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PROTOCOL ON WATER AND HEALTH

NATIONAL PROGRAMME

for Implementation of the Protocol on Water and Health for the years 2016-2025

Chișinău, 2016

NATIONAL PROGRAMME

for Implementation of the Protocol on Water and Health for the years 2016-2025

Chișinău, 2016

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FOREWORD

We are pleased to see the results of a successful cooperation between the Ministry of Health and the Ministry of Environment in the implementation in Moldova of the Protocol on Water and Health to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Helsinki, March 17, 1992), joined by our country in 2005, by ratification thereof by the Law no. 207 of 29.07.2005. The Protocol on Water and Health is the first international agreement adopted specifically to achieve an adequate supply of safe drinking water and improved sanitation for everyone, as well as effective protection of water resources used as sources of drinking water. During the 11 years of cooperation of these ministries under the Protocol, many reliable partners were attracted, both at the international level, such as the UN Economic Commission for Europe, the World Health Organization, Regional Office for Europe, the Swiss Agency for Cooperation and Development, as well as at the national level: public central and local authorities and local institutions and operators providing water and sanitation services, non-governmental organizations in the field, scholars and the general public who have contributed to the development of a positive environment between the two major areas the Protocol on Water and Health relies on. As a result of this cooperation, the Government Decision no. 1063 of September 16, 2016 approving the first National Program for implementing the Protocol on Water and Health in the Republic of Moldova for the years 2016-2025, with the National Action Plan and national targets was developed and approved.

We are convinced that approval of this program by the Government of Moldova will mobilize the responsible stakeholders for implementing the program, in order for them to take efforts for the strengthening of the health systems, which is impossible without safe drinking water, improving the management of water resources and quality of water supply and sanitation services, as well as addressing future health risks.

Monitoring the implementation of planned actions and achieving the indicators of the program will provide evidence of the extent of their implementation, in order to subsequently conduct different types of interventions, both nationally and internationally, by aligning to the new programs of cooperation, attracting necessary investments, and building the necessary capacity of institutions responsible for implementing the Protocol. At the same time, the program outputs will serve as the basis for reporting the progress in Moldova to the Protocol

Secretariat. The program approach will allow the Government of Moldova and other responsible stakeholders to draw attention to the importance of future risks that can threaten human health, associated with some emerging threats such as climate change and scarcity of drinking water.

We would like to use this opportunity to express our gratitude to the Swiss Agency for Development and Cooperation (SDC) and the UN Economic Commission for Europe without the support of which these results would not have been possible.

Sincerely,

Ruxanda GLAVAN
Minister of Health

Valeriu MUNTEANU
Minister of Environment

SUMMARY

This set of documents presents the first National Programme for Implementation of the Protocol on Water and Health for the years 2016-2025, approved by Government Decision nr.1063 of September 16, 2016.

The program was adopted in view of implementation of the provisions of Article 1 and 2 of the Law no.207-XVI of 29.07.2005 for ratification of the Protocol on Water and Health to the 1992 Convention on Protection and Use of Transboundary Watercourses and International Lakes, signed on 10 March 2000, art. 9, 10, 12 and 39 of the Law No. 10-XVI of 03.02.2009 on state supervision of public health, Law on waters no. 272 of 23 December 2011, Law no. 303 of 13 December 2013 on Public water supply and sanitation service, as well as for the purpose of facilitating the implementation of the National Strategy for Public Health of the Republic of Moldova 2014-2020 (Government Decision no. 1032 of 20.01.2013), the Environment Strategy 2014-2023 and the Action Plan for its implementation, the Strategy for Water Supply and Sanitation 2014-2028, providing for measures to increase water safety, ensure a sufficient supply of good quality water for sustainable, balanced and equitable use of water, and ensure the best conditions to prevent water-related diseases.

The need for adoption of the Program was dictated both by Moldova's national commitments under the Protocol on Water and Health, as well as by the fact that the problem of drinking water supply to the population is one of the most acute social problems in Moldova. According to the Statement of the Ministers of Health and Environment adopted in 2010 in Parma at the Vth inter-ministerial conference on health and environment, prevention and reduction of digestive diseases and other kinds of water related diseases by providing access for all children to improved water and sanitation systems is a regional priority for Europe No. 1. Moldova faces great difficulty in achieving this priority due to limited resources available to improve water quality, modernize infrastructure, both in settlements in general and in schools in particular, and to improve management of water resources.

The number of people without access to improved drinking water systems currently amounts to 620 thousand people or 14%, and systems to improved sanitation systems - 1 million 60 thousand people or 30%, which affects the hygienic conditions of living and is a risk factor for the emergence of water related diseases, both infectious and non-communicable.

The national program includes three Annexes: Action Plan for achieving specific objectives, Target indicators (national objectives) and the time-frame for achieving these indicators for all 20 fields of the Protocol, as well as the Funding of actions to achieve the objectives of the Program.

The overall objective of the Program is to achieve the target indicators for the 20 areas by 2025, based on competences and responsibilities provided by national laws and international conventions and agreements ratified by Moldova. The program also sets out 12 specific objectives, the most important of which are: 1) ensuring by 2025 safe drinking water supply to 100% of institutions for children and reducing up to 20% the samples of non-complying drinking water in terms of chemical parameters and 5% in microbiological parameters; 2) reducing by 20% by 2025 the number of epidemic outbreaks of infectious diseases and the incidence of water-related diseases; 3) providing access to sustainable drinking water systems in 100% institutions for children and access of the general population to water supply up to 75% by 2025 and 4) ensuring by 2025 100% population access to improved sanitation systems, including up to 50% to sewerage systems;

To achieve these objectives, the Action Plan includes **77 measures** to improve the situation, such as: improving the regulatory framework, creating IT systems and systems for surveillance of water related diseases, construction or modernization of water supply and sanitation system, construction of drinking water treatment plants to improve the quality of water supplied to consumers, creating regional operators of water systems and sanitation services, capacity building of operators of water and sanitation, so as to streamline their management, improve the capacity for monitoring the quality of water supplied to the consumer and water in the sources, improving the management of bathing water, informing the population on water and health while ensuring the functionality of the Information Center (Clearing House) under the Protocol on Water and Health established within the National Center for Public health.

The program also approves **33 national targets** for the 20 areas of the Protocol, achieving which will allow to significantly reduce the risks to health, prevent water related diseases, ensure a more efficient and sustainable management of water resources, strengthen the institutional capacities of the operators under the conditions of increasing needs in qualitative services (at community, regional and national level) and meet the needs of a competitive national economy, safe in terms of environmental protection and human health.

To implement the measures provided for in the Program, the financial needs until 2025 have been estimated as amounting to 11,139.4 million lei, including from the state budget, the National Environmental Fund and foreign technical assistance.

After approval by Moldova of Sustainable Development Goals (Agenda for Sustainable Development 2030), the Program targets will be easily adjusted to the national level, helping to achieve sustainable development of the country and poverty reduction.

GOVERNMENT OF THE REPUBLIC OF MOLDOVA

DECISION no.1063

dated 2016, september, 16, Chisinau

On approval of the National Program for Implementation of the Protocol on Water and Health in the Republic of Moldova 2016-2025

Under art. 1 and 2 of Law no.207-XVI of 29 July 2005 **for ratification of the Protocol on Water and Health to the 1992 Convention on Protection and Use of Transboundary Watercourses and International Lakes, signed on March 10, 2000 (**Official Gazette **of the Republic of Moldova, year of publishing 2005, no. 107-109, art. 575)**, **as subsequently amended, art.9, 10, 12 and 39 of the** Law no. 10-XVI of February 03, 2009 **on public health surveillance by the state (Official Gazette of the Republic of Moldova, year of publishing 2009, no. 67, art. 183), as subsequently amended, the Water Law no. 272 of 23 December 2011 (Official Gazette of the Republic of Moldova, year of publication in 2012, no. 81, art. 264), as subsequently amended and completed, Law no. 303 of December 13, 2013 on Public Water Supply and Sanitation Service (Official Gazette of the Republic of Moldova, 2014, no. 60-65, art. 123)**, as well as to establish and achieve the national targets for the National Protocol on Water and Health, implement adequate measures for the prevention of water related diseases, and to ensure a more efficient and sustainable management of water sources, the government DECIDES:

1. To approve the National Program for implementation of the Protocol on Water and Health in the Republic of Moldova 2016-2025 (attached).

2. The funds required for conducting the actions included in this Program will be provided from and within the allocations annually approved in the national public budget, and from other sources, provided by the law.

3. The Ministry of Health and the Ministry of Environment will ensure the monitoring and coordination of the implementation of the National Program for implementation of the Water and Health Protocol in the Republic of Moldova for the years 2016-2025.

4. Ministries and other central administrative authorities shall submit to the Ministry of Health, annually, until 15 February, information about the execution of the National Program for the Implementation of the Water and Health Protocol in the Republic of Moldova for the years 2016-2025, according to the responsibilities set out in it.

5. The local public authorities should develop regional programs in the field of water and health, based on the National Program for Implementation of the Water and Health Protocol in the Republic of Moldova for the years 2016-2025, and approve them within one month of publication of this decision in the Official Gazette of the Republic of Moldova.

6. The Ministry of Health shall generalize the information received and submit to the Government, annually, until March 15, the report on implementation of the National Program for implementation of the Water and Health Protocol in the Republic of Moldova for the years 2016-2025.

7. Responsibility for control over the enforcement of this decision shall lie with the Ministry of Health and the Ministry of Environment.

PRIME-MINISTER **Pavel FILIP**

Countersigned:
Minister of Health Ruxanda GLAVAN
Minister of Environment Valeriu Munteanu
Minister of Finance Octavian Armasu

Генеральный секретарь Правительства Тудор КОПАЧ

Endorsed by:

Secretary General of the Government Tudor COPACI

Approved
by Government Decision no.
dated september, 16, 2016

NATIONAL PROGRAMME

for implementation of the Protocol on Water and Health in the Republic of Moldova 2016-2025

I. Identification of the Problem

1. The National Program for implementation of the Protocol on Water and Health in the Republic of Moldova 2016-2025 (hereinafter the Program) was developed in line with the provisions of the Law no. 207-XVI of July 29, 2005 for ratification of the Protocol on Water and Health to the 1992 Convention on protection and use of transboundary watercourses and international lakes, signed on 10 March 2000, the Law no. 10-XVI of 3 February 2009 on state surveillance of public health, the Law on Waters no. 272 of 23 December 2011, aiming at implementation of the medium and long term action to achieve target indicators in accordance with the obligations of the Republic of Moldova under the Protocol on Water and Health by 2025 by setting and achieving national target indicators by implementing appropriate measures to prevent water-related diseases, by ensuring the quality of drinking water and a more efficient and sustainable management of water resources.
2. The target indicators of the Protocol on Water and Health (hereinafter - Protocol) were assessed as part of this Program taking into account the progress achieved in the political, legal, regulatory and institutional framework, aiming to contribute further to achievement of planned indicators of the Protocol.

International Background

3. The Parliament of the Republic of Moldova ratified the Helsinki Convention on the Protection and Use of Transboundary Watercourses and International Lakes (1992) on 4 January 1994. Institutional structures cooperating in management of transboundary watercourses were established under bilateral cooperation agreements with Ukraine (23 November 1994) and Romania (28 August 2010).
4. In 1999 and 2005, the UN Economic Commission for Europe and the Regional Office for Europe of the World Health Organization strengthened bilateral and multilateral cooperation to prevent, control and reduce water-related diseases by adopting on 17 June 1999 in London and making effective

on 4 August 2005 the Protocol on Water and Health to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes.

5. In 1994, the Espoo Convention on Environmental Impact Assessment in a Transboundary Context (1991) was partially transposed into the national legislation by the Law no. 851 of 1996 on environmental expert examination and environmental impact analysis applied in impact assessment of construction of several objectives, including Giurgiulesti terminal on the Prut and Danube Rivers.
6. In 1999, the ICPRD Convention on Protection and Conservation of Danube River (1994), created the general legal instrument for cooperation in management of transboundary watercourses in the Danube river basin. The ICPRD Convention was ratified by the Republic of Moldova on 29 August 1999 and is part of the Danube river basin management commission.
7. In 1999 and 2011, the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters was signed in Aarhus, Denmark on 25 June 1998 and entered into force on 30 October 2001. By the Parliament Decision no. 346 of 7 April 1999 the Aarhus Convention was ratified, and the National Action Plan to implement the Aarhus Convention in the Republic of Moldova was approved by the Government Decision no. 471 of 28 June 2011.
8. In 2006, the Regional Committee for Europe at the 56th session adopted a comprehensive strategy to prevent and control non-communicable diseases (EUR/RC56/R2 Resolution). This Resolution was the specific answer of the World Health Organization to the European Region to the Global Strategy for Prevention and Control of Noncommunicable Diseases adopted by the World Health Assembly in 2000. Noncommunicable diseases are conditional upon common risk factors, which can be modified, so there are opportunities for joint interventions. Inconsistent quality of drinking water, unequal access to water are risk factors that can be prevented and influenced, so we can reduce the burden of water-related diseases of both non-infectious and noncommunicable origin.
9. In 2012, the WHO Regional Committee for Europe adopted at the 62nd session the new framework of the European health policy, Health 2020. Health 2020 is intended to support actions in the Government and society to significantly improve health and wellbeing of population, reduce inequalities in health, strengthen public health and ensure some people-centered health systems that are universal, equitable, and sustainable and of a high quality.
10. In 2013, in Oslo, Kingdom of Norway, the third Meeting of the Parties to the Protocol on Water and Health, identified a range of actions on equitable access to water and sanitation in countries in the European region and implementation of target indicators in the states parties to the Protocol.

National Background

11. On 10 March 2000 the Republic of Moldova signed, and by the Law no. 207-XVI of 29 June 2005 ratified, the 1992 Protocol on Water and Sanitation to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes, submitting the instrument of ratification of that Protocol to the depositary. The Republic of Moldova became a party to the Protocol on 15 December 2005.
12. To facilitate development of target indicators by the Parties to the Protocol, the World Health Organization and the ECE adopted the „*Guidelines on the Setting of Targets, Evaluation of Progress and Reporting*" (no. ECE/MP.WH/5 EUDHP1003944/4.2/2/1 UNECE and WHO/EUROPE, 2010), which lays down 20 areas of the Protocol on setting target indicators.
13. Under Article 6 of the Protocol, target indicators and terms of control have been approved in the Republic of Moldova for 20 areas of the Protocol through the Joint Order of the Ministry of Environment and the Ministry of Health no.91/704 of 20 October 2010. The target indicators and terms of control were established based on the Methodology UNECE and WHO-EUR presented in the Guidelines referred to in para. 12. To review the target indicators and set new terms of control on their achievement, existing national legislation and policies, strategies and programs on water resources management, water supply and sanitation and other aspects of these issues have been assessed, including:
    1) The Drinking Water Law no. 272-XV of 10 February 1999 sets requirements for drinking water supply, the service being provided under a contract between the operator and the consumer.
    2) The Law of Public Utility Services no. 1402-XV of 24 October 2002 defines the right of ownership to water supply and sewerage assets, stipulating that „public utility systems, including related land plots, being of public use, interest or utility, by their nature or according to the law are related to the public area of administrative and territorial units".
    3) The Law on State Supervision of Public Health no.10-XVI of 03 February 2009 governs organization of public health surveillance, establishment of general requirements to public health, rights and responsibilities of individuals and legal entities, organization of state public health surveillance system. Articles 39-40 of the Law govern requirements to drinking water, including drinking water sources.
    4) The Water Law no. 272, as of December 23, 2011 has brought great challenges in the sector proposing a new legal framework for the management of protection and effective use of surface water and groundwater, defining two drainage basins - Nistru; Danube-Prut and Black Sea. The Law aims to protect water against pollution and establishes standards of

environmental quality and wastewater discharges from urban and rural areas.

5) The Law on Public Service of Water Supply and Sewerage no. 303 of 13 December 2013 establishes the legal framework for delivery of water supply and sewerage service. This law is a key legal document that defines that public water and sanitation systems are the responsibility of the local public administration.
6) Sanitary norms on drinking water quality, approved by the Government Decision no. 934 of 15 August 2007 ”establishing the Automated Information System ”State Register of Natural Mineral Waters, Drinking Waters and Bottled Non-Alcoholic Drinks”, include the WHO recommendations, 2004, and requirements of the European Directive 1998/83/EC.
7) The National Health Policy, approved by the Government Decision no. 886 of 06 August 2007, is a priority of the Government and civil society and aims at ongoing strengthening of public health and improving the social and economic condition of the country. Health implies mandatory conditions for economic and social security, harmonious interpersonal and social relations, a safe and healthy working and living environment, adequate quality of drinking water, air and soil, sufficient and balanced food, complemented with a healthy lifestyle and access to quality health services.
8) The Government Decision no. 950 of 25 November 2013 “Approving the Regulation on requirements for collection, treatment and discharge of waste water into the sewerage system and/or in bodies of water for urban and rural areas, laying down the requirements for collection, treatment and discharge of wastewater into the sewerage system and/or water bodies for urban and rural settlements.. This Regulation is a partial transposition of the EC Directive on urban waste water treatment, while the full transposition is a lengthy transition process.
9) The National Strategy for Public Health for 2014-2020, approved by the Government Decision no. 1032 dated 20 December 2013, establishes specific objectives for streamlining and strengthening public health surveillance systems to identify health problems and provide relevant, reliable and timely information for decisions and actions in public health area; ensuring health protection through efficient control of behavioral and environment risk factors, including those related to water quality; adoption of some healthy behaviors by the population through implementation of efficient coordinated measures for promotion of health by various sectors at national and local levels; strengthening national system of prevention, preparation and response to public health emergencies, including in case of epidemic outbreaks of water-related diseases.

15. The Water and sanitation sector has an insufficient regulatory framework and standards in line with those of the European Union, including for small settlements in rural areas. This sector currently relies largely on construction norms and rules (NRC, SNiP and state standards (STAS, GOST), which were developed and applied in the former Soviet Union. These standards are outdated and lead to increased capital investments and operational costs, the infrastructure becomes oversized.
16. The mechanism of planning, designing, construction, expert examination, control and operation of water and sanitation infrastructure needs to be restructured and directed towards the EU standards. The existing design norms include provisions common to urban and rural areas, with oversizing of rural systems as a high requirement to fire-fighting flows and water storage volumes. Some modern wastewater treatment technologies are not covered by the existing norms, thus impeding their national implementation (e.g. constructed wetlands, Ecosan toilets, etc.).
17. The approach to decentralization of water supply and sanitation services can ensure efficiency and reliability of the centralized services and can provide many additional benefits to rural communities. The access to hygienic waste water discharge means access to a sewerage system, septic tank or through other hygienic means of discharge. The review of existing design standards and norms will significantly help to increase efficiency of projects and implement modern technologies in the water supply and sewerage sector.
18. The Joint Order of the Ministry of Environment and the Ministry of Health no.91/704 of 20 October 2010 approving target indicators and terms of control is difficult to implement without involving all responsible authorities, and the national target indicators need to be approved by the Government so as to become a national priority (Annex 1 to this Program).
19. Specific problems require a new approach, such as development of a Plan of Intersector Measures for implementation of target indicators, description and coordination of measures required to achieve each indicator, moreover, assessment of all costs of implementation, establishment of actors that may be involved in the implementation, monitoring and evaluation of progress. (Annexes no. 2 and 3 to this Program).
20. The Strategy of Water Supply and Sanitation (2014-2028) includes new approaches to structuring, financial planning and project identification, which should be a base for sector development. The Strategy proposes institutional reforms in the sector, including assigning to the National Agency for Energy Regulation new regulatory tasks , which will plan for development of a pricing policy, regulation of operators based on some performance indicators, after implementation of which the sector will be able to revive.
21. The Strategy on Water Supply and Sanitation puts emphasis on development of water supply and sanitation plans (Master Plans) and feasibility studies, to

attract justified investments in the sector. The actions indicated in the Strategy require major financial resources to be attracted from sources other than the budget.

22. Until 2013 there was no water supply and sewerage sector planning at regional and local levels. Thought, in 2014 the Ministry of Regional Development and Constructions together with the regional development agencies developed regional sectoral programs in the water supply and sewerage sector approved by the regional development councils in three regions, Centre, North and South". These documents are a tool of implementation of sectoral policy at regional, local levels and served as basis for the identification of some concepts of project drafts that follow to be developed prior the preparation stage of feasibility studies.
23. The European Union acquis is partly harmonized by adopting the Water Law no. 272 in December 2011. Insufficient approximation of national legislation to the European one is conditioned by lack of experience in this field and lack of financial resources to prepare the basis for implementation of harmonized regulations. The improving of the regulatory framework requires approximation of European Union directives in the field of waters:
    1) Directive 2000/60/EC establishing a framework for Community action in the field of water policy
    2) Directive 91/271/EEC concerning urban waste water treatment
    3) Directive 98/83/EC on the quality of water intended for human consumption
    4) Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural sources
    5) Directive 2007/60/EC on the assessment and management of flood risks

Institutional Framework

24. Currently, the key actors in the regulation and development of the water supply and sanitation sector at national level are the Ministry of Environment, the Ministry of Regional Development and Constructions and the Ministry of Health, while a significant role is plaid by the Ministry of Finance and the State Chancellery, but there are still shortages of the institutional framework for sector management in accordance with the approved legislation.
25. The Ministry of Environment is the central public institution in charge of development of the national policy, legal and regulatory framework and the implementation of policy documents, planning of investments in the sector (water supply and sanitation) and management of water resources.
26. The Ministry of Regional Development and Constructions is responsible for planning and development of the water supply and sewerage sector at regional level and is substantially involved in planning and development of the water supply and sewerage infrastructure in the three regional development

agencies. The Ministry of Environment also manages the National Ecological Fund, while the Ministry of Regional Development and Constructions manages the National Regional Development Fund. Together, these funds are the most important national sources of the water supply and sewerage funding.

27. The Ministry of Health is responsible for development of the regulatory framework on standardization of quality of drinking water, surface water and groundwater used for drinking, recreation and irrigation, on quality monitoring, drinking water safety plans, as well as assessment of risks and health impact of water and keeps record of water-related diseases. The Ministry of Health monitors public access to improved water, sanitation systems and hygiene practices, informs the population on water quality and promotes healthy life habits.
28. The Ministry of Finance mobilizes and allocates the necessary budgetary resources in accordance with established practices.
29. The State Chancellery monitors on behalf of the Government implementation of government programs by the relevant ministries.
30. The National Agency for Energy Regulation is responsible for regulation of tariffs for the water supply and sanitation services.
31. There are two national groups of non-governmental institutions with major interests, and namely the Association of Water and Sanitation Operators of the Republic of Moldova „Moldova Apa-Canal" and the Congress of Local Authorities from Moldova.
32. Data on the water supply and sewerage sector, mainly for centralized water pipelines, are regularly collected and processed by the National Bureau of Statistics.
33. Donors and international financial institutions are an important funding source for the sector. Donors are coordinated by the Sectoral Council „Environment, Water Supply and Sanitation". The main donors in the Republic of Moldova are: European Union, World Bank, European Bank for Reconstruction and Development, the Swiss Agency for Development and Cooperation, German International Cooperation Agency, the Austrian Development Agency etc.

Local Level

34. The water supply and sewerage services are the responsibility of the local public administration, the competence of which is set forth in the Law no. 303 of December 13, 2013 regarding on the public water supply and sanitation service.
35. Approximately 50 water operators manage urban water supply and sanitation systems, while municipal services, private initiatives or associations of water users manage the other systems (approx. 880 systems)

36. Coordination between first level local public administration is ensured by district administrations (second level), while the Ministry of Regional Development and Construction manages 3 regional development agencies, which implement investments in the water supply and sanitation sector.
37. The functional responsibilities between the Ministry of Environment and the Ministry of Regional Development and Constructions on development, planning and implementation of water supply programs are not clearly defined
38. An uncoordinated development of the water supply and sanitation infrastructure is noticed locally, often run by donors without consistent national surveillance.
39. It is expected that the new water supply and sanitation strategy and the new law on the water supply and sanitation public service will bring considerable institutional changes in this sector, which will significantly improve cooperation of all stakeholders and will enable a synergy of investments from both national and external sources.
40. In short term, the National Agency for Energy Regulation will become regulator of the water supply and sewerage sector, responsible for licensing of operators and regulation of pricing policies. This change will lead to stimulation of regionalization of the services and strengthening of operators. In addition, it will contribute to the overall improvement of water supply and sewerage service quality.

II. Current state of areas of the Protocol on Water and Health

Current situation of the quality of drinking water distributed to the population

41. The share of samples not complying with the chemical parameters from centralized underground sources in 2015 was 69%, which is virtually the same as in 2014 - 69.6%. The most unfavorable situation is found in the districts of Anenii Noi, Glodeni, Causeni, Falesti, Riscani, Stefan Voda, Taraclia, Hincesti, Comrat. The main problems of groundwater throughout the country are high levels of fluoride (2-14 mg/l) in the districts of Glodeni, Falesti, Ungheni, Calarasi, Causeni Hincesti, Criuleni, Nisporeni, the Autonomous Territorial Unit of Gagauzia (Gagauz-Yeri); boron - (1-3 mg / l) in Stefan Voda, Causeni, Anenii Noi, Taraclia, Gagauz Autonomous Territorial Unit, Falesti, Glodeni, Cahul, Cantemir; sodium (200-560 mg/l) and ammonia (2-10 mg/l) in all geographic areas, but most often - in the Centre, hydrogen sulfide (3.6 mg/l) in the districts of Ungheni, Hincesti, Causeni, and the Autonomous Territorial Unit of Gagauzia , iron (1 - 2.5 mg/l) in Balti mun., the districts

of Falesti, Donduseni, Vulcanesti, Cahul, and for groundwater – an increased content of nitrates and microbial contamination.

42. A relative worsening is noticed in microbiological parameters investigated in all drinking water sources and systems, which amounted for E.Coli -14.5% in 2015 as compared to 12.6% in 2009, Enterococci - 15.1% respectively as compared to 9.6% in 2009. Also it is worth mentioning that approx. 60% of non-compliant samples are taken from groundwater wells.

Table 1.

Share of non-compliance of drinking water with microbiological parameters, annual samples

Studied parameters	Initial values as of the effective date of the Protocol (2005)	Intermediate values (2009)	Current values (2015)
Coliform bacteria	21.9%	20.8%	-
E.coli	-	12.6%	14,5%
Enterococci	-	9.6%	15,1%

Source: National Report on the implementation of the Protocol on Water and Health in the Republic of Moldova, www.cnsp.md, 2016.

43. The share of samples of water from pipelines and wells that do not comply with the sanitary norms, remains high as per chemical and microbiological parameters, different types of systems and drinking water sources, as follows in tables and figures below:

Table 2.

Share of non-compliance of drinking water with chemical parameters, annual samples, by different types of pipelines and sources

	Share of water samples not complying with sanitary and chemical parameters, %					
	2010	2011	2012	2013	2014	2015
Urban pipelines from underground sources	41.4	43.7	44.5	39.4	37.7	40
Urban pipelines from surface sources	13.5	10.4	8.27	5.89	12.2	21
Rural pipelines	49.3	51.6	61.5	51.3	54.9	53
Wells	84.2	82.9	84	79.6	76.5	82

Source: National Report on the state surveillance of public health, National Center for Public Health, 2015

Table 3

Share of non-compliance of drinking water with microbiological parameters, annual samples, by different types of water pipelines and sources

	Share of water samples not complying with the microbiological parameters (%)				
	2010	**2011**	**2012**	**2013**	**2014**
Urban pipelines from underground sources	12.7	9.9	10.8	8.2	9.2
Urban pipelines from surface sources	16.7	14.1	14.2	14.6	17.6
Rural pipelines	6.9	3.3	0.8	1.9	3.4
Wells	41.2	38.3	39.8	36.2	36.3

Source: National Report on the state surveillance of public health, National Center for Public Health, 2016

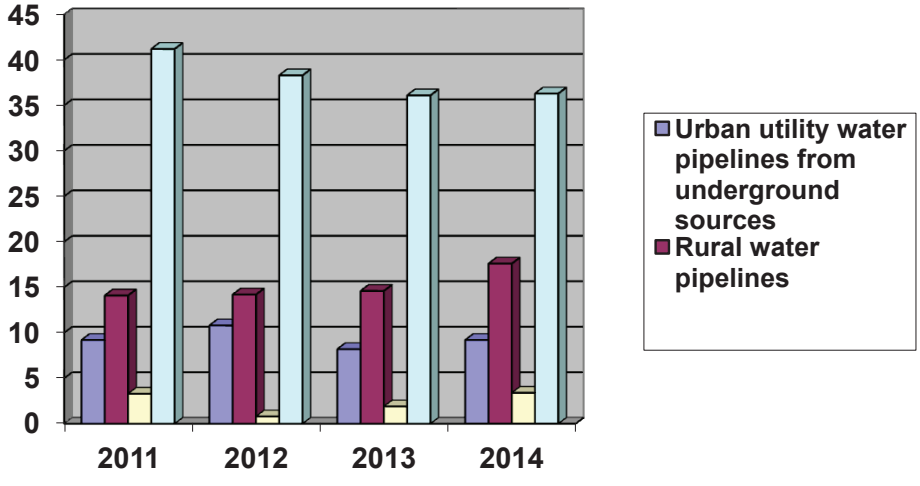

Figure 1. Share of annual samples of drinking water from water pipelines and wells, not complying with the sanitary norms of chemical parameters

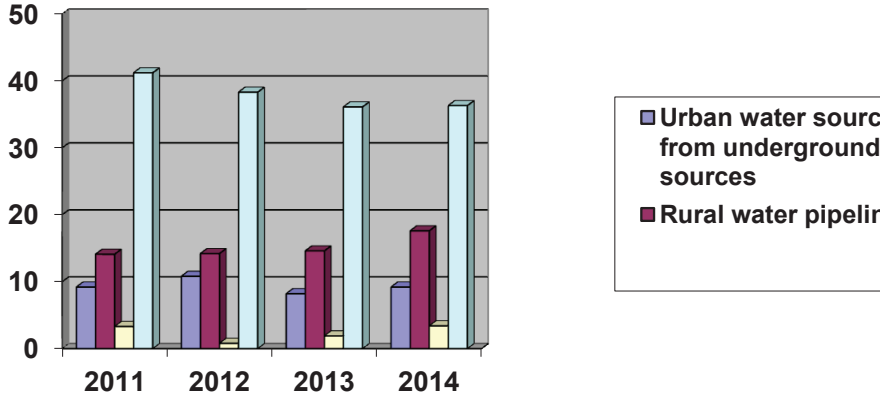

Figure 2 Share of annual samples of drinking water from water pipelines and wells, not complying with the sanitary norms of microbiological parameters

44. The chemical quality of drinking water in accordance with 5 basic chemical parameters and 5 additional ones from entry into force of the Protocol to date is given in Table 4. The data reported shows a decrease in the share of water samples not complying with the content of nitrates, residues and an increase in the content of boron, fluorine and ammonium:

Table 4

Dynamics of evolution of the share of samples not complying with basic and additional chemical parameters of quality of drinking water, established according to the WHO recommendations

Substance	Initial values (2005, %)	Intermediary values (200, %9)	Current values (2015, %)
Fluorine	11,1	14,5	15,8
Nitrates and nitrites	53	42,7	39,9
Arsenic	0	0	0
Lead	0	1,3	0
Iron	6,5	11,1	9,3
Additional chemical parameters:			
Boron	3	6,5	37,8
Manganese	1,7	5,95	4,3
Turbidity	4	4,1	3,9
Ammonium	6,5	27,2	44
Dry residue	29,5	25,3	27

Source: National Report on implementation of the Protocol on Water and Health in Moldova, National Center for Public Health, 2016

Current situation of the number of hydric epidemic ou tbreaks and illnesses and ways to reduce them

45. In 2005-2015 there no cases were recorded in Moldova of extremely dangerous infectious diseases caused by water, such as cholera and typhoid. During this period (2014), one epidemic outbreak of viral hepatitis A transmitted through water and as a result of failure to comply with hygiene rule was recorded in Straseni, with 88 cases. As shown in Table 5, there has been a clear trend of decreasing incidence of infectious diseases potentially conditioned by water per 100 thousand people, including a reduction of cases of dysentery and rotavirus infection by over 10 times (in particular by introducing mandatory immunization with antirotaviral vaccine for children), except viral hepatitis A, where the incidence is higher than in 2012 but lower than the baseline since the entry into force of the Protocol, and morbidity is cyclical. A decrease has also been recorded in the incidence of giardiasis (1.8 times) and cryptosporidiosis (8.5 times). In the last 5 years was one single case of

Legionellosis has been recorded. It should be noted that data collection is conducted both by the number of cases as well as the number of outbreaks.

Table 5

Level of infectious morbidity, potentially conditioned by water

	Incidence per 100 thousand persons			Number of epidemic outbreaks		
	Initial values, 2005	**Interme-diate values, 2009**	**Current values, 2015**	**Initial values, 2005**	**Interme-diate values, 2009**	**Current values, 2015**
Cholera	0	0	0	0	0	0
Bacterial dysentery	54,19	13	3,12	0	0	0
Hemorrhagic enterocolitis caused by E. coli (EHEC)	0	5,52	4,53	0	0	0
Viral hepatitis A	30,7	0,22	7,82	0	0	0
Typhoid fever	0,06	0	0	0	0	0
Rotavirus infection		21,97	5,09	0	0	0
Cryptosporidium		1,74	0,2	0	0	0
Giardia		6,07	3,26	0	0	0

Source: National Report on the implementation of the Protocol on Water and Health in the Republic of Moldova, National Center for Public Health, 2016.

46. In order to ensure preparedness for emergencies in public health, the Government created the Extraordinary National Commission for Public Health, which takes decisions on introduction, suspension, cancellation of measures of isolation and/or quarantine at national level and at the level of territorial administrative units under the Ministry of Health proposals. An emergency management center was created at the National Center for Public Health with a department for monitoring of public health alerts and notification of diseases, working 24/24 and 7/7 and ensuring coordination of all health care sectors in case of emergencies. In accordance with the order of the Minister of Health, should three or more cases of water-related diseases occur they shall be reported within 24 hours.
47. The incidence and prevalence of water-related noncommunicable diseases is less documented, given the many factors causing them and the level of diagnosis. The most common of such diseases are dental fluorosis, nitrate poisoning and anemia, urinary lithiasis, cardiovascular diseases. Previous studies show that prevalence of dental fluorosis in children aged 15-18 makes up 15% of their total number.

Current situation of access to drinking water

48. Since 2005 the level of the population access to improved sources of drinking water has grown substantially and is shown in Table 6 (in %):

Table 6

Share of the population access to all types of improved drinking water sources

Year	2005	2009	2015
Total	45.0	55.0	86
Urban	92.0	93.0	96
Rural	17.0	27.0	81

Source: www.cnsp.md

49. In 2012 access to improved water sources, according to the MICS Report 4 (2014) was provided for 86% of the population, including 96% of urban and 81% of rural population. Access to improved water supply services is defined as ability to use at least 20 litters/day/person from an improved source located within a radius of 1km from consumer's home". It should be noted that the share of population connected to water supply systems has increased to 63.7 per cent, including 95 per cent in the urban areas and 39.8 per cent in rural areas.

Current situation of the area of territory or the number of people to be provided with improved sanitation systems

50. The sanitation system is a set of technological installations, functional equipment and specific facilities through which the public sewerage service is performed. The public sewerage system includes, in particular, the following components: public sewerage networks, pumping stations, treatment plants, exhaust manifolds towards emissary. This sector plays an important role within the Protocol on Water and Health and achievement of planned targets could help improving the state of the environment and welfare

51. The current sanitation system is underdeveloped and has a limited capacity in ensuring in full the population access to quality sanitation services. According to the estimates made within the GIZ project „Modernization of local public services in the Republic of Moldova" on sector programs in the Centre, North and South Development regions, the estimated coverage rates of sewerage services vary from region to region (Figures 3, 4 and 5).

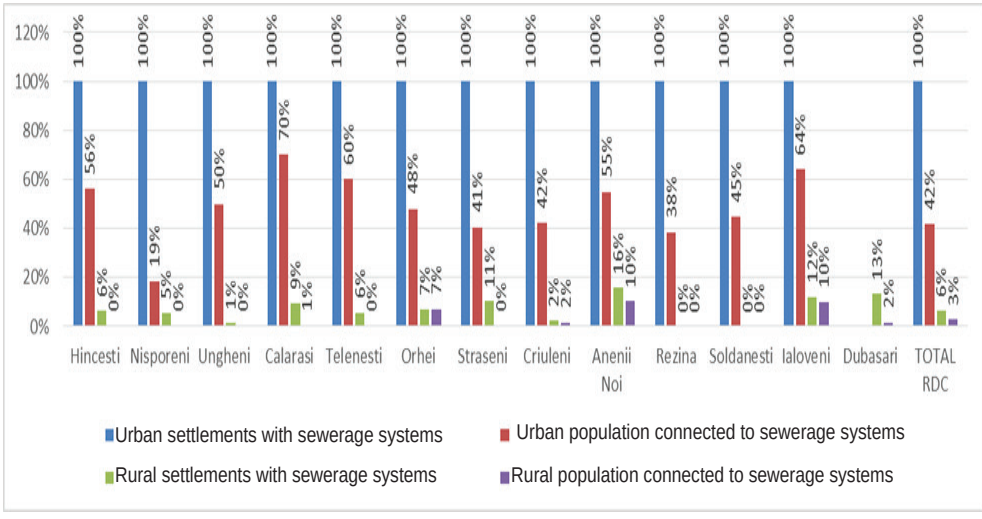

Figure 3. Rate of coverage of sanitation services in Centre Development Region
Source: German International Development through GIZ

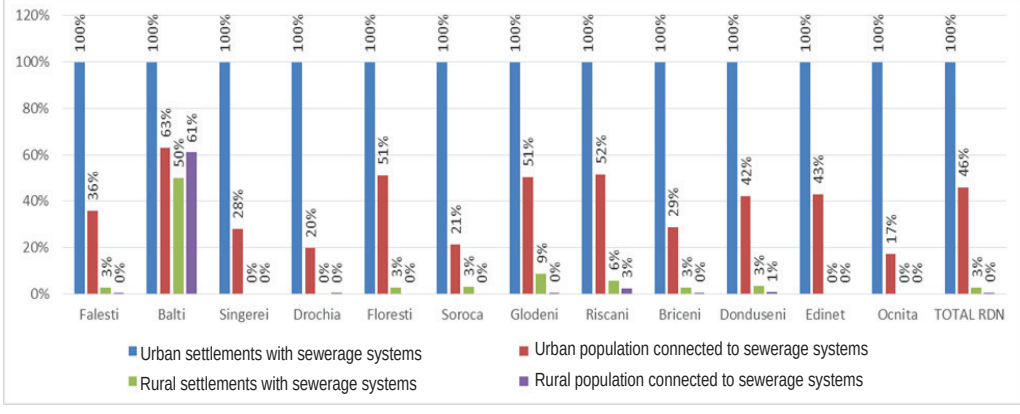

Figure 4. Rate of coverage of sewerage services in North Development Region
Source: German International Development through GIZ

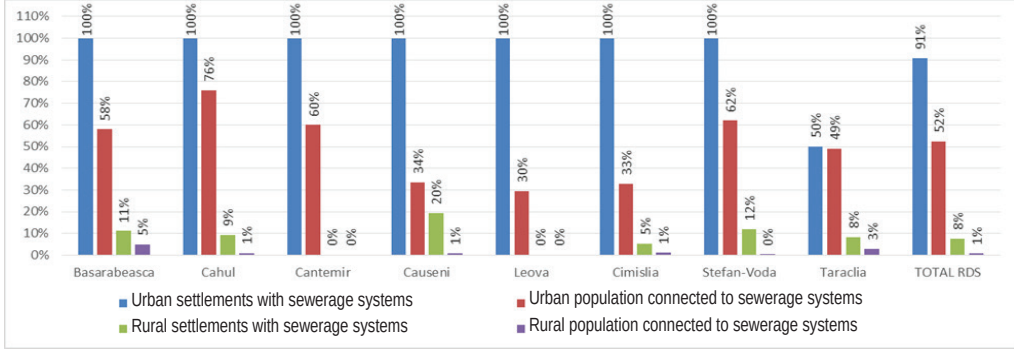

Figure 5. Rate of coverage of sewerage services in South Development Region
Source: German International Development through GIZ

52. The rate of connection of the population to centralized sewerage systems differs from the rate of connection at country level, which makes up 22.2% (2013-National Bureau of Statistics). In Centre Development Region 100% of urban areas and 6% of rural areas have centralized sewerage systems. At the same time only 42% of the urban population and only approx. 3% of the rural population is provided with centralized systems. The total share of population connected to sewerage systems in Centre Development Region makes up around 10%. In North Development Region about 46% of the urban population and about 0-1% of the rural population is connected to centralized sewerage systems. The total share of population connected to sewerage systems in the North Development Region makes up 16%. In South Development Region only 52% of the urban population and about 1% of the rural population is connected to such systems. The total share of population connected to sewerage systems in the South Development Region makes up around 14%.
53. According to the National Bureau of Statistics data, in 2014, 166 of pipelines were provided with sewerage systems, of which 121 systems were functional. 101 of the sewerage system are equipped with water purification plants, out of which 70 units are functional. 136 settlements were equipped with sewerage systems, but only 107 of them are functional.

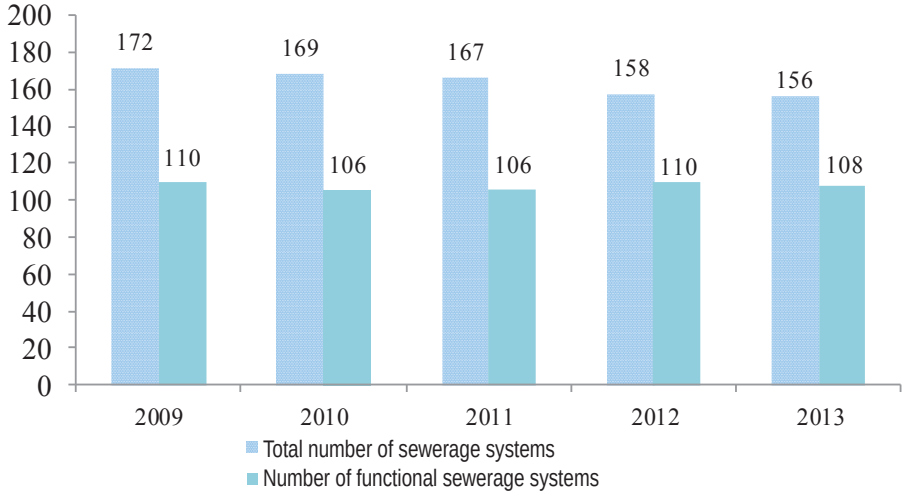

Figure 6. Sewerage systems, 2010-2014

54. The total length of the sewerage network was 2,700 km, of which de facto 2,500 km (92.6%) functioned. The daily capacity of wastewater treatment throughout 2014 was 0.6 mln. cubic meters of water.

Table7

Network of sewerage systems, 2010-2014

	2010	2011	2012	2013	2014
Number of settlements with sewerage systems	134	135	130	125	136
Number of settlements with functional sewerage systems,	81	85	87	95	107
Sewerage systems, units	169	167	158	156	166
Total length of the sewerage network, km	2586,5	2592,1	2602,1	2633,4	2690,7

Source: National Bureau of Statistics

55. The total volume of waste water collected in 2014 made up 66.6 mln. cubic meters, of which 56.5% are waste water received from the population.

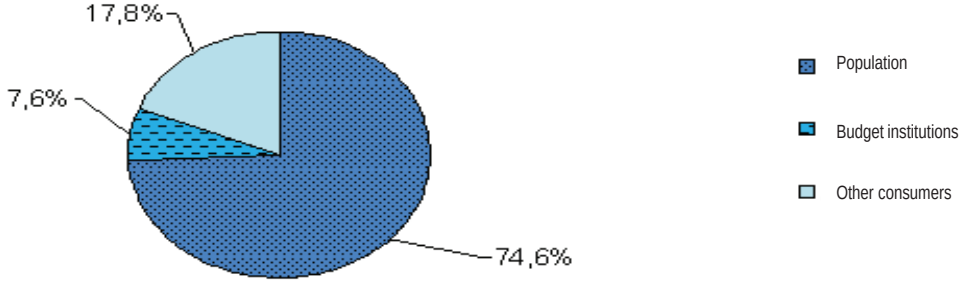

Figure 7. Distribution of the volume of wastewater received from subscribers, in 2014

56. 63.8 mln. cubic meters of wastewater (95.8%) passed through the water treatment plants. Of the total volume of waste water 93.9 % were biologically treated, 81,0% mechanically and 5,5% insufficiently treated. Throughout the year the sewerage networks had 16.6 thousand of faults, with 7.8 thousand less than in 2013.
57. The operational capacity of the existing sewerage infrastructure varies considerably from urban to rural areas. In some urban areas, which have significantly benefited from international funding, including the towns of Nisporeni (Swiss Agency for Development and Cooperation, Austrian Agency for Cooperation, European Union), Orhei, Floresti, Soroca, Leova, Ceadîr-Lunga (World Bank, European Bank for Reconstruction and Development, European Union), Ungheni (World Bank), Hînceşti (European Bank for Recon-

struction and Development, the Swiss Agency for Development and Cooperation), Ialoveni (Swiss Agency for Development and Cooperation), there is a substantial improvement of water and partially sewerage infrastructure in the relevant towns.

58. The sewerage systems remain underdeveloped in most localities and need major investments to expand collection networks, rehabilitation of the wastewater pumping stations and treatment plants. Sanitation services in rural areas are undeveloped or at an early stage of development.
59. Nationally, there is no central register of these data of data related to connection of the population to sewerage services, making policy development and planning of measures to improve services in this area difficult. The National Bureau of Statistics accumulated data related to the population access only to central sewerage systems, and data related to access to other individual sources of sewerage (water discharge in decentralized systems, septic tanks, EcoSan type toilets, cesspools with subsequent discharge of water waste) are not centrally available.
60. The low share of connection of the population to sewerage systems is caused by the fact that the operational and technical condition of the infrastructure is unsatisfactory and cannot cover the entire population, especially in rural areas. In urban areas (cities of Chisinau and Balti) the percentage of connection makes up to 90% and in small towns up to 58%, while in rural areas the access to sewerage systems makes up approx. 9-10%.
61. The situation of the population coverage with sewerage systems is due to several factors, including the lack of financial resources in the sector. Although the support for the sector has increased lately and the financial allocations from multiple sources in the form of grants, state and local loans increased, they are not sufficient for achieving the planned sector targets.
62. The main source of information on public expenditure in the water supply and sewerage sector in the Republic of Moldova is the State Budget, defining levels of state budget allocations to various public institutions, funds, specific programs and local public authorities. Indicators of financial flows in the Water Supply and Sanitation sector are given in the table 8 below.

Table 8

Indicators of financial flows for the water supply and sanitation sector in 2012-2014

Source	2012, th MDL	2013, th. MDL	2014, th. MDL	2014, % in total
Consumers (fees payable to Apa-Canal)	831 524,4	843 074,2	850 689,8	54,4%
Ministry of Environment (through the National Ecologic Fund)	133 517,2	299 360,7	376 952,8	24,1%
Aqueduct, sewerage and treatment systems	*132 809,8*	*298 683,1*	*376 644,6*	-
Arrangement of wells and springs	*707,4*	*677,6*	*308,2*	-
Ministry of Regional Development and Constructions (through the National Regional Development Fund)	30 005,9	38 900,0	17 023,0	1,1%
Donors (through the state budgetary systems)	114 114,5	287 920,8	319 186,3	20,4%
National project of water supply and sewerage	*34 141,3*	*52 754,2*	*4 391,5*	-
Development program of drinking water supply services (752)	*44 036,0*	*207 777,3*	*259 954,2*	-
Construction, rehabilitation and extinction of aqueduct and sewerage networks (904)	*35 637,2*	*27 289,3*	*41 231,0*	-
ApaSan (911)	*300,0*	*100,0*		-
Improvement of waste water treatment systems in Cernauti (925)			*388,8*	-
Project of rehabilitation the water supply system in Nisporeni District (939)			*13 220,8*	-
TOTAL	**1 109 162,0**	**1 469 255,7**	**1 563 851,9**	**100,0%**

Source: BOOST

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Source: BOOST

63. In the last four years the budget allocations of the Ministry of Environment for the water supply and sewerage sector increased significantly (Figure 8).

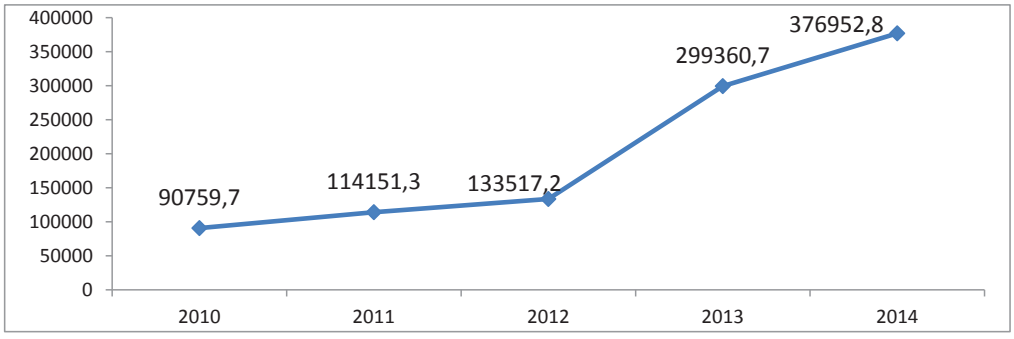

Figure 8. Budget allocations of the Ministry of Environment in the water supply and sanitation sector in 2010-2014.

64. In 2013 the National Fund of the Ministry of Regional Development and Constructions allocated about 729,364 MDL for implementation of projects of public service modernization. In 2009-2015, 79 of regional development projects were in process of implementation, for which an amount of 997, 1 mln. MDL has been allocated, out of which 831,7 mln. MDL – from the account of National Regional Development Fund and 165, 4 mln. MDL – from the account of German Investment Fund. Donors have an important role in funding the water supply and sewerage sector, while The European Union grants most of the support The volume of grants is larger than the volume of credits in this sector.

Table 9.

Grants provided by funding institutions.

	2009	**2010**	**2011**	**2012**	**2013**	**2014**
European Union	250,859	159,342		181,884		132,789
German International Development through GIZ,			1,485	2,102	69,219	13,447
Total	250,859	159,342	1,485	183,985	69,219	146,236

Source: Ministry of Finance.

65. The water supply and sewerage sector has financial support from credits provided to various financial institutions.

Table 10

Credits of financial institutions (thousand lei)

Th. MDL	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
World Bank	15,808.8	16,367.5	43,283.3	35,267.6	48,642.1	0.0
European Bank for Reconstruction and Development	0.0	0.0	1,639.7	14,672.1	69,204.9	31,216.5

European Investment Bank	0.0	0.0	0.0	15,790.2	64,212.0	31,216.5
Kuwait	777.5	0.0	0.0	0.0	0.0	133.7
Millennium Challenge Fund	0.0	56,648.0	0.0	40,770.6	0.0	0.0
Total	**16,586.3**	**73.015.5**	**44,923.0**	**106,500.5**	**182,059.0**	**62,566.7**

Source: Ministry of Finance

Current situation on the levels of performance of collective water supply systems, collective sanitation systems and other systems

66. Until 2013, the levels of performance of public water supply systems were not defined in the national legislation, and subject to evaluation.
67. The levels of performance can be assessed by meeting performance indicators, to be ensured in provision of water supply and sewerage services. The Law no. 303 of 13 December 2013 on the Public Water Supply and Sewerage Service sets out the mandatory existence and compliance with quality (performance) indicators that will be subject of the Regulation on the quality indicators of the public water supply and sewerage services, which will be developed by the National Agency for Energy Regulation.
68. At present the mechanisms regulating water supply and sanitation services are insufficient to assess the levels of performance of water and sewerage systems, and in their absence it is difficult to prove efficiency of these services.
69. Insufficient legal and regulatory activities of operators on management, operational and financial indicators makes it difficult to estimate economic state of the sector and the degree of performance in provision of services to the population, and planning of provision of operator's services.
70. Existence of a transparent benchmarking at service operators could facilitate comparability of their performance, and hence policies could cover application of measures for the control and supervision of this process, which will stimulate progress.
71. The level of performance of the system depends on the financial activity of operator. The assessment of financial activities of six operators delivering water and sanitation services has shown that they do not have policies or programs specially dedicated to detailed monitoring of various aspects of quality levels, including reduction of losses of invoiced water. In some urban areas the rate of invoiced water reaches 30-50%, all operators in the sector facing such experience.
72. The level of technological development of sewerage systems operation in different settlements varies and depends on automation. In Floresti town the operator implements the automated SCADA system, while in most other ur-

ban areas such systems are operated manually. This influences considerably the performance indicators.

73. Another indicator of operation, which influences the system's performance is the low level of energy efficiency. Companies' energy costs are about 30% of operational costs. Pumping processes are not automated as required.
74. The system's performance also depends on other indicators such as personnel. The indicator of about 10 employees per 1,000 connections is very high and influences operational costs.
75. There is a high level of manual data processing, re-entering of data and manual maintenance of accounting records, making the system less efficient. Since 1997 a number of technical, operational and financial indicators for 40 water companies is monitored by the Association Moldova Apa-Canal, the official partner of the IBNET network. It is strictly necessary to create a national database that would monitor performance of operators.
76. The existing system has insufficient infrastructure, insufficient quality water in water sources with high level of pipeline faults, a large number of accidents that makes up in average 5 cases per 1 km.
77. An important aspect influencing the level of performance of the system is specific energy consumption for water and sewerage services in settlements. Specific energy ment Regions is shown in figures 9-11 (*source: German Development Cooperation through GIZ).*

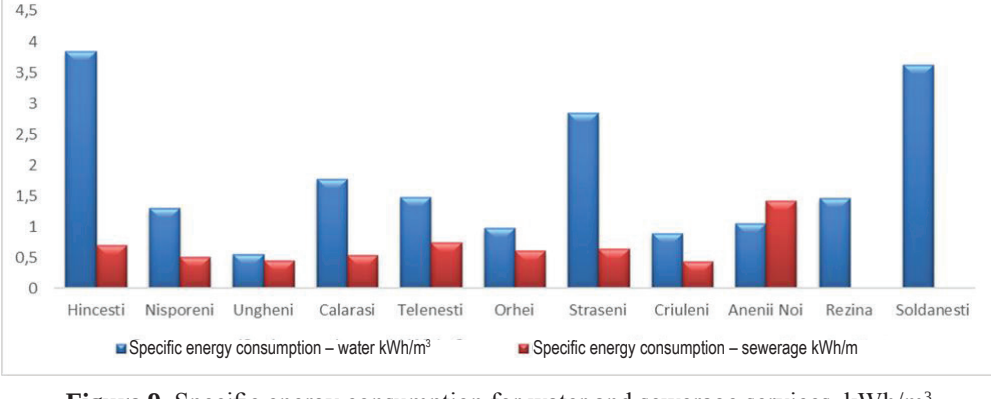

Figure 9. Specific energy consumption for water and sewerage services, kWh/m^3 (Centre Development Region)

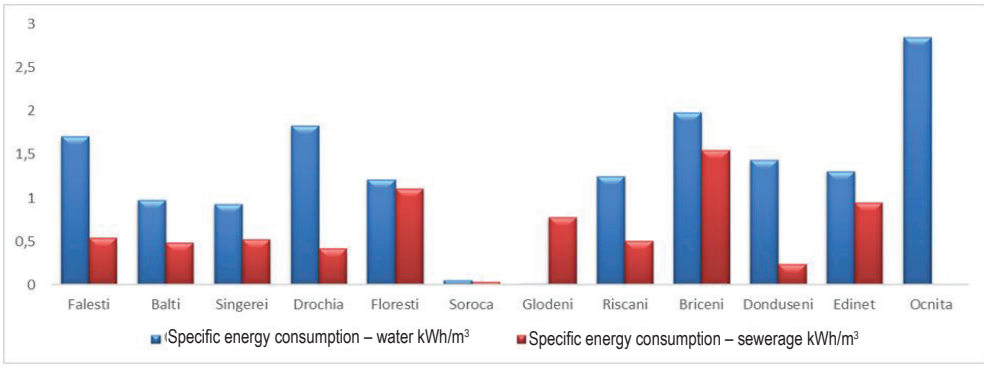

Figure10.NRD: Specific energy consumption for water and sewerage services, kWh/m^3 (North Development Region)

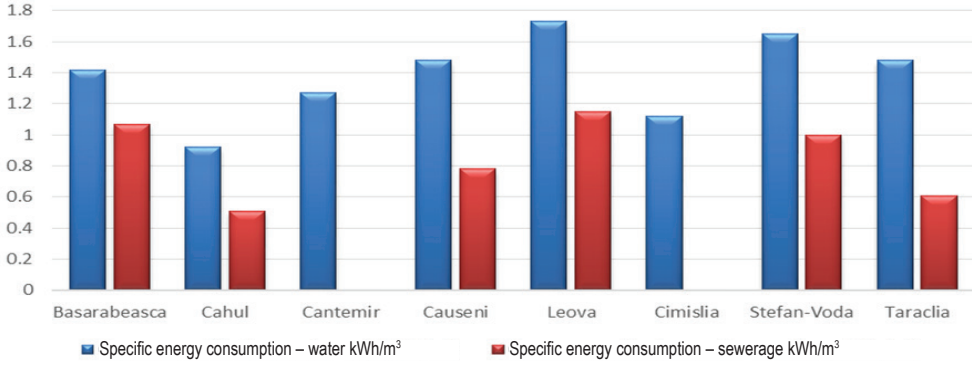

Figure 11. Specific energy consumption for water and sewerage services, kWh/m3 (South Development Region)

78. There is a low specific consumption of energy by water supply and sewerage systems and a failure to meet the environment requirements, but we have to acknowledge that consumption will increase significantly along with renovation of the treatment plants (currently they do not operate).
79. There are no regulations for systems in rural areas on provision of services and regulation of parameters for these technologies and services, there is no technical expert examination for these systems. Good practices in this area are insufficient.

Current situation on application of good practices recognized in the management of water supply and sanitation

80. The Republic of Moldova faces a poor application of new technologies and a lack of experience in this field. With large investments in the sector in the recent time, some practices well-known in European countries have been

applied. They refer to new technologies for wastewater treatment, drinking water treatment, use of new materials (plastic) for pipes in the water and sewerage systems, which are better than corrosive and costly metal pipes.

81. Use of new wastewater treatment technologies in Soroca town (constructed wetlands) was not supported by the population in the area and has not been implemented, but experience has been accumulated in designing of these systems. Using this experience, a constructed wetland type treatment plant was built and put into operation in September 2013 in Orhei town. This plant incurs lower maintenance and operation costs as compared to traditional technologies. The experience of constructed wetlands was multiplied with the financial support of the donors in rural settlements Rusca, Sarata Galbena etc.
82. There are no practices of management of water supply and sewerage systems at regional level in Moldova. Capacity of water companies in six districts of Moldova has been evaluated within the FOPIP Program funded by European Bank for Reconstruction and Development, which has shown that it is very low. A number of inefficiencies in performance have been found: regarding the management of use of energy consumption, water losses and human resource management.
83. There is a lack of qualified personnel to promote innovative ideas and improve efficiency of systems' operation by applying new technologies, measures to improve financial and operational performance of water companies. Also, there is a lack of knowledge of infrastructure planning, monitoring, analysis and improvement.
84. Consumption of the existing water supply and sewerage system of energy is high, because of the lack of use of pressure zones (decrease in pressure on some sectors) in water distribution systems. Within the World Bank's National Project for Water Supply and Sanitation, Causeni town used this method, which reduces eventual pipeline breaks and reduces the amount of lost water and energy consumption.
85. In small rural communities, application of some decentralized collection/ treatment solutions (septic tanks, Ecosan type toilets, compact treatment plants for public/commercial buildings) proved to be effective.
86. The water supply and sewerage systems are monitored insufficiently, because enterprises have no experience and capacity to duly monitor and control this system due to the lack of required equipment (flow meters, pressure gauges, control valves). To this end the SCADA technology, implemented in Floresti, Cahul and Orhei town, has shown a great advantage in more effectively controlling water losses.
87. The need to extend the coverage of sewerage services in rural areas, to include a larger number of generators of waste water consists in regionalization, taking into account the experience of other countries. Establishment of

regional operation companies in the European Union (Romania) was useful, and this is why this practice could be applied in Moldova as well.

Current situation of untreated wastewater discharge, quality of wastewater from treatment plants and discharge of untreated rainwater runoff from collection systems. Quality of discharges of wastewater from treatment plants

88. Wastewater from consumers is discharged through wastewater discharge networks, which now do not cover in full the settlements of the country. The length of urban water and sewerage networks is shown in Figures 13-15.

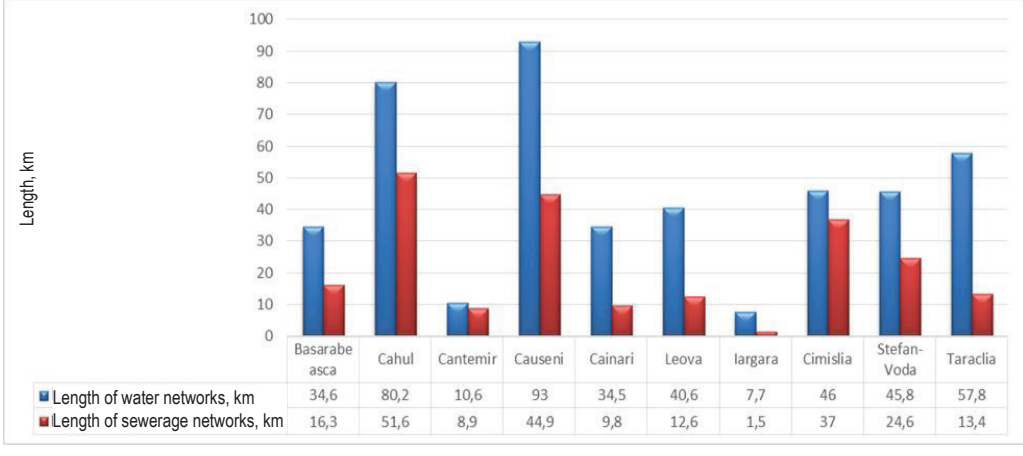

Figure 13. Lengths of existing urban water and sewerage systems, km, South Development Region

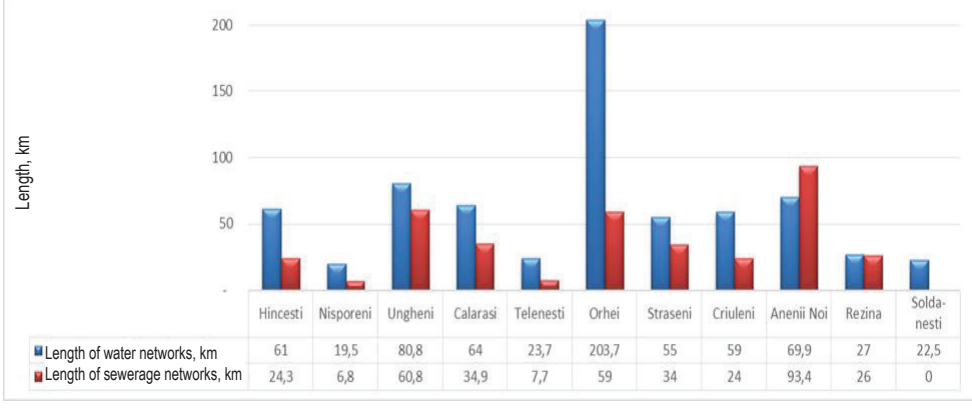

Figure14. Lengths of existing urban water and sewerage systems, km, Centre Development Region

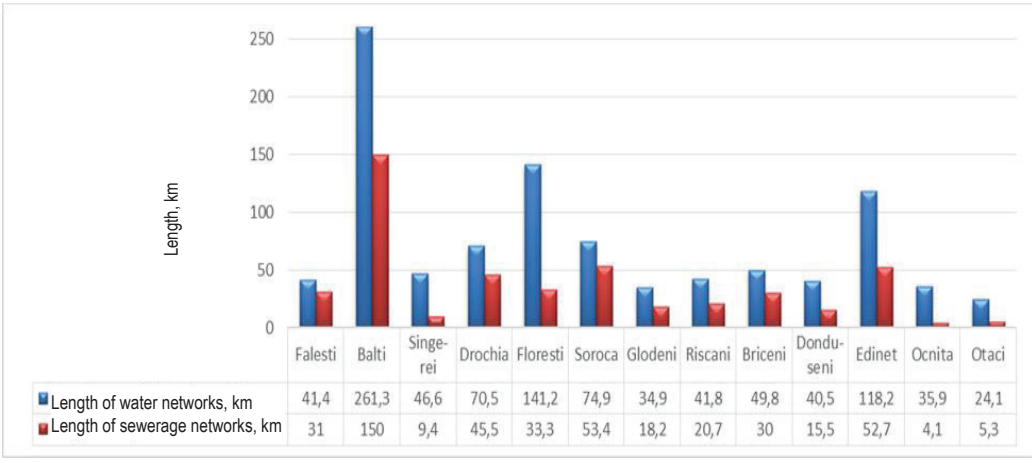

Figure 15. Lengths of existing urban water and sewerage systems, km, North Development Region

89. The quality of sewerage services provided to the population is poor. All urban areas of the development regions have wastewater treatment plants, but most existing plants are damaged and inefficient.
90. Most existing plants offer only a mechanical treatment, while biological plants with increased energy consumption are decommissioned due to high operating costs. The quality of treated wastewater in all urban areas, excluding some towns, does not meet the existing diversification norms. Exceeded concentrations of pollutants in treated wastewater are found in terms of ammonium, substances in suspension and organic substances expressed in CBO5
91. It is necessary to ensure the necessary level of system efficiency and cover a larger number of consumers. A priority if bringing legal/regulatory documents in line with the European directives on wastewater treatment in urban areas and developing long-term investment programs.
92. Only 97% of urban areas in the development regions are equipped with wastewater treatment plants, and in rural area water sewerage covers only 3-8% of the population. Some urban areas (ex. Soroca) do not have a treatment plant and municipal untreated wastewater is discharged directly into the transboundary river Nistru.

Table 11

Disposal of waste water into surface basins, million cubic meters

	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	
Disposed water – total	740	708	696	685	688	1381	695	
Conventionally pure water (without treatment)	569	557	560	558	561	1120	562	

	2000	2001	2002	2003	2004	2005	2006	
Polluted water	9	13	19	48	42	15	7	
.. without treatment	0.5	03	0,5	0.8	0.5	0.4	0,5	
.. poorly treated	8.2	12,6	18,9	47,5	41,4	14.6	6,7	
Water treated under regulations	162	138	116	47,5	85	245	119	
Water treated under regulations, in % as compared to the total volume of runoff that needs treatment	64	71	68	64	62	94	61	
	2007	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Disposed water – total	687	685	685	682	679	680	679	664
Conventionally pure water (without treatment)	551	550	552	555	555	555	551	545
Polluted water	10	14	10	8	8	8	9	11
.. without treatment	0,7	0,76	0,8	0,9	1,0	0,9	1,0	1.4
.. poorly treated	9,2	13,3	9,5	7,5	7,2	7,4	7,9	8.67
Water treated under regulations	119	114	116	119	115	116	113	118

The State Ecological Inspectorate information shows a degradation of wastewater treatment plants. If until the 90's of the XXth century, over 580 biological treatment plants (BTPs) were built in Moldova, of which only about 330 existed by 2001, the other being damaged.

93. Sewerage systems, which ensure wastewater disposal and treatment, have a high degree of wear, are physically degraded and morally outdated, since they are operated more than 25-30 years without being rebuilt and hence require technological modernization of the treatment steps.

94. In the recent years, there was still a tendency of increase in the number of operational treatment plants. 62 wastewater treatment plants were built from the National Ecological Fund in 2009-2014, including 8 plants in 2014 and 7 waste water treatment plants from the accounts of National Fund for Regional Development. Construction of constructed wetlands treatment plant in Orhei, Otaci, Calarasi, Telenesti, Nisporeni, Cimislia, Riscani, Cahul, Ungheni and other facilities with small capacities in Ermoclia and Cioburciu villages, Stefan Voda district; Pirita and Holercani villages, Dubasari district; Nihoreni village, Rascani district; Frunze town, Ocnita district; Vadul lui Isac village, Cahul district; Mandac and Pelenia villages, Drochia district; Magdacesti village, Criuleni district; Zaim, Baimaclia and Hagimus villages, Causeni district was completed. Treatment plants were reconstructed in Bolotina, Cuhnesti and Fundurii Vechi villages, Glodeni district; Recea and Lo-

zova villages, Straseni district. New treatment plants were put into operation in Cosnita village, Dubasari district and in Hirova village, Calarasi district.

95. The ecological situation created by untreated wastewater discharged from Cantemir town into Prut River, from Tvarditsa village, Taraclia district into Chirghij-Chitai River and from Rezina and Soroca towns into Nistru River (the wastewater treatment plant in Soroca town does not operate since 2002 due to the deterioration of the pressure manifold Soroca-Tekinovca (Ukraine), is alarming.
96. In rural areas, wastewater is disposed has a particular impact on the environment, in most cases it is discharged into some unsealed latrines or outdated treatment facilities, which do not allow a proper treatment. With the support of foreign donors, in rural areas, decentralized sanitation solutions and dried Ecosan toilets are used.
97. Inadequate management of rainwater also affects the environment; its runoff is partially collected in discharge networks in the largest cities and a little in district centers. Lack of rainwater treatment plants in all settlements has a high impact on water resources.
98. The quality of rainwater does not meet the requirements of wastewater discharge into the natural intakes because of insufficient sanitation of river meadows and urban areas. At the same time state supervision and control of rainwater in the settlements is not performed.
99. Planning of design of rainwater treatment system is difficult because of the lack of General Development Plans for all urban settlement, respectively investments cannot be attracted for their construction.
100. To improve the quality of discharged wastewater, capacity of operators shall be built and regional companies established. In this context minimum requirements for an operational regional company shall be defined and a license from the regulator shall be obtained.
101. A national program should be implemented to support the efficiency of the operators by providing technical assistance, capacity building and making effective investments, in order to increase efficiency of operators. The donors (ex. European Bank for Reconstruction and Development) already requires licensing for operation, without which a project cannot be implemented.

Current situation of disposal or reuse of sludge from water of centralized collective sewerage systems or from other sewerage facilities

102. Currently, management of sludge produced at wastewater treatment plants is inadequate and does not meet the requirements of regulatory acts. An important problem of wastewater treatment, which significantly influences

the environment is the lack of modern sludge processing facilities formed following wastewater treatment.

103. Environmental pollution (groundwater, air, soil pollution, etc.) with the sludge produced at wastewater treatment plants is monitored insufficiently.

104. There are no national regulations on sludge management. The national legislation on waste management or requirements on reduction of methane gas released as a result of processing of sludge produced from wastewater.

105. Good practices of sludge management to use it in agriculture, forestry, parks, gardens are poorly applied. In 2005 - 2008 projects for fermentation of sludge in methane tanks were initiated at Chisinau treatment plant to obtain biogas, but because of the lack of funding this project was not implemented. During this period, a part of the sludge at Chisinau Treatment Plant was used by the Enterprise „Spatii Verzi". The pilot-project of the raw sludge dehydration, using the „Geotube" method at Chisinau Treatment Plant in 2009, was friendly to the environment, contributed to the reduction of big surfaces with sludge and the removal of the smell, at the same time reducing the odor.

106. The classical method used for sludge treatment is its storage on sludge platforms. Since the project capacities of all existing facilities are usually higher (by about 2-10 times and in some settlements even more) than the really recorded volumes of water generation, all these facilities have free surfaces to store sludge. Only in cities like Chisinau Municipality, Balti and Cahul towns, since there are no modern sludge treatment technologies, it is stored in layers over 50 cm, hence causing anaerobic processes and entailing formation of methane emissions.

Current situation of the quality of wastewater used for irrigation

107. Reuse of treated wastewater for irrigation in Moldova is not a common practice: there is no regulatory framework for this field. Existing standards used to assess the quality of irrigation water, do not relate to wastewater.

108. Currently an inter-state standard for CIS countries are used to assess the quality of water used for irrigation and there is no any national document.

109. Only incomplete studies were performed by the National Centre for Public Health in terms of microbiological quality on the possibility to use wastewater from treatment plants for irrigation purposes.

Current situation of the quality of water used as drinking water

110. In Moldova both groundwater sources amounting to 65% - artesian water, groundwater, captured from over 3,500 artesian wells, and about 125 thousand of ground and surface wells are used in Moldova as drinking water

sources in the amount of 35%: water from Nistru River (water intakes in the towns Soroca, Rezina, Chisinau Vadul lui Voda towns), and from the Prut River (town Glodeni Ungheni, Leova, Cantemir, Cahul towns), from Racovat Lake (Edinet town, Cupcini town).

111. 3 treatment plants from water from Prut River are being constructed: for Falesti, Nisporeni and Cornesti towns, Ungheni district and for expansion and rehabilitation of the treatment plant for Leova and Cahul towns that will allow improving drinking water supply for more than 100 thousand inhabitants.
112. The results of laboratory investigations carried out within studies by the State Service for Public Health Surveillance show that the share of samples not complying with the sanitary requirements in 2011-2013 in terms of chemical parameters was at a high level and made up for surface water sources: in 2011 - 29.8%, including water from Nistru River - 7.4% and 21.1% in water from Prut River, in 2012 - 32.5%, including water from Nistru River - 9.6% and 22.9% in water from Prut River, in 2013 - 29.4%, including water from Nistru River - 5.4% and 28.0% in water from Prut River.
113. In 2011-2013 there is still a high level of pollution of the water from Prut River (56.3% - 52.0%) in terms of microbiological parameters. Microbial pollution of the water of the Nistru River substantially decreased in the period 2011-2013 from 54.4% of non-complying samples in 2011 to 6.9% in 2013.
114. The share of samples not complying with the chemical parameters from centralized underground sources in 2015 was 69%, as compared to 71.5% in 2012. The worst situation is in the districts of Anenii Noi, Glodeni, Causeni, Falesti, Riscani, Ialoveni, Stefan Voda, Taraclia, Hincesti, and Orhei. The highest non-compliance is found by content of ammonium, fluoride, hydrogen sulfide, iron, manganese, boron and dry residue.
115. Availability of these substances in drinking water makes them difficult to treat because modern and expensive technologies are needed. At the same time except for about 50 pre-university institutions, such water is not treated for drinking purpose.

Current situation of the quality of water used for bathing

116. Currently the requirements to the quality of water used for recreational purposes are set out in Annex no. 1 to the Government Decision no. 737 of 11 June 2002 "On regulation of activity of recreational areas of water basins". Based on the decision referred to above, 8 recreational areas of national importance are approved in the country, including: on Nistru River – 6 (Soroca town, Holercani district, Dubasari town. Vadul lui Voda town: including the Eastern Region: Tiraspol city, Chisinau city, Bender town); Prut River -1: Costesti town and Ghidighici artificial lake (Vatra town).

117. Due to their poor improvement or non-conformity of water quality to microbiological parameters, none of them has obtained in 2014 a sanitary authorization for operation. A serious situation was created in Vatra recreation area, where water quality worsened significantly in the last 3 years in terms of both microbiological and chemical parameters, facing an intense process of eutrophication due to the lack of sources of running water to feed the lake.
118. In 2012 testes of the water of the Nistru River, including the water of checkpoints in recreation areas detected in eight cases pathogenic microflora, in 2011-2015 the share of water samples that contained viable helminthic eggs increased from 89% to 25%.
119. So far the local public administration authorities legalized 31 recreational areas of local importance, and because the water does not comply with the sanitary requirements, only 12 areas worked with a sanitary authorization for operation.
120. Recreational areas of local importance in Chisinau and Balti municipalities, where the main water basins are located and are used by population for bathing, work without sanitary authorization for operation.
121. Water is considered polluted in small rivers of category II, which are used by the population for recreational purposes, even if they are not designated for such purposes by the local public administration authorities. The share of samples not complying with microbiological parameters in 2011-2015 ranged from 39.9% to 40.8%, with pathogenic microflora found in 29% of samples.

Current situation of quality of water used for aquaculture and for cultivation and collection of mollusks and shellfish

122. There is no experimental practice in the Republic of Moldova related to the quality of water used in aquaculture, and mollusks are not cultivated or collected.
123. Control and surveillance of water quality for fish farming in artificial ponds miss, since the environmental impact of these objects is not assessed, there are no requirements on the number of non-compliance of the percentage of hydrobionte water samples that do not meet with the quality norms.

Current situation of application of relevant recognized practice in the management of closed basins available to the public for bathing

124. In the last five years the number of closed basins available for bathing (swimming pools and SPA) increases three times, given the increase in the demand and the number of people who go to sports and fitness halls and is over 30 swimming pools and 5 SPA centers at health resorts.

125. The national regulatory requirements on the management of closed basins for bathing are lacking.

Current situation on identification and remediation of particularly contaminated land

126. The main sources of contamination of soils in the Republic of Moldova are pesticides used historically abusively on agricultural fields and discharged into the environment and stored in different places of the country, with large deviations from the requirements of the environmental protection legislation, or petroleum products from former petroleum deposits, dielectric oils used in capacitors, which are considered persistent organic substances. Places potentially contaminated with these oils require identification and treatment.
127. A threat to the environment and human health is locations historically polluted with pesticides, which are associated with emptied pesticide deposits, former places for preparation of solutions, platforms for machinery washing and maintenance, many unknown burial places of pesticides and other chemicals.
128. In the recent years, with the support of the project "Management and disposal of stocks of persistent organic pollutants", funded by the Global Environment Fund and managed by the World Bank) outbreaks of stocks of persistent organic pollutants were centralized and a significant part thereof was destroyed, and to reduce pollution, as experiment, measures were undertaken to block pollution by building a sarcophagus in 3 settlements - Bujor, Congaz, Step-Soci, works needed in other settlements as well.
129. Not all locations for storage and burial of pesticides are known, the extent of contamination and even some places of unauthorized burial of various chemicals are not known either. Although land areas contaminated with persistent organic pollutants (POPs) were identified, recorded and mapped within "Identification of residues of persistent organic pollutants and mapping of polluted areas" Project, additional financial resources are required to clean these lands.
130. Works for identification of land areas contaminated with polychlorinated biphenyls were performed and 1604 land plots identified, of which: 1588 land plots are contaminated with pesticides from the group of persistent organic pollutants, and 16 land plots are contaminated with polychlorinated biphenyls. Since February 2011, the database is available at the web-site: http://pops.mediu.gov.md. At the same time in the regional GEF/FAO-funded project "Capacity building on Obsolete and POPs Pesticides in Eastern. European, Caucasus and Central Asia Countries", with the technical support of the UN Food and Agriculture Organization (FAO) and financial assistance of the Global Environment Facility , these land plots were investi-

gated, but additional funding is needed to investigate these land plots in full.

131. Another threat of soil contamination is polychlorinated biphenyls in open and closed systems. To reduce this danger, it was planned to create the relevant inventory. In 2011 the works of sampling and preventive testing (over 28,000 samples) of dielectric transformer oils were completed within the inventory of polychlorinated biphenyls in the electricity equipment with an oil volume of over 5 litters (semi-closed systems). The results obtained from the inventory will serve as a basis for development of political instruments and relevant measures to eliminate polychlorinated biphenyls and equipment containing polychlorinated biphenyls.
132. The Stockholm Convention contributes to decontamination of polluted soils. Works to remedy land plots contaminated with polychlorinated biphenyls (9,000 sq.m.) at the Transformer Station "Vulcanesti 400kV" of the S.E. Moldelectrica as part of GEF/World Bank project "Management and destruction of stocks of persistent organic pollutants" were performed. The contaminated soil (2,725 tons) was stripped, isolated in two sarcophagus on the territory of the station and replaced with clean soil, and the land was planted with trees and shrubs. In 2012, the Board of the National Ecological Fund approved funding of the project "Deposit (sarcophagus) for isolation of wastes and soil contaminated with persistent organic compounds in Tataresti village".
133. A threat to public health is the lands polluted with petroleum products in Iargara, Causeni, Marculesti. Throughout 2010-2012, the first phase of the project "Remediation of contamination with petroleum products at the airbase Marculesti" funded by the Czech Development Agency has been carried out. carried out. The activities included a detailed study of contamination, the relevant remediation technologies and installation of two stationary remediation stations (one - seasonal and one - with year-round operation). Remediation actions are currently ongoing.
134. The prioritization of allocation of financial resources for the decontamination activities can be carried out in compliance with the Methodology elaborated within GEF/FAO project „ capacity strengthening for management of unusable pesticides in Eastern Europe, Caucasus and Central Asia countries", which enables the classification of settlements in order to determine the risk and the application of emergency measures.

Current situation of effectiveness of management systems, development, protection and use of water resources.

135. The water resources management system is not sufficient to prove an integrated planning for protection and rational use of water resources. Although activities and measures are to protect the water sources, they are insufficient for several reasons, including the lack of sector planning in accordance with

the European legislation requirements. According to the statistical Yearbook „SEI 2010-2013 Environmental Protection in the Republic of Moldova", Moldova's water resources consist of: surface waters (3,621 rivers and 4,143 natural and artificial lakes) and groundwater (4,810 artesian wells and 166,542 wells of small depth). The main rivers are Nistru (with a length of 660 km) and Prut (695 km). The largest artificial lakes are Costesti-Stinca on Prut River (59 km2) and Dubasari on Nistru River (67.5 km2).

136. There are no Drainage Basins Management Plans, as required by the Water Framework Directive 2000/60/EC (WFD) and the Water Law no. 272 of 23 December 2011, which require a planning process in the field of integrated water management; monitoring, evaluation and pressure and impact analysis.

137. There is an insufficient legal framework on prevention of pollution of water resources, including the need to transpose the European regulations on hazardous substances and depth water, and the directives imposing mandatory standards for water quality with special uses: drinking water; bathing water; control of pollution sources (urban waste water, nitrates from agricultural sources) as well as other directives (on industrial emissions and flood prevention.

138. Moldova has joined a number of international conventions and signed bilateral agreements with the neighboring countries Ukraine and Romania and is member of the International Commission for the Protection of Danube River covering water resource protection. Application of good management practices through creation and operation of the water management committees at the basin levels becomes important. There is insufficient infrastructure for cooperation at the sectoral level, including in the cross-border context.

139. Water resources in Moldova are sensitive to climate changes, given their quantity and quality. According to the National Report on Human Development in Moldova (Climate change, socio-economic impact and political adaptation, UNDP 2009), available surface water resources will decrease by 16-20% until 2020. These data confirm the need to thoughtfully plan a water resource management as per water basins and sub-basins.

140. A shortage of available water of about 500 m3 per capita/year is revealed, the amount concerned is not accessible for a sustainable economic development and affect health and standard of living of the population. In this context, is required the creation of a regime of strict protection and rational use of water through implementation of the drainage basins management plans, development of water balance as per drainage basins, application of control at all levels of water use for various purposes.

141. Creation of a unique platform within the e-Government Initiative means an important measure in keeping record of used water. The volume of surface

water in Moldova makes up about 1.32 billion m3/year. Daily renewable groundwater reserves of Moldova makes up 3.4 million m3, of which 2.1 million m3 are approved by the state reserve, of which 2 million m3 are used in households of the population.

142. Integrated monitoring applied in the water management system is insufficient due to lack of a Water Monitoring Program, approved at the national level with obligations of reporting on its implementation. According to the current monitoring network, surface water is monitored by the State Hydrometeorological Service in 49 monitoring sections on 16 rivers and 6 reservoirs, where 49 chemical indicators and 5 categories of hydro-biological parameters are analyzed. The lack of funding makes it impossible to perform these analyzes as planned.
143. The State Service for Public Health Surveillance has a network of 60 sampling points located in 11 water bodies, which check chemical, microbiological and parasitological parameters.
144. Financial resources planned for scientific researches on water resources are not sufficient. The actions undertaken in this area are fragmented in the nature, with no integration in planning of measures.
145. Collaboration in the management of transboundary groundwater is poor. There are no joint plans with neighboring countries for groundwater protection and prevention of pollution.
146. The legal and regulatory framework on prevention of pollution of cross-border water by industrial accidents needs to be updated. Along with operation of Giurgiulesti Terminal, located on the Prut and Danube Rivers, the application of this legislation is necessary for implementation of the Industrial Accidents Convention.

Current situation on frequency of publication of information on quality of drinking water and other water related to the Protocol

147. Article 6 of the Protocol on Water and Health requires the institutions responsible for the Protocol to raise awareness of the population on all areas of the Protocol. Although at present leviers are applied to successfully inform the population about the progress in implementation of the Protocol and raise awareness of the general public on access to water and sanitation, water-related diseases, prevention and reduction of pollution of water resources and other issues related to the fields of the Protocol, there are still less covered areas such as quality of waste water, water used for aquaculture and bathing.
148. To provide the population with access to information on quality of water covered by the Protocol, several reports are developed by different authorities. Annually the National Centre for Public Health (www.cnsp.md) de-

velops and publishes the National Report on the state surveillance of public health in Moldova, which contains data on surveillance of (drinking, surface) water quality carried out by the public health institutions and data on access to improved water systems and incidence through infectious diseases, including those that may be caused by water.

149. Since 2010 every three years, the Ministry of Health and the Ministry of Environment develop a national report on implementation of the Protocol on Water and Health (in Romanian, Russian and English), which is also published on the website of the National Center for Public Health.
150. The Academy of Sciences of Moldova, supported by the Ministry of Environment and the Ministry of Health, prepares every 3 years the National Report on the Quality of Environment, which includes data on environmental public policies and information on the state of environmental elements, including water resources.
151. Since October 2013 the Center of Information of the Protocol was established at the National Center for Public Health, which aims to increase the knowledge level of the population through better information on the Protocol on Water and Health, organization of communication campaigns, training of operators and specialists in the fields of public health and environment, development and distribution of information materials, etc.
152. The awareness of the population should be raised on some activities related to improvement of environment and health in the context of drinking water, wastewater and bathing water by promoting provisions of the Protocol and the Convention on the Protection and Use of Transboundary Watercourses and International Lakes. Locally, data on drinking water quality in administrative territories are not published. According to the Sanitary Norms on Drinking Water Quality (approved by the Government Decision no. 934 of 15 August 2008), operators are required to submit these data at the first request, but such requirements are not always fulfilled.
153. Although Moldova has institutional and technical capabilities sufficient to train employees in sectors of national economy, the university curriculum in the field only partly reflects the provisions of international environmental conventions, and it shall be complemented accordingly by means of raising awareness of the general public on access to water sanitation, water related diseases, prevention and reduction of pollution of water resources and other issues related to these areas.
154. Annually the Government receives information on water quality in recreational areas, according to the Government Decision no. 737 of 11 June 2002 on regulation of functioning of recreational areas adjacent to reservoirs, but these data are published in a special report.
155. Annually the State Hydrometeorological Service publishes the State Water Cadastre summarizing data on surface water quality obtained through ob-

servations included in the monitoring programs of the Service. This document includes cases where the standards are exceeded (fisheries norms) and published some hydrological data. Annually, summary data are included in the State Water Cadastre. More detailed information is published in the specialized Cadastre "Hidrometeo" every 5 years. The State Water Cadastre is a limited publication and is distributed between ministries and departments concerned. These data are not published in the media. The State Water Cadastre includes information on all watercourses, including the cross-border ones.

156. Annually, the State Ecological Inspectorate develops and publishes a national report on environmental protection in Moldova. The Report also includes chapters covering protection of water resources, activities of control of compliance with legislation on water protection, prevention of pollution and impact on infrastructure operation (treatment plants, collectors, sewerage and drainage, etc.). Ecological quarterly and monthly magazines publish various articles on both protection of water resources and their state.

II. Goal and Objectives of the Program

157. The Overall Goal of this Program is to improve the quality of life and access of population to safe drinking water and improved sanitation by planning measures to ensure achievement of target indicators of the Protocol on Water and Health.
158. The objectives of this program are focused on mainstreaming water and health priorities in Moldova with national planning processes actions in the sectors of water supply, sanitation, health and other areas with reference to the Protocol to achieve Protocol target indicators.
159. The overall objective of this Program is to achieve by 2025 the target indicators of the Protocol for the 20 areas, given the powers and responsibilities provided for in the national legislation and international conventions ratified by the Republic of Moldova.
160. The specific objectives of the Program are as follows:
    1) provision by 2015 of distribution of safe drinking water in 100% of institutions for children and reduction to 20% of samples of drinking water not complying with the basic chemical parameters and 5% with microbiological parameters;
    2) reduction by 20% by 2025 of the number of infectious diseases outbreaks and the incidence of water-related diseases;
    3) ensuring access to sustainable drinking water systems in 100% of institutions for children and general population access to these water supply systems up to 75% by 2025.

4) ensuring by 2025 a 100% of public access to improved sanitation systems, including up to 50% to sewerage systems;
5) increasing the levels of performance of collective water supply, sanitation and other systems
6) increasing application of recognized good practices in the integrated management of water supply and sanitation
7) reducing by 50% the discharges of non-treated waste water, as well as of untreated rainwater discharges into natural intakes in 10 towns;
8) improving the sludge management and the quality of treated waste water in centralized sewerage systems or other centralized sanitation systems;
9) ensuring an adequate management for the quality improvement of water used as sources of drinking water;
10) improvement of management of enclosed water generally available for bathing;
11) increase in identification and remediation of particularly contaminated land areas;
12) increase up to 80% of the share of population that have relevant knowledge about safety of drinking water, hygiene and health.

III. Actions to be taken

161. For amendment and completion of the legal/institutional framework on bringing it by 2020 in line with the Community acquis in all areas related to the Protocol, creation by 2025 of the operators' capacities of collective water supply and sewerage systems and to achieve the target indicators set out in the Protocol, the following directions of action are envisaged:
1) drafting laws, strategies in public services, rainwater management and monitoring of water resources;
2) development of the Sanitary Norms on surveillance of quality of drinking water and small water supply systems; small sanitation systems; water used for bathing; water in closed basins generally available for bathing;; taking into account the World Health Organizations and the European Union Directives;
3) development and implementation of the Regulation on the quality of water sources used for drinking water supply, taking into account the World Health Organization recommendations and the European Union Directives 75/440/CEE concerning the quality required of surface water intended for the abstraction of drinking water and 79/869/CE on methods of research, selection and periodic analysis of surface water used for drinking water abstraction;
4) Implementation of technological measures to treat drinking water and

measures to regionalize water pipelines from sources of surface water to improve water quality according to approved target indicators;

5) development and implementation of the Drinking Water Safety Plans by "Apa-Canal" operators;
6) development of the Register of small water supply systems (wells and springs);
7) modernization of 7 surface water treatment plants;
8) installation of water filtration systems in preschool and pre-university institutions.
9) improvement of the surveillance system of communicable and non-communicable diseases, including water-related diseases, implementation of the surveillance information system;
10) amendment and completion of the curriculum of education and ongoing training for specialists in the State Service for Public Health Surveillance in order to monitor water-related diseases within integrated water management systems;
11) organization of national campaigns to raise awareness of population on water and health and compliance with rules of hygiene.
12) implementation of new projects to improve sanitation systems in preschool and pre-university institutions to ensure that 100% of institutions are provided with improved sanitation systems;
13) capacity building of operators of collective water supply and sewerage systems for quick reaction and liquidation of consequences of extreme weather phenomena and emergencies;
14) creation of local associations for management of water and sewerage systems in rural areas to maintain collective systems and other systems;
15) construction of new water supply and sewerage systems to increase the share of urban and rural population covered by these systems.
16) regionalization of water supply and sewerage system through inter-municipal cooperation.
17) improvement of management of water resources by eliminating sources of pollution, compliance with requirements for areas of protection of water resources, implementation of programs to monitor surface water and groundwater.

IV. Phases and Terms of Implementation

162. The Program will be implemented in two phases:

1) phase I: period 2016-2020 – will be focused on development of the regulatory framework, reform of the operational management of water and sanitation systems and building capacities of operators for implementation of infrastructure projects, building capacities of all partners involved in achieving

target indicators, strengthening capacities for monitoring of water quality and for health protection concerning water and sanitation quality;

2) phase II: period 2021-2025 – will focus on actions undertaken for the continuation of the implementation of actions started in the first stage, fair insurance of drinking water access for all population categories, the implementation of European Directives related to water field, which will contribute to achievement of established target indicators.

163. Depending on the outcomes resulted from the implementation of I stage of the Program, new actions will be undertaken for the II stage in order to successfully achieve the planned indicators.

V. Entities Responsible for Implementation

164. Responsibility for the implementation of the Program lies with the Ministry of Health, the Ministry of Environment and other responsible authorities for each action separately that will be specified in the Annex no. 2 to this Program.

165. In implementation of this Program, the responsible authorities will collaborate with other authorities of central and local public administrations, non-government organizations, civil society, as well as with international development partners.

VI. General Estimation of Costs

166. This Program will be funded from and within the national public budget and other financial sources, as required by the legislation in force.

167. The instruments and sources of funding of actions for implementation of the Program will be divided into two categories: internal and external sources of funding.

168. Internal sources of financing will consist of annual budget allocations to this area, including the incomes collected by authorities, as well as the individual contributions and the contributions of economic operators.

169. External funding will consist of financial and technical assistance, including grants of international financial institutions and bilateral donors, resources to implement international agreements, foreign investments.

170. Overall estimation of costs for implementation of the Program was made based on identified and formulated priorities and activities (annex no. 3 to this Program).

VII. Expected Results

171. Implementation of this Program will help in the long run to improve the drinking water quality, water resources, to connect the population to secure water sources, to reduce morbidity and mortality caused by drinking water not complying with norms, and to inform the population about the water quality in order to prevent risks and eliminate diseases caused by consumption of non-compliant water. In accordance with the Action Plan (Annex 2 to this Program) the legal and regulatory framework will be updated in line with the European directives.
172. Jointly with other strategic programs for planning of the water supply and sanitation sector, an integrated management of water will be obtained and the water supply and sanitation service for the population will be improved, and a modernized and effective infrastructure, and an institutional structure able to contribute to performance of planned measures and achievement of target indicators by 2025 will be ensured.

VIII. Progress and Performance Indicators

173. To evaluate the degree of achievement of results, the following indicators will be used:
    1) share of samples of drinking water not complying with the Sanitary Norms on Drinking Water Quality,
    2) number of epidemic outbreaks caused by drinking water among children and adults;
    3) incidence of noncommunicable diseases caused by drinking water not complaint with sanitary norms;
    4) number of settlements that have Drinking Water Safety Plans
    5) number of constructed/renovated drinking water /wastewater treatment plants
    6) share of access of general population, different groups to improved drinking water systems,
    7) share of access of the general population, different groups to improved sanitation systems
    8) number of constructed/reconstructed pipelines
    9) number of established associations/operators of water and sanitation services
    10) number of regulatory acts developed and brought in line with the Community legislation reflecting provisions of the Protocol on Water and Health,
    11) number of performed communication actions

174. The level of achievement of the target indicators for each field of

the Protocol on Water and Health shall be reported to the Government and the Secretariat to the Protocol.

IX. Risks of Implementation

175. The following constraints can be identified in implementation of this Program:
   1) inaction or opposition of water supply and sewerage operators, the local public administration and businesses responsible for implementation of the Program and the Action Plan;
   2) limited resources in the state budget for implementation of this Program, as well as by attracting some additional funding from external donors.
   3) insufficient qualified human resources at various levels to implement actions and to reform the operators of water supply and sewerage systems.

176. Depending on the identified risks during the implementation of the Program, several measures will be applied for their reducing.

X. Reporting and Evaluation Procedures

177. The Ministry of Environment and the Ministry of Health
   1) will act as technical coordinator of implementation and monitoring of the Program by establishing, by a joint order, a Supervision Committee for the implementation of Water and Health Protocol for collection, analysis and documentation of results of envisaged actions, achieving an ongoing monitoring of the results achieved under this Program.
   2) will report annually to the Government on implementation of this Program and target indicators.
   3) every third year will prepare the national report and will submit it to the Secretariat of the Protocol.

178. The results achieved within this Program will be considered and revised by the Supervision Committee for implementation of the Protocol on Water and Health.

Annex no. 1
to the National Program for implementation
of the Protocol on Water and Health for 2016-2025

Target indicators for the implementation of the Protocol on Water and Health

Nr.	Field Protocol on Water and Health	Target indicators	Deadlines for implementation
1.	**Domain I, art. 6 pt. 2 (a) "The quality of the supplied drinking water "**	1) Reducing the non-conforming samples of drinking water at the consumer in terms of microbiological parameters (E. coli, enterococci) 2) Reducing the samples of non-compliant samples of drinking water to the sanitary norms to the 5 basic chemical parameters (F, NO3, NO2, As, Fe, Pb) 3) Achieving compliance with the quality of the drinking water in schools at all covered microbiological and chemical parameters.	5% of the annual samples until 2020 and 3% until 2025 in urban areas 10% of the annual samples by 2020 and 8% of the annual samples by 2025 in rural areas. 25% of annual samples by 2020 and up to 20% by 2025 100% of schools by 2025.
2.	**Domain II, Article 6, pt. 2 (b) "Reducing the number of epidemic outbreaks and illnesses conditioned by water"**	1) Establishing an integrated informational system supervised by the state of the no communicable diseases. 2) Reducing the incidence of hepatitis A, dysentery and ECEH. 3) Application of the Safe Drinking Water Plans.	IT system established by 2020 Up to 20% until 2020 By 2025 in all cities and towns with a population of over 2,000 inhabitants.
3.	**Domain III, article 6, pt. 2 (c) "Access of the general population to improved drinking water**	1) Providing access to improved drinking water systems 2) Ensuring children's access to improved water sources in kindergartens and schools 3) Ensuring legal and institutional framework for providing equitable access to water for vulnerable and marginalized groups	99% access of urban population and 85% for the rural population until 2025 100% of the institutions by 2020Create the legal framework until 2018 Implementation of financial mechanisms for ensuring equitable access by 2020
4.	**Domain IV, Article 6, pt. 2 (d) "Access of the population to improved sanitation**	1) Providing access to improved sanitation, access to sewerage systems 2) Ensuring children's access to improved sanitation systems in kindergartens and schools 3) Increasing the number of localities and their population served by ecological sanitation systems (individual and / or collective) (ECOSAN type toilets, constructed wetlands, septic tanks and other	100% of the entire population has access to improved sanitation, including up to 85% for urban and 25% rural population to sewerage systems By 2025 100% of institutions. By 2025 150 localities.

		technologies)	
5.	**Domain V, Article 6, pt. 2 (e) Part I "The performance levels of collective water supply systems and other systems"**	1) Presence of effective collective systems of water supply 2) Presence of operators of collective water supply and sewerage potential to respond regionally to mitigate the effects of extreme weather conditions and situations of major damage	In 14 cities and 20 villages until 2020. 7 operators by 2025
6.	**Domain VI, Article 6, under pt. 2 (e) Part 2 "The performance levels of exploitation of collective sanitation and other systems"**	The presence of effective collective sewage systems	In 7 cities by 2025
7.	**Domain VII and VIII, Article 6, pt. 2 (f) "Application of recognized good practice in the management of water supply, sanitation and water management"**	Establishment of regional associations of undertakings for collective systems management and other water supply and sanitation	5 associations created by 2020
8.	**Domain IX, Article 6, pt. 2 (g) and (i) "Discharge of untreated waste water"**	Stopping the discharge of untreated wastewater into natural water basins	In 10 cities by 2025.
9.	**Domain X, Article 6, pt. 2 (g) (ii) "Discharge of untreated rainwater from the collection systems"**	Presence of runaway water purification stations for polluted water discharged into natural receptors in the urban areas	In 5 cities by 2025
10.	**Domain, Article 6, pt. 2 (h) "The quality of discharges of the wastewater from the treatment plant"**	Wastewater treatment up to the standards of discharge into natural water basins from the wastewater treatment	In 10 cities and 20 villages by 2025
11.	**Domain, Article 6, pt. 2 (i) Part 1 "Disposal or re-use of the sludge from centralized sewage waters or other collective sewerage**	Establishment of the mechanism of repeated use of the sludge from wastewater treatment plants and from ECOSAN – type toilets for their further use in agricultural management and spatial planning	Mechanism established by 2017

	systems"		
12.	**Domain XIII, Article 6, pt. 2 (i), Part 2 "Quality of wastewater used for irrigation"**	Development of rules for the use of wastewater from treatment plants for irrigation	Enforcement by 2022 of the regulation for the use of wastewater for irrigation
13.	**Domain XIV, Article 6, let. J, Part 1 "Improving the quality of water used as sources of drinking water"**	1) Reaching indicators of quality of surface waters used as drinking water with the contents of enterococci and E.coli at Class 2 level of quality. 2) Establishing a National Registry of public drinking water sources of surface and underground drinking water	Achieving quality indicators by 2025 Register established by 2025
14.	**Domain XV, Article 6, pt. 2 (j), Part 2 "Improving the quality of water used for bathing"**	1) Reaching indicators for bathing water quality on enterococci and E.coli content at a satisfactory quality level 2) Establishing of the National Register of objects for bathing	For all the objects of national and local importance by 2020 Register established by 2020
15.	**Domain XVII, article 6, pt. 2 (k), Part 2 "Implementation of the national regulatory framework of good practice for the management of sealed water recognized generally available for bathing"**	1) A national legal framework on water quality in closed basins generally available for bathing established 2) Establishing the national Register of closed basins generally available for bathing	Sanitary requirements for closed basins generally available for bathing in accordance with the recommendations of WHO developed by 2018 Register established by 2020
16.	**Domain, Article 6, pt. 2 (l) "The identification and remediation of extremely" contaminated terrains"**	Mapping land areas contaminated with pesticides particularly, petroleum and other chemicals	Mapping 100% of the land area contaminated by 2020 Decontamination by 2025
17.	**Domain XIX, Article 6, pt. 2 (m) "Effectiveness of systems management, development, protection and use of water resources"**	Presence of resource Management Plans for Dniester and Prut rivers	Plans developed by 2017
18.	**Domain XX, article 6, pt. 2 (n) "Providing information on the quality of supplied water and of other waters falling under the incidence of the Protocol"**	1) Publication of the National Report regarding the drinking water quality. 2) Publication of the Report on the quality of water used for bathing 3) Publication of the National Report on the implementation of the Protocol on Water and Health 4) Develop and publish the National Report on the state of the environment	once every 3 years every 2 years once every 3 years once every 3 years

Annex no. 2
to the National Program for Implementation
of the Protocol on Water and Health in the
Republic of Moldova 2016-2025

Action Plan

to the National Program for Implementation of the Protocol on Water and Health in the Republic of Moldova 2016-2025

No.	Actions	Terms of actions	Entities in charge of implementation	Total Estimated Costs (th. MDL)	Including			Performance Indicators
					State budget	National Ecologic Fund	Technical assistance	
	2	3	4	5	6	7	8	9
Specific objective 1: ensuring by 2025 of safe drinking water distribution in 100% of institutions for children and reduction down to 20% of drinking water samples not complying with basic chemical parameters and to 5% with microbiological parameters, Field I, Art. 6 p. 2 (a)								
1.	Development of Sanitary Rules on Water Quality Surveillance	2016	Ministry of Health					Developed Sanitary Rules
2	Development of Sanitary Rules on Small Water Supply Systems	2016	Ministry of Health					Developed Sanitary Rules
3.	Development of law on drinking water quality	2016	Ministry of Health,					Developed law
4.	Modernization/construction of raw water treatment plants in Cahul, Ungheni, Soroca, Falesti, Nisporeni, Chisinau	2016-2017	Ministry of Environment LPA, Apa-Canal Operators	720 000,0			720 000,0	No. of modernized/ constructed plants

No.	Actions	Terms of actions	Entities in charge of implementation	Total Estimated Costs (th. MDL)	Including			Performance Indicators
					State budget	National Ecologic Fund	Technical assistance	
5.	Installation of water filtration systems in 300 schools and pre-school institutions	2016-2025	APL, Min. of Education Apa-Canal Operators	59 128,5	59 128,5			No. of institutions equipped with filtering systems
6	Strengthening the material and technical base of laboratories in 10 regional public health centers	2016-2017	Ministry of Health	11000,0	9000,0		2000,0	No. of regional PHCs provided with modern equipment
Specific objective 2: reduction by 20% by 2025 of the number of outbreaks of infectious diseases and incidence of water-related diseases, Field II, Art. 6, 2 (b)								
7.	Development of National Guides: - for surveillance of non-communicable diseases; - for development and implement of Drinking Water Safety Plans	2016	Ministry of Health Ministry of Environment					Developed and approved Guides
8.	Establishment of the National System for surveillance of non-communicable water-related	2018-2020	Ministry of Health	31 954,2	31 954,2			Set up surveillance

	diseases.							system
9.	Implementation of national actions on application of hygienic practices by population	2016-2020	Ministry of Health, Ministry of Environment	2 737,4	2 737,4			No. of performed actions
10.	Development and implementation of Drinking Water Safety Plans in all settlements with a population of over 2,000 inhabitants	2016-2025	Apa-Canal Operators, APL,	6 075,0			6 075,0	Developed Drinking Water Safety Plans
Specific objective 3: ensuring access to sustainable drinking water systems in 100% of institutions for children and increase by 2025 by 10% of access for general population to these systems, Field III, Art. 6, p. 2 (c								
11.	Implementation of water supply projects in 400 rural areas with the support of the National Ecological Fund, SDC, ADA, other investors	2016-2025	LPA, Moldova's Waters Agency, Apa-Canal Operators	8 909 319,4	1 781 863,9		7 127 455,5	No. of implemented projects
12.	Construction of the water supply and sewage system in Hincesti district. Stage I – settlements in the Prut river floodplain - Cotul Morii, Obileni, Sarateni and Leuseni villages	2016-2017	Ministry of Environment, Ministry of Regional Development and Constructions, LPA	46 500,0		46 500,0		Implemented project
13.	Renovation of the water supply system in Nisporeni, Varzaresti and Grozesti settlements	2016	Ministry of Environment (NEF), LPA	226 000,0			226 000,0	Implemented project
14.	Development of the Feasibility Study for expansion of Chisinau-Straseni-Calarasi aqueduct	2016	Ministry of Environment	14 600,0			14 600,0	Developed study
15.	Implementation of the project "Water Supply of the North	2018	Ministry of Environment	642 000,0			642 000,0	Established

	Region of Moldova"							regional operator No. of connected people
16.	Evaluation of achievement of indicators of access to improved water supply sources and sanitation in a new demographic study	2018-2020	Ministry of Health	4 429,8			4 429,8	Performed demographic study
17.	Identification and implementation of water supply and sanitation projects in 100 most vulnerable pre-university and pre-school institutions	2016-2025	LPA, Ministry of Health, Ministry of Education, Ministry of Regional Development and Constructions, Ministry of Environment	202 569,8			202 569,8	No. of implemented projects
18.	Ensuring legal and institutional framework to provide equitable access to water for vulnerable and marginalized groups	2018-2020	Ministry of Environment, Ministry of Labor and Social Protection, Ministry of Health	288,9			288,9	Applied legal framework
19.	Creation of solidarity funds to provide equitable access to water for vulnerable and marginalized groups	2025	Ministry of Environment, Ministry of Labor and Social Protection, Ministry of Finance	372,4			372,4	Established funds
Specific objective 4 : ensuring by 2025 of 100% population access to improved sanitation systems, including up to 50% to sewage systems, Field IV, Art. 6, 2 (d)								

20.	Continuation of transposition of the Directive no. 91/271 EEC concerning urban waste water treatment into national law	2016-2018	Ministry of Environment	1 440,7			1 440,7	National legislation in line with the adopted acquis
21.	Development /update of the regulatory framework on waste water disposal and treatment in accordance with adopted legislation	2016-2018	Ministry of Environment, Ministry of Health and other responsible authorities	960,5			960,5	No. of developed regulatory acts
23.	Assessment of the situation of waste water collection and treatment	2016-2020	Ministry of Environment, Ministry of Health and other responsible authorities	895,5			895,5	Developed inventory of existing infrastructure related to collection and treatment of waste water
24.	Development of an electronic database for the collection and waste water treatment	2018	Ministry of Environment and other responsible authorities	524,3			524,3	Created database
25.	Identification of sensitive areas and agglomerations	2022	Ministry of Environment, Ministry of Health and other responsible authorities	524,3			524,3	Developed map of sensitive areas and agglomerations
26.	Development of a Technical and Investment Program for implementation of urban waste	2025	Ministry of Environment, Ministry of Health	577,8			577,8	Developed program

	water treatment requirements under Art. 17 of Directive 91/271 on urban waste water treatment		and other responsible authorities					
27	Creation of regional services by expanding water and sewage services in urban areas to rural areas	2020-2025	Ministry of Environment, Moldova's Waters, LPA and other responsible authorities					No. of established regional operators
28.	Development and approval of rules/codes of practice on requirements to small systems alternative to sanitation (EcoSan toilets, CW)	2016-2017	Ministry of Environment, Ministry of Health	500,0			500,0	Approved regulatory acts
29.	Construction/reconstruction of sanitation systems in pre-school and pre-university institutions to ensure that 100% of institutions are provided with sanitation systems	2016-2020	Ministry of Education, Ministry of Economy, LPA	164 664,0	32 932,8		131 731,2	No. of constructed sanitation systems
30.	Performance of trainings for LPA and civil society on implementation and operation of decentralized sanitation systems	2016-2020	Ministry of Environment, Ministry of Health	105,6			105,6	No. of trained specialists
Specific objective 5: Increasing performance levels of collective water supply, sanitation and other systems, Field V, Art. 6, 2 (e) Field VI, Art. 6, sub-point 2 (e)								
31.	Establishing a transparent system for performance monitoring of water and sanitation systems	2018-2020	Ministry of Environment, "Moldova's Waters", NAER and other responsible	1 123,5			1 123,5	Developed monitoring report

			authorities					
32.	Development of a priority operators' action plan required to operators on regionalization of water supply and sewerage services	2016-2018	Moldova's Waters. MACA, MEnv, and other responsible authorities	1 038,8			1 038,8	Developed plan
33.	Establishing a mechanism to ensure control over calculation of rates by operators	2016	LPA, NAER and other responsible authorities	514,5			514,5	Developed mechanism
34.	Establishing public-private partnerships in the sector	2016-2025	Responsible authorities					No. of public-private partnerships
38.	Development of a Guide on development of the Business Plan for development of Apa-Canal companies	2016-2018	Ministry of Environment, LPA					Approved Guide
Specific objective 6: Increasing the extent of application of recognized good practices of water supply, water and sanitation management, Field VII and Field VIII, Art. 6, p. 2 (f)								
35.	Development and approval of regulatory acts on small waste water treatment (sanitation) systems	2016	Ministry of Environment, Ministry of Health and other responsible authorities	257,3				No. of approved documents
36.	Creation of local associations in rural areas to serve collective water supply and sanitation systems	2016-2020	Ministry of Environment, LPA	3 000,0			257,3	No. of established associations
37.	Evaluation of the financial and economic state of Apa Canal	2016	LPA, MACA	514,5			3 000,0	No. of financial and economic

	operators							reports
38.	Equipping Apa-Canal laboratories for quality control of water supplied for human consumption	2017-2025	Apa Canal Operators, LPA	25 680,0	2 568,0		514,5	No. of equipped laboratories
39.	Development and approval of the Operator's Manual	2016	Ministry of Environment, LPA	257,3			23 112,0	Approved manual
40.	Approval and implementation of the Concept of regionalization operators according to practices used in the EU	2016-2025	Ministry of Environment, Apa canal Operators, LPA					Approved and implemented Concept
Specific objective 7: reduction by 50% of discharges of untreated waste waters and reduction of discharges of untreated rainwater into natural intakes, Field IX, Art. 6, p. 2 (g), (i) Field X, Art. 6, p. 2 (g) (ii) and Field XI, Art. 6, pt 2 (h)								
41.	Development of the Strategy for Rainwater Management	2018-2020	Ministry of Environment (IEG)					Developed Strategy
42.	Performance of researches on the impact of rainwater on surface water quality	2016-2018	Ministry of Environment (IEG)	1 038,8			1 038,8	No. of performed researches
43.	Inventory of rain water treatment plants at all enterprises	2016-2018	Ministry of Environment (IEG),	1 563,1			1 563,1	No. of treatment plants
44.	Developing the Low-Emission Development strategy	2018	Ministry of Environment					Strategy approved
45.	Development of a Plan for adjustment of existing waste water treatment plants to the	2020	Ministry of Environment (Moldova's	524,3			524,3	Developed Plan

	requirements of the Directive 91/271 on the existing urban waste water treatment		Waters Agency)					
46.	Reconstruction and modernization of sewage systems in Cimislia, Rezina, Singerei, Basarabeasca, Ocnita, Orhei, Hincesti, Falesti, Donduseni, Ceadir-Lunga, Vadul lui Voda towns	2020	LPA, Ministry of Environment (NEF), AC Operators	524,3			524,3	Implemented project
Specific objective 8: Improving sludge management and quality of treated waste water in centralized sewage systems or other centralized sewage systems, Fields XII and XIII, Art. 6, p. 2 (i), Part 1 and 2								
47.	Development and adoption of the Regulation on repeated use of sludge from treatment plants	2018	Ministry of Environment, Ministry of Health					Approved Regulation
48.	Performance of researches on sludge of existing treatment plants for repeated use in agriculture	2016-2018	Ministry of Health Ministry of Environment, Ministry of Agriculture and Food Industry	1 563, 1			1 563, 1	No. of performed researches
49	Review of the Action Plan on implementation of the Strategy of water supply and sanitation with attraction of investments in the sector	2018	Ministry of Environment	524,3			524,3	Revised Action Plan
50.	Studying the possibility of using waste water from treatment plants for irrigation purposes	2016-2018	Ministry of Environment, Ministry of Health, Ministry of Agriculture and Food Industry Apa-Canal	1 563,1			1 563,1	Performed Study

			Operators					
51.	Development of the Regulation for the use of waste water for irrigation		Ministry of Environment, Ministry of Health					Approved Regulation
Specific objective 9: Ensuring an adequate management to improve the quality of waters used as drinking water sources, Field XIV, Art. 6, p. 2 (j), Part 1								
52.	Mapping of public drinking surface and groundwater sources with development of the National Register	2020-2022	Ministry of Health	5 908,5			5 908,5	Published registry
53.	Development and implementation of the Regulation on quality of water sources used for drinking water supply	2016	Ministry of Health					Approved regulation
54.	Inventory and liquidation of unauthorized sources of untreated waste water discharge in areas of sanitary protection of drinking water sources	2016-2020	Ministry of Environment, Ministry of Health, LPA	2 686,6	268,7		2 417,9	No. of liquidated unauthorized discharge sources
Specific objective 10: achievement of full compliance with microbiological water quality parameters used for bathing in national recreational areas, Field XV, Art. 6, p. 2 (j), Part 2								
55.	Development and implementation of the Sanitary Regulation on the quality of water used for bathing	2017	Ministry of Health Ministry of Environment,	374,5	37,5		337,1	Approved regulation
56.	Inventory and liquidation of unauthorized sources of discharge of untreated waste	2016-2020	Ministry of Environment,	2 686,6	268,7		2 417,9	No. of liquidated unauthorized discharge sources

	water in areas used for bathing		Ministry of Health					
57.	Elaboration and development of water protection areas at basins used for bathing	2016-2020	LPA	2 686,6	268,7		2 417,9	No. of developed protection areas
Specific objective 11: improving management of enclosed waters generally available for bathing, Field XVII, Art. 6, p. 2 (k), Part 2								
58.	Development and approval of the Sanitary Regulation on the content and quality of water in enclosed basins generally available for bathing in accordance with the WHO recommendations	2018	Ministry of Health					Approved Sanitary Regulation
59.	Conducting a complete study on sanitary status and quality of water of enclosed basins generally available for bathing	2017-2018	Ministry of Health, Territorial PHC, LPA	1910,4	291,0		1 619,4	Evaluation Report on enclosed basins available for bathing
60.	Development of the National Register of bathing objects	2020	Ministry of Health	2 473,8	247,4		2 226,5	Approved Sanitary Regulation
Specific objective 12: Increasing the degree of identification and remediation of particularly contaminated areas, Field XVIII, Art. 6, p. 2 (k)								
61.	Development of project documentation and creation of the Waste Management Centre	2017	Ministry of Environment	374,5	374,5			

No.	Actions	Terms of actions	Entities in charge of implementation	Total Estimated Costs (th. MDL)	Including			Performance Indicators
					Budget	National Ecologic Fund	Technical assistance	
62.	Equipping laboratories with modern equipment to monitor certain pollutants in soil, water and other environments	2016-2018	Ministry of Environment, State Hydrometeorological Service	860,0	86,0		774,0	Documents developed
63.	Creation and update of the database on polluted land	2016-2020	Ministry of Environment	1 940,4	194,0		1 746,4	Laboratories equipped
64.	Decontamination/remediation of contaminated land with petroleum products, pesticide wastes, polychlorinated biphenyls and other chemicals	2016-2020	Ministry of Environment, Ministry of Defense, LPA	28 404,0		14 202,0	14 202,0	Land decontaminated
65.	Organization of seminars and campaigns to inform the public about possible adverse impact on surface and groundwater resources on/in polluted land	2016-2020	Ministry of Environment, State Ecological Inspectorate					Information campaigns
Specific objective 13: improving effectiveness of the management, development, protection and use of water resources, Field XIX, Art. 6, p. 2 (m)								
66.	Development of a Plan on flood risks for the Nistru and Prut rivers	2025	Ministry of Environment, Hydrometeorological Service, Moldova's Waters	321,0			321,0	2 plans on flood risks developed
67.	Development of the Program for monitoring of surface water quality	2020	Ministry of Environment, Hydrometeorological Service,	374,5			374,5	Program developed

			Ministry of Health					
68.	Development of Sector Plan for adaptation of water resource management to climate changes	2019	MEnv, "Moldova's Waters" Agency, Climate Change Office					Plan developed
69.	Development of the Program for monitoring of pollution caused by nitrates in accordance with Art. 6 of Directive 91/676 EEC on protection of waters against pollution caused by nitrates originating from agricultural sources	2018	Ministry of Environment, Ministry of Agriculture and Food Industry, Ministry of Health					Program developed
70.	Development of the Groundwater Management Strategy	2019	Ministry of Environment, AGMR					Developed Strategy
71.	Identification of polluted waters or waters with risk of pollution caused by nitrates	2020	Ministry of Health, Ministry of Environment, Ministry of Agriculture and Food Industry	1 048,6			1 048,6	Identified vulnerable areas
72.	Strengthening institutional capacity for management of water resources	2016-2017	Ministry of Environment, Moldova's Waters	418,1			418,1	No. of trained persons
73.	Implementation of the Prut and Nistru Basin Management Plan	2016-2025	Ministry of Environment, Moldova's Waters					Studies, Reports, Plans
Specific objective 14: increasing up to 80% of the share of people with relevant knowledge of the safety of drinking water, hygiene and health, Field XX, Art. 6, p. 2 (n)								
74.	Development of an order on drinking water quality surveillance and data reporting	2016	Ministry of Health, NCPH					Developed order

75.	Preparation and collection of information on implementation of activities under the Protocol related to efficient management of water resources and reduction of pollution, for their publication in the National Report on the state of the environment	Every 3 years,	Ministry of Environment, Ministry of Health,					Developed report
76.	Collection of information on implementation of the Protocol and development of the National Report on Implementation of the National Report on implementation of the Protocol on Water and Health in the Republic of Moldova	Every 3 years, since 2016	Ministry of Health, Ministry of Environment					Developed report
77.	Supporting the Information Center (Clearing House) under the Protocol on Water and Health at NCPH	Permanently	Ministry of Health, NCPH	1440,0	540,0		900,0	Functional Information Center

Annex no. 3
to the National Program for Implementation
of the Protocol on Water and Health of the
Republic of Moldova
for years 2016-2025

Funding of specific objectives

of the National Program for implementation of the Protocol on Water and Health in the Republic of Moldova 2016-2025

No	Specific objectives	Forecast per year, million lei										Out of the total, by sources of funding			
		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	**Total**	including		
													State budget	LPA budgets	Technical assistance
	TOTAL GENERAL	**495,4**	**492,0**	**1489,1**	**1049,1**	**1289,7**	**1297,7**	**1282,0**	**1304,2**	**1207,8**	**1232,4**	**11139,4**	**1922,3**	**60,7**	**9156,4**
1.	Ensuring by 2025 of secure drinking water distribution in 100% of institutions for children and reduction down to 20% of drinking water samples not complying with basic chemical parameters and to 5% with microbiological parameters,	9,1	9,2	129,2	125,7	125,8	126,0	126,1	126,2	6,3	6,5	**790,1**	68,1	0,0	722,0

2.	Reduction by 20% by 2025 of the number of outbreaks of infectious diseases and incidence of water-related diseases	3,0	3,7	3,8	3,9	4,1	4,2	4,3	4,5	4,6	4,7	**40,8**	34,7	0,0	6,1
3.	Ensuring access to sustainable drinking water systems in 100% of institutions for children and increase by 2025 by 10% of access for general population to these systems	459,1	450,1	1310,3	870,4	1 103,8	1 124,5	1 147,0	1 170,0	1 193,3	1 217,6	**10 046,1**	1 781,9	46,5	8 217,7
4.	Ensuring by 2025 of 100% population access to improved sanitation systems, including up to 50% to sewage systems	11,5	15,4	30,3	37,2	37,2	37,0	0,5	0,0	0,0	0,6	**169,7**	32,9	0,0	136,8

5.	Increasing performance levels of collective water supply, sanitation and other systems	1,0	0,0	1,1	0,6	0,0	0,0	0,0	0,0	0,0	0,0	**2,7**	0,0	0,0	2,7
6.	Increasing the extent of application of recognized good practices of water supply, water and sanitation management	1,6	2,3	3,2	3,2	3,2	3,4	3,4	3,4	3,4	2,6	**29,7**	2,6	0,0	27,1
7.	Reduction by 50% of discharges of untreated waste water and reduction of discharges of untreated rainwater into natural intakes.	1,0	0,6	1,0	0,0	1,0	0,0	0,0	0,0	0,0	0,0	**3,6**	0,0	0,0	3,6

8.	Improving sludge management and quality of treated waste water in centralized sewage systems or other centralized sewage systems	1,0	1,0	1,1	0,0	0,0	0,0	0,0	0,0	0,0	0,0	**3,1**	0,0	0,0	3,1
9.	Ensuring adequate management to improve the quality of waters used as drinking water sources	0,6	0,5	0,5	0,6	3,4	2,5	0,5	0,0	0,0	0,0	**8,6**	0,3	0,0	8,3
10.	Achievement of full compliance with microbiological water quality parameters used for bathing in national recreational areas	1,0	1,0	1,1	1,2	1,1	0,0	0,0	0,0	0,0	0,0	**5,4**	0,5	0,0	4,9
11.	Improving management of enclosed waters generally available for bathing	0,0	1,0	1,0	0,0	2,4	0,0	0,0	0,0	0,0	0,0	**4,4**	0,5	0,0	3,9

12.	Increasing the degree of identification and remediation of particularly contaminated areas	6,1	6,8	6,4	6,2	6,1	0,0	0,0	0,0	0,0	0,0	**31,6**	0,3	14,2	17,1
13.	Improving effectiveness of the management, development, protection and use of water resources	0,2	0,2	0,0	0,0	1,5	0,0	0,0	0,0	0,0	0,3	**2,2**	0,0	0,0	2,2
14.	Increasing up to 80% of the share of people with relevant knowledge of the safety of drinking water, hygiene and health	0,2	0,2	0,1	0,1	0,1	0,1	0,2	0,1	0,2	0,1	**1,4**	0,5	0,0	0,9

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