were established by the legislative act of 10 October 2008 (see also Target areas VI, VII and VIII)

<sup>41</sup> Legal, regulatory, administrative, institutional, technical and/or management frameworks

**TARGET AREA XV - Art. 6, 2 (j), second part - Quality of waters used for bathing**

<b>No.</b>	<b>Targets</b>	<b>Target dates</b>
1	Achieve the bathing-water quality standards for Enterococci and E. coli that correspond to “sufficient water quality”	2015: For all bathing sites of “national importance”  2020: For all bathing sites of “local importance”
2	A “National Registry of Water Bodies Certified for Bathing” in place	2015

**TARGET AREA XVI - Art. 6, 2 (j), third part - Quality of waters used for aquaculture or for the production or harvesting shellfish**

<b>No.</b>	<b>Targets</b>	<b>Target dates</b>
1	Decrease the percentage of non-compliance with physical, chemical and biological standards of water samples from ponds used for aquaculture	2015: Non-compliance maximum 40% of yearly samples  2020: Non-compliance maximum 25% of yearly samples

**TARGET AREA XVII - Art. 6, 2 (k) - Application of recognized good practice to the management of enclosed waters generally available for bathing**

<b>No.</b>	<b>Targets</b>	<b>Target dates</b>
1	Achieve the quality standards for enclosed waters generally used for bathing	2015: For all enclosed waters

**TARGET AREA XVIII - Art. 6, 2 (l) - Identification and remediation of particularly contaminated sites**

<b>No.</b>	<b>Targets</b>	<b>Target dates</b>
1	Identify and map particularly contaminated sites	2015: Identification accomplished for 15% of the country’s territory  2015: Mapping accomplished for sites particularly contaminated by pesticides  2020: Identification accomplished for 100% of the country’s territory  2020: Mapping accomplished for sites particularly contaminated by oil products and other chemicals

**TARGET AREA XIX - Art. 6, 2 (m) - Effectiveness of systems for the management, development, protection and use of water resources**

<b>No.</b>	<b>Targets</b>	<b>Target dates</b>
1	River Basin Management Plans in place	2015: Prut River basin 2017: Dniester River basin

**TARGET AREA XX - Art. 6, 2 (n) - Frequency of publication of information on the quality of drinking water supplied and of other waters relevant to the Protocol**

<b>No.</b>	<b>Targets</b>	<b>Target dates</b>
1	Publication of the "National Report on Drinking Water Quality"	Every 3 years from 2011 onwards
2	Publication of municipal/provincial reports on drinking water quality	Yearly from 2011 onwards
3	Publication of the "Report on the Quality of Waters Used for Bathing"	Yearly from 2011 onwards
4	Publication of national reports as required under the Protocol on Water and Health	Every 3 years from 2011 onwards
5	A Clearing House on the Protocol on Water and Health established	2012

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**Descrierea CIP a Camerei Naționale a Cărții**

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