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National Summary Report of Ukraine under the Protocol on Water and Health

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Executive summary

In 2017, in order to strengthen cooperation at the national level in Ukraine in the sphere of coordination and implementation of the UNECE/WHO-Europe Protocol on Water and Health to the Water Convention in the areas related to control, prevention, reduction and elimination of water-related diseases and to enhance communication between Ukraine and the Joint Secretariat of the Protocol, the second national focal point of the Protocol was appointed from the Ministry of Public Health (MofH).

Taking into account the new political commitments of Ukraine in connection with the approval of the Sustainable Development Goals (SDGs) and implementation of the EU-Ukraine Association Agreement, in 2017-2018, the National Targets (NTs) under the Protocol on Water and Health and the Action Plan for their achievement were revised with the technical and financial assistance from the UNECE secretariat of the Protocol in the framework of the European Union Water Initiative Plus programme (EUWI+). Draft National Targets and the Action Plan were approved at the level of the Inter-agency Working Group (IWG) on Coordination of the Protocol Implementation and are in the process of preparation for adoption. In 2017, in the course of review of the National Targets, the draft Technical Report on Baseline Analysis was discussed at the extended IWG meeting in the framework of the "Aqua-Ukraine-2018" Forum. Draft updated NTs and the Action Plan for their achievement were posted for public consultations on the web-site of the Ministry of Ecology and Natural Resources (Minpryrody). On December 19-20, 2018, public consultations with national discussions were held in Kyiv with participation of more than 60 representatives of the stakeholders from 11 Ukrainian cities. 99 public comments were processed by the expert group and 61 comments were taken into account in the final draft documents. As a result of revision of current 15 NTs and 32 indicators (approved in 2011) for 10 target areas of the Protocol, 42 National Targets and 76 progress indicators to all 20 target areas of the Protocol were proposed, which have not been adopted yet.

In the reporting period - from 2016 to 2018 - the main progress was made in the development and harmonisation of the Ukrainian legislation with 4 EU water directives, related to the Protocol: Directive 2000/60/EC of the European Parliament and of the Council (WFD), Council Directive 98/83/EC on Quality of Water Intended for Human Consumption, (the Drinking Water Directive), Council Directive 91/271/EEC on Urban Wastewater Treatment and Directive 91/676/EC on Protection of Waters against Pollution Caused by Nitrates from Agricultural Sources. In October 2017, amendments were incorporated into the Water Code of Ukraine on introduction of integrated water resources management (IWRM) based on the basin principle, as well as into Law of Ukraine on Drinking Water, Drinking Water Supply and Drainage on setting terminology and norms in accordance with requirements of the Drinking Water Directive and the Urban Wastewater Treatment Directive. Besides that, 21 regulations were developed and adopted - the regulations provide tools for implementation of European water quality and water resources management standards. In connection with substantial changes in the legislation and introduction of new standards and tools for water quality and water resources management, intensive and broad information and awareness raising activities were conducted among the water sector specialists and stakeholders in the framework of annual water forums (Aqua-Ukraine, Aqua-Term), conferences, seminars and trainings supported by projects EPIRB, APENA, EUWI + (with EU financial support). In addition, some pilot projects were implemented, in particular for development of river basin management plans (RBMPs) for the Upper Dnieper, Prut, Dniester, Siverskiy Donets, Tysza (2nd generation) in line with WFD requirements and with the EU technical assistance, implementation of water and sanitation safety plans (WSSPs) in accordance with the WHO-Europe Guidelines (with support of the Swedish International Development Agency - SIDA).

In 2016, as a result of the administrative reform, the State Sanitary and Epidemiological Service (the State SES) of the MofH was liquidated and its functions related to supervision and control in the sphere of compliance with the due sanitary and epidemiological legislation (including control of quality of drinking water and water for recreation), were transferred to the State Service of Ukraine for Food Safety and Consumer Protection (the SSFSCP) which is subordinated to the Cabinet of Ministers of Ukraine (CMU) and coordinated by the Ministry of Agrarian Policy and Food of Ukraine (the Minagro). The reform also affected territorial entities of the State SES, their number was reduced (by liquidation of rayon SES entities) and they were transformed

into inter-rayon and oblast level Laboratory Centres (LCs) of the Ministry of Public Health with spheres of competence covering monitoring of water quality (including sources of drinking water supply, drinking water, water in water bodies of I and II categories); investigation of causes and conditions of emerging infectious diseases, poisonings.

Institutional reforms in the sphere of sanitary and epidemiological well-being and the ban on inspections (the moratorium on regular and extraordinary inspections was in force from July 2014 to January 2018) resulted in reduction in logistical and human capacity of the laboratories and monitoring programs (lower numbers of sampling sites and frequency of sampling, water quality parameters) of the MofH. In the reporting period, numbers of drinking water samples from centralised water supply systems were gradually increasing (as compared with 2014 – period of the beginning of moratorium), while the number of controlled artesian wells increased substantially. At the same time, monitoring of main decentralised sources of drinking water continued to decline. Over the past 5 years, the number of analysed samples from shallow wells decreased by more than 2.6 times, while in the case of springs it decreased by 1.5 times. Control of drinking water quality was completely interrupted in areas of Luganska and Donetsk oblasts that are not under control of the Ukrainian government and at the annexed territory of the Autonomous Republic of Crimea.

In the reporting period, no substantial progress was observed in achievement of the current National Targets.

Information on access to drinking water and drinking water quality (generalised at the national and oblast levels) was published annually in the National Report on Drinking Water Quality and the State of Drinking Water Supply, that was posted on website of the Ministry of Regional Development, Construction, Housing and Utilities of Ukraine (the Minregion). The National Report of 2017 incorporated a special chapter on the Protocol on Water and Health.

The level of coverage of centralised water supply services has not changed in cities, and only minor progress has been made in improving access in townships and villages. A difficult situation still remains in access to water supply in rural settlements - only 22.2% of villages are provided centralised water supply services. In addition, according to the State Water Agency, in 2017, 1.3 thousand rural settlements that rely on truck water were registered, with a population of 950 thousand people in 16 oblasts of Ukraine.

The situation in access to centralised sanitation services remained almost unchanged: 95% of cities, 63% of townships and only 3% of villages have sewers.

Significant progress has been made during the reporting period in improving the access of children in schools and pre-school institutions to sanitation: the number of non-canalized pre-schools has decreased from 95 (0.6%) in 2015 to 33 (0.2%) in 2018, and the number of non-canalized schools dropped from 675 (4%) in 2015 to 279 (1.7%) in 2018. This progress was made by connecting them to the decentralized sanitation systems (particularly, septic tanks). At the same time, the situation with access to drinking water of schools and preschools during the reporting period has deteriorated in comparison with 2015. The number of kindergartens has doubled (from 797 (5.3%) - in 2015 to 1434 (11.6%) - in 2018), which are not connected to centralized and local water supply systems, also the number of pre-schools that use water trucking increased by 57% (from 258 (1.7%) - in 2015 to 370 (3.0%) - in 2018). The situation for schools had a significant deterioration in 2016, when the number of schools not connected to centralized water supply increased to 3121 schools (19.5%), but by 2018 the number of such schools decreased to 2580 schools (16%), still did not reach previous period indicators (15.1%). Despite some progress in 2016, the number of schools that work on transported water remains at 2015 year level - 504 (3.1%) in 2018.

At the territories affected by the war in Donbass, the situation in access to drinking water was particularly complicated. According to UNICEF, from 3.6 to 4.2 million residents of Donetsk and Luganska oblasts are under permanent risks of interruptions in water supply. Information on the situation on non-Government controlled areas of these two oblasts is not available and was not accounted for.

According to the Minregion data, for implementation of the State Target Program "Drinking Water of Ukraine" financing by the State Budget (despite the fact that only in 2018 just UAH 200 million of the State Budget were allocated), 38 projects were implemented, including construction and reconstruction of 18 water intake facilities, 9 water treatment and wastewater treatment plants with application of modern technologies and equipment, installation of 11 local additional water purification stations in centralised water supply systems.

According to the State Water Agency, in 2017, at the expense of local budgets in the Zakarpatska, Zaporizhska and Poltavaska oblasts, drinking water supply systems with a total length of 16.9 km were constructed, local water pipelines were constructed and reconstructed in 2 rural settlements, and in 2018, at the expense of the Water Management Development Fund, rural water networks were constructed and 27 rural settlements got access to centralised water supply.

According to the MofH, in 2014-2018, some deterioration of drinking water quality was observed in terms of both bacteriological and sanitary-chemical parameters, especially in rural water supply and in decentralised water supply sources. In the past 5 years, the number of not-standard samples with microbiological deviations has increased more heavily (in 2.2 - 2.7 times) than for sanitary-chemical (in 1.4-2.2 times). It is necessary to stress a particularly rapid deterioration of water quality (rising numbers of not-standard samples) in municipal water pipes and distribution networks. In 2017-2018, some increase was observed in numbers of water samples with deviations from limits for nitrate levels and microbiological indicators.

During last 3 years the volume of not-treated and insufficiently treated wastewater discharges has increased by 21.15%.

In the reporting period, some decrease was registered in numbers of persons affected by water-related diseases. In 2018, 3 outbreaks related to use of unsafe drinking water were registered, 180 persons were affected, including 70 children (132 incidents of viral hepatitis A, including 27 children; 48 cases of rotavirus infection, including 43 children; one incident of cholera was registered (0.002 per 100 thousand population) in Zaporizhska oblast). In 2017, 5 outbreaks associated with use of unsafe drinking water were registered, with 299 persons affected, including 138 children, and 5 cases of a non-infectious disease (water-nitrate methemoglobinemia). In 2016, 2 outbreaks associated with use of poor quality drinking water registered, 813 persons were affected, including 136 children (including gastroenterocolitis with identified virulent agents - 776 persons were affected, including 449 children, and viral hepatitis A - 37 residents were affected, including 28 children).

Ukraine has not revised its system of surveillance of water-related diseases, as required by Article 8 of the Protocol. Similarly, necessary amendments have not been introduced into relevant laws to fulfil control and supervision functions, as well as into forms of reporting water-related diseases. Currently, Ukraine does not maintain a separate official medical statistics for non-infectious diseases related to chemical water quality, including, in particular water-nitrate methemoglobinemia, fluorosis, etc.

The main obstacles to achieve the National Targets in the reporting period included: incomplete reforms in the water sector, low attention of the Government to improving population access to safe water and sanitation, lack of the State Budget financing for the State Target Programs and the lack of new financial mechanisms to support development of the water supply and (particularly) sanitation sectors, low priority of these issues at the level of local authorities; complexity of the transition to implementation of European standards of water quality and water resources management, reduction of monitoring programs and collection of state statistics on access to water and sanitation, incomplete institutional reforms in the sphere of sanitary supervision, critical state of the water supply and sanitation sectors, and the war in eastern Ukraine.

Part one

General aspects

1. Were targets and target dates established in your country in accordance with article 6 of the Protocol?
YES + NO IN PROGRESS

If targets have been revised, please indicate the date of adoption and list the revised target areas. Please provide detailed information in part two.

YES. Ukraine is a Party of the Protocol on Water and Health from 2003 after ratification of the Law of Ukraine No 1066-IV from 09.07.2003. In 2011, with the support of the Ukrainian-Norwegian project of international assistance, 15 national targets (NTs) and indicators with terms for their achievement were set up to 10 Protocol target areas and approved by the order of the Ministry of Ecology and Natural Resources (the Minprirody) of Ukraine of September 14, 2011, No 324. At the request of Ukraine in 2017-2018, technical

assistance was provided for NTS revision by UNECE Secretariat of the Protocol. The Draft NTs and Action Plan for their achievement have been prepared and considered by the Inter-agency Working Group on Coordination of the Protocol Implementation and are in the process of preparation for approval.

2. Were targets and target dates published and, if so, how?

Please explain whether the targets and target dates were published, made available to the public (e.g., online, official publication, media) and communicated to the secretariat.

Ukraine NTs to the Protocol on Water and Health of 2011 were published on the website of the Minprirody (www.menr.gov.ua), State Sanitary and Epidemiological Service of Ukraine (<http://www.dsesu.gov.ua>), Taras Shevchenko National University of Kyiv (www.geol.univ.kiev.ua/pwh/), Ukrainian National Environmental Non-Governmental Organization (UNENGO) "MAMA-86" (<http://archive.mama-86.org/index.php/uk/watersan/watersan-publications/334-national-targets.html>)

Ukrainian NTs-2011 to the Protocol on Water and Health were communicated to the Secretariat.

In 2012, 2 editions of NTs publications were made in Ukrainian and English with a total number of 4,500 copies at the expense of the Ukrainian-Norwegian project of international assistance and the Water Supply and Sanitation Collaborative Council (WSSCC). Publications were distributed during the events dedicated to Protocol implementation at the level of the Minprirody and within framework of "Water, Sanitation and Hygiene for All" (WASH) information campaign of UNENGO "MAMA-86" in 2011-2017.

The drafts of revised NTs and the Action Plan for their achievement were published on December 18, 2018, on the Minprirody website for public consultations <https://menr.gov.ua/news/32987.htm>.

3. Has your country established national or local arrangements for coordination between competent authorities for setting targets? If so please describe, including information on which public authority (-ies) took the leadership and coordinating role, which public authorities were involved and how coordination was ensured.

In October 2003 Cabinet of Ministers of Ukraine approved the Action Plan developed by the Minprirody to implement the Law of Ukraine "On ratification of the Protocol on Water and Health to the Convention on Protection and Use of Transboundary Watercourses and International Lakes 1992" № 1066- IV of 09.07.2003.

According to the Resolution of the CMU from 06.10.2003 No 46963, the Minprirody is the main central executive body acting as coordinator of the Protocol implementation in Ukraine at the national level and communicates with the Joint Secretariat of the Protocol through the National Focal Point from the Minprirody. In 2017, the second National Focal Point to the Protocol was appointed by the Ministry of Health of Ukraine to enhance communication with the Protocol Joint Secretariat and cooperation on coordination and implementation of the Protocol tasks on the water related diseases control, prevention, reduction and elimination.

In 2006, by the Order of Minprirody from 12.05.2006 No 243 the Interagency Working Group (IWG) on the implementation of the Protocol has been established. Composition of this IWG was updated several times, most recently in 2016 by the Order of Minprirody. Deputy Minister of Ecology and Natural Resources of Ukraine for European Integration heads the IWG. The IWG comprises representatives of central executive bodies: the Ministry of Ecology and Natural Resources, the Ministry of Health, the Ministry of Regional Development, Construction and Housing, the Ministry of Agrarian Policy and Food, the Ministry of Education and Science, the State Emergency Service, the State Service for Food Safety and Consumer Protection, the State Agency of Water Resources, State Service of Geology and Subsoil, the State Agency on Exclusion Zone Management as well as academic and sectoral institutions, non-governmental organizations. Coordination of the implementation of the Protocol is carried out through the organization of meetings and extended meetings of the IWG, the agenda and frequency of which determine the actual tasks of the Protocol implementation, in particular, reporting and evaluating the progress of the achievement of NTs and their review.

4. Was a programme of measures or action plan developed to support implementation of the targets? If so, please briefly describe that programme or plan, including how financial implications were taken into account.

In October 2003, the Cabinet of Ministers of Ukraine approved the Plan of measures for the implementation of the Law of Ukraine "On ratification of the Protocol on Water and Health to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes in 1992" of 09.07.2003, No. 1066- IV developed by the Minprirody. This Plan did not approve national targets in accordance with the requirements of Article 6, paragraph 2 of the Protocol, and contained a set of measures that were identified in the on-going National target programs aimed on improvement of drinking water supply for population of Ukraine. Until 2017, there were no attempts to revise the Action Plan for the implementation of the 2003 Protocol, a separate Plan of Implementation of the NTs 2011 was not developed too. Now within the framework of the UNECE project on NTs revision a Draft Plan of measures for the achievement of updated NTs has been prepared.

5. What has been done in your country to ensure public participation in the process of target setting in accordance with article 6, paragraph 2, and how was the outcome of public participation taken into account in the final targets set?

The requirements of the Protocol on public and stakeholders participation in the process of NTs setting were respected during the first 2011 NT exercise. In September-October 2010, the process of public consultation and discussion of the NT project was initiated and organized by UNENGO "MAMA-86" in cooperation with the Minprirody and supported by the Women for Water Partnership. Public comments on improvement of access of schools and kindergartens were taken into account in the NTs approved in 2011.

During the NTs revision, in 2017 the Draft Technical Report on base line analysis was discussed by stakeholders at the extended meeting of the IWG within the framework of the Forum "Aqua Ukraine-2017". In 2018 the Drafts of updated NTs and Action Plan for their achievement were published for public consultations on the website of the Minprirody, on December 19-20, 2018 the national public debates took place in Kyiv with participation of more than 60 representatives of stakeholders from 11 cities of Ukraine. 99 comments from the public and stakeholders were worked out by an expert group and 61 comments were taken into account and included in the Draft NTs and the Action Plan.

6. Please provide information on the process by which this report has been prepared, including information on which public authorities had the main responsibilities and what other stakeholders were involved.

In accordance with the Order of the CMU of September 26, 2011 No. 44023/1/1-11 the Ministry of Ecology and Natural Resources, the Ministry of Regional Development, Construction and Housing, the Ministry of Agrarian Policy and Food, the Ministry of Education and Science, the Ministry of Health, the Ministry of Finance, the State Agency of Water Resources within their competence and financial capacity, are obliged to implement measures for the achievement of NTs and annually the Minprirody with information on the work done by March 1 of the following year. The issue on preparation of the Summary Report 2019 was put on agenda of 2 IWG meetings by the Minprirody: on December 6, 2018 and February 7, 2019. The Minprirody sent twice to nine central executive bodies and IWG members letters with instructions on providing the necessary information to complete the Summary Report template for the reporting period, 2015 - the base line year and the previous reporting period.

Draft Summary Report was published for public comments on 9 April 2019 on Minprirody website. Draft was discussed by the members of the IWG at the meeting of IWG on 15 April 2019 and final comments and amendments provided by IWG members were incorporated into the Summary Report approved by the IWG.

7. Please report any particular circumstances that are relevant for understanding the report, including whether there is a federal and/or decentralized decision-making structure.

Part two

Targets and target dates set and assessment of progress

For countries that have set or revised targets and target dates, please provide information specifically related to the progress towards achieving them. If you have not set targets in a certain area, please explain why.

For countries in the process of setting targets, please provide information on baseline conditions and/or targets considered under the relevant target areas.

Suggested length: one page (330 words) per target area.

I. Quality of the drinking water supplied (art. 6, para. 2 (a))

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

*To the target area I in 2011 were set two **NTs: To improve drinking water safety by 1. microbiological and 2. chemical parameters** and corresponding **two indicators**:*

***1.1.** The percentage of samples that does not comply with the state sanitary norms and rules on microbiological parameters (*E. coli* and enterococci) should have been for:*

urban centralized water supply networks: 2% in 2015 and 0.5% in 2020,

rural centralized water supply networks: 3% in 2015 and 2% in 2020;

***1.2.** The percentage of samples that does not comply with the state sanitary norms and rules for sanitary-chemical parameters (priority: fluorides, nitrates, nitrites, arsenic, lead, iron, hardness, dry residue, sulfates, chlorides, manganese) should have been for :*

urban centralized water supply networks: 7% in 2015 and 3% in 2020

rural centralized water supply networks: 15% in 2015 and 7.5% in 2020;

*After revision in 2018, both NTs formulations are edited: **To provide safe drinking water by 1. microbiological and 2. by chemical parameters.** New indicators for decentralized water supply were added and quantitative indicators were updated based on actual data for 2015 and 2016, revised **indicators** are the following:*

***1.1.** The percentage of samples that does not meet the standards for microbiological parameters (*E. coli* and enterococci) should have been for:*

urban centralized water supply networks: 3.1% in 2015, 3% in 2020, 2% in 2025;

rural centralized water supply networks: 7.6% in 2015, 6% in 2020, 3% in 2025;

decentralized water supply networks: 18% in 2015, 17% in 2020, 16% in 2025

***1.2.** The percentage of samples that do not meet the standards for chemical parameters should have been for:*

urban centralized water supply networks: 12.4% in 2015, 12% in 2020, 7% in 2025,

rural centralized water supply networks: 22.5% in 2015, 22% in 2020, 15% in 2025,

decentralized water supply networks: 32.7% in 2015, 31.6% in 2020, 30% in 2025.

*Also, as a result of **NTs revision** to this target area, the target 4, set in 2011, was cancelled:*

***Providing the necessary equipment for laboratories to check the safety and quality of drinking water and replaced by NT 3** in the following formulation:*

By 2025 to provide 100% accreditation to ISO (in particular ISO 17025) of the laboratories of the Ministry of Health of Ukraine and the State Service of Ukraine for Food Safety and Consumer Protection and 100% of the authority to carry out measurements in accordance with the current legislation of laboratories of water utilities and other organizations that monitor / control the quality of drinking water and other waters under the Protocol scope and appropriate indicators and deadlines were proposed as following:

***3.1.** Proportion (%) of regional and inter-district laboratories of the Ministry of Health (MofH) and the State Service for Food Safety and Consumer Protection (SSFSCP) accredited in ISO 17025: 30-50% in 2020, 100% - 2025;*

***3.2.** Number (%) of laboratories of water utilities authorized in accordance with the legislation in force for implementation of measurements: 100% in 2020*

***3.3.** Number (%) of laboratories involved into state monitoring of water: the Minpryrody, the State Agency of Water Resources, the State Service of Geology and Subsoil, the State Emergency Service (SES) and other*

state structures conducting water monitoring in accordance with the requirements of the EU Water Framework Directive. In 2018 - 0 laboratories

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

In order to adapt and implement the Directive on Drinking Water, there were made amendments to the Law of Ukraine "On Drinking Water, Drinking Water Supply and Drainage" No. 2047-VIII (2047-19) of May 18, 2017, which approve the definition of "drinking water", "point of compliance of drinking water quality" in accordance to the Council Directive 98/83/EC "On the quality of water intended for human consumption". The Resolution of the CMU of September 19, 2018 No. 758 "On Approval of the Procedure for the Implementation of State Water Monitoring" was approved to harmonize water monitoring in accordance with provisions of Directive 2000/60/EC or the EU Water Framework Directive (WFD).

Improve / Revise Quality Standards for Drinking Water: The main valid normative document on the quality of drinking water is DSanPiN 2.2.4-171-10 "Hygienic requirements for drinking water intended for human consumption", approved by the order of the Ministry of Health of Ukraine of May 12 2010 No. 400 and registered with the Ministry of Justice of Ukraine on July 1, 2010 No. 452/1774.

To develop a system for monitoring drinking water and sources of drinking water supply:

During the reporting period, state monitoring and control / supervision in the field of drinking water security have undergone significant institutional changes. In 2016 the State sanitary and epidemiological service (SSES) of the MoFH was liquidated. The State control (supervision) competences, including on compliance with the sanitary legislation requirements by business entities - water supply utilities, were transferred to the State Service of Ukraine for Food Safety and Consumer Protection (SSFSCP) of the Ministry of Agrarian Policy and Food of Ukraine, but the SSFSCP is not authorized to apply the mechanisms of operational administrative punishment of violators of sanitary legislation.

Also, in 2016, the Laboratory Centers (LCs) of the SSES were subordinated to the Ministry of Health of Ukraine, whose competences now include monitoring of water supply, carrying on laboratory and instrumental research and testing in the area of sanitary and epidemiological well-being of the population, conducting investigations of causes and conditions of infectious diseases and poisoning cases. Institutional reform in the area of sanitary and epidemiological well-being and moratorium on inspections resulted in decreasing of the technical-equipment basis and human resources of the laboratories and monitoring programs of the Ministry of Health, in particular the significant reduction in the number of monitoring places and samples and completeness of water quality analyzes in 2014. In the reporting period, the number of samples of drinking water from centralized water supply systems was gradually increasing, however, monitoring of decentralized drinking water sources continued to decrease. Over the past 5 years, the number of analyzes of samples from shallow wells has decreased by more than 2.6 times, while from springs/catchments - by 1.5 times, while the number of monitoring artesian wells has increased by 2.3 times.

Table 1. Drinking water quality according to MOFH data

The investigated samples of drinking water sources from	The number of samples investigated in				
	2014	2015	2016	2017	2018
centralized water supply, including on:					
microbiological parameters	141006	144649	157079	184100	186317
sanitary-chemical parameters	108051	117755	122901	146153	146007
water supply network on:					
microbiological parameters	124542	125236	135812	125184	132806
sanitary-chemical parameters	90968	95458	103182	98375	105083
decentralized water supply, including:	160 225	160 343	118 110	72 876	70 830

shallow wells	155 968	156 045	115 684	63 423	59 824
artesian wells	3 170	3 157	1 791	6 338	7 318
catchments	1 054	1 063	550	660	713

According to the operational data of the State Service on Food Safety and Consumer Protection in 2017 under its supervision in the area of sanitary legislation there were 12,119 centralized water supply objects. The territorial bodies of the SSFSCP inspected 557 objects of centralized water supply and 379 (68%) of them violated the sanitary legislation. Also, employees of the SSFSCP territorial bodies were members of the local commissions that conducted inspections of 783 centralized water supply facilities, and 431 (55%) of them violated the sanitary legislation. During the inspections, 43421 samples of drinking water from centralized water supply sources were investigated by microbiological parameters, of which 2219 (5%) of samples did not meet the norms, as well as 55897 samples of drinking water were investigated by sanitary-chemical parameters, of which 5431 samples (1%) did not meet the established requirements.

In addition, in 2017, laboratory studies of 18671 drinking water samples of decentralized water supply sources on microbiological parameters were performed for the SSFSCP needs, of which 3354 (18%) did not meet the norms, and 31479 samples were analysed by sanitary-chemical parameters, of which 4365 samples (14%) did not correspond to the norms.

The punishment mechanism for legislation violators remains unregulated. The LCs of the MofH apply mechanisms for administrative punishment to violators only in emergency situations and through judicial bodies.

Till January 2018, the moratorium on planned inspections of the objects of supervision was in force according to the CMU Resolution from August 13, 2014 No 408 "Issues of introduction of restrictions on inspections by state inspections and other supervisory bodies" as well as the Law of Ukraine "On Temporary Peculiarities of Implementation of State Measures Supervision (control) in the field of economic activity" from November 3, 2016, No. 1728-VIII. The drinking water quality control on the territories non-controlled by Ukraine government: Donetsk and Luhansk oblasts and the annexed territory of the Autonomous Republic of Crimea has been completely interrupted.

Create / develop mechanisms for access to consumer information: The main sources of information on the quality of drinking water are annual publications of the National Report on the quality of drinking water and the state of drinking water supply, as well as monthly or quarterly publication of data on the web pages of water utilities.

In 2015-2018, prescriptions were drawn up based on the inspections results and issued resolutions and other decisions to eliminate violations detected during the control actions carried out by representatives of the territorial bodies of the State Service of Ukraine for Food Safety and Consumer Protection.

In each case of violations detection on the individual wells maintenance and the inconsistency of well water quality with sanitary-chemical and microbiological parameters, well owners and local self-government bodies received recommendations, notifications on need of proper well equipment, public was informed actively, particularly via Mass Media especially in case of nitrate contamination of wells water and danger to use such well water for drinking purposes, including for the preparation of baby food; sanitary-educational work is ongoing activity among parents, personnel of children's educational institutions and medical staff, in particular for rural paramedic - obstetrician units.

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

Unfortunately, according to the results of drinking water quality research carried out by state institutions - Regional LCs of the MofH, Ukraine failed to reach the planned indicators in this area. According to the Ministry of Health, for 2014-2018 there is deterioration in drinking water quality by both bacteriological and sanitary-chemical parameters, especially in rural water supply network and sources of decentralized water supply. At the same time, as in previous years, the largest number of non-standard samples of drinking water is registered for sources of decentralized water supply (shallow wells, artesian wells and catchments) and for rural water

supply network. In addition, the worsening of the drinking water quality from centralized water supply systems is determined. Over the past 5 years, the number of non-standard samples by microbiological parameters has increased more (2.2 - 2.7 times) than for sanitary-chemical ones (1.4-2.2 times), especially the rapid deterioration of water quality (growth of non-standard samples) from communal water supply pipelines and network.

In 2018 the worst situation with drinking water quality from centralized water supply systems by sanitary-chemical parameters was in Luhansk, Mykolaiv, Poltava, Rivne, Zhytomyr, Zaporizhzhya Regions, and by microbiological parameters - in Rivne, Zakarpatska, Ternopil, Vinnitsa, Khmelnytsky, Mykolaiv, Odessa, Ivano-Frankivsk Regions, where indicators were 1,5 times higher than the average in the country.

Non-standard water samples from	Number (%) of non-standard samples				
	2014	2015	2016	2017	2018
<i>sources of centralized water supply, including water supply pipelines by</i>					
microbiological parameters	2.9	4.6	6.4	6.7	7.7
sanitary-chemical parameters	14.7	15.7	18.4	20.0	22.7
<i>including from communal water pipelines by:</i>					
microbiological parameters	2.2	3.1	4.3	4.6	5.1
sanitary-chemical parameters	8.4	12.4	13.7	16.2	18.5
<i>from the water supply network by:</i>					
microbiological parameters	2.9	4.4	6.5	6.7	7.8
sanitary-chemical parameters	11.5	13.5	16.2	17.8	18.5
<i>from rural water supply pipelines by:</i>					
microbiological parameters	5.5	7.6	7.6	11.2	11.8
sanitary-chemical parameters	21.0	22.5	22.5	27.4	29.8
<i>sources of decentralized water supply,</i>					
Microbiological parameters	15.5	18.0	23.1	20.4	23.4
sanitary-chemical parameters	31.4	32.7	33.2	32.6	34.4
<i>including from shallow wells by:</i>					
microbiological parameters	16.8	19.8	24.9	23.8	27.9
sanitary-chemical parameters	32.1	33.4	33.7	34.3	35.6

Within framework of the drinking water research on sanitary-chemical parameters, it was noted 3.7 times increase of share of samples from the water supply network with nitrate contamination (from 0.7% in 2015 till 2.6% in 2018). In particular, in 2018 the share of non-standard samples of drinking water taken from the water supply network by sanitary-chemical parameters increased to 18.5% (in 2017 - 17.8%, 2016 - 16.2%, 2015 - 13.5%, 2014 - 11.5%); including by nitrates - 2.6% of samples (2017 - 874 - 2.0%, 2016 - 773 - 0.7%, 2015 - 636 - 0.7%, 2014 - 463 - 0.5%). By 2017, Laboratory Centers conducted monitoring of tap water by organoleptic parameters and general mineralization, results also showed an increase in the percentage of samples with deviations: by organoleptic parameters: in 2016 - 8310 - 8,1%, 2015 - 7187 - 7,5%, 2014 - 6541 - 7,2%; by total mineralization: in 2016 - 4048 - 3.9% 2015 - 3328 - 3.5% 2014 - 3211 - 3.5%.

Based on atomic absorption photometry research results of drinking water samples from centralized and decentralized sources of water supply, a certain reduction in non-standard samples is determined for content of: lead - from 1.3% of non-standard samples in 2014 to 0.9% in 2018, iron - from 7.0 % in 2016 to 3.3% in 2018, cadmium - from 1.1% in 2015 to 0.7% in 2018 and a significant (by 64%) decrease in samples with chloroform deviations- from 36.4% in 2015 to 23.3% - in 2018, at the same time there is an increase in non-standard samples with deviations in the content of manganese - from 2.1% of samples in 2015 to 3. 7% of samples - in 2018.

Table 3. Share of non-standard samples by chemical parameters

Non-standard water samples from sources of centralized and decentralized water supply by parameters of content of:	Share (%) of non-standard samples				
	2014	2015	2016	2017	2018
lead	1.3	0.8	0.6	1.2	0.9
iron	3.8	5.5	7.0	4.1	3.3
manganese	1.1	2.1	2.7	1.7	3.7
cadmium	0.6	1.1	0.7	0.9	0.7
carbon 4-chloride	0	0	0	0.5	0.3
chloroform	1.1	36.4	32.4	28.7	23.3

According to the MofH results of monitoring of the content of nitrates in water of decentralized water supply source (in particular shallow wells and catchments, water of which is used for children under the age of 3 years focusing on prevention of children water-nitrate methemoglobinemia), in 2017-2018 it was shown an increasing the number of water samples with deviations from norms on nitrates and microbiological parameters. In 2018, 21972 drinking water samples from public wells were investigated (in 2017 - 24476) of which did not meet the standards - 10288 - 46.8% (in 2017 - 9692 - 39.6%), including the analysis on nitrates content was done in 2018 for 18402 samples (in 2017 - 21314), of which did not meet the standard for the content of nitrates - 7396 - 40.2% (in 2017 - 7053 - 33.1%), and microbiological parameters were analyzed in 22176 samples (in 2017 - 23378), of which did not meet the standards - 6842 - 30,8% (in 2017 - 6496 - 27,8%). In 2018 40448 samples (in 2017 - 40929) of drinking water from individual wells were analyzed by sanitary-chemical parameters, of which 12562 - 31,0% (in 2017 - 13889 - 33,9%) did not meet the norms, including 37856 samples (in 2017 - 39581) were analyzed on content of nitrates, of which 10882 - 28,7% (in 2017 - 11815 - 29,9%) samples did not correspond to norms for the nitrates content, as well as 16 863 samples were analyzed by microbiological parameters (in 2017 - 9297), of which did not correspond to the norms 4660 - 27,6% (in 2017 - 1876 - 20,2%) samples of water.

The number of samples of drinking water from catchments investigated by sanitary-chemical parameters was 855 (in 2017 - 988), of which did not meet the standards - 117 - 13,7% (in 2017 - 131 - 13,3%), including by content of nitrates - 580 (in 2017 - 808), of which did not meet the norms for nitrates - 63 - 10,9% (in 2017 - 167 - 20,7%), and by microbiological parameters 1245 samples were investigated (in 2017 - 1196), of which 309 samples - 24,8% (in 2017 - 223 - 18,6%) did not meet the norms; 541 samples of drinking water from catchments of collective use (in 2017 - 561) were investigated by sanitary-chemical indicators, of which 91 or 16.8% did not meet the standards (in 2017 - 68 or - 12.1%), including analyzed samples on nitrate content - 430 (in 2017 - 316), of which did not meet the norms for the nitrates - 62 - 14,4% (in 2017 - 35 - 11,1%), and by microbiological parameters 630 samples were examined (in 2017 - 582), of them did not correspond to the norms - 140 - 22,2% (in 2017 - 94 - 16,2%).

In 2018, in Poltava Oblast during the IV-th quarter, the maximum concentrations of nitrates in drinking water sources of decentralized water supply, used by pregnant women and children, was 418.5 mg / dm³ recorded in v. Petrakievka of Khorolsky rayon, in 2017 - in the Poltava Oblast, during the III-d quarter, the maximum (767,32 mg / dm³) concentration of nitrate in drinking water sources of decentralized water supply, used by pregnant women and children of early age, was recorded in Semenivsky Rayon; in 2014-2015 exceeded the MPC nitrates in water from wells were recorded in Novomoskovsk, Pyatihatsky and Tsarychansky Rayons of Dnipropetrovsk Oblast.

Still an actual issue is reforming of the drinking water quality monitoring and control systems and the establishment of appropriate, in accordance with the requirements of the WFD and the EU Drinking Water Directive operation of laboratories involved in state control and operational monitoring of the safety and quality of drinking water. The MofH water quality monitoring system is in reforming process carried on by the Laboratory Centers of the MofH, inter-rayon LCs are established and Oblast LCs are in reforming process. In parallel there is on-going reforms of laboratories of the State Service of Ukraine for Food Safety and Consumer Protection, which now are responsible for state supervision and control of the drinking water safety and quality.

At the same time, the problem of low financial, material and personnel support of these laboratories for meeting European requirements (modern equipment, skilled staff, proper quality of measurements) on quality control and drinking water safety remains critical.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

Achievements of the NTs in terms of ensuring the safety and quality of drinking water should contribute to the implementation of SDG 6 and its target 6.1 on the right to safe drinking water for all.

II. Reduction of the scale of outbreaks and incidents of water-related disease (art. 6, para. 2 (b))

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

*In 2011 two national targets to this area were set: **NT 3.: Reduction of the incidence of cholera, shigellosis, acute intestinal infection caused by enterohemorrhagic escherichia coli (EHEC), viral hepatitis A, typhoid fever, water-nitrate methemoglobinemia those related to use of poor-quality water and NT 4.: Providing the necessary modern equipment of laboratories to test the safety and quality of drinking water.***

As a result of the revision in 2018, national target 3 is now NT 4 and has a new rewording version, its quantitative values of indicators and terms of achievement have also been changed and formulated as following:

NT 4: Reduction of the incidences of cholera, shigellosis, enteritis caused by enterohemorrhagic escherichia coli (EHEC); enteritis caused by yersinia enterocolitica, viral hepatitis A (AHA), typhoid fever, etc., water-nitrate methemoglobinemia, including those associated with the use of poor-quality drinking water, recorded as outbreaks.

Indicator 4.1.: Incidents of diseases in absolute values (all transmission factors) among the population in 2025 will be:

- a) cholera - 0,*
- b) shigellosis - < 800,*
- c) typhoid fever - 0,*
- d) viral hepatitis A - < 2500,*
- e) enteritis, caused by yersinia enterocolitica - < 80*
- f) rotavirus enteritis - 12,000;*
- g) campylobacter enteritis - 130,*
- h) cryptosporidiosis - 20,*
- i) giardiasis - 10 500,*
- j) legionella disease - 0*

Incidents of water-nitrate methemoglobinemia - 0

The number of outbreaks of infectious diseases associated with poor-quality drinking water use - 0.

The organization and procedure of sanitary protection of the territory of the country, protection of the population from infectious diseases are determined and implemented in accordance with the Laws of Ukraine: "On ensuring the sanitary and epidemiological well-being of the population", "On protection of the population against infectious diseases" and other regulatory acts. Ukraine has a control system for infectious diseases detecting, investigating and reporting.

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

Administrative reform in the public health sector, started in 2012, led to the liquidation of the State SES in 2016 and the establishment of the Public Health Center, Laboratory Centers of the MofH and competences on sanitary-epidemiological control and supervision, including surveillance of the quality of drinking water and other waters subject to the Protocol, were transferred to the SSFSCP. Therefore, required changes have not made in the relevant laws regarding the performance of control and supervision functions, and forms of reporting on incidents and outbreaks of diseases related to water. From 2018, the website of the Public Health Center provides data on outbreaks and incidences of infectious diseases by all transmission factors, including water (<https://phc.org.ua/kontrol-zakhvoryuvan/inshi-infekciyni-zakhvoryuvannya/operativni-dani-pro-spalakhi>). Data on the incidences of cholera, shigellosis, EHEC, Hepatitis A, typhoid fever formed on the basis of state statistical forms №№ 1 and 2, where the total number of patients is recorded. Links to water is fixed only when data on outbreaks are provided.

Currently, in Ukraine, the data on non-communicable diseases related to chemical water quality, in particular water-nitrate methemoglobinemia, fluorosis, etc. are not separately collected and reported at national level.

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

According to the official statistics for the reporting period the number of people suffered from water related diseases decreased.

In 2018, there were 3 outbreaks related to use of poor quality drinking water, 180 people among them 70 children affected, in fact 132 people including 27 children suffered by viral hepatitis A (city Mykolaiv - drinking water); 48 people, including 43 children affected by rotavirus infection - (Kyiv Oblast - Kyiv-Svyatoshinsky Rayon, v. Sofiyivska Borshchahivka - residential complex "Lvivsky maetok", residential complex "Sofiyivsky kvartal" and residential complex "Sofiyivska slobodka" - 39 people suffered, including 34 children due to possible tap drinking water contamination, caused by an emergency situation in the water supply network; Vinnitsa Oblast– small town Strizhavka, kindergarten «Kazka» - 9 children suffered related to drinking water).

In 2018, one incident of cholera was registered (0.002 per 100 thousand population) in Zaporizhzhya Oblast. The resident of the Dnipropetrovsk oblast who was on vacation in city Berdyansk of Zaporizhzhya Oblast got sick. The diagnosis is confirmed in a reference laboratory on research of especially dangerous pathogens of the LC of the MofH - identified as vibrio cholerae non O1 group, serotype Ogawa, avirulent. The necessary anti-epidemic (in particular, restrictive) measures were implemented locally. Sources and transmission factors of the pathogen were not identified. In 2014-2017 period incidents of cholera were not recorded.

In 2017, there were 5 outbreaks related to use of unsafe drinking water, 299 people suffered, including 138 children: - 35 people including 15 children were affected by viral hepatitis A (Kharkiv Oblast, township Andriyivka Chuguevsky Rayon, at home); 59 people, including 56 children – by rotavirus infection (Chernivtsi Oblast, Khotyn Rayon, v.Perabykivtsi, self-organized tent camp of the Baptists religious community, well water); 3 outbreaks of acute enterocolitis, foodborne toxicoinfection (FTI) of identified pathogens, 205 people were affected, including 67 children (Donets'ka Oblast - Municipal kindergarten № 3 "Chervoniy Kapelyushok", township Yalta, Mangushky Rayon – bottled drinking water; Luhansk Oblast - Starobilsky Rayon, v.Vesele, Starobilsk college to the Lugansk National Agrarian University – tap drinking water; Chernivtsi Oblast - Sokyryansky Rayon, t.Sokyryany, v. Novovodnistrovsk, v.Kobolchyn, v.Vashkivtsi, v.Voloshkove, v.Oleksiyivka – well water).

In 2016, there were registered 2 outbreaks related to use of unsafe drinking water, 813 people including 136 children were affected: 776 people, including 449 children were affected by the HES of identified pathogens caused by water from urban water supply in Izmail, villages Broska, Matroska of Odessa Oblast in June 2016; and 37 people, including 28 children were affected viral hepatitis A caused by water from public

wells and their unsatisfactory sanitary-technical condition in village Starogorozhane of Bashtanskyi Rayont of Mykolaiv Oblast in August-November 2016.

In 2015, 3 outbreaks related to water were reported, 190 people, including 148 children suffered: 1 outbreak of intestinal infection in city Kyiv, Bortnychi district 155 people, including 121 children were affected, 2 outbreaks of rotavirus infection in c. Zolotonosha Cherkasy Oblast (15 people including 12 children suffered) and v. Ozhenino of Ostrohsky Rayon of Rivne Oblast (20 people, including 15 children) caused by unsafe drinking water from centralized water supply.

In 2018 there were reported 3 incidents of nitrate poisoning, non-infectious disease - water-nitrate methemoglobinemia: 1 case registered in the Rivne Oblast (Goshchansky district, v. Kurozvany, 41 Sobornaya street, according to the laboratory research results the concentration of nitrates in water of individual well, from which the baby had been poisoned, was 410.5 mg / dm³, norm is 50 mg / dm³); two cases were registered in Poltava Oblast: one baby of 2018 year of birth from township Semenivka of Semenivsky Rayon and the second child of 2018 of birth from village Robotivka of Kremenchutsky Rayon had been poisoned, according to the results of laboratory analyses the well water used for the babies consumption had nitrates content 4 times higher than norm (199.8 mg / dm³).

In 2017, there were reported 5 cases of non-infectious disease on water-nitrate methemoglobinemia - in Zhytomyr Oblast - one case (by Korosten interdistrict department of State Institution Zhitomyr Oblast LC of the MofH); in Kharkiv Oblast - one case; in Kyiv Oblast - two cases, including a child of 4 months old, food for whom was cooked with well water in v. Stara Orzhitsa of the Zgurivsky Rayon; in the Poltava Oblast - one case (baby born on 19/07/2017, in Karlovsky Rayon, v. Karlivka.), according to the laboratory research results the content of nitrates in drinking water of the decentralized source of water supply was 127.0 mg / dm³.

In summer 2015 one fatal case of poisoning child by nitrates from well water in the village Mogilev Tsarychansky district of Dnipropetrovsk Oblast was recorded. This fact was reported to the prosecutor and police department of Tsarychansky Rayon, the article in the regional newspaper about the drinking regime for children of the first three years of life was published and distributed among pregnant women and women in childbirth. Due to this incident the wells sanitary and restoration measures were included in the resolution of the Dnipropetrovsk Regional Commission on Technogenic-Ecological Safety (TES) and Emergency Situations (ES) (protocol of 09/22/2015, No.17).

Due to the climate warming and significant migration processes in Ukraine there is increasing risk of diseases which occurred earlier (malaria) or new infectious diseases that are not typical for Ukraine, but official statistics is not available.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

NT 4 corresponds to the SDG 3.2 Minimize mortality among children under the age of 5 and 3.4. Reduce premature mortality from non-communicable diseases as well as SDG 6.1. on ensuring availability of quality services for the supply of safe drinking water.

III. Access to drinking water (art. 6, para. 2 (c))

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

In 2011, two NTs were set to this area:

NT 5. To provide appropriate quality drinking water to population.

Indicator: share of population with access to safe drinking water. Control terms: the interim term - 2015, expected to reach the level of providing the population with safe drinking water in cities and townships - 90% and in rural area - 50%; the deadline is 2020: to reach the 100% level of supply of safe drinking water in cities and towns, and 70% - in rural area.

NT 6. Provision of children in pre-school and schools with safe drinking water.

Indicator: to increase quantity (%) of pre-school and schools with access to safe drinking water. Control terms: the interim term - 2015: to achieve an increase by 15% of number of pre-school and schools with access to safe drinking water in cities and towns and by 10% - in rural area. The deadline 2020: to achieve an increase in the number of pre-school and general education institutions with access to quality drinking water in cities and towns by 25%, in rural area - 20%.

As a result of NTs revision in 2018, four NTs were proposed to this area, two of which concerned the revision of existing NTs and two new NTs were proposed, namely:

NT 5. To harmonize the legislation of Ukraine with the Protocol on the definition of "equal access".

Indicator 5.1. Amendments to the Laws regarding the regulation of access to drinking water, access to sanitation, the right to water, the right to sanitation approved by 2020.

NT 6. To provide access to safe drinking water for 100% of pre-schools, schools and health care facilities (HCFs) by 2025.

Indicator 6.1. The number (%) of pre-schools, schools and HCFs with access to centralized drinking water supply system:

Control terms: The baseline year 2015 - access to centralized drinking water supply system was provided to 14275 (93.5%) pre-schools, 14304 (81.9%) schools and 20301 (77%) HCFs. The deadline: 2025 - 100% of pre-schools, schools and HCFs have access to centralized drinking water supply system.

NT 7. To increase the coverage of centralized water supply services in the rural area, reducing geographical inequality.

Indicator 7.1. The coverage level (access to centralized water supply) in rural area, %: the baseline year - 2015, access to centralized water supply services was 22% of the rural population. Control terms: by 2020 - 28% and by 2025 - 35%;

Indicator 7.2. The number of reconstructed water treatment facilities (WTF) in the rural area: Control terms: by 2020 - 8 WTFs, by 2025 - 24 WTFs;

Indicator 7.3. The number of local water additional purification systems (WAPS) installed for rural communities: Control terms: by 2020 - to install 200 WAPSs, by 2025 - to install 500 WAPSs for rural communities;

Indicator 7.4. Ratio of the water bill payment percentage to the total family income in rural and urban areas (the factor of economic inequality): Control terms: by 2020 - the factor of economic inequality will be 1.8, by 2025 - the factor of economic inequality will be 1.3;

NT 8. To provide sustainable access to drinking water for the population of Donetsk and Luhansk Regions.

Indicator 8.1. The program on access to drinking water in Donetsk and Luhansk regions was developed in 2019;

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

In 2017, Ukraine released the Report "Sustainable Development Goals: Ukraine", prepared by the Ministry of Economic Development and Trade of Ukraine with the support of the United Nations Development Program (UNDP). It includes 17 national development goals and 86 targets and 172 indicators for progress monitoring. The report was approved by the High Level Interagency Working Group for the organization of the SDG implementation. Among the national SDGs there is SDG 6 "Clean water and sanitation", SDG 6.1. "Provide access to quality services of safe drinking water, and ensure the construction and reconstruction of centralized drinking water supply systems using the latest technologies and equipment" and six indicators related to the access of rural and urban (%) population to safe, affordable drinking water and centralized drinking water supply.

In 2016-2017, financing of national target programs from the State Budget was not provided, however, according to the State Agency of Water Resources of Ukraine, 16.6 million UAH of expense from local budgets were spent to implement measures of the budget program on urgent provision of rural population by centralized water supply in Zakarpattya, Zaporizhzhya and Poltava Oblasts. In 2018, in accordance with the Law of Ukraine "On the State Budget for 2018", the Ministry of Regional Development, Construction, Housing and Communal Services (Minregion) received 200 million UAH for the implementation of the National Target Program "Drinking Water of Ukraine". In addition, in 2018 the State Agency of Water Resources of Ukraine built rural water pipelines at the expense of the Water Resources Development Fund (started in August 2018 and had a budget of 174 million UAH).

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

According to the [National Report on drinking water quality and the state of drinking water supply in the years 2016-2017](#) the coverage of centralized water supply in cities had not changed, or had little progress in townships and villages (data from Donetsk and Luhansk Oblasts, non-controlled by the Government of Ukraine as well as for AR Crimea, are missing and not taken into account)

	2016		2017	
	Number of settlements	Number of population	Number of settlements	
Cities	99,3 % 401 of 404	90,9% 22.38 million out of 24.61 million ppl.	99,3% 402 of 405	
Townships	87,2 % 586 of 672	69,1% 2,32 million out of 3,36 million ppl.	89,1% 598 of 671	
Villages	29,2 % 7609 of 26 084	22,2 % 2,22 million out of 11,98 million ppl.	30% 7811 of 26 080	

In 2017, at the expense of local budgets in the Zakarpattya, Zaporizhzhia and Poltava Oblasts, there were constructed drinking water supply systems with a total length of 16.9 km and there were constructed and reconstructed rural water pipelines in 2 rural settlements.

According to the Minregion, for implementation of the State program "Drinking Water of Ukraine" with the state budget financing there were implemented 38 projects, including construction and reconstruction of 18 water intakes and 9 water treatment plants and wastewater treatment units using the latest technologies and equipment and 11 additional water purification systems were installed on centralized water supply systems.

In the annual report for 2018 of the State Agency of Water Resources it was stated that at the expense of the Fund of water sector development, construction of rural water pipelines was carried on and 27 settlements received access to centralized water supply. Ivanivskiy group water pipeline in Kherson Oblast was reconstructed, 4 sections of main water pipeline of Kazankivsky group water supply pipeline in Mykolaiv Oblast were rehabilitated, construction of the water supply system in the village Olesha of Ivano-Frankivsk Oblast and water pumping stations for water supply in villages Glyboke and Borysivka of Tatarbunary Rayon of Odessa Oblast were completed.

<https://www.davr.gov.ua/news/irina-ovcharenko-dlya-togo-tshob-infrastruktura-vodnoi-sferi-nadijno-funkcionovala-ta-rozvivalasya--neobhidne-realne-finansuvannya>

Only a quarter of Ukraine's villages has centralized water supply. The rest of the rural population use water from shallow and artesian wells, which in the vast majority are in insufficient technical conditions. As an example, recently a significant part of the rural population of the Chernihiv Oblast prefer to build individual water supply system (private tubular wells with pumps) at their own expense, so the number of wells of public

use will decrease annually. The alternative water supply (bottled water, high-efficiency household water purifiers, etc.) remains an actual.

Moreover, the situation with the water supply of rural settlements used transported water remains difficult. In 2016 transported drinking water was provided: in the Dnipropetrovsk Oblast –to 18% of settlements and 1,7% of the population; in Zaporizhzhya Oblast - 25.5% and 2.7%; in Ivano-Frankivsk Oblast - 0.25% and 0.08%; in Kirovogradska Oblast - 2,2% and 5,3%; in Lviv Oblast - 3% and 0.5%; in Mykolaiv Oblast - 17% and 5.6%; in Odessa Oblast - 11.9% and 1.8%; in Poltava Oblast - 0.4% and 0.1%, respectively; in Kherson Oblast - 1% and 1%; in Kyiv Oblast - 5.9% of the population. According to [the Minregion statistics](#), in 2017 trucking water was provided in 10 Oblasts, some improvements were done in 2 Oblasts: in Zaporizhzhya Oblast water was transported to 21.4% of settlements or 2.6% of the population and in Kherson Oblast - to 0.3% and 0.3%, respectively, the situation in 6 Oblasts (Mykolayiv, Odesa, Lviv, Kirovograd, Poltava and Ivano-Frankivsk) remained at the same level, and it worsened in the Dnipropetrovsk Oblast (up to 20% and 1.8%, respectively) and information was provided that in Donetsk Oblast transported water was provided to 2.1% of settlements or 0.6% of the population.

According to data of local executive authorities and water management organizations, in 2017 1.3 thousand rural settlements and 950 thousand people in 16 oblasts of Ukraine used transported water.

The situation with access to drinking water is particularly complicated in the territories, affected by the war on the east and on controlled and non-controlled by the Government of Ukraine. According to UNICEF data, in 2017 and 2018, about 3.6 and 4.2 Million people in Donetsk and Luhansk Oblasts were constantly at risk of water supply interruption.

The situation with access to drinking water of schools and preschool educational institutions deteriorated in comparison with previous years, while it should be noted that the data for the previous period was collected by the Ministry of Health, and from the beginning of 2016 this information is collected by the SSFSCP. During the reporting period, the number of kindergartens, which are not connected to centralized and local water supply systems, has doubled in from 797 (5.3%) - in 2015 to 1434 (11.6%) - in 2018. Also, the number of pre-school institutions that use water trucking has increased by 57% : from 258 (1.7%) - in 2015 to 370 (3.0%) - in 2018. The situation for schools deteriorated significantly in 2016, when the number of schools, not connected to centralized water supply increased to 3121 schools (19.5%), it improved by 2018 - to 2580 schools (16%), but did not reach values (15.1%) of the previous period. No significant progress was made in reduction of the number of schools relied on water trucking, despite some progress in 2016 (431 schools or 2.6% provided with transported water), situation deteriorated again in 2017-2018 to 2015 (504 schools or 3.1% worked on trucked water).

Table 5. Access to drinking water in schools and pre-schools

	2010	2015	2016	2017	2018
Pre-school educational institutions					
Total number of preschools (according to form. 18)	13169	15072	12107	12318	12325
not connected to centralized and local water supply networks	685	797	1583	1404	1434
	5,2%	5,3%	13,7%	11,4%	11,6%
Supplied by water trucking	268	258	242	299	370
	2,0%	1,7%	2,1%	2,4%	3,0%
Schools					
The total number of objects (for p. 18)	19650	16849	15984	16447	16054
Not connected to centralized and local water supply networks	2987	2545	3121	2666	2580
	15,2%	15,1%	19,5%	16,2%	16,0%
Supplied by transported water	423	522	431	458	504
	2,1%	3,1%	2,6%	2,8%	3,1%

- Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

Achievements of NT 6 - 8 contribute into implementation of SDG 6 «Clean water and sanitation», SDG 3 «Good health and well-being», SDG 4 «Quality education» and SDG 11 «Sustainable cities and communities».

IV. Access to sanitation (art. 6, para. 2 (d))

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

In the area of access to sanitation in 2011, Ukraine has approved two national targets and two relevant indicators:

NT 7. Provision of population with centralized drainage systems. **Indicators:** The percentage of population with access to centralized sewage systems should be:

in cities and towns: 80% in 2015 and 100% in 2020,

in villages: 20% in 2015 and 50% in 2020;

NT 8. To provide children with improved sanitation in preschools and schools (improving sanitation and connecting preschools and schools to sewage systems).

Indicator: an increase in the number of pre-schools and schools connected to sewage and canalized on pit latrine. Control terms: intermediate term - 2015: to achieve the level of provision of children with improved sanitation conditions in preschools and schools in cities and towns on 15%, in villages - on 5%; deadline: 2020: Provide children with improved sanitation conditions in preschools and schools (improving sanitation and connecting preschools and schools to sewage systems in cities and towns by 100%, in villages by 50%.)

In 2018, during the revision three NTs and corresponding indicators of progress were proposed to this area:

NT 9. To ensure the development of a legislative and regulatory framework in line with WHO-UNICEF and EU norms on equal access to sanitation.

Indicator 9.1. In 2019 the Law of Ukraine "On wastewater drainage" and the corresponding amendments to laws and regulations should be adopted.

NT 10. Increase access of population to improved sanitation.

Indicator 10.1. The number of households with access to improved sanitation: 60% - in 2020, 80% - in 2025;

Indicator 10.2. The number of rural communities with access to improved sanitation (centralized sewage). Baseline year - 2015: 2.2% of rural communities have access to centralized sewer drainage;

NT 11.: By 2025, 100% of schools, pre-schools and health care facilities should be provided with access to improved sanitation.

Indicator 11.1. number (%) of pre-schools and schools that do not have access to improved sanitation the baseline year - 2015, canalized to pit latrine / not canalized:

Pre-schools: - 4902 (32,5%) / 95 (0,6%)

schools - 7813 (46.4%) / 675 (4%);

Indicator 11.2. The number of health care facilities that have access to improved sanitation.

In 2015, 76.6% of HCFs were connected to the sewerage system, 19.2% of HCFs had local treatment facilities and 4.1% of HCFs were canalized to pit latrine.

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5 of the Protocol).

In 2017 the national target SDG 6.2. "To ensure availability of modern sewage systems, construction and reconstruction of water intake and wastewater treatment plants using the latest technologies and equipment" and two indicators: 6.2.1. Share of rural population with access to improved sanitation, % and 6.2.2. Share of urban population with access to centralized drainage systems, % , were adapted.

In May 2017, amendments to the Law of Ukraine "On Drinking Water, Drinking Water Supply and Drainage" were approved and focused on transposition of terminology and norms of Council Directive 91/271/EEC on urban wastewater treatment: in particular the introduction of the terms: drainage – activity to collect, transportation and treatment of wastewater with the help of centralized or other drainage systems of or other

drainage and / or wastewater treatment systems, population equivalent of the settlement - load of wastewater by biologically active substances which are biologically degradable with a five-day biochemical oxygen consumption of 60 grams of oxygen per person per day; Law No. 2047-VIII (2047-19) of May 18, 2017.

In 2018, drafting of the Drainage Law was started, the Draft Law was published on the website of Minregion in December 2018 for stakeholders /public consultations, in March 2019 the Draft Law passed the first round of approvals at the CEB level.

Works on the rehabilitation and construction of sewage networks were carried out only at the expense of local budgets in three oblasts: Zakarpattya, Zaporizhzhya and Poltava.

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

Table 6. Access to sanitation in Ukraine

	2016				2017	
	Number of settlements		Number of population		Number of settlements	
	Total	With a sewage	Total million ppl.	With a sewage million ppl. /%	Total	With a sewage
Cities	404	401 cities 94,1 %	24,61	17,97 73%	405	385 cities 95,06%
Townships	672	406 townships 60,4 %	3,36	1,14 34%	671	411 townships 61,3%
Villages	26084	577 villages 2,2 %	11,98	0,36 3 %	26080	648 villages 2,5%

The situation in cities and townships remained at the same level, although it does not take into account data on the part of the non-controlled by the Government territories of Luhansk and Donetsk Oblasts and the Autonomous Republic of Crimea.

In rural areas in different oblasts, the level of access to centralized sewage / drainage remained low - from 0.4 to 16% of villages connected to the sewage systems. The vast majority of rural residents use out door pit latrines with cesspools. In 2017, due to local budgets, sewage networks and drainage networks were built in 15 rural settlements in Zakarpattya, Zaporizhzhia and Poltava oblasts what made little progress.

Since 2016 the State Service of Food Safety and Consumer Protection started to collect the data on access to water and sanitation of the schools and kindergartens, what was before 2016 a subject of competences of the MoH. Significant progress has been made during the reporting period in improving the access of children in pre-school institutions and schools to sanitation: the number of non-canalized pre-schools has decreased from 95 (0.6%) in 2015 to 33 (0.2%) in 2018, and the number of schools without access to sanitation dropped from 675 (%) in 2015 to 279 (1.7%) in 2018. This progress was made due to connect schools and kindergartens to the septic tanks /pit latrines.

Table 7. Access to sanitation of pre-schools and schools in Ukraine

	2010	2015	
Pre-school educational institutions			
Total number of institutions	13169	15072	
Canalized to pit latrines	4309	4902	
	%	32,7	32,5
Not canalized	172	95	
	%	1,3	0,6

Schools			
Total number of institutions	19650	16849	
Canalized to pit latrines	8573	7813	
	%	43,6	46,4
Not canalized	1551	675	
	%	7,9	4,0

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

Achievements of NT 9 - 11 contribute into implementation of SDG 6 «Clean water and sanitation», SDG 3 «Good health and well-being», SDG 4 «Quality education» and SDG 11 «Sustainable cities and communities».

V. Levels of performance of collective systems and other systems for water supply (art. 6, para. 2 (e))

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

In 2011, one common NT was approved for the target areas regarding the performance levels of collective water supply systems (Article 6.2.2e. 1 part) and sanitation systems (Article 6.2.2e. 2 part):

NT 9. *Reducing the length of the drainage and water supply pipelines that are in an emergency. **Indicator:** Percentage of replaced emergency pipelines.*

Control terms: the interim term - by 2015, it was supposed to replace 30% of emergency pipelines in cities with a population of more than 500 000 people, and 15% - in other settlements; by 2020, it was supposed to replace 50% of emergency pipelines in cities with a population of more than 500 000 people, and 30% - in other settlements.

In 2018, 6 new NTs and indicators for them were proposed:

NT 12. *To implement the RAB-regulation methodology*

Indicator 12.1. *The RAB-regulation methodology has been developed and implemented by 2020*

NT 13. *To harmonize the requirements for the development of water supply management plans (optimization schemes) with European standards and implement water management plans (optimization schemes) at the local level for all settlements of Ukraine, starting for large cities.*

Indicator 13.1. *the number of optimization schemes developed in accordance with the changed methodology.*

The base year - 2015 - 0 Scheme

2020 - 15 optimization schemes for large cities (> 150 thousand population) were developed, for each subsequent year - 15 optimization schemes.

2025 - 100% of settlements have schemes for optimizing water supply

Indicator 13.2. *Percentage (%) of rural settlements for which optimization schemes have been developed.*

The base year - 2015 - 0 Scheme

In 2019 the figure should increase by 10% from the number of rural settlements or united territorial communities (UTCs).

NT 14. *Gradually cancelation to use gaseous chlorine and transition to alternative methods of water disinfection (chlorine dioxide, sodium hypochlorite, combination of UV irradiation with chlorine or sodium hypochlorite, etc.)*

Indicator 14.1. *Number of systems that have been transferred to alternative to gaseous chlorine methods for disinfection of drinking water: Control term: 2025 - 100%.*

NT 15. To reduce the level of non-productive water consumption for reducing the cost of material resources in the drinking water cost.

Indicator 15.1. Reduce non-productive water consumption in water supply systems: from 32% in 2015 to 27% by 2023.

NT 16. To reduce electricity costs of water supply.

Indicator 16.1. Decrease of specific energy consumption by 3% per year, base year - 2015 - specific electricity consumption is 30.4%.

NT 17. To reduce the number of accidents, the duration of periodic disconnection of consumers from the supply of drinking water, the time of operation and repair of water supply networks.

Indicator 17.1. Number of accidents per kilometer of pipelines. Reducing accidents by 3% per year. Base line year -2017: 1.8 incidents per 1 km of network.

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5 of the Protocol).

In the National Program "Drinking Water of Ukraine" for 2015-2018 period the priority actions were planned on: replacement and reconstruction of emergency water supply networks; replacement of worn out pumping and other process equipment; construction of water pipelines in villages where transported drinking water is used, but there was no State Budget financing, except 200 million UAH - in 2018.

In order to improve relations in the sphere of water supply, drainage, hot water supply and heating, the Cabinet of Ministers of Ukraine adopted the Resolution "On amendments to the rules and the typical contract on provision of centralized heating, cold and hot water supply and sewage services" of August 18, 2017 No. 633.

In 2017, the Law of Ukraine "On commercial accounting for thermal energy and water supply" went into force, which defines the basics of providing commercial, including distribution, accounting for heat energy services, hot water supply, centralized water supply and access of consumers to relevant accounting information on such services. .

For water supply in the regions affected by natural disasters or other emergencies, funds are allocated from a special reserve fund according to the Cabinet of Ministers of Ukraine resolution, the State Emergency Service of Ukraine is engaged in the elimination of emergency situations and overcoming their consequences.

To develop the sanitation regulation and harmonize the provisions of the Law of Ukraine "On Drinking Water and Drinking Water Supply" to the requirements of the EU legislation, in particular Council Directive 91/271/EEC of 21 May 1991 on urban wastewater treatment, the Minregion prepared Draft Law of Ukraine "On amendments to the Law of Ukraine "On drinking water and drinking water supply", which was adopted by the Verkhovna Rada of Ukraine and signed by the President of Ukraine No. 2047-VIII of May 18, 2017.

The priority measures of the National Program "Drinking Water of Ukraine" for the coming years are:

- replacement and reconstruction of emergency water supply networks;
- replacement of worn out pumping and other process equipment;
- construction of water pipelines s in villages where imported drinking water is used;
- design and construction of water pipelines (if possible) in townships where there is no centralized water supply;
- transition from scheduled water supply to 24-hour water supply;
- improvement of the system of drinking water disinfection, the transition from the use of liquid chlorine to modern and safe methods of disinfection, for example, the use of electrolytic sodium hypochlorite, chlorine dioxide, mixed oxidants, etc .;
- increased control over the discharge of sewage, especially in areas of drinking water intakes;
- arrangement of sanitary protection zones, strict compliance of the rules of their operation.

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

No significant progress was made in reducing the accident rate, given that over the years 2015, 2016, 2017, due to lack of financing, only 1.6-2.2% of water pipelines were replaced annually from required.

In 2015, the total length of water supply networks was estimated at 106374.4 km, obsolete and emergency - 36185.4 km (34%); during the year, only 573.6 km or 1.6% of the required were replaced.

In 2016, the total length of water supply networks (without Donetsk and Luhansk oblasts) was 101437.8 km, obsolete and emergency - 35846.3 km (35.3%); during the year 729.1 km or 2% of the required were replaced.

In 2017, the total length of water supply networks (without Donetsk oblast) was 104,154 thousand km, and obsolete and emergency - 36,296 thousand km (34,9%); during the year 0,784 thousand km or 2.2% of the required were replaced.

Number of equipment and networks (excluding Donetsk and Luhansk oblasts)	2016	2017
Water-pump equipment		
Pumps total number	13741	14909
of them required replacement of units (%)	3116 (22.7%)	3441 (23.1%)
replaced during the year ,units (%)	1053 (33.8%)	1262 (36.7%)
Water supply networks (km) incl.	101437.8	104154
Obsolete and emergency networks, km (%)	35846.3 (35.3%)	36296 (34.9%)
Replaced during the year	729.1 (2%)	784 (2.2%)
Sewage pumping equipment		
Pumps total quantity	6902	7106
they needed replacing one. (%)	1888 (27.4%)	1854 (26.1%)
replaced during the year (units)	360 (18.7%)	372 (20.1%)
Sewage networks (km)	31140.1	34650
Incl obsolete and emergency networks, km (%)	11438.9 (36.7%)	13043 (37.6%)
Replaced during the year	121.2 (1.1%)	166 (1.3%)

The largest number of accidents in the water supply networks in 2016 was 2.7 accidents per 1 km of network in seven oblasts: Vinnytsia, Khmelnytsky, Lviv, Odesa, Ternopil, Volyn and Zhytomyr, and the smallest of these was 0.7 accidents per 1 km in Rivne, Sumy, Chernivts, Chernihiv oblasts and in the city of Kyiv.

Almost 80% of the water supply in the country is provided with surface waters, for disinfection of which gaseous chlorine is used in the vast majority of water treatment plants. Transportation, storage and use of gaseous chlorine is associated with high risks of man-made accidents in densely populated areas. On the other hand, there is the danger of chlor byproducts for water consumers. In 2018, there was another problem of monopolizing the gaseous chlorine production resulted in a rapid 3-fold increasing the price of this reagent, which pushed water utilities to seek alternative methods of water disinfection.

According to the National Report, unproductive water uses and water losses in centralized water supply systems (excluding the Autonomous Republic of Crimea, city Sevastopol, Donetsk and Luhansk oblasts) in 2015 reached 32.87% of the volume of abstracted water, in 2016 - 34.18%; that is about 1/3 of fresh water, abstracted from natural water sources, was lost in water supply systems. Moreover, in 12oblasts in 2016 there was an excess of the average value in the country: in Chernivtsi - 60.4%, in Zhytomyr - 49%, in Ivano-Frankivsk - 47.9, in Zaporizhzhia - 46.4%, in Lviv - 46.1%, in Zakarpattya - 46%, in Kharkiv - 45%, in Vinnytsya and Kirovograd - 40.2%, in Mykolaiv - 39.2%, in Poltava - 38.6% and in Volyn - 35.2%.

In 2017, the volume of losses and water consumption did not change significantly: the largest water expenditures and losses were in oblasts: Chernivtsi - 60.6%, Zakarpattya -50.6%, Kharkiv - 49.3%, Zhytomyr - 49%, Ivano-Frankivsk - 47.6%, Lviv -46.1 %, and the smallest indicators were in Donetsk - 13.6%, in Kiev - 17%, in Chernihiv - 19.5%.

Among the components of the cost of water services, electricity accounts for up to 40%.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

Achievements of NT 12 - 17 support implementation of SDG 6 «Clean water and sanitation», in particular the achievement of SDG Target 6.1., SDG 3 «Good health and well-being» and SDG 11 «Sustainable cities and communities».

VI. Levels of performance of collective systems and other systems for sanitation (art. 6, para. 2 (e))

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

In 2011, a common target for the areas regarding the efficiency of collective water supply and sewage systems was established.

In 2018, two NTs and related indicators of progress were proposed in the area on the levels of performance of collective sanitation systems (Article 6.2.e 2 part):

NT 18. To reduce the number of accidents and repair times of sewerage networks

Indicator 18.1. *Percentage of liquidated problem areas of pipelines in sewerage systems:*

15% - by 2019

30% - by 2020

60% - by 2022

95% - by 2025

Indicator 18.2. *Percentage replaced dilapidated pipelines:*

2% - by 2020;

4% - by 2022;

6% - by 2025

Indicator 18.3. *Time of liquidation of the accident, normative, hours:*

up to 6 hours - by 2020;

5.5 hours - by 2022

4.5 hours - by 2025

NT 19. To replace pumping equipment with efficient optimal ones at large enterprises

Indicator 19.1. *Percentage of replaced pumping equipment:*

24.3% of pumping equipment replaced in 2015;

25% - in 2019;

30% - in 2020;

40% - in 2022;

55% - in 2025

NT 20. To upgrade wastewater treatment plants (WWTP) to ensure proper wastewater treatment in accordance with the requirements of Council Directive 91/271/EEC and prevent water bodies pollution.

Indicator 20.1. *Number of WWTPs with nitrification-denitrification and phosphorus removal systems:*

in 2015 - 0% WWTP

in 2025 - 15% WWTPs.

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

The main provisions and tasks in the field of drainage are stipulated in the Water Code of Ukraine, the Subsoil Code of Ukraine and Laws of Ukraine: "On Drinking Water, Drinking Water Supply and Drainage", "On Housing and Communal Services", "On Environmental Protection", "On provision of sanitary and epidemiological well-being of the population", "Rules for the protection of surface water from pollution by return waters" and acts regulating the operation of the centralized sanitation. To address the actual issues of the

water supply and sewerage industry and to harmonize the water legislation of Ukraine to the requirements of the EU legislation, in particular Council Directives 91/271/EEC of 21 May 1991 on urban wastewater treatment the Minregion developed a draft Law of Ukraine "On amendments to the Law of Ukraine "On drinking water and drinking water supply", adopted by the Verkhovna Rada of Ukraine and signed by the President of Ukraine No. 2047-VIII of May 18, 2017

Among the main planned measures in the National Target Program "Drinking Water of Ukraine" there are measures to solve sanitation problem:

- optimization of wastewater treatment systems by replacement of obsolete equipment and modernization of WWTPs;

- introduction of additional wastewater treatment methods;

- use of modern methods of sewerage sludge utilization;

- installation of reserve pumps at sewage pumping stations;

- control on compliance of the rules of pipelines operation.

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

In 2016, the largest accident rate of sewerage networks was registered in the Odesa Oblast and reached 3.55 accidents per km of network, in Lviv - 3 accidents per 1 km, while the lowest rate was in Chernihiv Oblast - 0.1, in Rivne - 0.12, in Cherkasy - 0.13 and in city Kiev - 0.05 accidents per 1 km of sewerage network.

No significant progress was made in reducing the accident rate, taking into account the fact that during 2015, 2016, 2017 only 1.04 - 1.1 - 1.3% of sewerage networks were replaced annually due to lack of financing.

In 2015, the total length of the sewage networks was 37404.5 km, the obsolete and emergency - 12749.3 km or 34.1%; and during the year 133.1 km or 1.04% of the required was replaced.

In 2016, the total length of sewerage networks (without Donetsk and Luhansk Oblasts) was 31,140.1 km, obsolete and emergency - 11438.9 km or 36.7%; during the year 121.2 km was replaced or only 1.1% of the required.

In 2017, the total length of sewerage networks (excluding Donetsk Oblast) was 34,650 thousand km, the obsolete and emergency - 13,043.0 km or 37.6%; during the year 0,166 thousand km or 1,3% of the required was replaced.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

Achievements of NTs 18 - 20 facilitate implementation of SDG 6 «Clean water and sanitation», in particular the achievement of SDG 6.1. and SDG 3 «Good health and well-being», and SDG 11 «Sustainable cities and communities».

VII. Application of recognized good practices to the management of water supply (art. 6, para. 2 (f))

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

NT was not set to this area in 2011 due to lack of financial and technological capabilities.

In 2018, two common NTs are proposed for the target areas. Application of recognized good practices to the water supply and sanitation management. Article 6.2.f, 1st and 2nd parts:

NT 21. To protect water intakes of drinking water supply by proper arrangement and operation of sanitary protection zones (SPZs).

Indicator 21.1. Amount (%) of the SPZs that meet the established norms.

220 (10%) SPZs - in 2015,
100% of the SPZs meet the norms by 2025;

NT 22. Implement ISO standards to ensure the efficient document management and management of Water Supply and Sanitation Utilities at Water Utilities and enterprises, that have water sources and sewerage system in their own operation.

Indicator 22.1. Number of utilities that have been certified according to ISO - 3-5 Water Supply and Sanitation Utilities per year: initially large utilities - serving more than 150 thousand people, then - average - 15-150 thousand people)

Baseline year 2018 - 1 utility.

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

The arrangement and operation of SPZ of water supply systems is regulated by a number of normative documents, which establish clear requirements of strict regime of their arrangement and further exploitation. In particular, these requirements to the SPZ are set out in:

- *Sanitary norms and rules of planning and development of settlements, approved by the Decree of the Chief State Sanitary Doctor of Ukraine of 19.06.96 № 173 (with amendments);*
- *State Building Regulation 360-92 "Urban Development. Planning and development of urban and rural settlements "(with amendments);*
- *State Building Regulation B.2.5-74:2013 "Water supply. External networks and facilities. The main provisions of the design" (section 15. Sanitary protection zones);*
- *"Regulation on the procedure for design and operation of sanitary protection zones for water sources and water supply pipelines for drinking purpose" (approved by the Decree of the Chief Sanitary Doctor of the USSR from 12.18.1982, № 2640-82).*

In Ukraine, the Optimization scheme of water supply and sewage systems are stipulated in legislation, and should be developed for each utility, taking into account its features (water supply sources, quality of raw water, technological schemes of water treatment and disinfection, etc.). In fact such Optimization Scheme is a plan of measures to secure the functioning of the systems and their further sustainable development, however, these schemes should include optimization of the solution of drinking water quality problems, but the methodology of their development needs analyzes and comparing with the methodology of Water Safety Planning, according to the WHO recommendations and guidelines, considering that in 2010 the Meeting of the Parties to the Protocol was already recognized the Water Safety Plan, as the main instrument for the implementation of the Protocol. At the same time, in practice, the development and implementation of these Optimization Schemes has not been started and has been postponed due to a lack of necessary funding.

In Ukraine, the Plan of Implementation of the Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption (approved by the CMU Decree from 04.03.2015, No. 162) is implemented with a delay by the Minregion,.

In Ukraine, ISO 9001: 2015 standard, included in 2009 into national standard DSTU ISO 9001, is not mandatory, it is a system of voluntary certification.

ISO 14000 standards contain requirements to environmental management system elements, as well as requirement on environmental audit performance, there were 2 revisions of the standards of ISO 14000 series (in 2004 and 2015), until 2018 a transition period lasted and 2 versions of ISO 14001 standard were in force.

Only a few water supply and sewerage utilities are attempting to prepare for certification according to ISO standards.

Water safety plans and certification according to ISO 22000 in Ukraine are not implemented.

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

There were under the supervision and control of LCs of the Mof (by July 2017 – of the State Sanitary Epidemic Service of Ukraine) 10522 (in 2015 - 16215, in 2014 - 16967, in 2013 - 18455) sources of centralized water supply of the population, of which 1154 communal (in 2015 - 1741, in 2014 - 1336 in 2013 - 1569), 3256

departmental (in 2015 - 4641, in 2014 - 4474, in 2013 - 4818), 3757 rural water supply systems (in 2015 - 6684, 2014 - 6566, 2013 - 7447). There is a tendency to reduce the number of control and monitoring sites for all types of centralized water supply. As stated in the National Report in 2016, in recent years, up to 5% of water pipelines do not comply with sanitary norms, of which 75.3% of water pipelines do not comply with norms due to lack of sanitary protection zones. According to the results of monitoring of the LCs of the MofH in 2015 year 43 (46.7%) communal water pipelines, 45 (65.2%) departmental and 297 (84.1%) of rural water pipelines did not have SPZs.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

Achievements of NTs 21 and 22 are directly related to the provision of drinking water safety and the implementation of SDG 6.1. «On the right to safe drinking water» and SDG 11 «On the sustainable development of cities and communities».

5. If you have not set a target in this area, please explain why.

VIII. Application of recognized good practice to the management of sanitation (art. 6, para. 2 (f))

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

In 2018, common NTs for target areas are proposed to Article 6.2.f 1-st and 2-nd (See previous area).

IX. Occurrence of discharges of untreated wastewater (art. 6, para. 2 (g) i))

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

In 2011, NT 10 was set as following: to decrease percentage of untreated or low treated wastewater, mine-drainage and collector-drainage wastewater discharges in surface water.

Indicator: the percentage of discharges of untreated and low-treated wastewater.

Control terms: the interim term - by 2015, it was planned to reduce the untreated wastewater discharges by 3%, low-treated wastewater discharges by 15%; by 2020 it is planned to reduce the untreated wastewater discharges by 1,5%, and low-treated wastewater discharges by 10%.

In 2018, an updated edition was proposed as NT 23. Reduce discharges of untreated wastewater.

Indicator 23.1. Volumes and share (%) of discharges of contaminated (untreated and low-treated) wastewater in water bodies, million m³ per year, %.

2015 - 875 million m³ per year or 15.7%

2020 - 725 million m³ per year or 13%

2025 - 557 million m³ per year or 10.0%

2030 - 279 million m³ per year or 5.0%

The issues of environmental protection from wastewater pollution are regulated by many laws, regulations and orders of the Cabinet of Ministers of Ukraine and central executive bodies. The policy framework in this area is stipulated in the Water Code of Ukraine and the Laws of Ukraine: "On Environmental Protection", "On Drinking Water, Drinking Water Supply and Drainage", and in 2017 adopted the Law of Ukraine "On Environmental Impact Assessment" № 2059-VIII of 05.23.2017. Measures are envisaged in the National

Target Program on development of water management and ecological restoration of the Dnipro river basin until 2021 and the National Target Program "Drinking Water of Ukraine" for 2011-2020.

The norms in this area are specified in the international obligations of Ukraine: EU-Ukraine Association Agreement and the Plans of implementation of three EU Directives: the WFD, the Urban Wastewater Treatment Directive, the Nitrate Directive. There is also a large number of relevant by-laws and regulations in this area.

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

The Law of Ukraine "On amendments to certain legislative acts of Ukraine regulating the relations related to obtain permissions for special water use" No. 1830-VIII of February 7, 2017 was approved.

Since 2018 there is on-going work on drafting the Law "On Wastewater Drainage", which will regulate the issues of centralized and decentralized wastewater management, including the discharge of wastewater from small sanitation systems, also it will support introduction and implementation of the EU Water Framework Directive and Council Directive 91/271 / EEC and establish responsibility for the discharge of untreated wastewater into water bodies by law.

A legal act that would regulate the approaches to treated wastewater discharges in water bodies is at drafting stage.

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

Unfortunately, the positive trend towards reduction of discharges of polluted wastewater into water bodies, which occurred in previous reporting periods and reached the planned results (the share of discharged contaminated sewage was 13% of the total wastewater discharge) by 2016, in 2017 changed to the opposite - to the growth of pollution, with the share of discharged contaminated wastewater increased to 997.3 million m³ or to 21.15%.

According to the results of the generalization of the data of the state accounting of water use, in 2015, 5343 million m³ of wastewater were discharged to the surface water. Of the total amount of wastewater discharged to the water bodies, 875.1 million m³ (16%) were contaminated, 1389 million m³ (26%) - normatively-treated, and 3070 million m³ (58%) were normatively-clean without treatment. Also, 327.4 million m³ of mining-quarry wastewater were discharged without treatment;

In 2016, 5399 million m³ of wastewater were discharged in surface water bodies. Of the total amount of wastewater discharged to the water bodies, 698.3 million m³ (13%) are contaminated, 1381 million m³ (25%) are normatively-treated, 3120 million m³ (58%) are normatively-clean without treatment. Also, 295.3 million m³ of mining-quarry wastewater were discharged without treatment;

In 2017, 4715 million m³ of wastewater was discharged in surface water bodies. Of the total amount of wastewater discharged to the water bodies, 997.3 million m³ (21.15%) are contaminated, 1023 million m³ (21.7%) are normatively-treated, 2550 million m³ (54.08%) are normatively-clean without treatment. Also, 228.2 million m³ of mining-quarry wastewater were discharged without treatment.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

NT 23 fully complies with the national target SDG 6.3.

X. Occurrence of discharges of untreated storm water overflows from wastewater collection systems (art. 6, para. 2 (g) (ii))

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

In 2011 NT was not established due to lack of financial and technological capabilities

In 2018, a new NT and its indicator were proposed:

NT 24: Develop legislation on storm water management

Indicator 24.1. by 2019 policy and legislation developed, amendments to actual laws and regulations made.

NT 25: By 2025, to determine the quantity and quality of storm water and how to handle them in cities with a population of more than 200,000 inhabitants

Indicator 25.1. Number (value and /or %) of settlements where there is a system of storm water drainage and treatment. The baseline indicator for 2015: 7% of the total length of roads in Ukraine equipped with storm water collectors.

Indicator 25.2. To develop storm water monitoring in cities with population over 200 000 to 2025.

The main measure for solving the identified problems in the target area is development of legislation in the field of storm water management.

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

The Draft Law "On wastewater drainage", which is in progress, includes regulation of storm water management issues.

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

No data to this target area are available at national level and needs monitoring establishment.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

The achievement of NTs 24 and 25 will directly contribute to achievement of SDG 6.3 "to reduce pollution from diffuse sources of water pollution".

XI. Quality of discharges of wastewater from wastewater treatment installations (art. 6, para. 2 (h))

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

In 2011 established **NT 11: Increasing the efficiency of wastewater treatment plants performance by 2020** and **Indicator**: the number of newly constructed, modernized wastewater treatment plants. Control terms: the interim term - in 2015, 25 WWTPs were built, 30 were upgraded; by 2020, 60 installations have to be built, 70 - upgraded.

In 2018, a new NT and its indicator were proposed.

NT 26: Reduce wastewater discharges from WWTPs, the quality of which does not meet the requirements of Council Directive 91/271 /EEC.

Indicator: 26.1. Quantity (absolute values and %) of discharges of treated waste water from WWTPs, quality of which corresponds to European norms, baseline year 2020.

Indicator 26.2. Monitoring system of wastewater quality in accordance with European requirements is in place in 2019.

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

The issues of wastewater quality and treatment are regulated by the Water Code of Ukraine and the laws: "On Environmental Protection", "On Drinking Water, Drinking Water Supply and Drainage", "On Environmental Impact Assessment". The measures envisaged in the National Program of Development of water management

and environmental restoration of the Dnipro River Basin for the period until 2021 and "Drinking water of Ukraine" for 2011-2020.

In accordance with the Association Agreement, Ukraine gradually transposes the requirements and standards of Council Directive 91/271/EEC of 21 May 1991 on urban wastewater treatment. By the Law No. 2047-VIII of May 18, 2017 amendments to the Law of Ukraine "On Drinking Water and Drinking Water Supply" were made. Specifically the Minregion has authority to approve the Rules for wastewater acceptance to the centralized sewerage systems and the procedure for determining the amount of payment for excessive discharges of industrial and other wastewater to centralized canalization systems, as well as the responsibility of local self-government bodies to develop and implement the relevant local rules for wastewater acceptance and determination of the amount of charge for excessive discharges of industrial wastewater to municipal canalization systems.

02.02.2018 entered into force Rules for wastewater acceptance to centralized sewage systems and the Procedure for determining the size of the charge for excessive discharges of wastewater to centralized sewer systems, approved by the order of the Minregion from January 1, 2017, No. 316 and registered with the Ministry of Justice of Ukraine from January 15, 2018 № 56/31508 and № 57/31509, respectively.

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

In recent years, in the framework of development projects funded by foreign investors the reconstruction of several WWTPs (for example, in the cities of Zaporozhye and Ivano-Frankivsk, etc.) have started, but a full cycle of treatment and disposal of sludge even at these WWTPs is absent. According to the National Report data, only 24 (4.3%) WWTPs were partially or fully renovated. In 2017, project on the reconstruction of the Bortnichy Aeration Station (WWTP in Kyiv) was launched, which is scheduled to be completed within 5 years.

According to the National Report, the total costs of measures implemented during 2017 on sewerage systems was UAH 1,181.92 million, with the highest cost of measures in Kyiv (UAH 372.77 million).

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

The achievement of NT 26 is directly contributing to the achievement of SDG 6.3 to reduce pollution from point sources of water pollution.

XII. Disposal or reuse of sewage sludge from collective systems of sanitation or other sanitation installations (art. 6, para. 2 (i))

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

In 2011, NT was not established in this area due to the lack of financial and technological capabilities.

In 2018, it was proposed to establish **NT 27.: To introduce mechanisms of encouraging water utilities to use modern methods of sludge processing.**

Indicator 27. Number of WWTPs where modern technologies (electricity generation, reuse) of sludge processing are implemented.

NT 28. Reduce the amount of generated sludge.

Indicator 28.1. By 2025, reduce by 25% the number of untreated sludge generated at WWTPs.

NT 29. To conduct land reclamation under sludge fields.

Indicator 29.1. By 2025, to rehabilitate land under sludge fields - to reduce the area of land by 15.6 hectares per year by reclamation. For baseline year 2015- the area occupies 4 220 hectares.

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

From 01.04.2018 entered into force the DSTU 8727: 2017 The sewage sludge. Preparation of organic-mineral mixture of sewage sludge. The Minregion adopted Order No. 341 of 12.12.2018 On approval of the procedure for the reuse of treated wastewater and sludge if the norms of maximum permissible concentrations of pollutants will be comply (Order was registered with the Ministry of Justice of Ukraine on January 22, 2019 for N 75/33046).

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

There are no national safety standards for sludge reuse. In Ukraine there is a standard that sets requirements for the quality of wastewater used for fertilization: DSTU 7369: 2013 Wastewater. Requirements to wastewater and sludge for irrigation and fertilization.

While there is no progress in this area, but now almost completed preparation for the beginning construction work within the project on the Bortnichi Aeration Station (BAS) reconstruction in Kyiv. In 2019, BAS reconstruction work will begin. The total project WWTP capacity is 1.8 million m³ / day. Actual volume of wastewater entering the treatment is from 700 thousand to 1000 thousand m³ / day. Now the existed sewage treatment process involves the sludge transport for storage on the sludge fields, which now occupy 272 ha. According to the BAS reconstruction project, instead of accumulation of sludge in the sludge fields, will be introduced the thermo-utilization of sewage sludge (secondary use of the resulting ash in the construction sector). Also, the area of the main production of BAS will be reduced from 151 ha to 120 ha, which will allow to increase approximately by 1 km the distance between the BAS and the residential area of Kyiv.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

Achievements of NT 27-29 have a direct contribution to achieving SDG 6.3 and 6.4 to reduce pollution from point sources of water pollution and the introduction of sewage and sludge recycle and energy recovery and recycling of ash, which will also contribute to the achievement of SDG 11 for sustainable urban development and communities.

XIII. Quality of wastewater used for irrigation purposes (art. 6, para. 2 (i))

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

In 2011 NT to this area was not established.

*In 2018, one NT was established - **NT 30.: To develop the Strategy / Program for the reuse of wastewater in conditions of climate change for Ukraine up to 2030 and the relevant regulatory acts.***

***Indicator 30.1.** Amount of land (hectare) used wastewater for irrigation:*

2018 - 0 ha;

2025 - the values, determined in the Strategy / Program on the reuse of wastewater.

Measures to ensure the treatment of wastewater are provided in the National target program on development of water sector and ecological restoration of the Dnipro River basin for the period up to 2021 and the Program "Drinking Water of Ukraine". The tasks on harmonization and implementation of the WFD and the Urban Wastewater Treatment Directive determine the objectives to ensure proper treatment and safety of wastewater.

Minprirody, MinAgro, representatives of science and other stakeholders in cooperation and with assistance of FAO and the World Bank have developed the Draft Strategy of irrigation and drainage of Ukraine, the Draft Strategy is at the final stage of consideration and needs approval by the Government decision.

One of the most important measures is establishment of monitoring system of wastewater and sludge for recycling purposes, to know wastewater and sludge quality and safety and to assess the ways for their reuse.

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

Ukraine has a current standard DSTU 7369: 2013 Sewage. Requirements for sewage and sludge for irrigation and fertilization, that sets requirements for the quality of wastewater used for irrigation and fertilization.

The Procedure for reuse of treated wastewater and sludge which are treated in compliance with the norms of the maximum permissible concentrations of pollutants is approved by the Minregion Order No. 341 dated 12.12.2018.

Minprirody, Ministry of Agrarian Policy and Food of Ukraine, representatives of science and other stakeholders in cooperation with and assistance of FAO and the World Bank developed the Draft "Strategy of irrigation and drainage of Ukraine", which should be approved by the decision of the Cabinet of Ministers of Ukraine.

The Order for the implementation of state monitoring of water resources is approved by the decision of the CMU from September 19, 2018, No. 758. For the purpose of the state water monitoring the works on surface water and groundwater delineation as well as on identification of the main anthropogenic impacts (including point and diffuse sources of pollution) on the quantity and quality of water resources are in progress.

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

The existing in Ukraine legal framework for quality control of water from WWTPs applied to irrigation is insufficient and needs development. At the same time, the regulatory framework of Ukraine in this area does not fully comply with the requirements of European directives. Currently, due to the low effectiveness of WWTPs, sewage treatment doesn't achieve the project norms.

Also, in Ukraine, storm water is not used for irrigation, despite they are collected by storm sewage they are discharged to the environment without treatment due to out of work treatment facilities or, as usual, their absence.

Irrigation by wastewater is not applied in Ukraine due to the poor quality of treated wastewater and high risks of deterioration of food safety, salinization and loss of soil fertility under conditions of irrigation by contaminated wastewater.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

NT 30 achievement will contribute to the achievement of SDG 6.3 Reducing the volume of discharge of untreated wastewater and 6.4. Improving the efficiency of water use. Also, this NT can stimulate the development of the Strategy of Water Adaptation to Climate Change and expand the national SDG 13, which now relates only to mitigation of the impacts of climate change in Ukraine.

XIV. Quality of waters which are used as sources for drinking water (art. 6, para. 2 (j))

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

In 2011 NT in this area was not established.

*In 2018 it was proposed to set **NT 31. To improve the quality of water in sources of drinking water.***

Indicator 31.1. *Percentage of water samples that do not comply with the norms by microbiological parameters for surface water of:*

Category I: 16% in 2020, 12% in 2025

*Category II: 17% in 2020, 15% in 2025 **

** according to data of the Ministry of Health of Ukraine.*

Indicator 31.2. *Percentage of water samples that do not comply with the norms by chemical parameters for surface water of:*

Category I: 7.5% in 2020, 5% in 2025;

*Category II: 15% in 2020, 12% in 2025 **

** according to data of the Ministry of Health of Ukraine;*

Indicator 31.3. *Percentage of water samples and bottom sediments that do not comply with the norms by chemical and physico-chemical parameters (for surface water bodies, water of which are used for drinking and household needs of the population) from:*

surface and underground water bodies or their parts;

seawater - base year 2020 to 2025 Indicators will be established in accordance with the CMU Decree of 19.09.2018 No. 758.

Measures for the arrangement and compliance of the zones and the regime of sanitary protection of water supply sources, modernization of water supply sources, construction of new and upgrading, replacement of pipelines are planned in the Program of Water Supply and Sanitation Development and the Program "Drinking Water of Ukraine". They need to revise, correct and update measures and financing based on co-financing and involvement of the State Budget and funds from local budgets and water utilities.

The Water and Health Protocol implementation tool, in accordance with the decisions of the Meeting of the Parties to the Protocol, is the Water Safety Plans (WSP), for the implementation of which WHO-Europe has developed a number of guidelines that do not yet have a legislative framework for implementation in Ukraine.

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

On July 24, 2017, was published a Draft Order of the MofH "On Approval of Hygienic Water Quality Standards for water bodies to meet drinking, household and other needs of the population", which remains in the process of consideration.

State institutions - Oblast Laboratory Centers of the MofH are regularly monitoring and supervising the safety of drinking water, including monitoring of water from water bodies used as sources of drinking water; researching of sources of centralized and decentralized water supply by microbiological and more than 70 sanitary-chemical parameters; monitoring the nitrate content in water of decentralized sources of water supply, in particular wells and springs, water of which is used for consumption by children under the age of 3 for the execution of paragraph 8.3. of the resolution of the CMU meeting of 19.05.2010 №20 «On prevention of children water-nitrate methemoglobinemia».

The existing legal framework of Ukraine to control drinking water quality is sufficiently developed and, in general, can ensure surveillance activity. The main document that defines the requirements for water quality in the source of drinking water supply - State Sanitary Standards DSANPiN 2.2.4-171-10 "Hygienic requirements..", which was developed taking into account the requirements of the EU Directive on Drinking Water.

In cooperation with WHO-Europe, the State Sanitary and Epidemiological Service and NGO MAMA-86, in 2015 organized the national seminar for oblast SSES authorities on implementation of WSP. In 2015-2016, the NGO MAMA-86 Network, funded by the Swedish International Development Agency, for the first time in Ukraine, introduced WSP development pilot projects for small communities, conducted trainings for 50 representatives of stakeholders from 8 local communities and local authorities based on WHO guidelines

"Providing the safety of drinking water in small community water supply systems: A step-by-step guide on risk management with water supply systems in small settlements."

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

Despite the reduction in the number of water samples that were investigated by the LCs of the MofH in the last 5 years, the monitoring results indicate an increase of the share of samples with chemical and microbiological incompliances among the water resources of I category (water bodies used as a source of centralized or decentralized household and drinking water supply, as well as for water supply of food industry enterprises). In 2018, the highest percentage of non-standard samples of water was observed for water bodies of I category. Share of investigated water samples from water bodies of category I, which did not meet norms was 19.3% (585 out of 3033) by chemical parameters and - 22,4% by microbiological parameters. The same negative trend towards increasing the percentage of non-standard samples was observed for water bodies of II category (water bodies used for public bathing, sports and recreation, as well as water bodies located within settlements).

Table 9. Incompliances by chemical and microbiological parameters of water from water bodies of I and II categories

	Chemical parameters					microbiological parameters				
	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018
Water samples from I category water bodies										
Total	4004	3606	3717	5092	3033	3433	4057	3765	2760	2627
Not meet	341	391	398	427	585	457	377	426	494	590
Share, %	8,5	10,8	10,7	8,4	19,3	13,5	9,3	11,3	17,9	22,4
Water samples from II category water bodies										
Total	11465	12215	12783	22861	15519	16010	19125	21179	18458	18915
Not meet	1839	2372	2543	3549	3223	2067	2358	3108	3409	3571
Share, %	16,0	19,4	19,9	15,5	20,8	12,9	12,3	14,7	18,5	18,9

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

The achievement of NT 31 contributes to the implementation of SDG 6.1.

XV. Quality of waters used for bathing (art. 6, para. 2 (j))

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

In 2011, NT was not set to this area due to the lack of financial and technological capabilities.

In 2018 NT 32 was proposed: "To improve the safety and quality of water used for bathing by sanitary-biological parameters".

Indicator 32.1. Number and % of recreational areas used by the population for bathing, where best practices are applied (proper maintaining, Blue Flag statute sign, etc.) basic year 2020;

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

From 2017, according to the CMU resolution from January 20, 2016 No. 94-r, all basic Sanitary Rules and Norms (SanPiNs) regulated the safety of water objects used for recreation were canceled, including: SanPiN 4630-88 "Sanitary rules and norms of protection of surface waters from pollution", SanPiN 4631-88 "Sanitary

rules and norms of protection of marine coastal waters from pollution in places of water use of the population", SanPiN 497-64 "Sanitary rules of the device, equipment and exploitation of beaches", SanPiN 4060-85" Therapeutic beaches. Sanitary rules of the device, equipment and operation", GOST 17.1.5.02-80" Hygienic requirements for recreation zones of water objects". The issue of revision and updating regulatory acts in this area taking into account the recommendations of WHO and EU Directive 2006/7/EEC of the European Parliament and European Council of 15.02.2006 on the quality management of water used for bathing remains unresolved.

The Draft "Hygienic norms of chemicals in surface waters" has been prepared for the replacement of SanPiNu 4630-88 "Sanitary rules and norms of protection of surface waters from pollution".

Rules for protecting people's lives on water objects of Ukraine by order of the Ministry of Internal Affairs (MIA) dated April 10, 2017, No. 301. were approved.

Every year, in accordance with paragraph 9 of the Rules for the Protection of the people life on water objects, within preparation to the restoration season, the Oblast state administrations approve the local programs of measures ensuring proper arrangement of the beaches and recreation zones identified for bathing. In order to regulate places of mass recreation on water their inventory is carried out, systematic laboratory control of water from open water bodies is organized.

MofH, State institution "Center of public health of the MofH", State institution "Ukrainian center for diseases monitoring of the MofH" and LCs of MofH conduct laboratory monitoring control of water quality for bathing. The State Emergency Service of Ukraine and State Service of Ukraine for Food Safety and Consumer Protection carry on the surveillance and apply administrative measures of punishment.

During the summer season the Laboratory centers of the MofH supervise beaches and recreation zones in Donetsk, Zaporizhzhya, Mykolayiv, Odesa, Kherson oblasts, which have access to the sea coast, as well as river, including in the city of Kyiv on the Dnipro River.

The local state administrations, local self-governments, oblast laboratory centers of the MofH and the state institution "Public health center of the MofH" regularly publish on their websites the relevant information during summer season. Information is also available in local media. The LCs of MofH and territorial bodies of SFSCP conduct regularly public awareness rising and education activity on prevention of acute intestinal infectious diseases, food poisoning, and on personal hygiene rules in extraordinary conditions.

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

According to the oblast laboratory centers of the MofH, during the last 5 years, the share (%) of investigated samples of water of water bodies of II category, which did not meet the norms by chemical and microbiological parameters increased, indicating the pollution of the water resources used for recreation and bathing. The main sources of stable high levels of water pollution are discharges of municipal wastewater and storm water.

Laboratory centers of the MofH conduct laboratory monitoring of the quality of marine and river water by chemical and microbiological parameters, including in recreation zones and sites for bathing, with the use of appropriate measures in case of violations detection. During June-August 2018, 19491 analyses of river and sea water were conducted by microbiological parameters (in 2017 - 10589), of which 1675 or 8.6% analyses - (in 2017 - 1325 - 12,5%) did not meet the norms for microbial contamination according to the LPEC index (lactose-positive *E. coli*), etc.; for physical and chemical analyses 16,956 samples (in 2017 - 11782) were researched, of which 1366 studies - 8,1% did not meet the standards (in 2017 - 871 - 7,4%).

Contamination researches of bottom sediments and sand in sites for recreation and on beaches are not conducted.

At the local level, there are few examples of best practices. For example, in 2017, Kyiv utility company "Pleso" carried out works on city beaches improvement to achieve the "blue flag" criteria and 3 beaches from 9 city beaches with bathing conditions reached the proper level of safety.

Ukraine does not have a common on-line list of objects intended for bathing, and there is not available yet mechanisms for operational informing the population about the sanitary and epidemiological condition of such objects.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

Achievement of NT 32 contributes to the achievement of SDG “Sustainable Development of Cities and Communities” and SDG Indicator 11.6 To provide the operation and implementation of local development strategies, including recreation.

XVI. Quality of waters used for aquaculture or for the production or harvesting of shellfish (art. 6, para. 2 (j))

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

In 2011, NT was not established in this area due to the lack of financial and technological capabilities.

*In 2018, it was proposed to set **NT 33.: To increase the quantity of water bodies of a "good" ecological status, which are used for aquaculture, in particular for fish breeding.***

***Indicator 33.1.** Number of water bodies used for aquaculture, in particular for fish breeding, having a good ecological status (by dissolved oxygen content, BOC, COC, organic content parameters). Baseline year - 2020.*

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

The main documents regulating this area are: the Water Code of Ukraine (Article 36 on the establishment of maximum permissible concentrations of substances in water bodies whose water is used for the fish farming), the laws: "On Aquaculture" of September 18, 2012 No. 5293-VI; "On Fish farming, Industrial Fishery and Protection of Water Bio-resources" of July 8, 2011 No. 3677-VI (Article 17 on Environmental Water Quality Standards for Fish Farming Water Objects).

Measures are planned in the State target program on water management development and ecological restoration of the Dnipro river basin until 2021.

The Order of the State monitoring of water resources was approved by the CMU resolution from 19.09.2018 № 758.

The Order of the Ministry of Agrarian Policy and Food of Ukraine of 30.07.2012 № 471 "On Approval of the Environmental Safety Standards for water objects used for the fish farming regarding the maximum permissible concentrations of organic and mineral substances in marine and fresh waters (biochemical oxygen consumption (BOC-5), chemical oxygen consumption (COC), suspended matter and ammoniac nitrogen)" registered in the Ministry of Justice of Ukraine from 14.08.2012 № 1369/21681 is in force.

The Procedure for keeping the State Register of Fishery Water Objects (their parts) is in force in accordance with the CMU resolution of September 30, 2015, No. 979 and the State Register's webpage was created <https://drrvo.gov.ua>.

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

The existing legal and regulatory framework for quality control of water used for aquaculture is insufficient and needs to be harmonized with the requirements of the European Directives.

The development of aquaculture production in connection with the growing demand for water for its technological processes requires improved monitoring of water quality, especially in places of used water discharges, and assessing the impact of aquaculture on pollution of water by organic matter and the eutrophication development, as well as by chemicals and pharmaceuticals (antibiotics, fungicides), which have potential threats to human health. There is a request to develop water use accounting, in particular, the procedure for collecting, systematizing and analyzing data on the use of water resources in fish farming in river basins in accordance with the recommendations of FAO.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

Achievement of NT 33 will contribute to the implementation of SDG 6.3 on improvement of water resources quality and 6.5 on IWRM.

XVII. Application of recognized good practice in the management of enclosed waters generally available for bathing (art. 6, para. 2 (k))

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

In 2011, national targets were not set for the area, because it was not recognised as a national priority and due to lack of information and resources.

In 2018, NT 34 was proposed: To introduce recognised good practices for management of enclosed waters available for bathing.

Indicator 34.1. The number/% of swimming pools and other entertainment and sports water facilities, including the ones in schools with sound water treatment methods introduced/used, including alternative to chlorination methods for water disinfection and water conditioning. Baseline year - 2020.

Currently, in Ukraine, a regulatory framework for maintenance and operation of water sports facilities is almost non-existent.

It is necessary to adopt and enact DBN V 2.2-9: 201X "Public Buildings. Basic Provisions". Due to abolition of old regulations, draft updated regulations should be developed in line with WHO recommendations and EU Directives.

It is impossible to get information on the specified facilities without the need to make special requests to ministries and agencies due to lack of a single on-line network of such facilities that are of municipal, private, departmental and other forms of ownership. Management of these facilities belongs to powers of: i) local state administrations and local self-government bodies (in the case of municipal ownership of human settlements, city and village communities); or ii) ministries, agencies or enterprises, legal entities or physical persons that operate swimming pools or other places specially designed for bathing (in the case of private ownership).

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

In Ukraine, CMU Order # 94 of 20.01.2016 abolished all applicable regulations that were in force from the Soviet period, including, in particular: "Sanitary rules for organisation and maintenance of places for physical education and sports classes" (No. 1567-76, adopted on 30.12.1976); "Methodological recommendations on operation of therapeutic and recreational fresh water-filled pools with in sanatoriums" (1977), "Methodological recommendations on preventive disinfection in sport swimming pools" (31.03.1980, # 8-2/6) in addition to "Recommendations on water disinfection, disinfection of auxiliary facilities and sanitary regime of operation of

bathing-swimming pools (No. 1229-75), SanPiN 1437-76 "Instructive and methodological guidelines on design, operation and sanitary control of sea water-filled swimming pools." However, so far, no updated regulations have been adopted to replace them.

Management of these facilities belongs to powers of: i) local state administrations and local self-government bodies (in the case of municipal ownership of human settlements, city and village communities); or ii) ministries, agencies or enterprises, legal entities or physical persons that operate swimming pools or other places specially designed for bathing (in the case of private ownership).

Supervision and control of compliance with requirements of the due sanitary legislation are maintained by inspectors of the State Service of Ukraine for Food Safety and Consumer Protection, while water monitoring studies in swimming pools are conducted by laboratory centers of the MofH with involvement of the SSFSCP, or on contractual basis.

In the majority of old and new swimming pools in educational facilities, outdated water treatment schemes are used, in particular water disinfection by chlorination.

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

In this area, registration is not arranged at the national level, a single on-line network of such facilities (pools, water parks, etc.) is not available. Sites of oblast-level state administrations also do not provide such information. No regular monitoring and water quality control of enclosed waters available for bathing are maintained, water quality checks are conducted by local supervision and control services on request or in the case of emergencies, caused by chlorine poisonings or by other causes.

The legal framework for introduction of modern water treatment methods, including alternative to chlorination methods for water disinfection and water conditioning, needs to be revised. European standard DIN 19643-1: 1997 "Water treatment for swimming and bathing pools. Part 1. General requirements" and applicable due Ukrainian regulations rely solely on application of methods based on use of chlorine or chlorine compounds.

In the reporting period (in March 2017), one case of chlorine vapour poisoning was registered in "Jungle" Water Park in Kharkiv. Overall, 20 persons applied for medical assistance. According to results of water studies of Kharkivska Oblast Laboratory Centre of the MofH, levels of bound chlorine in pools of the water park exceeded the standard limits in 1.5-24 times, while levels of free residual chlorine do not exceed the limits.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

Implementation of NT 34 will contribute into achievement of SDG 4.1. (ensure access to quality education for all children and adolescents) and SDG 4.7 (provide modern learning conditions in schools)

XVIII. Identification and remediation of particularly contaminated sites (art. 6, para. 2 (I))

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

In 2011, NTs in the sphere were not set up due to lack of financial and technological capacity.

In 2018, three NTs were proposed with indicators for them:

NT 35.: Identify areas contaminated by POPs and implement remediation works

Indicator 35.1: A percentage share of POPs-contaminated areas, where rehabilitations works have been implemented, from the total number of such areas listed in the National Register. Baseline year 2020.

Indicator 35.2: A percentage share of POPs-contaminated areas, where rehabilitation works have been implemented, from the total number of such areas listed in the National Register. Baseline year 2020.

NT 36: "Assess vulnerability of groundwater and surface water to pollution by nitrates from agricultural sources and ensure reduction of their nitrate pollution levels"

Indicator 36.1.: Requirements of Council Directive 91/676/EEC concerning protection of waters against pollution caused by nitrates from agricultural sources have been transposed into the due legislation of Ukraine in 2020.

Indicator 36.2.: The Register of zones vulnerable to accumulation of nitrates has been established - 2025 (tentatively);

Indicator 36.3: The Action Plan to reduce surface water and groundwater pollution by nitrates from agricultural sources has been approved by 2025 (tentatively).

NT 37. Reduce the number of household waste disposal sites in line with Council Directive 1999/31/EC on the landfill of waste

Indicator 37.1.: The number of (sites) landfills and waste dumps for disposal of household waste:

2015 - 6000 sites with the total land area of more than 9 thousand hectares, containing 10 million tons of household waste accumulated;

2023 - 1000 sites;

2030 - 300 sites.

The legislative framework for adoption of the NTs incorporates: the Water Code of Ukraine (Chapter 20. Protection of waters from pollution, littering and exhaustion); the Land Code of Ukraine (Chapter 27. Use of technogenically contaminated lands, Article 167. Land protection from contamination by hazardous substances); Law of Ukraine on Waste (Article 34. Requirements to hazardous waste management; Article 35-1 - Requirements to household waste treatment) as amended by May 9, 2016; Law of Ukraine on the environmental emergency zone;

The Strategy for Improvement of the Management Mechanism in the Sphere of Use and Protection of State Agricultural Lands and their Management (CMU Decree # 413 of 07.07.2017);;

The National Waste Management Strategy of Ukraine was approved at the CMU meeting on November 8, 2017;

The Action Plan for Implementation of Directive 2000/60/EC of the European Parliament and the Council Establishing a Framework for Community Action in the Sphere of Water Policy;

The Action Plan for Implementation of Council Directive 91/676/EEC on Protection of Waters against Pollution Caused by Nitrates from Agricultural Sources, as amended by EC Regulation # 1882/2003.

Obligations of Ukraine on implementation of the Stockholm Convention on Persistent Organic Pollutants (in particular Article 6. Actions to reduce or eliminate releases related to stocks and waste, p. 1.e).

-
- 2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

Ukraine lags behind in implementation of the Action Plan for implementation of the Council Nitrate Directive 91/676/EEC, in particular as pertains to:

- adoption of the national legislation and appointment of the authorised body;
- identification of zones vulnerable to (accumulation) of nitrates (Article 3 of the Directive);
- implementation of action plans for zones vulnerable to (accumulation) of nitrates (Article 5 of the Directive);
- introduction of monitoring programs (Article 6 of the Directive).

-
- 3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

The Action Plan for Implementation of the EU-Ukraine Association Agreement:
<http://zakon2.rada.gov.ua/laws/show/1106-2017-%D0%BF>

On December 8, 2017, in the framework of EU project "Support to Ukraine in approximation to the EU Environmental Acquis", a training workshop was held on matters of the Nitrates Directive with participation of forty representatives of the Ministry of Ecology, the Ministry of Agricultural Policy, scientists and farmers. Draft Code of Best Agricultural Practices and the draft Methodology for identification of zones vulnerable to nitrate pollution were developed.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

The setting of NT 35 on POPs will contribute to achievement of the SDG 12.3 (Ensure sustainable use of chemicals on the base of innovative technologies and production), while the setting of NT 37 on landfills will contribute to achievement of SDG 12.4 (Reduce waste generation and increase waste recycle and reuse). At the same time, NT 36 on nitrate pollution will support achievement of SDG 12.4., as well as SDG 6.1 and SDG 6.3.

XIX. Effectiveness of systems for the management, development, protection and use of water resources (art. 6, para. 2 (m))

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

In 2011, one national target was set - **NT 12: Development and approval of river basin management plans for the Dnieper, Dniester, Danube, Tisza, Siverskiy Donets, Southern Bug river basins.**

Indicator: Availability of River Basin Management Plans (RBMPs). Target years: 2015 - RBMPs for the Danube, Tisza, and Southern Bug river basins, 2020 - RBMPs for the Dnieper, Dniester and Siverskiy Donets river basins.

In 2018, NTs of 2011 were reviewed and one more NT was added:

NT 38.: Introduce integrated water management for the main river basins

Indicator 38.1. The number of approved RBMPs: 9 RBMPs for the main river basins by 2024

NT 39. Develop the Water Strategy of Ukraine up to 2030.

Indicator 39.1. The Water Strategy of Ukraine up to 2030 approved in 2019.

NTs are set pursuant to provisions and goals defined by the Water Code of Ukraine, article 363 (on approximation of the legislation) and article 365 (on development of sectoral strategies, in particular in the sphere of water quality and water resources management), the EU-Ukraine Association Agreement (ratified by Law # 1678-VII of September 16, 2014) and by laws of Ukraine: Law on Protection of the Natural Environment; Law on Environmental Impact Assessment; Law on Amending Some Legislative Acts of Ukraine on Implementation of Integrated Approaches in Water Resources Management Based on the Basin Principle (Law # 1641-VIII of October 4, 2016); and according to measures for development of water management as set in the National Dedicated Program for Development of Water Management and Environmental Improvement of the Dnieper River Basin up to 2021.

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

Ukraine implements Directive 2000/60/EC of the European Parliament and the Council of 23 October 2000 according to the EU-Ukraine Association Agreement (ratified by Law # 1678-VII of 16.09.2014). From 2016 to 2019, in order to approximate its provisions and standards, the following legal acts were adopted:

Law of Ukraine on Amending Some Legislative Acts of Ukraine on Implementation of Integrated Approaches in Water Resources Management Based on the Basin Principle (Law # 1641-VIII of October 4, 2016);

and regulations:

Procedures for Implementation of the State Water Monitoring, approved by the CMU Decree # 758 of September 19, 2018,

Procedures for Development of River Basin Management Plans, approved by CMU Decree # 336 of May 18, 2017;

Decree on Approval of the Medium-Term Priority Action Plan of the Government up to 2020 and the Priority Action Plan of the Government for 2017;

The National Action Plan to Combat Land Degradation and Desertification, approved by the CMU Decree # 271 of March 30, 2016;

Order # 234 of the Minpryrody of 23.06.2017 on Approval of the Permit Form for Special Water Use and the Form of Standard Calculation of Water Use and Discharge;

Order # 103 of the Minpryrody of 03.03.2017 on Approval of Boundaries of River Basin Districts, Sub-basins and Water Management Areas;

Order # 26 of the Minpryrody of 26.01.2017 on Approval of Procedures for Development of Water Resources Balances;

Order # 23 of the Minpryrody of January 26, 2017 on Approval of the Model Regulations of Basin Councils;

Order # 45 of the Minpryrody of 06.02.2017 on Approval of the List of Pollutants for Assessment of Chemical Status of Surface and Groundwater Bodies and Ecological Potential of Artificial or Heavily Modified Surface Water Bodies;

Order # 25 of the Minpryrody of 26.01.2017 on Allocation of Sub-basins and Water Management Areas within Established River Basin Districts;

Order # 78 of the Minpryrody of 16.03.2015 on Approval of Procedures of State Registration of Water Use.

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

In Ukraine, in the framework of international assistance, draft river basin management plans (RBMPs) have been/are being developed for:

1. the Tisza river - 2nd planning cycle. Project of the EU Danube Transnational Program - "Strengthening coordination between river basin management planning and flood risk prevention to improve water status of the Tisza basin" (JOINTISZA) 2017 - 2019.

2. the Southern Bug river. Project "Strengthening of management of the Southern Bug River Basin", with support of the SIDA and the Swedish Environmental Protection Agency (SEPA) was implemented in the period from 2009 to 2013.

4. the Prut river. EU project "Environmental protection of international river basins" (2012 - 2016).

5. the Dnieper river (the upper section of the basin from the border with the Republic of Belarus). EU project "Environmental protection of international river basins" (2012 - 2016)

6. the Dnieper river. EU Water Initiative Plus Project (2016-2020)

7. the Dniester river. GEF Project "Promoting transboundary cooperation and integrated water resources management in the Dniester river basin" (2017 - 2019).

8. the Western Bug river. UNESCO, UNECE and GEF supported project (2018-2020).

Since August 2018, the Water Management Development Fund has been operating, and its funding reached UAH 174 million. Finance resources of the Fund allowed the State Water Agency to resume financing of two budget programs that provide funding for actions to protect against adverse water effects, to construct

water supply pipelines to settlements that rely on truck water and to develop irrigation. Due to financing from the Water Management Development Fund works were conducted for construction and restoration of protective dams, banks protection and hydroengineering constructions, for silt control operations in a number of rivers and other water bodies.

In 2017, the Minprirody, with support of the Global Water Partnership (GWP), made self-assessment of SDG indicator 6.5.1 on integrated water resources management at the national level, according to the UN-Water multi-step methodology. The rate of water resources management integration was assessed at the level of 39.45 points.

Since 2019, Ukraine has been launching development of River Basin Management Plans. As the first step, a CMU Decree enacted a new state program for monitoring surface and groundwater bodies in line with requirements of the EU WFD from January 1, 2019. With OSCE support, a monitoring plan for the Siverskiy Donets river basin was developed. Works are under way for development of RBMPs for the Dniester, Dnieper and Western Bug rivers. Three basin laboratories in the system of the State Water Agency were established and completed by 40% - the laboratories will monitor surface water bodies in the Siverskiy Donets, Dniester and Dnieper river basins.

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- 4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

NTs 38 and 39 reflect contents of SDG 6.5 and promote its achievement.

XX. Additional national or local specific targets

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

In 2011, three national targets were set:

NT 13. Development and publication of the National Report on Drinking Water Quality and the State of Drinking Water Supply in Ukraine,

Indicator: Availability of the National Report on Drinking Water Quality and the State of Drinking Water Supply in Ukraine.

NT 14. Development and publication of the Ukraine Summary Report on Implementation of the Protocol on Water and Health,

Indicator: Availability of the Ukraine Summary Report on implementation of the Protocol on Water and Health.

NT 15. Public awareness raising,

Indicator: Conducting meetings, conferences, seminars and AQUA UKRAINE International Water Forum.

In 2018, three NTs were reviewed and proposed:

NT 40. Ensure free access to adequate and up-to-date information on quality of drinking water and other waters under the Protocol.

Indicator 40.1. Annual posting of the National Report on Drinking Water Quality of and the State of Drinking Water Supply in Ukraine on the web-site of the Ministry of Regional Development in terms as specified by law

Indicator 40.2. Publication of "Water and Health" section and the Annex on "Settlements using drinking water with deviations of 5 common (as reported under the Protocol) sanitary-chemical and 2 sanitary-biological parameters of drinking water quality in the reporting period" in the National Report on Drinking Water Quality of and the State of Drinking Water Supply.

Indicator 40.3. A web-page of the Protocol on Water and Health on the web-site of the Ministry of Ecology

Indicator 40.4. Publication of the National Summary Report on implementation of the Protocol on the web-site of the Minprirody.

Indicator 40.5. Internet resources/mobile applications for prompt public information on quality of waters for bathing/ swimming (river and sea beaches), water sources, enclosed waters (swimming pools, water sports and aqua-parks).

NT 41. Raise public awareness on water safety and health

Indicator 41.1. The number of educational facilities/pupils participating in infoactions on international water days (the World Water Day, the Global Handwashing Day, river days, other water-related dates), excursions to water museums, other thematic events.

NT 42. Raise knowledge of specialists (water managers and workers of water utilities and local water treatment sector) and representatives of different levels of authorities on water and health matters, water and sanitation safety planning, and IWRM.

Indicator 42.1.: Conducting annual Aqua-Ukraine forum, "Water and the Environment" and "Drinking Water Quality" conferences, AQUA-TERM Forum.

Indicator 42.2. Launching and operation of the National Information and Training Centre/online resource on water and health matters

Indicator 42.3. Programs of trainings/refresher trainings/certification of specialists on water safety and sanitation planning for different stakeholders are developed and implemented.

Indicator 42.4. The number of trainings on drinking water safety matters, "best practices" of water supply and sanitation

Indicator 42.5. The number of specialists in water utilities/water sector, representatives of authorities, including local authorities, communities that have received certificates for water safety planning and management on water and health matters.

Indicator 42.6. The number of higher schools with accredited "Water Management" curricular Master programs.

Indicator 42.7. The number of trained specialists in the sphere of "Water Resources Management"

The indicators were set for implementation of: the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (the Aarhus Convention); the Association Agreement between Ukraine, on the One Hand, and the European Union and its Member-states, on the Other Hand; the Action Plan for Implementation of Directive 2003/4/EC on Public Access to Environmental Information; the Action Plan for Implementation of Directive 2000/60/EC on Establishment of the Community Framework for Water Policy; Directive 98/83/EC on Quality of Water Intended for Human Consumption; the Constitution of Ukraine, the Water Code of Ukraine, Law of Ukraine on Information, Law of Ukraine on Access to Public Information, Law of Ukraine on Drinking Water, Drinking Water Supply and Drainage.

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

Public funding is provided for development of the annual National Report on Drinking Water Quality of and the State of Drinking Water Supply in Ukraine. Public funding, contributions of organisations and sponsors are used to conduct Water and Environment conferences held by the Minprirody and the State Water Agency, as well as conferences on "Problems and prospects of development of drinking water supply and sanitation in Ukraine" / "Contemporary state and mainstream solutions to address problems of ensuring due quality water supply and sanitation", conducted by the Minregion in the framework of "AQUA UKRAINE" International Water Forum. International donors, professional association, producers (water utilities), grant projects of NGOs provide financing for different information and awareness raising events on various issues of drinking water quality, access to safe water, water and sanitation rights, etc.

The State Water Agency has developed a prototype information system with a basic functionality, allowing to start issuance of e-permits for special use of water resources from the spring of 2019.

The State Water Agency has developed "Geoportal" information system, containing data from the Water Cadastre.

The Minprirody, jointly with other central executive bodies, is developing "Open Environment" (a broad IT platform).

13 Basin Councils have been established in the main river basins, with involvement of stakeholders for efficient management of river basins, development of RBMPs and joint implementation of programs of measures to improve ecological status of water resources and to address other pressing problems in the basins.

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- 3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

In the reporting period, the annual National Report on Drinking Water Quality of and the State of Drinking Water Supply in Ukraine was regularly published on the web-site of the Ministry of Regional Development. In 2017, the National Report included a chapter on the Protocol on Water and Health. The National Report is developed with permanent involvement of all central executive bodies in charge of ensuring access to drinking water and sanitation, management and protection of water resources, supervision and control of compliance with sanitary and environmental legislation in the water sector.

Every three years, Ukraine produces a brief Progress Report on implementation of the Protocol on Water and Health. English versions of all previous reports are publicly available on the official web-site of the Protocol.

In 2017-2018, the Protocol got a higher visibility in Ukraine due to the review process of the NTs for the Protocol. On request of the Ministry of Ecology, Ukraine was provided support from UN ECE Protocol Secretariat in the framework of the EU Water Initiative Plus project. The support allowed to develop: the technical report on results of the situation analysis as pertains to legislative, institutional and substantive aspects in the 20 target areas of the Protocol on Water and Health, the draft NTs and the Action Plan for their achievement. The NTs revision project was implemented by MAMA-86 UNENGO and the team of Ukrainian experts and international consultants of the UN ECE Protocol Secretariat. Issues of the Protocol implementation form a part of the first dimension of development of water policy of Ukraine of the "EU Water Initiative +" project. In 2017, the Protocol-related issues (results of the situation analysis in 20 target areas of the Protocol) were discussed by the Steering Committee of the National Policy Dialogue. Draft NTs and the draft Action Plan underwent public consultations and national discussions in December 2018.

61% of public comments were taken into account in final versions of these documents. The draft NTs were approved by members of the Inter-agency Working Group in February 2019. The NTs revision project has made a significant contribution into promotion of the Protocol and its tasks among different central executive bodies and the general public, into raising stakeholders' awareness on water and health problems in Ukraine, modern approaches and options to address these problems.

However, a separate permanent mechanism of free access to information on implementation of the Protocol on Water and Health in Ukraine still does not exist, including, in particular, access to all brief Progress Reports of Ukraine (2010, 2013 and 2016) in Ukrainian; information materials, manuals and other tools of the Protocol, project results, questioning, self-assessments completed in Ukraine under working dimensions of the Protocol) are not available on information resources of the Minprirody and the Ministry of Public Health.

Water utilities serve as the main source of information on quality of drinking water (12-18 physico-chemical parameters). They provide the data on their web-pages with different frequencies (once in a month or once in a quarter).

Annual water forums in Ukraine (AQUA-Ukraine, AQUA-TERM) became traditional, as well as theoretical conferences, information campaigns and events dedicated to the international water days (the World Water Day on March 22, the Day of the Danube, the Dniester Day, the Day of the Dnieper).

Ukrainian associations of water utilities ("Ukrvodokanalekologiya", "Clean water") annually conduct broad events (exhibitions, business forums, seminars) to raise awareness and exchange experience of industry

professionals, to develop partnerships with their foreign counterparts. At the same time, issues of personnel training for both water supply and sanitation industry, and for water resources management remain crucial and require state support.

In the period from 2016 to 2018, with support of UNICEF and other international organisations, information and awareness raising activities on safe water, sanitation and hygiene (WASH) intensified among Donbass residents affected by the war in the Eastern Ukraine. In 2018, seven Ukrainian and international organisations that provide humanitarian aid to internally displaced persons and residents of Donetsk and Lugansk oblasts, conducted advocacy actions on the right to water, in order to draw attention of the Ukrainian TOP policymakers to the problem at the national level in general and in Donbass, in particular.

Water security issues, including safety of drinking water and sanitation, and promotion of a proactive (based on risk analysis and assessment) management in the water sector were in the agenda of public discussions in the framework of the national policy dialogue "Rethinking of water security for Ukraine", that was initiated by GWP Ukraine in 2016. Results of the dialogue provided the basis for proposals and comments of the GWP-Ukraine on adaptation of the SDGs - in particular SDG 6 - at the national level.

In 2016, MAMA-86 UNENGO, in cooperation with the State SES of the MofH, with information support of WHO-Europe and with financial support of SIDA, implemented demonstration projects for implementation of Water Safety Plans for small communities and consumer groups, for the first time in Ukraine. More than 60 representatives of communities, local authorities and non-governmental organisations took part in trainings on development of WSPs on the base of the WHO Guidelines. Pilot projects for implementation of the WSP measures were completed for communities and consumer groups in 8 settlements in different regions of Ukraine. Due to these pilots, 17.000 persons, mainly children in schools, kindergartens and in one city hospital, improved their access to safe water/sanitation.

The Water Museum in Kyiv is an active centre of awareness raising and education of the general public on water and water use, the museum annually hosts hundreds of thousands of visitors.

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- 4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

The national targets set ensure achievement of SDG 6

Part three

Common indicators¹

I. Quality of the drinking water supplied

1. Context of the data

1. What is the population coverage (in millions or per cent of total national population) of the water supplies reported under sections 2 and 3 below?

The rationale of this question is to understand the population coverage of the water quality data reported under sections 2 and 3 below.

Please describe the type of water supplies for which data is included in the following tables, and the population share covered by these supplies.

Please also clarify the source of the water quality data provided (e.g., data from regulatory authorities).

According to data of the Ministry of Regional Development, in 2016, 22.38 million persons (90.9%) of urban residents, 2.32 million (69.1%) residents of townships and 2.22 million (22.2%) of rural residents in Ukraine

¹ In order to allow an analysis of trends for all Parties under the Protocol, please use wherever possible 2005 — the year of entry into force of the Protocol — as the baseline year.

used centralised water supply services (except residents of occupied territories of Donetsk and Lugansk oblasts and the AR of Crimea). Overall, their numbers reach 26.92 million persons, or 67.38% of the total population included into the official report.

Table 10. Coverage of population of Ukraine by centralized water supply

	2016		2017
	By settlements	By population	By population
cities	99.3 % 401 of 404 cities	90.9% 22.38 Mln of 24.61 Mln persons	99.3% 402 of 405 cities
townships	87.2 % (586 of 672 townships)	69.1% 2.32 Mln of 3.36 Mln persons	89.1% 598 of 671 townships
villages	29.2 % (7609 of 26084 villages)	22.2 % 2.22 Mln of 11.98 Mln persons	30% 7811 of 26080 villages

Over 13 Mln persons in the overwhelming majority (70%) of villages, a third of township residents and 9% of city residents use decentralised water supply: water from wells and artesian wells. In addition, according to the State Water Agency (with reference to local executive bodies and water management organisations), in recent years, in Ukraine, about 950 thousand persons used truck water in 1.3 thousand rural settlements in 15 oblasts of Ukraine. The situation with water supply at territories of Donetsk and Lugansk oblasts (both Government controlled and non-controlled areas) is very unstable due to the regular shelling and damage to centralized water supply infrastructures. In cases of interruption of centralized water supply, residents are provided truck water or water from local sources (if available).

2. Please specify from where the water quality samples reported in sections 2 and 3 below are primarily taken (e.g., treatment plant outlet, distribution system or point of consumption).

Laboratory centers of the Ministry of Public Health analyse water samples throughout the whole water supply system: at water intakes, at the exit point from a water treatment plant, from the distribution network and at the tap of consumers. Monitoring and quality control of drinking water are maintained at centralised water supply facilities, including municipal and rural water supply systems and water supply distribution networks, at sources of decentralised water supply, including community wells and individual wells.

The SSFSCP maintains state sanitary and epidemiological supervision through selective control of compliance with the due sanitary legislation and through permanent laboratory control of drinking water quality at water intakes, water supply facilities and networks of centralized drinking/technical water supply in terms of compliance with requirements of DSaNPiN 2.2.4-171-10 "Hygiene requirements to drinking water intended for human consumption" and SanPiN 4630-88.

3. In sections 2 and 3 below, the standards for compliance assessment signify the national standards. If national standards for reported parameters deviate from the World Health Organization (WHO) guideline values, please provide information on the standard values.

DSaNPiN 2.2.4-171-10 "Hygiene requirements to drinking water intended for human consumption", approved by Order # 400 of the MofH of May 12, 2010 and registered by the Ministry of Justice of Ukraine on July 1, 2010 (reg. # 452/1774), stipulates approximation to the EU standards and gradual introduction of drinking water quality standards - in particular, in 2010, quality of tap water was controlled by 33-42 indicators, in 2015 - by 40-51 indicators, while in 2020 the range will increase to 46-65. In the case of well-room water, respective ranges reach 39 indicators in 2010, 46 indicators in 2016 and 52 parameters in 2020. In the case of water from wells and springs 31 parameters were to be monitored in 2010, and their number did not change from the date of enactment of the SanPiN.

2. Bacteriological quality

4. Please indicate the percentage of samples that fail to meet the national standard for Escherichia coli (E. coli). Parties may also report on up to three other priority microbial indicators and/or pathogens that are subject to routine water quality monitoring.

If possible, please provide segregated data for urban and rural areas in the table below. If this is not possible, please consider reporting by alternative categories available in your country, for example by "non-centralized versus centralized" water supplies or by population number-based categories. If you do so, please indicate the reported categories by renaming the rows in the column "area/category" in the table below accordingly.

According to requirements of the State Sanitary Norms and Rules of the DSanPiN 2.2.4-171-10 (section "Indicators of Epidemiological Safety of Drinking Water" - Appendix 1), "E.coli" and "Enterococci" indicators should not be listed. However, national statistical reports do not use data on contamination associated with E. Coli and other microorganisms. According to statistical reporting, percentage shares of sub-standard samples of drinking water are to be reported in terms of sanitary-chemical and bacteriological indicators. The report provides a table containing an integrated assessment of bacteriological quality of drinking water in centralised water supply systems.

Table 11. Indicators of epidemiological safety of water

WatSan_S2	Baseline values (2014, 2015-2017)	Current values (2018)
E.Coli	no separate entry in the official reporting form	
Enterococci	no separate entry in the official reporting form	

Table 12. Number of samples from different water supply systems analyzed by microbiological parameters

<i>WatSan_S2</i>	<i>Baseline values</i>	<i>Interim values</i>			<i>Current values</i>
	2014	2015	2016	2017	2018
Samples analysed for microbiological indicators, collected at:					
centralised water supply facilities	141006	144649	157079	184100	186317
Including: municipal water mains	77248	78967	81648	83038	91403
rural water mains	32248	28807	37730	38206	41502
water distribution networks	124542	125236	135812	125184	132806
sources of decentralised water supply	49598	50677	59681	64658	61578
Shares of sub-standard samples of drinking water, that failed to meet microbiological sanitary requirements, collected at:					
centralised water supply facilities, %	3.4	4.6	6.4	6.7	7.7
Including: municipal water mains, %	2.2	3.1	4.3	4.6	5.1
rural water mains, %	5.5	7.6	10.4	11.2	11.8
water distribution networks, %	3.4	4.4	6.5	6.7	7.8
sources of decentralised water supply, %	16.4	18.0	23.1	20.4	23.4

3. Chemical quality

Please report on the percentage of samples that fail to meet the national standard for chemical water quality with regard to the following parameters:

- Arsenic;
- Fluoride;
- Lead
- Nitrate.

Please also identify up to three additional chemical parameters that are of priority in the national or local context.

If possible, please provide segregated data for urban and rural areas in the table below.

Table 13. Drinking water quality by physico-chemical parameters

<i>Substances</i>	<i>Baseline values</i>	<i>Interim values</i>			<i>Current values</i>
	2014	2015	2016	2017	2018
Fluorides	no separate entry in the official reporting form				
Nitrates and nitrites	no separate entry in the official reporting form				
Nitrates (centralised water supply)	no separate entry in the official reporting form			2.07	2.62
Arsenic	no separate entry in the official reporting form			0	0
Lead	1.3	0.8	0.6	1.2	0.9
Iron	3.8	5.5	7.0	4.1	3.3
Additional physical-chemical parameter 1: <u>Manganese</u>	1.1	2.1	2.7	1.7	3.7

Additional physical-chemical parameter 2: <u>Cadmium</u>	0.6	1.1	0.7	0.9	0.7
Additional physical-chemical parameter 3: <u>Carbon tetrachloride</u>	0	0	0	0.5	0.3
Additional physical-chemical parameter 4: <u>Chloroform</u>	0.7	36.4	32.4	28.7	23.3
Samples analysed, collected at:					
Nitrates (Centralised water supply)	no separate entry in the official reporting form			71761	74801
Arsenic	no separate entry in the official reporting form			413	492
Lead	2301	2447	2818	5199	3602
Iron	2311	2275	3520	3001	3286
Manganese	2946	2626	4246	6847	6509
Cadmium	1939	2083	2437	4740	3537
Carbon tetrachloride	318	679	933	908	729
Chloroform	2048	3353	3390	4377	5096

Substances	Baseline values	Interim values			Current values
		2015	2016	2017	
Nitrates	2014	2015	2016	2017	2018
Decentralised water supply, including	-	-	-	26.75	27.44
Community wells/springs	21.5/8.0	18.7/8.4	13.5/7.3	33.1/11.1	40.2/14.4
Individual wells/springs	24.8/2.0	25.7/0.9	22.8/7.5	29.8/26.8	28.7/10.5
Samples analysed, collected at:					
Decentralised water supply	-	-	-	78787	70981
Community wells/springs	16246/498	19172/473	23077/479	21314/316	18402/430
Individual wells/springs	47365/296	50422/531	45330/281	39581/492	37856/150

WatSan_S2	Baseline values	Interim values			Current values
	2014	2015	2016	2017	2018
Samples analysed for chemical indicators, collected at:					
centralised water supply facilities	108051	117755	122901	146153	146007
Including:					
municipal water mains	53677	58898	62048	65707	67470
rural water mains	26393	25924	29255	30817	32955
water distribution networks	90968	95458	103182	98375	105083
sources of decentralised water supply	67832	78305	81000	90847	82215
Shares of sub-standard samples of drinking water, that failed to meet chemical sanitary requirements, collected at:					
centralised water supply facilities, %	13.5	15.7	18.4	20.0	22.7
Including:					
municipal water mains, %	8.4	12.4	13.7	16.2	18.5
rural water mains, %	21.0	22.5	25.5	27.4	29.8
water distribution networks, %	11.5	13.5	16.2	17.8	18.5
sources of decentralised water supply, %	31.4	32.7	33.2	32.6	34.4

II. Outbreaks and incidence of infectious diseases related to water

In filling out the below table, please consider the following points:

(a) For reporting outbreaks, please report confirmed water-related outbreaks only (i.e., for which there is epidemiological or microbiological evidence for water to have facilitated infection);

(b) For reporting incidents, please report the numbers related to all exposure routes. In your response:

(i) Please report cases per 100,000 population;

(ii) Please differentiate between zero incidents (0) and no data available (-).

Please extend the list of water-related diseases, to the extent possible, to cover other relevant pathogens (e.g., enteric viruses, *Giardia intestinalis*, *Vibrio cholerae*).

Please indicate how the information is collected (e.g., event-based or incidence-based surveillance).

Please comment on the trends or provide any other important information supporting interpretation of the data.

Table 14. Incidences of diseases related to water

	Disease cases (the number of persons)					The number of outbreaks				
	Baseline values	Interim values			Current values	Baseline values	Interim values			Current values
	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018
Cholera	0/0	0/0	0/0	0/0	1/0	0/0	0/0	0/0	0/0	1/0

Bacillary dysentery (shigellosis)	0/0	0/0	154/0	24/0	0/0		0/0	0/0	3/0	2/0	0/0
EHEC**	no separate entry in the official reporting form										
Enteritis induced by Yersinia enterocolitica	0	0	0	0	0		0	0	0	0	0
Rotavirus enteritis	115/0	360/35	168/0	435/59	251/48		12/0	18/1	25/0	37/1	33/2
Viral hepatitis A	393/288	55/0	225/37	232/35	288/13 2		8/2	8/0	21/1	29/1	28/1
Typhoid fever	0	0	4/0	3/0	0		0	0	1/0	1/0	0
Acute intestinal infections identified	99/0	360/155	982/776	639/205	197/0		6/0	13/1	22/1	34/3	25/0

* general data on outbreaks / data on outbreaks with water transmission route

** enterohemorrhagic E. coli.

Information on incidence of cholera, shigellosis, EHEC, viral hepatitis A and typhoid fever is compiled on the base of state statistical reporting forms ## 1 and 2, that provide the total number of patients registered. Connection with water transmission route is referred to only when data for outbreaks is provided. Detailed information about outbreaks of diseases related to water please see in Part 2 para III of the Report.

Table 15. General population morbidity in terms of some separate infections:

	Disease cases (the number of persons)					Disease cases (per 100 thousand residents)				
	Baseline values	Interim values			Current values	Baseline values	Interim values			Current values
	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018
Cholera	0	0	0	0	1	0	0	0	0	0,002
Bacillary dysentery (shigellosis)	1202	933	913	968	835	2.79	2.06	2.14	2.27	1.97
Enteritis induced by Yersinia enterocolitica	67	128	107	91	97	0.16	0.28	0.25	0.21	0.23
Rotavirus enteritis	13925	12388	12119	18102	13268	32.36	27.38	28.34	42.50	31.28
Viral hepatitis A	4357	2481	3026	3098	2767	10.12	5.48	7.08	7.27	6.52
Typhoid fever	3	4	4	6	5	0.001	0.01	0.01	0.01	0.01
Legionellosis	1	0	0	1	0	0.002	0.0	0.0	0.002	0.0
Cryptosporidiosis	20	22	48	24	25	0.04	0.05	0.11	0.06	0.06

III. Access to drinking water

If possible, please provide segregated data for urban and rural areas in the table below.

According to the National Report on Drinking Water Quality and the State of Drinking Water Supply in Ukraine, in 2016-2017, the level of coverage by centralised water supply services did not change in cities, and

demonstrated some minor progress in improving access in townships and villages (data on areas of Donetsk and Luganska oblasts that are not controlled by the Government of Ukraine were not available and not accounted for). According to available generalized national level information for 2016, the share of urban (cities and townships) population with access to centralized water supply reached 88.3% (24.7 million of 27.97 million residents), while only 22.3% (2.22 million of 11.98 million residents) of rural population had access to centralized water supply.

	2016		2017	
	Settlement with centralised water supply	Residents with centralised water supply	Settlements with centralised water supply	
cities	99.3 % 401 of 404 cities	90.9% 22.38 of 24.61 million	99.3% 402 of 405 cities	
townships	87.2 % 586 of 672 townships	69.1% 2.32 of 3.36 million	89.1% 598 of 671 townships	
villages	29.2 % 7609 of 26 084 villages	22.2 % 2.22 of 11.98 million	30% 7811 of 26 080 villages	

- Estimates provided by the WHO/United Nations Children’s Fund (UNICEF) Joint Monitoring Programme (JMP) for Water Supply and Sanitation. JMP definitions are available at <http://www.wssinfo.org/definitions-methods/watsan-categories>.

- + National estimates. Please specify how “access” is defined and what types of drinking-water supplies are considered in the estimates in your country.

In particular, please specify if the above percentage on “access to drinking water” refers to access to (tick all applicable):

So far, Ukraine has not introduced reporting based on JMP definition for "access to drinking water". The main indicator in the official reporting deals with human settlements or population with centralized water supply, information on population access to decentralised water supply systems (wells, artesian wells, springs, etc.) is not available at the national level.

- Improved drinking water sources (as per JMP definition)
- Supplies located on premises
- Supplies available when needed
- Supplies that provide drinking water free from faecal contamination

IV. Access to sanitation

If possible, please provide segregated data for urban and rural areas in the table below. If this is not possible, please consider reporting by alternative categories available in your country, for example by “non-centralized versus centralized” sanitation systems or by population number-based categories. If you do so, please indicate the reported categories by renaming the rows in the table below accordingly.

If data can be reported neither for urban and rural areas nor for alternative categories, please report total (national) values only.

Please comment on the trends or provide any other important information supporting interpretation of the data with regard to access to sanitation.

Table 17. Number of the settlements with sewer

	2016				2017	
	The number of settlements		Population		The number of settlements	
	total	with sewers	total, Mln residents	with sewers, Mln residents / %	total	with sewers
cities	404	401 cities 94.1 %	24.61	17.97 73%	405	385 cities 95.06%
townships	672	406 townships 60.4 %	3.36	1.14 34%	671	411 townships 61.3%
villages	26084	577 villages 2.2 %	11.98	0.36 3 %	26080	648 villages 2.5%

According to the National Reports of 2015-2017, the relevant information on the population access to centralised sanitation systems was provided at the national level for 2016 only, therefore, in 2016, 67.25% (18.81 million of 27.97 million residents) of urban population in cities and townships had access to centralised sewers, while only 3% (360 thousand residents) of rural population lived in villages with access to centralised sewers.

Percentage of population with access to sanitation	Baseline value (specify year)	Value reported in the previous reporting cycle (specify year)	Current value (specify year)
Total			
Urban			
Rural			

- + Estimates provided by JMP. JMP definitions are available at <http://www.wssinfo.org/definitions-methods/watsan-categories>.
- + National estimates. Please specify how "access" is defined and what types of sanitation facilities are considered in the estimates in your country.

National assessments are based on estimates and rely on generalised statistics on availability of centralised sanitation systems in settlements, as in Ukraine, according to administrative governance arrangements, 3 types of human settlements are defined: cities, townships and villages. JMP definition for access to sanitation is not applied in Ukraine. Improvement of sanitation conditions includes access to centralised sewers.

In particular, please specify if the above percentage on "access to sanitation" refers to access to (tick all applicable):

- Improved sanitation facilities (as per JMP definition)
- Facilities not shared with other households
- Facilities from which excreta is safely disposed in situ or treated off site

V. Effectiveness of management, protection and use of freshwater resources

1. Water quality

1. On the basis of national systems of water classification, please indicate the percentage of water bodies or the percentage of the volume (preferably) of water² falling under each defined class (e.g., for European Union countries and other countries following the European Union Water Framework Directive³ classification, the percentage of surface waters of high, good, moderate, poor and bad ecological status, and the percentage of groundwater/surface waters of good or poor chemical status; for other countries, in classes I, II, III, etc.).

(a) For European Union countries and other countries following the European Union Water Framework Directive classification

(i) Ecological status of surface water bodies

Ukraine has started implementing the EU WFD requirements into national legislation since 2014. As of 2019, a number of regulations have been developed, but the monitoring system itself has not been changed yet. Since January 1, 2019, the State Program for Water Monitoring was enacted, but in terms of their capacity laboratories of the state monitoring actors do not meet the EU standards. As at 2019, the laboratory of the Dniester Basin Water Resources Management Department (BUVR) of the State Water Agency in Ivano-Frankivsk has been re-equipped, two additional laboratories are being upgraded (in the Interregional Office of Protective Facilities of the Dnieper Water Reservoirs of the State Water Agency in Vyshgorod and the Siverskiy-Donetsk Basin Water Resources Management Department in Slavyansk).

In the framework of international projects there were carried out delineation of surface and groundwater water bodies (WBs) within river basins:

River Basin	Number of surface WBs	Number of groundwaterWBs
Dnieper	3 813	26
Dniester	1153	16
Don	699	34
Danube (Tisza)	34	
Danube (Prut)	123	4
Southern Buh	105	
The Azov Sea rivers	557	
The Black Sea rivers	229	

Currently, no results are available for determination of ecological and chemical status of water bodies. Relevant works will become possible after completion of diagnostic monitoring.

(b) For other countries

(i) Status of surface waters

Monitoring of quality status of surface waters in areas of drinking water intakes at rivers is maintained by subordinate structures of the State Water Agency of Ukraine.

Results of monitoring data analysis for 2015:

In the Dnieper river basin (32 observation points for instrumental laboratory measurements, 311 samples were taken, about 9.5 thousand analytical measurements were made. 90% of samples demonstrated levels

² Please specify.

³ Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy.

of pollutants or indicators of physical and chemical status of surface water (according to SanPiN 4630-88) in excess of applicable standards. According to the integrated assessment, in many points (control cross-sections) water quality deteriorated from the second category ("very good") to the third ("good") in comparison with similar periods of 2009-2014.

In the Southern Bug river basin (11 observation points), 132 samples were taken, about 4.5 thousand analytical measurements were made. Values in excess of applicable limits of SanPiN 4630-88 (mainly in terms of BOD COD and colour) were found in 97% of samples.

In the Siverskiy Donets river basin (5 observation points), 40 samples of water were taken, more than 1.2 thousand analytical measurement were made. Values in excess of applicable limits were mainly registered for mainly for BOD and COD, high levels of salts were also observed.

In the Dniester River basin (13 observation plots), 156 samples were taken, about 4.6 thousand analytical measurements were made. Surface waters of the Dniester River in areas of drinking water intakes are classified as fresh with low salt content and are characterised as "clean" or "good". A trend to deterioration of water quality was observed in terms of organoleptic parameters (odour, colour, transparency).

In comparison to 2014, pollution levels in water bodies of the Danube basin did not change significantly. Water quality in observation points at the Danube River, Yalpug-Kugurlui and Cahul lakes did not meet standards of drinking water quality for water supply systems in a half of the samples taken, mainly in terms of COD, BOD, phenols and manganese. In areas of drinking water intakes at the Danube river, levels of COD and BOD in excess of standards for drinking water were observed. The highest levels of BOD (up to 2.2 MACs) and COD (up to 1.6 MACs) in excess of applicable limits were registered in the Danube, in drinking water intake in Izmail. In the same point, excessive levels of phenols were also registered (up to 5 MACs). In all observation points at drinking water intakes in basins of the Prut and Siret rivers (Kolomyia, Nepolokivtsi township, Lenkivtsi village, Storozhynets town), surface waters are characterised as "clean" and "fairly clean". According to results of measurements of hydrochemical and radiological indicators, in 2015, status of water bodies of the basin of the Tisza River did not change significantly in comparison to 2014 in places of water intakes that are used as sources of drinking water supply and at transboundary sections.

In 2016, analysis of quality status of surface waters in areas of drinking water intakes at rivers that are under monitoring of the system of the State Water Agency of Ukraine was maintained in 67 observation points, including 33 points in the Dnieper basin, 11 observation points in the Southern Bug river basin, 10 observation points in the Danube river basin and in Danube water reservoirs, 9 points in the Dniester river basin, and 4 points in the Siverskiy Donets river basin.

In the Dnieper river basin, more than 300 water samples were taken, and about 10 thousand analytical measurements were made. Results of the measurements of water quality status in water reservoirs and main watercourses of the Dnieper basin indicate some deterioration of hydrochemical status of water bodies under control in 2016, in comparison to 2015. In separate observation points, some decrease of oxygen contents in water and a gradual increase in organic water pollution were registered, as reflected by COD levels. According to estimates of integral indexes, the worst water quality was registered in the Dnieper tributaries (the Samara, Vovcha and Ingulets rivers). The best water quality in the Dnieper basin was found in the Goryn, Desna and Sozh rivers.

In mouths of main tributaries in the upper section of the Siverskiy Donets river, salt contents were found to be within the limits of applicable standards. In tributaries of the middle and lower sections of the basin concentrations of salts exceeded relevant MACs. Water hardness in excess of MACs (7 mg-eq/dm³) was observed in Kazennyi Torets, Bakhmutka, Upper Bilenka and Lower Bilenka rivers. Waters of the Siverskiy Donets river basin are characterised by high natural mineralisation levels. Qualitative status of water bodies in terms of contents of organochlorine pesticides and triazine herbicides corresponded to levels of 2015, no levels in excess of sanitary MACs were observed.

In 11 of 13 observation points located at the Dniester river in areas of drinking water intakes, levels in excess of standards were registered for BOD, COD, hardness and suspended matter. Similarly to previous years, monitoring results demonstrated that the most polluted point is located in the area of drinking water

intake of Odessa (the Dniester, 20 km, Belyaevka township). In comparison to 2015, qualitative status of water in the area deteriorated, in particular in terms of COD values.

In samples of water taken in the lower section of the Danube river, levels in excess of standards of easily oxidised organic compounds (up to 4.8 MACs for BOD) were registered in 80% of all samples taken in 2016. In 50% of the samples, high levels of phenols (up to 4 MACs) were registered, while in 15% of samples elevated levels of manganese were found. Water is characterised as clean in all locations of drinking water intakes in the Prut and Siret river basins (Kolomyia, Nepolokivtsi township, Lenkivtsi village, Storozhintsy). Levels of pollutants corresponded to their average long-term values. Status of surface waters in locations of drinking water intakes of the Danube basin did not change significantly in comparison to 2015.

In water bodies of the Southern Bug river basin, organic substances were the main pollutants of surface waters. According to results of hydrochemical measurements, the most heavily contaminated sections of the Southern Bug river are located - as earlier - at territories of Khmelnytska and Vinnytska oblasts.

According to measurement results, status of water bodies in the Tisza river basin did not change significantly in comparison to 2015. In tributaries of the Uzh river, in comparison to the same period of the previous year, a slight decrease was registered in contents of easily oxidised compounds, that are reflected by BOD indicator.

In 2017, analysis of quality status of surface waters in areas of drinking water intakes on rivers under monitoring by the system of the State Water Agency of Ukraine Water Supply of Ukraine was maintained in 436 monitoring points, including 67 observation points in locations of water intakes for purposes of drinking water supply (including 33 points in the Dnieper basin, 11 points in the Southern Bug river basin, 10 points in the Danube river basin and Danube water reservoirs, 9 points in the Dniester river basin and 4 observation points in the Siverskiy Donets river basin).

The range of main water pollutants in the upper section of the Dnieper river basin included naturally occurring compounds of humic and fulvic acids, iron and manganese compounds. Annual average COD values in the Dnieper river basin in locations of drinking water intakes predominantly varied within the range of 22 ÷ 32 mgO₂/dm³. The highest average annual COD value (44.4 mgO₂/dm³) was registered at site "59 km" in the Gnilyat river, a tributary of the Teteriv river, in area of the drinking water supply intake of Berdychiv.

Water quality in the Southern Bug river basin remained at the level of 2015-2016. Surface waters in the river Southern Bug basin are mainly contaminated by organic compounds. The most heavily polluted section of the Southern Bug river at the territory of Khmelnytska and Vinnytska oblasts is affected by discharges of effluents from Khmelnytsk and Vinnitsa water utilities. Kirovograd water utility and the Inglskaya uranium mine adversely affect the Ingul river, a tributary of the Southern Bug river, while Mykolayiv water utility adversely affects the Bug estuary.

At the Siverskiy Donets river, monitoring of water bodies is maintained in 41 control points (cross-sections), including 20 points along the main waterway of the Siverskiy Donets and in mouths of its main tributaries. Concentrations of salts in all monitoring points along the waterway of the Siverskiy Donets river and in mouths of its main tributaries remained almost at the level of last year (deviations of indicator values do not exceed 7%) and vary slightly within the range of long-term annual averages. About 100 water samples were taken in areas of drinking water intakes and more than 1.7 thousand measurements were made. Contents of organochlorine pesticides and triazine herbicides in areas of drinking water intakes did not exceed the MAC of DSanPin 8.8.1.2.3.4-000-2001.

Qualitative status of surface waters in the Dniester river basin was monitored in 54 control points, including 19 control points along the main river waterway, and 35 control points at 26 tributaries. Qualitative status of surface water in areas of water intakes was generally satisfactory. In 2017, COD levels did not exceed 12 mgO₂/dm³; BOD - 2.7 mgO₂/dm³; ammonium ions - 0.4 mg/dm³. Levels of dissolved oxygen in water were registered during the year within the range from 8.2 to 12.5 mg/dm³.

In water samples from the Danube river, high levels of organic pollution indicators (COD and BOD) and phenols were registered. The highest values were observed in all control points in January and in summer months. Measured COD levels varied from 12 to 29 mg/dm³. Contents of easily oxidised organic substances

(in terms of BOD_{20}) ranged from 2 to $9.8 \text{ mgO}_2/\text{dm}^3$. The highest values were registered in November in Reni ($9.8 \text{ mgO}_2/\text{dm}^3$) and in Izmail ($7.8 \text{ mgO}_2/\text{dm}^3$). The maximal level of phenols ($0.003 \text{ mg}/\text{dm}^3$) was registered in January in the monitoring point of Izmail. Total phosphorus level increased. In comparison to 2016, the following indicators demonstrated some improvement: colour, suspended matter, manganese, anionic surfactants.

Monitoring of qualitative status of water bodies in the sub-basin of the Tisza river was maintained in 25 monitoring points, located at Tisza, Latoritsa, Uzh rivers and at their tributaries. In comparison to 2016, monitoring data in 2017 did not change significantly and were at acceptable levels. Status of water bodies in water intake areas and at transboundary sections in 2017 did not change substantially in terms of hydrochemical and radiological indices.

(ii) Status of groundwaters

At the territory of Ukraine, there are 200 registered polluted groundwater spatial areas and 262 locally polluted groundwater zones. Groundwater in impact zones the main pollution areas is polluted by chlorides, sulphates, nitrates, ammonia, thiocyanates, phenols, oil products, manganese, lead and strontium. In some cases pollutant levels exceeded relevant MACs in several times. In the reporting period, from 2015 to 2017, some increase in nitrate groundwater pollution was registered due to uncontrolled application of mineral - and particularly organic - fertilisers in collective and private agricultural facilities. In 2016, the share of analysed samples of drinking water from decentralised water supply sources that failed to meet applicable sanitary requirements exceeded levels of the indicator in 2015 and in 2014 (33.2%, 32.7% and 31.4%, respectively), while the share of samples that failed to meet bacteriological limits also exceed levels of 2015 and 2014 (23.1%, 18.0% and 15.5%, respectively).

2. Water use

3. Please provide information on the water exploitation index at the national and river basin levels for each sector (agriculture, industry, domestic), i.e., the mean annual abstraction of freshwater by sector divided by the mean annual total renewable freshwater resource at the country level, expressed in percentage terms.

In 2017, in comparison to 2016, water intake and use of surface water in Ukraine, decreased, however, water intake and use of surface water for agricultural needs gradually increased, while in the case of industry these indicators declined significantly and remained almost at the same level in the case of utilities. At the same time, there were individual differences in each of the main river basins. The table below contains data of the State Water Agency of Ukraine for 2015-2017 on water intake and use of surface water with breakdown by main water users: agriculture, industry and utilities for 8 river basins of Ukraine (figures are provided in million m^3)

Table 18. Water Abstraction, use and exploitation in Ukraine and by River Basins

	2015		2016		2017	
	abstraction, m^3/EIWR^4 , %	usage	abstraction, m^3/EIWR , %	Usage	abstraction, m^3/EIWR , %	Usage
Agriculture	2997/0,5	1621	3166/0,5	1595	3206/0,5	1926
Industry	4162/0,6	4054	4273/0,6	4162	3577/0,5	3532
Housing and utilities	2493/0,4	1294	2423/0,4	1255	2397/0,4	1237
Total	9652/1,5	6969	9862/1,4	7012	9180/1,4	6695

Dnieper River Basin

	2015	2016	2017

⁴ EIWR – Exploitation Index of Water Resources

	abstraction, m ³ /EIWR, %	usage	abstraction, m ³ /EIWR, %	Usage	abstraction, m ³ /EIWR, %	Usage
Agriculture	2089/0,5	1212	2037/0,5	1162	2371/0,6	779,6
Industry	3031/0,7	2947	3119/0,7	3041	2572/0,6	2494
Housing and utilities	1124/0,3	680,5	1100/0,3	644,5	1085/0,3	635,6
Total	6244/1,5	4839,5	6256/1,5	4847,5	6028/1,4	3909,2

Dniester River Basin

	2015		2016		2017	
	abstraction, m ³ /EIWR, %	usage	abstraction, m ³ /EIWR, %	Usage	abstraction, m ³ /EIWR, %	Usage
Agriculture	125,7/1,8	73,85	109/1,5	65,29	106,5/1,5	60,84
Industry	64,76/0,9	67,24	60,08/0,8	62,42	69,54/1,0	71,43
Housing and utilities	111,9/1,6	65,37	111,1/1,6	68,18	111,5/1,6	67,23
Total	202,4/2,8	206,5	280,9/3,9	195,9	287,5/4,0	199,5

Southern Buh River Basin

	2015		2016		2017	
	abstraction, m ³ /EIWR, %	usage	abstraction, m ³ /EIWR, %	Usage	abstraction, m ³ /EIWR, %	Usage
Agriculture	121,2/4,4	88,33	115,2/4,2	98,6	118,5/4,3	103,4
Industry	120,3/4,4	120,9	114,7/4,2	115,2	110,6/4,0	111,3
Housing and utilities	65,82/2,4	102,9	63,53/2,3	92,56	65,7/2,4	93,96
Total	307,32/11,2	312,13	293,43/10,7	306,36	294,8/10,7	308,66

Don River Basin

	2015		2016		2017	
	abstraction, m ³ /EIWR, %	usage	abstraction, m ³ /EIWR, %	Usage	abstraction, m ³ /EIWR, %	Usage
Agriculture	55,68/1,3	37,06	62,87/1,5	43,68	65,69/1,5	44,93
Industry	243,2/5,7	222,6	275,2/6,5	254,5	194,8/4,6	194,7
Housing and utilities	768/18,1	175,5	754,4/17,8	181,6	720,1/17,0	156,4
Total	1066,88/2,5	435,16	1092,47/2,6	479,78	980,59/23,2	396,03

Danube River Basin

	2015		2016		2017	
	abstraction, m ³ /EIWR, %	usage	abstraction, m ³ /EIWR, %	Usage	abstraction, m ³ /EIWR, %	Usage
Agriculture	549,9/6,3	122,9	787,8/9,0	121,7	482,8/5,5	120,4
Industry	3,28/0,03	3,02	3,328/0,04	3,061	3,24/0,04	2,98
Housing and utilities	38,78/0,4	34,15	39,82/0,5	30,4	40,03/0,5	30,93
Total	591,96/6,8	160,07	830,95/9,6	155,16	526,07/6,0	154,31

Visla River Basin

	2015		2016		2017	
	abstraction, m ³ /EIWR, %	usage	abstraction, m ³ /EIWR, %	Usage	abstraction, m ³ /EIWR, %	Usage
Agriculture	27,96/2,6	18,06	18,47/1,7	18,62	18,89/1,8	18,62
Industry	13,46/1,3	9,76	13,1/1,2	9,68	12,6/1,2	10,38
Housing and utilities	111,5/10,5	44,61	109,1/10,2	45,51	110,2/10,4	49,88
Total	152,92/14,4	72,43	140,67/13,2	73,81	141,69/13,4	78,88

The Black Sea Rivers Basin

	2015		2016		2017	
	abstraction, m ³ /EIWR, %	usage	abstraction, m ³ /EIWR, %	Usage	abstraction, m ³ /EIWR, %	Usage
Agriculture	20,67/78,3	14,61	20,11/76,2	14,68	21,26/80,5	336,2
Industry	7,52/100	18,04	5,715/21,6	15,91	7,05/26,7	15,63
Housing and utilities	139,1/526,9	98,78	140,9/533,7	98,01	140/530,3	100,7
Total	167,29/633,6	131,43	166,73/631,5	128,6	168,31/637,5	452,53

The Azov Sea Rivers Basin

	2015		2016		2017	
	abstraction, m ³ /EIWR, %	usage	abstraction, m ³ /EIWR, %	Usage	abstraction, m ³ /EIWR, %	Usage
Agriculture	17,1/1,7	53,79	16,01/1,6	70,04	21,58/2,1	461,9
Industry	677,9/65,8	665,5	681,8/66,2	660,8	607,3/58,9	631,2
Housing and utilities	133,8/13,0	92,22	103,6/10,1	94,33	123,6/12,0	100,9
Total	828,8/80,4	811,51	801,5/77,8	825,17	752,48/73,0	1194

a. Figures without accounting for water flows through HPPs/HAPPs generator turbines

According to the State Service for Geology and Mineral Resources of Ukraine, in the reporting period (2016-2017) groundwater extraction for drinking and industrial purposes decreased in comparison to the previous period, mainly due to reduction of extraction of mineralised groundwater (water with mineralisation from 1.5 to 3 g/dm³).

The table below shows volumes of groundwater extracted for drinking and technical use (total extraction, thousand m³/day) for the period from 2014 to 2017.

Table 19. Abstraction of Groundwater and its mineralization

Years	Total	Mineralisation, g/dm ³			
		under 1	1 - 1.5	1.5 - 3	3 - 5
2014	4227.080	2740.630	696.383	595.496	194.571
2015	3257.963	2347.08	324.307	405.969	180.607
2016	3273.852	2238.147	317.466	492.013	226.226
2017	2800.285	2195.033	152.439	274.333	178.480

Part four Water-related disease surveillance and response systems

1. In accordance with the provisions of article 8 of the Protocol:

Has your country established comprehensive water-related disease surveillance and early warning systems according to paragraph 1 (a)?

YES + **NO** **IN PROGRESS**

Has your country prepared comprehensive national or local contingency plans for responses to outbreaks and incidents of water-related disease according to paragraph 1 (b)?

YES + **NO** **IN PROGRESS**

Do relevant public authorities have the necessary capacity to respond to such outbreaks, incidents or risks in accordance with the relevant contingency plan according to paragraph 1 (c)?

YES + **NO** **IN PROGRESS**

1. If yes or in progress, please provide summary information about key elements of the water-related disease surveillance and outbreak response systems (e.g., identification of water-related disease outbreaks and incidents, notification, communication to the public, data management and reporting). Please also provide reference to existing national legislation and/or regulations addressing water-related disease surveillance and outbreak response.

The system of registration, recording and reporting of infectious diseases, which is adopted in Ukraine, provides timely awareness of Oblast laboratory centers of the MofH and health care facilities of the detection of infectious diseases, including the outbreaks to take all necessary measures to prevent their spread or the emergence of epidemic complications and outbreaks among the population.

The detection of infectious or suspected infectious diseases carries at the first level -at health care facility. The medical staff of the health care facilities informs the relevant subdivision of the Oblast LC of the MofH about the detected incidence or suspicion within 12-24 hours at the location of the disease, regardless of the place of residence of the patient.

When an emergency notification is received, an epidemiologist carries an epidemiological examination in site of the infectious disease, on the basis of this examination the relevant data are filled in the epidemiological examination form of the outbreak (f. No. 375), an operative and retrospective epidemiological analysis of the morbidity are conducted. In the case of group illnesses (outbreaks), information from the first level within 24 hours is provided to the a superior facility, which provides methodological and practical assistance with the participation of all specialists of institutions of different ministries, departments and services, if necessary.

In the case of complications, plans for their elimination are developed, including assessment of the need in additional hospital beds for hospitalisation of patients, suspected disease victims, mobilisation of transport and the whole mix of disease prevention and counter-epidemic measures for localisation and elimination of the complications.

The specialists of LC of the MofH and SSFSCP register the emergency notifications, fulfilment of epidemic forms, observation of disease sites, organisation and conduction of disinfection measures, laboratory tests, factor analysis conduction in accordance with the Agreed Regulation of the interaction of territorial bodies of the State Service of Ukraine of food safety and consumer protection and state institutions of the Ministry of Health of Ukraine

In accordance with the current Order of the MofH of 23.05.2002 № 190 "On extraordinary submission of communications to the Ministry of Health of Ukraine", information is sent to the MofH and to the Public Health Center of the MofH for the adoption of management decisions and control over their implementation, and published on the website of the Center for Public Health of the MofH (<https://phc.org.ua/kontrol-zakhvoryuvan/inshi-infekciyni-zakhvoryuvannya/operativni-dani-pro-spalakhi>).

Based on the final diagnosis, LCs of the MofH produce monthly reports "On certain infectious and parasitic diseases" (state statistical reporting form # 1-monthly reporting) and submit them to the second level - to Oblast LCs of the MofH and in Kyiv., and in generalized form monthly reports submit to the Centre of Public Health of the MofH. Based on the monthly reports, annual reports on infectious diseases at the territory of the country are compiled according to state statistical reporting form # 2 – annual by the Centre of Public Health of the MofH (<https://phc.org.ua/kontrol-zakhvoryuvan/inshi-infekciyni-zakhvoryuvannya/infekciyna-zakhvoryuvanist-naselennya-ukraini>).

2. Please describe what actions have been taken in your country in the past three years to improve and/or sustain water-related disease surveillance, early warning systems and contingency plans, as well as to strengthen the capacity of public authorities to respond to

water-related disease outbreaks and incidents, in accordance with the provisions of article 8 of the Protocol.

Ukraine is an active participant of international initiatives in the sphere of biosecurity, the country complies with international guideline documents: the Convention on Prohibition of Biological and Toxin Weapons (1975); the International Standards for Export Licensing, set by the Australian Group (established in 1985); Resolution of the UN Security Council (# 1540/2004), that obliges all nations to implement national control measures to prevent proliferation of nuclear, chemical, biological weapons; Ukraine implements International Health Regulations (IHR-2005); the Cartagena Protocol on Biosafety to the UN Convention on Biological Diversity (2003), that seeks to control transboundary movements of genetically modified organisms.

In Ukraine, a series of actions were conducted for prevention of cholera, in particular sanitary and epidemiological supervision of sanitary conditions of human settlements, water supply facilities, food products, marketplaces, medical and health improvement facilities, etc. Measures are taken to ensure preparedness to operation of all public health care facilities in conditions of cholera epidemic complications, to accumulate reserves of necessary drugs, diagnostic kits, disinfectants and nutrient media for laboratory research; plans for resettlement of hospital facilities of the health care facilities are revised, correction of bed fund subject to conversion in case of epidemic complications is made.

Commissions on technogenic and environmental safety and emergencies under oblast, rayont and city State Administrations (referred hereinafter to as TES&E commissions and known earlier as extraordinary counter-epidemic commissions before their liquidation by CMU Decree # 180 of March 13, 2013) have discussed the issue of the state of morbidity of the population and approved action plans for prevention of epidemic complications and etc.

At administrative territories of oblasts, plans were revised for re-profiling of hospital facilities of health care institutions, adjustments were made in the hospital bed reserves to be converted in the case of epidemic complications.

In order to build organisational capacity in the sphere of bio-security and bio-defence and to strengthen functioning of the system for identification of biological virulent agents through establishment of regional branches of the Centre on the base of regional laboratory centres with BSL-2 level laboratories in Kharkivska, Lvivska and Odeska oblasts, measures are being taken to ensure functioning of the state network of laboratories for response to emergency public health events (laboratories with at least BSL-2 protection level), including a reference laboratories for the main types of laboratory research and research centres to identify and study virulent agents of especially dangerous infectious diseases.

Part five

Progress achieved in implementing other articles of the Protocol

Please provide a short description of the status of implementation of articles 9 to 14 of the Protocol, as relevant.

Suggested length: up to two pages

Article 9. Public information, education, training, research and development

Detailed information is provided in Part Two of Chapter XX. Additional specific targets at national or local levels in this report.

Article 10. Public information

In the reporting period, structures of the Ministry of Public Health actively worked to raise public awareness of matters of sanitary and epidemiological well-being and disease prevention. Directors and leading experts of laboratory centres of the Ministry of Public Health of Ukraine regularly conducted health education and awareness raising activities through mass media outlets, various information events and on web-sites of the

Ministry of Public Health, the MPH Public Health Centre of the Ministry, specialised research institutes subordinated to the Ministry of Public Health and the National Academy of Medical Sciences of Ukraine. Such information activities usually peak in the spring-summer periods. In these activities, laboratory centres of the Ministry of Public Health of Ukraine consistently cooperated with local authorities, state administrations and the general public.

In the framework of information activities, within 12 months of 2018, experts of laboratory centres of the Ministry of Public Health of Ukraine delivered 6573 radio presentations, 1940 TV presentations, prepared and published 7777 publications in the press, conducted 83,800 lectures, held and participated in 177 press conferences, 652 round tables, delivered 139 briefings, 4314 press releases and produced 26774 sanitary bulletins.

Table 20. Number of information event carried out

Year	Radio	TV	Mass media publications	Press conferences	Roundtables	Briefings	Press releases	Lectures	Sanitary bulletins
2015	5248	1971	8283	444	959	108	3742	93525	29274
2016	5574	1896	6530	392	741	188	6892	97006	48761
2017	5082	1480	7246	146	749	109	4726	88756	26298
2018	6573	1940	7777	177	652	139	4314	83833	26774

The main topics of information and education activities included: prevention of infectious diseases, prevention of acute intestinal infections and food poisonings, prevention of water-nitrate methemoglobinemia among children; status of beaches; status of drinking water supply; situation in places of organised mass recreation and stay, and emergencies.

Topics	Information events								
	Radio	TV	Media publications	Press conferences	Roundtables	Briefings	Press releases	Lectures	Sanitary bulletins
all topics	6573	1940	7777	177	652	139	4314	83833	26774
prevention of infections	4935	1287	4765	119	391	92	2993	29000	18627
prevention of acute infections	1828	274	894	29	78	21	704	11500	4897
water-nitrate methemoglobinemia	102	32	190	4	5	5	122	2404	1115
status of beaches	37	96	220	3	14	3	94	271	87
status of drinking water supply	124	109	347	25	47	8	93	1578	445
places of mass recreation and stay	370	47	164	5	32	13	86	1147	717
emergencies	31	6	59	-	8	3	44	279	223

Article 12. Joint and coordinated international actions.

Operation of the Commission on Sustainable Use and Protection of the Dniester River Basin in the framework of the Agreement on Cooperation in the Sphere of Protection and Sustainable Development of the Dniester River Basin between Ukraine and the Republic of Moldova is ensured. A mechanism of cooperation has been agreed upon, working groups have been set up and plans for their activities were outlined.

Ukraine has ensured compliance with its commitments under the International Commission for the Protection of the Danube River. In the framework of implementation of international projects, joint management of transboundary waters and implementation of integrated principles of water resources management are ensured.

Article 13. Cooperation on transboundary waters

The State Water Agency concluded relevant bilateral intergovernmental agreements on cooperation on transboundary waters. Implementation of these agreements is ensured through appointment of national governmental plenipotentiaries and supporting their activities. Relevant working groups were established to implement intergovernmental commitments in each area of water resources management.

Annually, meetings of the plenipotentiaries are held and principles of water resources management in the transboundary aspect are agreed upon.

Part six
Thematic part linked to priority areas of work under the Protocol

1. Water, sanitation and hygiene in institutional settings

1. In the table below, please provide information on the proportion of schools (primary and secondary) and health-care facilities that provide basic water, sanitation and hygiene (WASH) services.

Basic services refer to the following:

(a) Basic sanitation service: Improved facilities (according to JMP definition), which are sex-separated and usable at the school or health-care facility;

(b) Basic drinking water service: Water from an improved source (according to JMP definition) is available at the school or health-care facility;

(c) Basic hygiene service: Handwashing facility with water and soap available to students (schools) or patients and health-care providers (health-care facilities).

Please indicate the source of data. If data is not available, please put (-).

Institution setting value (2018)	Current
Pre-school institutions	
<i>Basic sanitation service (access to sewer + to septic tank)</i>	
99,2%	
<i>Basic drinking water service (centralized +decentralized water supply)</i>	
85,4%	
<i>Basic Hygiene service</i>	n/a
Schools	
<i>Basic sanitation service (access to sewer + to septic tank)</i>	
98,7%	
<i>Basic drinking water service (centralized +decentralized water supply)</i>	
80,9%	

Institution setting value (2018)	Current
<i>Basic hygiene service</i>	
H.Ø	
health-care facilities by 2015	
<i>Basic sanitation service (access to sewer + to local WWTUnits)</i>	
95,8%	
<i>Basic drinking water service (centralized +decentralized water supply)</i>	
77%	
<i>Basic hygiene service</i>	H.Ø

Before 2016, information on access of preschool and secondary educational facilities to water supply and sanitation was compiled on the base of the State Institution “the Public Health Centre of the MofH” and the Ukrainian Centre for Disease Control and Monitoring of the MofH subordinated to the Public Health Centre as a result of the administrative reforms.

Starting from 2016, this information is collected and summarized by the State Service of Ukraine for Food Safety and Consumer Protection. (Detailed information on access to water and sanitation in schools and preschool institutions is provided in Part 2, chapters III and IV of this report).

In 2017-2018, territorial LCs of the MofH conducted research on quality of drinking water in institutions for children and adolescents. In 2017, they analysed 46132 samples for sanitary-chemical indicators and 57895 samples for microbiological indicators (relevant figures for 2018 reached 46567 and 57687 samples).

In 2018, some deterioration of drinking water quality was observed in terms of sanitary-chemical indicators in pre-school facilities and secondary schools. In particular, in 2018, shares of sub-standard samples of drinking water collected in institutions for children and adolescents in terms of sanitary-chemical and microbiological indicators reached 20.8% and 11.3%, respectively (vs 18.6% and 11.2% in 2017); including 21.7% and 10.3%, respectively in pre-school education institutions (vs 18.9% and 10.8% in 2017); and 22.5% and 13.3%, respectively in secondary schools- (vs 20.7% and 14.0% in 2017).

In Ukraine, in 2015-2017, almost 27 thousand health care facilities operated (vs 30412 in 2014), including, respectively, 1775, 1743 and 1714 hospitals and other inpatient clinics.

In 2015, hospitals and inpatient clinics in 8 of 24 oblasts (Dnipropetrovska, Zhytomyrska, Mykolaivska, Odeska, Rivnenska, Ternopilska, Chernivetska and Chernigivska oblasts) were connected to centralised water supply, while the rest used non-centralised sources. In Zaporizka oblast, many rural primary health care facilities get drinking water from public standpipes or rely on truck water. The situation with access to sanitation is worse. Hospitals, maternity clinics and other inpatient clinics are connected to municipal sewers, or use local treatment facilities in five oblasts (Zhytomyrska, Mykolaiska, Odeska, Chernivetska and Chernigivska oblasts), however, up to 10% of such clinics are sanitised to cesspools.

In 2018, laboratory centres of the Ministry of Public Health of Ukraine examined (with application of laboratory and instrumental research methods) 8235 health care facilities (vs 8910 in 2017). These laboratory and instrumental studies revealed that 1516 (18.4%) hospitals did not meet the due sanitary standards (vs 20% (1785) in 2017). In their activities they followed requirements of SanPiN № 5179-90 "Sanitary rules of design, equipment and operation of hospitals, maternity clinics and other inpatient clinics" and DBN V.2.2-10-2000 "Buildings and constructions. Health care facilities."

2. Has the situation of WASH in schools been assessed in your country?

YES X NO IN PROGRESS

3. Has the situation of WASH in health-care facilities been assessed in your country?

YES X NO IN PROGRESS

4. Do approved policies or programmes include actions (please tick all that apply):

- To improve WASH in schools
- To improve WASH in health-care facilities

3. If yes, please provide reference to main relevant national policy(ies) or programme(s).

The State Target Program - "Drinking Water of Ukraine" for 2011-2020 (Law of Ukraine # 2455-IV of 03.03.2005) <https://zakon.rada.gov.ua/laws/show/2455-15> provides for: introduction of facilities (installations) for additional water purification in centralised water supply systems, primarily for water supply of preschool, school and medical institutions, in particular in rural settlements, and organisation of units for bottling drinking water with its delivery by specialised road vehicles. The amount of funding for these activities is set at the level of UAH 23,000 million.

2. Safe management of drinking-water supply

6. Is there a national policy or regulation in your country, which requires implementation of risk-based management, such as WHO water safety plans (WSPs), in drinking water supply?

YES NO IN PROGRESS

3. Equitable access to water and sanitation

9. Has the equity of access to safe drinking-water and sanitation been assessed?

YES NO IN PROGRESS

10. Do national policies or programmes include actions to improve equitable access to water and sanitation (please tick all that apply):

- To reduce geographical disparities
- To ensure access for vulnerable and marginalized groups
- To keep water and sanitation affordable for all

11. If yes, please provide reference to main relevant national policy (-ies) and programme(s).

The State Target Program for Development of Water Management and Environmental restoration of the Dnieper River Basin up to 2021 (approved by Law of Ukraine # 4836-VI of 24.05.2012) <https://zakon.rada.gov.ua/laws/show/4836-17> stipulates:

"To provide centralised drinking water supply to rural settlements that rely on truck water and to search for sources of groundwater for drinking water supply: construction of modern drinking water supply systems; ensuring development of sanitation systems; improvement of the legal framework and organisational structures of the water resources management complex for provision of water supply and sanitation in water-deficient and contaminated regions .." The tentative amount of funding is set at the level of UAH 1668.6 million.

Part seven

Information on the person submitting the report

The following report is submitted on behalf of **Ukraine** in accordance with article 7 of the Protocol on Water and Health.

Name of officer responsible for submitting the national report:

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Telephone number: + 38 044 206 31 76

Name and address of national authority:

Mr. Oleksandr V. BON, Deputy Head of the Department on the Land and Water Resources Protection Ministry of Ecology and Natural Resources of Ukraine,

National Focal point of Water Convention
Metropolita V. Lipkyvskogo Street, 35, Kyiv, 03035, Ukraine

Signature:

Date:

Submission

1. Parties are required to submit their summary reports to the joint secretariat, using the present template and in accordance with the adopted guidelines on reporting, 210 days before the next session of the Meeting of the Parties. Submission of the reports ahead of this deadline is encouraged, as this will facilitate the preparation of analyses and syntheses to be made available to the Meeting of the Parties.
2. Parties are requested to submit, to the two addresses below, an original signed copy by post and an electronic copy by e-mail. Electronic copies should be available in word-processing software.

Joint Secretariat to the Protocol on Water and Health

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