

Міністерство екології
та природних ресурсів України



A SUMMARY REPORT

**on the progress of the implementation of the Protocol on water and health
in Ukraine in 2019-2021**

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Executive summary

Ukraine has been a party to the Protocol on Water and Health (hereinafter Protocol) since 2003. According to the order of the Cabinet of Ministers of Ukraine, the Ministry of Environmental Protection and Natural Resources (MEPNR) is the central executive body responsible for the implementation of the Protocol. A second coordinator from the Ministry of Health (MoH) was appointed in order to strengthen the implementation of the tasks of the Protocol in the field of health in 2017.

Drafts of updated national targets (NTs) for the Protocol and the Action Plan for their achievement were revised in 2017-2019, and prepared with the help of the UNECE-Protocol Secretariat within the framework of the "EU Plus Water Initiative" project. 40 NTs and 76 progress indicators for all 20 target areas of the Protocol are proposed, which are aligned with the Sustainable Development Goals (SDGs) and the objectives of the Ukraine-EU Association Agreement. The draft of the updated NTs was supported by the Interdepartmental Working Group on coordination of the implementation of the Protocol in March 2019. The MEPNR has included the NTs in the draft Water Strategy of Ukraine for approval at the level of the Central Committee of the Environment and consideration by the Cabinet of Ministers of Ukraine.

Functions of supervision and control in the field of compliance with sanitary and epidemiological legislation, including water quality control, are performed by the State Service of Ukraine for Food Safety and Consumer Protection (SSUFSCP) after the liquidation of the State Sanitary and Epidemiological Service of the Ministry of Health (State Sanitary Service) in 2016. Territorial district structures of the State Sanitary Service were reduced and reformed into interregional and regional Laboratory Centres of the Ministry of Health, which in 2021 were renamed Centres of Disease Control and Prevention (CDCP) to the Ministry of Health, whose competencies include monitoring water quality, including sources of drinking water supply, drinking water sources, reservoirs of I and II categories, conducting investigations into the causes and conditions of the occurrence of infectious diseases and poisonings.

Generalized information on access and quality of drinking water at the national and regional level is published annually in the National report on the quality of drinking water and the state of drinking water supply on the website of the Ministry for Community and Territorial Development of Ukraine (MCTD). A chapter dedicated to the Protocol on water and health has been added to the National Report since 2018. The latest [national report has been published for 2020](#).

During the reporting period, there is a decrease in the number of people affected by water-related diseases (WRD). In 2021, 3 outbreaks of WRD (for rotavirus infection, acute intestinal infections (AII) of identified and unknown etiology) were registered, associated with the use of poor-quality drinking water, 52 people were affected, including 47 children. In the previous period in 2018, 3 outbreaks of WRD (viral hepatitis A, rotavirus infections) were registered, affecting 180 residents, including 70 children, and one case of cholera (0.002 per 100,000 population in Zaporizska oblast).

Ukraine has not reviewed the surveillance system for WRD, as required by Article 8 of the Protocol. Also, the necessary changes have not been made to the relevant laws regarding the performance of control and supervision functions, to the forms of reporting on WRD, official statistics on non-infectious diseases (water-nitrate methemoglobinemia, fluorosis, etc.) are not separated and reported.

During the reporting period, the legal framework of the water supply and drainage sector developed. A draft law on sewage disposal of populated areas has been developed, which defines the legal, economic and organizational principles for the functioning of centralized and decentralized sewage disposal systems in Ukraine and contribute to implementation of the European standards on environmental protection from the negative impact of sewage discharges (on 1 July 2022, the draft law was adopted in the first reading and passed for the second reading). The Draft State sanitary norms and rules 2.2.4-171-20 "Hygienic requirements for drinking water intended for human consumption" has been developed, taking into account the implementation of Directive 98/83/EC and the step-by-step implementation of the norms of the new Directive EU 2020/2184 of December 16 2020 on the quality of water intended for human consumption.

In recent years, access to centralized water supply in urban-type settlements has increased: from 87.2% in 2016 to 91.2% in 2020. In cities, the level of coverage by centralized water supply has slightly decreased: from 99.3% in 2016 to 99.0% in 2020. The trend of further regression of village access to centralized water supply causes concern: in 2016, the level of coverage was 29.2%, in 2020 it decreased to 26.8%

(excluding territories occupied and annexed Russian Federation since 2014). In addition, in 2020, 252.7 thousand people in 790 settlements in 8 regions used transported water. According to estimated data, the share of the population with access to centralized water supply during the reporting period has changed slightly compared to 2016: it has decreased for the urban (cities and townships) population from 88.3% in 2016 to 87.3% in 2020 and it has increased for rural population from 18.5% in 2016 to 26.5% in 2020.

The situation with access to centralized water drainage has improved slightly in cities and townships during the reporting period: in 2020, 96.6% of cities, 63.9% of townships had access to centralized drainage systems, in 2016 these indicators were, respectively, 94.1% and 60.4%. Meanwhile, further regression is observed in villages: in 2020, only 1.8% of villages had access to sewage, while in 2016 - 2%. The assessment of the population's access to centralized drainage shows an increase in the access of the urban and rural population to these services. According to estimated data, the share of the urban (cities and townships) population with access to centralized drainage increased from 68.3% in 2016 to 71.7% in 2020, and the share of the rural population with access to sewage during this period increased from 3 to 5.3%.

According to the SSUFSCP and the Ministry of Education and Science, preschool and school educational institutions are making progress regarding access to improved sources of water - centralized water supply systems due to the reduction of use of well and transported water, while greater progress was achieved for general and secondary education institutions (GSEI) in comparison since 2015. At the same time, according to the Ministry of Education and Science, despite the improvement of access to centralized water supply in GSEI (from 91.3% in 2018 to 93.9% in 2021), access to hot water supply in GSEI was reduced from 51.6% - in 2018 to 48% - in 2021.

However, according to the Ministry of Health, the situation with the quality of drinking water in children's educational institutions is not improving. Under conditions of the general reduction of the drinking water quality monitoring program (number of objects and testings) in these institutions in recent years, a significant share of non-standard drinking water samples on sanitary-chemical and microbiological parameters has been observed: in 2021, the share of non-standard samples was 21.2% and 7.5%, respectively (20.8% and 11.3% in 2018).

According to the SSUFSCP, a significant improvement in the sanitary conditions of children's educational institutions took place in 2021 compared to previous years. As a result of the implemented measures, the level of access to improved sanitation (sewage and pitlatrines systems) in preschool and school educational institutions approached 100%. According to the Ministry of Education and Science, the rate of connection to the sewage system of the GSEI was higher than the rate of connection to water supply during the years 2018-2021 and allowed to almost reach the level of access to the water supply. The water supply and sanitation services control and monitoring in educational institutions are conducted by various Central executive bodies, there is a need of interdepartmental coordination and unification of relevant reporting under NTs 6 and 8.

During the reporting period, there is a positive trend on reducing discharges of polluted wastewater into water bodies. In 2021, the volume of contaminated wastewater discharges into water bodies was 543.093 million m³ and decreased by 38% in compare with 2015.

The main obstacles to achieving the NTs in the reporting period were: constant organizational changes at the level of the Central executive bodies, difficulties in reforming the water sector and non-fulfilment of water European integration plans for the implementation of EU directives on drinking water, wastewater treatment, protection of water sources from nitrate pollution; lack of financing by the State Budget of national target programs and lack of new financial mechanisms to support the development of the water supply and, especially, drainage systems; low priority of these issues at the level of local authorities; lack of capacity and resources of basin administrations, laboratories and water utilities for the implementation of European standards of water quality and water resources management, reduction of programs of monitoring and collection of state statistics on access to water and sanitation, critical state of the water supply and drainage industry; the COVID-19 pandemic and the war in eastern Ukraine.

In 2022, with the beginning of the full-scale aggression of the Russian Federation in Ukraine the water and electricity supply networks, drainage systems and wastewater treatment plants were destroyed in places of active military actions and missile attacks. According to UNICEF, more than 4.6 million people have limited access to water, more than 6 million people in Ukraine face problems of access to drinking water every day. The situation with water supply is critical in the cities of Mariupol, Rubizhne, Lyman,

Severodonetsk, Lysychansk, Volnovakha, Iziium, and there are significant problems in Mykolaiv and Kherson.

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 PROCESS

If targets have been revised, please indicate the date of adoption and list the revised target areas.

Ukraine is a Party to the Protocol on Water and Health since 2003 (Law of Ukraine No. 1066-IV of 07/09/2003). In 2011, with the support of the Ukrainian-Norwegian international aid project, 15 NTs and 32 indicators with deadlines for their achievement were established for 10 target areas and approved by the order of the MEPNR dated 14 September 2011 No. 324.

The national targets and indicators were reviewed in 2017-2019 with the technical assistance of the UNECE -Protocol Secretariat. The draft of the document "National targets under the Protocol on water and health in Ukraine and measures to achieve them" was presented as part of the National Policy Dialogues (NPD) with the support of the "EU Water Initiative for Eastern Partnership Countries" project and was approved by the Interdepartmental Working Group on coordination of the implementation of the Protocol (March 2019). The draft of the NTs and indicators to the Protocol was included as an annex to the Draft "Water Strategy of Ukraine for the period until 2050" and has been at the stage of consultations and finalization since December 2021.

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

All materials related to the Protocol on Water and Health implementation, NTs, etc., were published on the websites of the MEPNR (www.menr.gov.ua), Ministry of Health (www.moz.gov.ua), Kyiv National University named after Taras Shevchenko (www.geol.univ.kiev.ua/pwh/) in 2011 NTs brochure was published in an edition of 2,000 copies by the Ukrainian National Environmental NGO "MAMA-86" with the support of the Ukrainian-Norwegian project.

The Draft of the revised NTs and plan of measures to achieve them was published on December 18, 2018 on the website of the MEPNR for public consultations (<https://menr.gov.ua/news/32987.html>). In December 2018, public consultations on the draft took place. The results of public consultations were taken into account in the final draft of the NTs and action plan.

3. *Has your country established national or local arrangements for coordination between competent authorities for setting targets? If so, please describe which public authority took the leadership and coordinating role, which public authorities were involved.*

In accordance with the order of the Cabinet of Ministers of Ukraine dated 06.10.2003 No. 46963, the MEPNR is the main Central Executive Body responsible for coordinating the Protocol implementation in Ukraine at the national level and communicates with the Joint Secretariat of the Protocol through the focal point of the MEPNR.

By order of the MEPNR in 2006, the Interdepartmental working group (IWG) was created to coordinate the implementation of the Protocol, which included representatives of all Central Executive Bodies responsible for water and health issues related to the scope of the Protocol, science, professional associations and NGOs. The IWG composition was updated in 2016 and included representatives of:

MEPNR, MCTD, Ministry of Agrarian Policy and Food (Minagro), Ministry of Education and Science (MoES), Ministry of Youth and Sports, Ministry of Health, State Service of Ukraine on Food Safety and Consumer Protection, State Emergency Service, Association of Water Utilities, Academy of Sciences, NGOs.

4. *Was a program of measures or an action plan developed to support implementation of the targets? describe this program and the financial aspects.*

In October 2003, the Cabinet of Ministers of Ukraine approved the Action Plan developed by the MEPNR for implementation of the Law of Ukraine "On the Ratification of the Protocol on Water and Health to the Convention on Protection and Use of Transboundary Watercourses and International Lakes of 1992"

dated 07/09/2003 No. 1066-IV. This Plan did not approve the NTs in accordance with the requirements of Article 6, para 2 of the Protocol and contained a number of measures that were defined in the National Target Programs in force at that time, related to the improvement of the drinking water supply to the population and the development of water management in Ukraine. The Protocol Implementation Action Plan (2003) was not revised, and in 2011 an Action Plan to achieve NTs set was not developed. As part of the UNECE assistance project for NTs revision, the draft Action Plan for achieving the updated NTs was prepared.

5. *What has been done in the country to ensure public participation in the process of targets setting, and how was the outcome of public participation taken into account in the final targets set?*

The requirements of the Protocol regarding the public participation in the process of NTs setting were met in 2011 by organizing public consultations and hearings of the Draft NTs in September-October 2010, which were initiated and organized by UNENGO "MAMA-86" in cooperation with the MEPNR and support of the Women for Water Partnership (WfWP). Comments from the public were taken into account in the NTs approved in 2011. During the NTs revision, in 2017 the draft Technical Report on the analysis of the situation was discussed by stakeholders during an extended meeting of the IWG within the framework of the "AQUA UKRAINE" Forum. The drafts of the revised NTs and the Plan of measures to achieve them were posted for public consultations on the website of the MEPNR, on 19-20 December 2018 the national public consultations were held in Kyiv with the participation of more than 60 representatives of stakeholders from 11 cities of Ukraine. Draft National Reports on the Protocol in 2013, 2016, 2019, 2022 were posted on the website of the MEPNR for consultations by stakeholders.

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.*

The coordinating role is performed by the Ministry of Environmental Protection and Natural Resources of Ukraine.

The consolidated annual information on NTs is prepared by the MEPNR with participation of the MCTD, the Ministry of Agriculture, the Ministry of Education, the Ministry of Youth and Sports, the Ministry of Health, the State Production and Consumer Service, and the State Emergency Service.

For the preparation of the National Summary Report 2022, Ukraine requested a postponement and assistance from the Secretariat of the Protocol, due to the beginning by rf of a full-scale war against Ukraine. An expert editorial group was set to prepare the draft of the National Summary Report 2022.

7. *Report any specific circumstances relevant to understanding the report, including whether there is any public 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 toward achieving them. Also provide information on the baseline conditions and/or targets considered under the relevant target area.

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

For each list of targets in this area:

Pursuant to the Law of Ukraine dated 07/09/2003 No. 1066-IV "On the Ratification of the Protocol on Water and Health to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes of 1992", the National Targets under the Protocol were approved by the Order of the MEPNR dated 09/14/2011 No. 324.

The control reporting period is from 2019-2021, the basic year is 2015.

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

In 2011, two NTs were established for target area I: Improvement of drinking water safety on 1. microbiological and 2. chemical parameters.

The wording of the NTs did not change when revised in 2019.

2. *Please describe the measures taken (e.g., legal/regulatory, financial/economic, informational/educational and managerial measures) to achieve this target.*

For adaptation and implementation of the EU Directive on drinking water, amendments were made to the Law of Ukraine "On drinking water, drinking water supply and drainage" No. 2047-VIII (2047-19) dated 18.05.2017, which approve the definition of "drinking water", "point of compliance of drinking water quality " in accordance with the Council Directive 98/83/EU "On the quality of water intended for human consumption", also the resolution of the Cabinet of Ministers of Ukraine dated September 19, 2018 No. 758 "On approval of the Procedure for State Water Monitoring" was approved, it harmonizes water monitoring with the norms of the Directive 2000/60/EU of the European Parliament and of the Council of October 23, 2000 (WFD).

The main current regulatory document on the quality of drinking water is the State sanitary rules and norms 2.2.4-171-10 "Hygienic requirements for water intended for human consumption" (DSanPiN 2.2.4-171-10), approved by order of the Ministry of Health of Ukraine dated 12 May 2010 No. 400 and registered in the Ministry of Justice of Ukraine on 1 July 2010 under No. 452/1774. The Order of the Ministry of Health No. 2675 dated 24.12.2019 made changes regarding the extension of the terms (for 2 years) of the validity of temporary deviations, which are associated with the maximum values of the parameters specified in the Annex 2, table 1 SanPiN 2.2.4-171-10, and approved by the order of the Ministry of Health No. 2675 dated 12/24/2019. In 2022, new amendments were approved by the Order of the Ministry of Health dated 18.02.2022 No. 341 "On Approval of Amendments to Appendix 2 to DSanPiN 2.2.4-171-10, which relate to the standards of sanitary and chemical indicators of safety and quality of drinking water, which entered into force on April 1, 2022.

Since April 2022, in context of the introduction of martial law in Ukraine, the Order of the Ministry of Health of April 22, 2022 No. 683 "On the approval of State sanitary norms and rules "Safety parameters and certain parameters of the quality of drinking water under conditions of martial law and emergency situations of other nature" is in force.

In order to implement the protocol decision of the Working Group under the National Security and Defense Council (NSDC) on the safety of the state's water resources and supply the population with high-quality drinking water in populated areas of Ukraine dated 06/18/2020, a working group was formed to study issues related to the approximation of Ukrainian legislation in the field of drinking water, drinking water supply and drainage to the standards of the European Union (Order No. 275 of November 10, 2020 of the MCTD).

Members of the working group developed the final version of the Draft of State sanitary norms and rules 2.2.4-171-20 "Hygienic requirements for drinking water intended for human consumption". The Draft was developed taking into account the implementation of Directive 98/83/EU, as well as the step-by-step implementation of the requirements of the new EU Directive 2020/2184 of December 16, 2020 regarding the quality of water intended for human consumption.

During 2018-2020, the Laboratory Centres of the Ministry of Health of Ukraine, and from July 2021 (as a result of the reorganization of the latter) - the Centres for Disease Control and Prevention of the Ministry of Health of Ukraine (CDCP) conducted monitoring laboratory control of the quality of drinking water in water intake sites, water supply facilities and networks of centralized drinking water supply and sources of non-centralized water supply (shallow wells, artesian wells and catchments) to meet the requirements of DSanPiN 2.2.4-171-10.

According to DSanPiN 2.2.4-171-10, section "Indicators of epidemic safety of drinking water" (annex 1), parameters of "*E.coli*" and "Enterococci" should be absent.

According to the statistical form 40-health (18) "Report on the work of the territorial CDCP for the control of objects and environmental factors affecting the health of the population" (Report of the CDCP:

Environment-Health): number of analyses continued to decrease for all types of analyses in comparison with previous and basic years. Despite the suspension of the moratorium on inspections in January 2018 (the ban on planned inspections of objects of supervision was introduced in accordance with the Resolution of the CMU dated 13.08.2014 No. 408 "Issue of introducing restrictions on inspections by state inspections and other controlling bodies" and the Law of Ukraine "On Temporary peculiarities of implementation of measures of state supervision (control) in the sphere of economic activity" dated 3 November 2016 No. 1728-VIII) and some increase in the number of water analyses in 2018, there is a further reduction, compared to 2015, of drinking water quality control by 20-35% for centralized water supply (WS), by 30-40% - for non-centralized water supply, including by 44-52% - for shallow wells, on 15-16% - for the catchment. An exception is a 38% increase in control of sanitary-chemical parameters of artesian wells, but their control of sanitary-biological parameters also decreased by 14%, compared to 2015.

Table 1. The number of tested samples for water quality, according to the data of the CDCP

The studied samples of drinking water From	Number of tested samples				
	2015	2018	2019	2020	2021
<i>centralized water supply systems, including waterway</i>					
microbiological parameters	144,649	186,317	166,705	117,216	123,023
sanitary and chemical parameters	117,755	146,007	128,441	94,303	95,453
<i>water supply network</i>					
microbiological parameters	125,236	132,806	117,786	81,838	87,623
sanitary and chemical parameters	95,458	105,083	92,502	65,434	59,492
<i>non-centralized water supply, for:</i>					
microbiological parameters	50,677	61,578	50,347	35,728	33,008
sanitary and chemical parameters	78,305	82,215	76,940	46,617	45,469
<i>Including shallow wells</i>					
microbiological parameters	42,484	44,313	34,383	23,660	19,935
sanitary and chemical parameters	70,861	65,473	49,444	34,338	32,029
<i>artesian wells</i>					
microbiological parameters	5,708	7,935	7,455	4,886	5,453
sanitary and chemical parameters	5,164	9,577	10,305	7,109	7,111
<i>Catchments</i>					
microbiological parameters	1,063	1,245	1,208	899	958
sanitary and chemical parameters	963	855	941	806	1,190

Monitoring of the nitrate content in the water of non-centralized water supply sources, in particular wells and catchments, from which water is used for consumption by children under 3 years of age, was carried out in order to prevent the occurrence of water-nitrate methemoglobinemia among children and quarterly collection and processing of information. In 2015, only 5.4% (17 thousand) of public and individual shallow wells and catchments were inspected, of which 28.5% did not meet sanitary standards; the share of not- standards samples of drinking water from sources of non-centralized water supply tested on nitrates, was 23.5%.

Nitrate pollution control of non-centralized water supply sources also decreased compared to the previous period, especially for pump stations - by 79%, public wells - by 41%, and wells - by 31%. Only 14% increased the number of nitrate testing in public catchments.

Table 2. The number of inspected facilities where drinking water was tested

Sources of decentralized water supply	Number of the inspected objects			
	2018	2019	2020	2021
shallow wells	59,824	47,824	31,927	29,717
of them public wells	19,792	16,237	9508	9,618
artesian wells	7,318	7,183	4,625	4,989
pump stations (Buvet)	384	436	425	91
catchments	713	534	438	465
of them public catchments	298	333	267	309

Table 3. The number of samples that were tested on nitrate content in non-centralized water supply sources

Sources of decentralized water supply	Number of tested drinking water samples for nitrate content			
	2018 year	2019 year	2020 year	2021 year
mine wells	58,940	44,598	30,031	28,658
of them public wells	18,402	14,111	9,333	8,982
artesian wells	7,968	8,598	5,939	5,999
pump stations (Buvet)	1,728	1,191	1,382	1,414
Catchments	580	818	562	626
including public catchments	430	586	407	458

Control of the drinking water quality in the non-government-controlled territories of Ukraine, the Donetsk and Luhansk oblasts, and the annexed territory of the Autonomous Republic of Crimea has been completely interrupted.

In the event that the SSUFSCP found violations regarding the state of maintenance of wells for individual use and inconsistencies in the quality of well water, well owners and local self-government bodies were sent proposals and prescriptions about the need for proper arrangement of wells. The population was informed, including through the mass media, about the inadmissibility of using well water with an excess of nitrates for drinking purposes and preparing baby food. Sanitary and educational work was carried out with parents, staff of children's educational institutions, with employees of medical institutions, in particular, paramedics and midwifery centres (FAPs).

Pursuant to the decision of the National Security and Defense Council of Ukraine dated March 13, 2020 "On urgent measures to ensure national security in the context of an outbreak of acute respiratory disease COVID-19 caused by the SARS-CoV-2 coronavirus", put into effect by the Decree of the President of Ukraine dated March 13, 2020, the SSUFSCP has strengthened the state sanitary-epidemiological supervision of compliance with the requirements of sanitary legislation at the facilities of the water supply and drainage systems of the settlements. Cooperation with local authorities and owners of centralized water supply and drainage systems was ensured regarding the organization of commission inspections, strengthening of utility laboratory control over the drinking water quality, the quality of wastewater treatment, ensuring the necessary supply of reagents, disinfectants, etc.

According to the results of state supervision (control) measures at drinking water supply enterprises in case of violation of sanitary legislation requirements, 493 penalties in the amount of UAH 203,516 were imposed in 2021.

The results of drinking water testing in accordance with the reports of the chief departments of the SSUFSCP on the implementation of the Plan for conducting laboratory tests, measurements, research and expertise during the implementation of state control in the field of sanitary legislation are shown in Table. 4. 3,732 samples of drinking water from the sources of non-centralized water supply were examined, deviations were found in 1,054 samples (28.2%): 26.4% of the samples did not meet the sanitary-chemical parameters, and 26% according to the microbiological parameters.

Table 4. Quality of drinking water according to sanitary-chemical and microbiological indicators (according to the data of the SSUFSCP)

	Drinking water samples were studied:							
	by sanitary-chemical parameters				by microbiological parameters			
	2018	2019	2020	2021	2018	2019	2020	2021
Total	99,300	20,877	15,749	10,587	51,848	20,923	16,244	11,395
Does not meet	12,946	6,638	5,176	3,449	4,813	4,456	2,920	1,789
share, %	13.0	31.8	32.9	32.6	9.3	21.3	18.0	15.7

In 2021, in connection with the reforms of the administrative-territorial system, balance-keepers and business entities, responsible for the operation of water supply facilities, were changed.

The processes of determining the balance-keepers (business entities) of centralized water supply facilities and ensuring that they have the appropriate permit documents, which took place during 2021, made it

impossible to carry out planned measures of state supervision and control by the territorial bodies of the SSUFSCP in full accordance with the annual plan.

3. *Please assess the progress achieved from the baseline towards meeting the target and indicate any challenges encountered.*

Progress in the reporting period compared to the baseline level for the drinking water quality was not observed both for sanitary-chemical parameters and for microbiological ones, but there are some positive trends in 2018-2021 regarding the reduction of the number of non-standard samples. The results of the monitoring studies of the Ministry of Health indicate that the planned levels have not been reached.

According to the data of statistical reporting (forms 40-health (18) Report of the CDCP “Environment and Health”: during the reporting period, the share of non-standard samples increased compared to the baseline year as for centralized water supply according to microbiological and sanitary-chemical parameters, as well as for non-centralized water supply on microbiological parameters. In addition, the share of non-standard samples for centralized water supply on microbiological parameters increased more than on sanitary-chemical ones. In 2021, the share of non-standard drinking water samples taken from centralized water supply, including water pumps, on sanitary-chemical and microbiological indicators, was 21.2% and 7.5%, respectively; from communal water pipes - 18.2% and 5.1%, respectively; rural water pipes - 28.9% and 11.9%, respectively, where, as before, the largest number of non-standard samples was registered. The share of non-standard drinking water samples taken from the water supply network on microbiological parameters was 7.8% and on sanitary-chemical ones - 18.3%; including on nitrates - 2.0% of samples (in 2019 and 2018 - 2.6%).

In 2021, the percentage of tested samples of drinking water from non-centralized water supply sources that did not meet the requirements was 33.5% on sanitary-chemical and 22.9% on microbiological parameters, including from wells, the share of non-standard samples was 35, 3% on sanitary-chemical and 30% on microbiological parameters (higher than the values in 2018 – 27.9% and significantly higher than the indicator in 2015 – 19.8%).

Table 5. Number of non-standard samples by microbiological and sanitary-chemical parameters

Drinking water samples from	share (%) of non-standard samples				
	2015	2018	2019	2020	2021
<i>centralized water supply systems, including main water pipelines</i>					
microbiological parameters	4.6	7.7	8.2	7.6	7.5
sanitary-chemical parameters	15.7	22.7	22.3	21.7	21.2
<i>including from communal water pipes</i>					
microbiological parameters	3.1	5.1	5.7	4.7	5.1
sanitary-chemical parameters	12.4	18.5	17.2	16.8	18.2
<i>from village water pipes</i>					
microbiological parameters	7.6	11.8	11.4	13.8	11.9
sanitary-chemical parameters	22.5	29.8	31.2	26.9	28.9
<i>from the water supply network</i>					
microbiological parameters	4.4	7.8	8.3	7.6	7.8
sanitary-chemical parameters	13.5	18.5	18.6	17.6	18.3
<i>sources of non-centralized water supply</i>					
microbiological parameters	18.0	23.4	24.6	22.6	22.9
sanitary-chemical parameters	32.7	34.4	30.4	32.6	33.5
<i>including from shallow wells</i>					
microbiological parameters	19.8	27.9	30.1	28.1	30.0
sanitary-chemical parameters	33.4	35.6	37.0	33.6	35.3

In 2021, the largest specific weight of non-standard samples of drinking water from centralized water supply systems was registered on sanitary-chemical parameters in Mykolaivska, Luhanska, Zhytomyrska, Rivnenska, and Kyivska oblasts; on microbiological parameters - in Khmelnytska, Rivnenska, Ivano-Frankivska, Mykolaivska, Ternopil'ska, and Vinnytska oblasts, which is 1.5 times or more higher than the national average values.

In 2021, the share of non-standard drinking water samples from centralized and non-centralized water supply sources tested by atomic absorption photometry: on lead was 0.2%; iron - 3.3%; manganese - 7.6%; cadmium - 0.0%; by a gas chromatography on carbon 4-chloride 0.0%; chloroform - 17.7%.

Table 6. Percentage of non-standard drinking water samples from sources of centralized and non-centralized water supply by chemical parameters

Parameter	Number (%) of non-standard samples				
	2015	2018	2019	2020	2021
Lead	0.8	0.9	1.5	0.5	0.2
Iron	5.5	3.3	2.0	4.2	3.3
Manganese	2.1	3.7	3.4	6.4	7.6
Cadmium	1.1	0.7	0.7	0.1	0.0
Carbon 4-chloride	0.0	0.3	0.0	0.0	0.0
Chloroform	36.4	23.3	31.6	36.5	17.7

In 2021, 10,549 samples of drinking water from public wells were tested for sanitary-chemical parameters (in 2020 – 11,630), of which 45.6% (in 2020 – 40.8%) did not meet the standards, including for nitrate content – 8,983 (in 2020 – 9,333), of which did not meet the standards on nitrates – 36.3% (in 2020 – 37.8%), 10,682 samples were tested on microbiological parameters (in 2020 – 12,054), 37.3% of which did not meet the standards (in 2020 – 33.4%). The number of tested samples of drinking water from individual wells on sanitary- chemical parameters was 19,511 samples (in 2020 – 20,892), of which 32.1% (in 2020 – 30.7%) did not meet the standards, including samples tested on nitrates content – 18,363 (in 2020 – 19,267), of which 26.1% (in 2020 – 24.3%) did not meet the standards on nitrates (in 2020 – 24.3%), 7,224 samples were examined on microbiological parameters (in 2020 – 10,152), 25.4% of them did not meet norms.

In 2021, in Poltavska oblast during the III quarter, the maximum values of nitrate content in drinking water from non-centralized water supply sources used by pregnant women and children was recorded in city Khorol (336.5 mg/dm³), in 2020 during the II-IV quarter - in city Kremenchug (234.1), village Serhiyivka of Gadyatsky rayon (194.9), in 2019 during the II-IV quarters - in city Khorol (381.77), village Novo-Znamyanka of Kremenchug rayon (583.0), village Robotivka of Kremenchug rayon (820), in 2018 during the IV quarter - in village Petrakiivka of Khorolsky rayon (418.5), in 2017 during the 3rd quarter – in Semenivskiy rayon (767.32); in 2021 in the Dnipropetrovsk region, exceeding the maximum permissible limits of nitrates in drinking water were recorded in wells in c. Zhovti vody, c.Kamenskoe and Novomoskovskiy rayon, in 2020 - in cities: Zhovti vody, Pavlograd, Mangantsi, Novomoskovsk, Kryvyi Rih, and in rayons:Tsarychanskyi and Dniprovskiy, 2019 – in cities: Zhovti vody, Pavlograd, Novomoskovsk, Synelnikovo, Kryvyi Rih, Dnipro and Marganets, and in rayons: Vasytkivskiy, Dniprovskiy and Verkhnyodniprovskiy.

The reforms of the drinking water quality monitoring and control system and setting up the work of laboratories involved in state control and operational monitoring of drinking water safety and quality in accordance with the requirements of the EU WFD and the Directive on Drinking Water, are remain relevant.

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

Achieving the NTs on ensuring the safety and quality of drinking water will contribute to the implementation of SDG 6 and its target 6.1 on ensuring the right to safe drinking water for all.

Raise public awareness on the issue of drinking water quality, water use, behavioural models for preserving one's health, the plan of measures to achieve the established indicators for the implementation of the Protocol on water and health, etc.

5. *If no target has been set in this area, explain why.*

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

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

In 2011, 2 targets were set: NT 3. Reduction of the population incidence rate of cholera, bacillary dysentery (shigellosis), acute intestinal infection caused by enterohemorrhagic *Escherichia coli* (EHEC), viral hepatitis A, typhoid fever, water-nitrate methemoglobinemia, related to use of poor-quality drinking water and NT 4. Provision of the laboratories by necessary modern equipment to check the safety and quality of drinking water.

As a result of the NTs revision in 2019, it was proposed to keep only NT No. 3 in a slightly modified edition and to change its quantitative indicators and target dates.

2. *Please describe the actions taken (for example, legal/regulatory, financial/economic, informational/educational and managerial measures) to achieve the target.*

The administrative reform in the public health sector, ongoing since 2012, resulted in the liquidation of the State Sanitary and Epidemiological Service of Ukraine in 2016 and the creation of the State Enterprise Center of Public Health of the Ministry of Health of Ukraine, laboratory centers of the Ministry of Health of Ukraine, since July 2021 they renamed as – Centres for Disease Control and Prevention (CDCP) to the Ministry of Health. The functions on sanitary and epidemiological control and supervision, including in the field of safety of drinking water and other waters related to the Protocol were transferred to the SSUFSCP.

At the same time, the necessary changes have not yet been made to the relevant laws regarding the performance of control and supervision functions, to the reporting forms related to water-related diseases. From 2018 on [website of the "State Enterprise Center of Public Health of the Ministry of Health of Ukraine"](#) data are provided regarding outbreaks and incidents of infectious diseases by all factors of transmission, including water. Data on the incidences of cholera, shigellosis, EHEC, viral hepatitis A, typhoid fever are formed [on the basis of state statistical forms No. 1 and 2, where the total number of patients is recorded](#). Link to water is fixed only when data is provided by outbreaks.

At the moment, in Ukraine, official medical statistics on non-infectious diseases related to the chemical quality of water, in particular, water-nitrate methemoglobinemia, fluorosis, etc. are not collected separately and are not available.

Analysis of the total infectious diseases morbidity (excluding carriers, influenza and acute rotavirus infections) in Ukraine for the period from 2018 to 2021 shows a downward trend - in 2015, 850.87 per 100,000 population were registered, in 2018 – 955.06, in 2019 – 882.82, in 2020 – 369.55 (according to data of the state statistical form № 2 (annual) “Report about certain infections and parasitic diseases, excluding data from the temporarily occupied territories of the Autonomous Republic of Crimea, city Sevastopol, parts of Donetska and Luhanska Oblast).

Waterborne

a) cholera up to 0 abs./0 per 100,000 – In 2018, one case of cholera (0.002 per 100,000 population) was registered in the Zaporizska oblast. A resident of the Dnipropetrovska oblast, who was on vacation in Berdyansk, Zaporizska oblast, fell ill. The diagnosis was confirmed in the reference laboratory for the study of particularly dangerous pathogens of the territorial centre of the Ministry of Health - the culture was identified as cholera vibrio ne01 group, serovar Ogawa, avirulent. Necessary anti-epidemic, in particular, restrictive measures were taken in the outbreak. Sources and factors of pathogen transmission have not been identified. No cholera cases were registered in 2015, 2019-2021.

Various transmission factors

b) shigellosis up to 2,500 abs./6.0 per 100,000 – since 2014 the morbidity on shigellosis has the downward trend: in 2014 – 2.79, in 2015 – 2.06, 2016 – 2.14, 2017 – 2.27, 2018 – 1.97, 2019 – 2.00, 2020 – 0.69, 2021 – 0.53 per 100,000 population.

c) acute intestinal infection caused by enterohemorrhagic *Escherichia coli* - Enteritis, colitis, gastroenteritis and food poisoning caused by unknown pathogens account for a significant proportion of acute intestinal infections (AII).

Enteritis caused by *Yersinia enterocolitica* up to 100/0.25 - In 2021, 47 incidents of enteritis caused by *Yersinia enterocolitica* were registered, which is 0.11 per 100,000 population (in 2020 - 0.10, 2019 - 0.23, 2018 - 0.23, 2015 - 0.28 per 100,000 population).

In 2021, 189 cases of campylobacter enteritis were registered, which is 0.45 per 100,000 population (in 2020 - 0.37, 2019 - 0.37, 2018 - 0.35, 2015 - 0.25 per 100 thousand or 114 cases).

d) viral hepatitis A up to 2500/5.5 - In 2015, the incidence of viral hepatitis A was 5.48 per 100,000, in 2018 - 6.52 (2767 incidents), 2019 - 7.51 (3172), 2020 - 2.83 (1190), 2021 - 0.97 (405) - a downward trend is noted in recent years.

e) typhoid 0/0 - In 2014-2021, isolated cases of typhoid were registered, in 2019-2021 - 1 case each (0.002 per 100,000 population), in 2018 - 5 cases (0.01), 2015 - 4 cases (0.01).

Waterborne

f) water-nitrate methemoglobinemia does not belong to infectious diseases, therefore it is not included in infectious diseases list and is not submitted in reporting forms.

3. *Please assess the progress made from the baseline towards the meeting the target and indicate any challenges encountered.*

Progress is registered only with regard to the morbidity of shigellosis, enteritis, viral hepatitis A, cryptosporidiosis (morbidity was affected by the pandemic of the acute respiratory disease COVID-19 caused by the SARS-CoV-2 coronavirus). However, the morbidity of typhoid fever (typhoid) and campylobacter enteritis slightly exceeds the control levels (not related to the waterborne factor of transmission). The interim control period is 2024, there is time to reach the planned levels.

In 2021, 3 outbreaks related to using of poor-quality drinking water were registered, 244 people were affected, including 214 children: - 1 outbreak of rotavirus infection - 15 children were affected (Odeska - Chornomorsk, DZ); 1 outbreak at AII of identified etiology - 6 people were injured, including 7 children (Ternopilska - Ternopil city, kindergarten), 1 outbreak of AII of unknown etiology - 31 people were injured, including 29 children (Chernivetska - Ispas village of Vyzhnytsky rayon, kindergarten) - use of poor-quality tap water.

In 2015, 3 outbreaks of waterborne diseases were registered, 190 people were affected, including 148 children: - 1 outbreak of AII in c. Kyiv (Bortnychy district - 155 affected, including 121 children), 2 outbreaks of rotavirus infection in city Zolotonosha, Cherkaska oblast (15 affected, including 12 children) and village Ozhenino of the Ostrozhsky rayon of the Rivnenska oblast (20, including 15 children) due to use of poor-quality drinking water from centralized water supply systems.

The water-nitrate methemoglobinemia does not belong to infectious diseases, therefore it is not included in their list and data are not submitted in reporting forms. However, this disease needs to be included in the list of diseases for which statistical reports are submitted. Certain cases are submitted to the Center of Public Health of the Ministry of Health of Ukraine.

Thus, in 2021, 2 incidents of water-nitrate methemoglobinemia were registered in the Kyiv (Rosava village of Myronivska gromada of Obukhiv district) and Zhytomyr (Lishchyn village of Zhytomyr district - child under 1 year) regions.

In 2020, 5 cases of poisoning were registered: in Kharkivska (Ruska Lozova village of Dergachiv rayon; Novobavarskyi district of Kharkiv city; Lyubotyn city; Mechybilove village of Barvinsky rayon) and Poltavaska (Romodan village of Myrhorod rayon) oblasts.

In 2019, 7 cases of poisoning were registered: in Zhytomyrska (village Zherybylivka, Novohrad-Volyn rayon village Kopanivka, Khoroshiv rayon); Poltavaska (village Kochubeivka of the Chutiv rayon and village Makartsivka of the Poltava rayon); Kharkivska (Prudnyanka village of Dergachiv rayon) and Chernihivska (Koshelivka village of Nizhyn rayon and Volodkina Divitsia village of Nosivka rayon) regions.

In 2018, 3 cases of poisoning were registered: 1 case was registered in the Rivnenska oblast (Goshchansky rayon, village of Kurozvary), according to the results of laboratory tests, it was detected that the nitrate content in the water of household well by which the child was poisoned was 410.5 mg/dm³, while norm of 50 mg/dm³); in the Poltavaska oblast - two cases of the babies disease - children under one year old (Semenivsky rayon, Semenivka township and Kremenchuk rayon, Robotivka village), according to the testing results, an excess in 4 times (199.8 mg/dm³) of nitrates was found in the well water, used for drinking by the victims.

In the summer of 2015, one letal case of poisoning of a child with nitrates from well water was registered in village Mohyliv of Tsarychan rayon, Dnipropetrovska oblast. The prosecutor of the Tsarychan rayon and the rayon police department were informed of this fact, an article was published in the rayon newspaper about the drinking regime for children in the first three years of life, pregnant women and women giving birth, proposals for carrying out sanitary and recreational activities at wells were included in the decision of the Dnipropetrovsk regional commission on TEB and NS (protocol dated 09/22/2015 No. 17).

Due to climate change and significant migration processes in Ukraine, the risks of diseases, the manifestations of which occurred in the country before (malaria) or new infectious diseases that were not characteristic of the territory of Ukraine, but there are no official statistics yet, are increasing.

Information on the implementation of NT 4. about provision of the necessary modern laboratory equipment for testing the safety and quality of drinking water is not available. The laboratories of the Ministry of Health and the SSUFSCP did not modernize the laboratory equipment during the reporting period. The State Water Agency with the support of international donors, reformed the system of basin departments' laboratories through regionalization and establishment of 3 regional laboratories in the Ivano-Frankivsk region on the Dniester, in city Vyshhorod on Dnipro River and in city Slovyansk on the Siverskyi Donets River. The laboratories were modernized in accordance with the WFD requirements.

4. *Please describe how the target in this area contributes to global and regional commitments, including the 2030 Sustainable Development Agenda.*

NTs 3 corresponds to SDG 3.4. to reduce premature mortality from non-communicable diseases, as well as SDG 6.1. to ensure access to safe drinking water.

5. *If no target has been set in this area, explain why.*

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

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

In 2011, two NTs were established: NT 5. Provision of population with drinking water of appropriate quality and NT 6. to improve access of children in preschool and schools to safe drinking water.

As a result of the revision of the NTs in 2019, it was proposed to update the existing NTs and add two new NTs, namely: NT 5. Harmonize the legislation of Ukraine with the Protocol on the definition of "equal access" to drinking water; NT 6. By 2025, to provide 100% of children's educational institutions, and healthcare facilities with access to safe drinking water; NT 7. to increase coverage of the population in rural areas with centralized water supply services, reducing geographic inequality; NT 8. to provide access to drinking water in Donetsk and Luhansk regions.

2. *Please describe the measures taken (for example, legal/regulatory, financial/economic, informational/educational and managerial measures) to achieve this target.*

According to data of the State Water Agency of Ukraine^{1,2}, to provide rural settlements with centralized water supply in 2019-2021. financing of measures for the construction and rehabilitation of centralized water supply systems was carried out at the expense of the State Budget according to the following Budget programs:

¹ National report on the quality of drinking water and the state of drinking water supply in Ukraine for 2019
National report on the quality of drinking water and the state of drinking water supply in Ukraine for 2020

² <https://www.davr.gov.ua/fls18/2021zvvt.pdf>

●Code 2407090 "Urgent supply of rural settlements with centralized water supply", in 2019, measures on 44.72 million UAH were completed: the construction of the Ivanivskiy group water pipeline from village Ivanivka, Ivanivka rayon to village N. Syrogoza, Nizhnyosyrogozkyi rayon, Khersonska oblast, was completed; water supply networks in village Lyubyntsi of the Lyubyntsi village council of Stryi rayon of Lvivska oblast; master-plan on construction of group water supply pipelines in the Odeska oblast has been designed. In 2020, measures completed on 48.4 million UAH and in 2021 - on 110.43 million hryvnias: the construction of the Ivanivka group water pipeline Ivanivka - N. Sirogoza was completed and its construction continued from the village of N. Sirogoza to the village V. Sirogozy of the Nizhnyosyrogoz rayon of the Khersonska oblast (30.25% of readiness); in 2020 the construction of sites for water towers near the village has been completed. Hlyboke and near the village Borysivka of the Tatarbuniar rayon of the Odeska oblast (within the construction of the first stage of the Tatarbuniar group water pipeline in the Odeska oblast); master-plan on the development of group water pipelines in the Odesa region was designed, construction of a water network in the Lviv region was completed; in 2021, work continued on the construction of the Bolhrad group water supply system, and the design of the construction of water supply networks in the Lvivska oblast was started.

●Code 2407160 "Implementation of the state investment project "Provision of drinking water supply to rural settlements of Kazankivskiy, Novobuzky rayons and reconstruction of the water discharge facility of the Sofiyivsky reservoir of Novobuzky rayon, Mykolaivska oblast" - in 2019, 2,127.44 thousand UAH were allocated from 5,301.89 thousand UAH for the implementation of the investment project mentioned above. In 2020, funds in the amount of 5,131.9 thousand hryvnias were directed to the repayment of accounts payable for works performed in 2019; in 2021, funds in the amount of 31.18 million hryvnias were directed to complete the reconstruction of the flushing and pressure pipelines at the treatment facilities of the Kazankiv group water supply system and the reconstruction of 4 sections of the water line of the Kazankiv group water supply system of the Mykolaivska oblast.

●Code 2707810 "Implementation of the state investment project "Construction of water supply networks in settlements of Lvivska oblast that use transported water": in 2021 funds in the amount of UAH 0.26 million was allocated to adjust project and draw up and register the surface contracts for further obtaining a permit to perform construction works.

Thus, for the period 2019-2021, according to the State Water Agency, 4.7 km of water supply networks and 2.3 km of water mains were built and rehabilitated to provide the rural population with water supply (2019); 2 pumping stations were built and put into operation, 9 working projects were designed and 2 settlements were provided with centralized water supply (2020); 24.0 km of water mains, 1 pumping station and 1 pure water tank were built and put into operation (centralized water supply for 1 settlement with population of 4,726 people), 1.6 km of water mains were restored and put into operation; 8,896 km of water mains were restored, but not put into operation; 13.0 km of water supply networks were built, but not put into operation, and 3 working projects were prepared (2021).

During 2019-2020, in accordance with the Law of Ukraine "On the State Budget of Ukraine for 2020", there were no Budget allocations for financing implementation of measures of the State target program "Drinking water of Ukraine" for 2011-2020, manager of which is the MCTD.

In order to implement the protocol decision of the meeting of the working group on the safety of the water resources of the country and provision of the population with high-quality drinking water in populated areas of Ukraine from May 13, 2020, the MCTD developed a draft order of the Cabinet of Ministers of Ukraine "On approval of the Concept of the State target program "Drinking water of Ukraine" for 2021-2025" (approved [By order of the CMU dated April 28, 2021 No. 388](#)) and the draft Law of Ukraine "On the State Targeted Social Program "Drinking Water of Ukraine" for 2022-2026".

In February 2022, the Verkhovna Rada of Ukraine adopted the Draft Law "On the State Target Social Program "Drinking Water of Ukraine" for 2022-2026", which approves the allocation of 28,588.6 million UAH for the Program implementation, including 16,949.3 million UAHs from the State Budget and 11,639.3 million UAHs from other sources. According to the MCTD data, it is proposed to implement 1,747 projects (reconstruct and build 290 water intake facilities, 79 drinking water purification stations (installations), 280 water supply and treatment facilities, 1,093 water supply networks and 5 drinking water quality control laboratories). February 21, 2022 [the draft law was submitted to the President of Ukraine for signature](#).

Due to Russian armed aggression, the water supply and drainage infrastructure is being destroyed throughout the territory of Ukraine. Therefore, the key goals of the post-war reconstruction of Ukraine's economy should be the primary reconstruction of the infrastructure of water supply and drainage facilities destroyed or damaged as a result of the war. Taking into account the above, the State Target Social Program "Drinking water of Ukraine" needs to make significant changes, both in terms of increasing the amount of funding for the restoration of destroyed and damaged objects, and taking into account the prospects of Ukraine acquiring the status of a candidate country for EU membership, particularly the introduction of new standards and modern technologies for the water and wastewater treatment.

In 2019, at the expenses of the State Regional Development Fund³ 44 objects of water supply and sewage management were financed for a total amount of 448.6 million hryvnias. In particular, projects related to water supply were implemented in 15 oblasts: Dnipropetrovska, Donetska, Zhytomyrska, Zakarpatska, Zaporizska, Ivano-Frankivska, Kirovohradska, Luhanska, Mykolaivska, Sumska, Ternopilska, Khersonska, Khmelnytska, Cherkaska, Chernivtska.

In 2020⁴ 14 water supply and drainage projects for a total amount of 247.34 million hryvnias were financed with the funds of the State Regional Development Fund. Water supply projects were implemented in Dnipropetrovska, Kirovohradska, Mykolaivska, and Khmelnytska oblasts.

Starting from 2018, information on the access of preschool and schools to water supply and sanitation has been collected by the SSUFSCP; in previous years, the data base was formed by the State Enterprise Center of Public Health of the Ministry of Health of Ukraine. According to the SSUFSCP, which conducts sanitary-epidemiological control of children's institutions, during the reporting period there is a further improvement in the access of children's educational institutions to centralized and non-centralized water supply systems and a reduction in the number of institutions that used transported water, compared to the previous period. In particular, the number of preschools using well water decreased from 12.3% in 2019 to 8.5% in 2021, and transported water - from 2.6% in 2019 to 2.3% in 2021; while the number of secondary schools, who used well water decreased from 17% in 2019 to 12.2% in 2021. However, the indicators of 2015 were achieved and improved only by schools.

Table 7. Access to drinking water in schools and preschool educational institutions

Preschool educational institutions	Year				
	2015	2018	2019	2020	2021
Total number of objects (according to f. 18)	15,072	12,325	12,167	11,731	11,981
Not connected to centralized and local water supply networks (use well water)	797	1,434	1,498	1,311	1,013
%	5.3%	11.6%	12.3%	11.2	8.5%
Use transported water	258	370	316	309	277
%	1.7%	3.0%	2.6%	2.6	2.3%
General educational institutions (schools)					
Total number of objects (according to f. 18)	16,849	16,054	15,831	15,455	15,033
Not connected to centralized and local networks (use wells)	2,545	2,580	2,696	2,597	1,837
%	15.1%	16.0%	17.0%	16.8%	12.2%
use transported water	522	504	461	396	328
%	3.1%	3.1%	2.9%	2.6%	2.2%

According to the statistics of the Ministry of Education and Science, the number of general secondary education institutions as of the beginning of the 2020-2021 academic year was more than 14,900, in which 4,211,000 students studied. During the reporting period, the number of schools decreased, while the number of students increased and reached the pre-war level of 2013-2014, although starting from the 2014-2015 academic year, official statistics were provided without taking into account the temporarily occupied territory of the Autonomous Republic of Crimea, city Sevastopol and the temporarily occupied territories in Donetska and Luhanska oblasts.

³ <https://zakon.rada.gov.ua/laws/show/351-2019-%D1%80#Text>

⁴ <https://zakon.rada.gov.ua/laws/show/211-2020-%D1%80#Text>

Table 8. Number of general secondary education institutions, students and teachers over the last 6 years (thousands)

Academic year	The number of schools	Number of students	Number of teachers
2013/2014	19.3	4,204	508
2014/2015	17.6	3,757	454
2017/2018	16.2	3,922	440
2018/2019 ¹	15.5	4,042	441
2019/2020 ¹	15.2	4,138	440
2020/2021 ¹	14.9	4,211	440

According to the Ministry of Education and Science, the actual number of schools used centralized cold and hot water supply during the reporting period decreased, while the share (percentage) of schools used tap water gradually increased compared to the previous period: from 91.3% - in 2018 to 93.9% - in 2021, while the share of schools with hot water supply decreased from 51.6% - in 2018 to 48% - in 2021.

According to the results of the monitoring of the quality of drinking water in preschool and school institutions, which is conducted by the CDCP, the number of studies and the number of institutions where deviations were registered decreased during the reporting period.

Table 9. Provision of cold and hot water supply in institutions of general secondary education for the reporting period of 2018-2021

Year	Total number of schools, thousands ⁵	Number of schools with tap water supply	The number of schools with hot water supply
2014	19.3	n/a	n/a
2015	17.6	n/a	n/a
2018	16.2	14,798	8,359
2019	15.5	14,364	7,301
2020	15.2	14,148	7,233
2021	14,9	13,997	7,155

Table 10. The number of examined children's educational institutions, where the drinking water quality on chemical parameters was tested

Institutions	the number of examined establishments				the number of institutions where a deviation was registered			
	2018	2019	2020	2021	2018	2019	2020	2021
Children's and adolescent institutions, total	26,491	22,653	15,048	16,583	6,262	5,800	3,583	4,123
including: preschool educational institutions	7,564	6,958	5,604	6,274	1,805	1,835	1,360	1,511
Boarding institutions	466	412	283	265	98	89	46	48
General educational institutions	11,991	10,579	8,725	8,886	3,068	2,842	2,095	2,351
Vocational and technical educational institutions	300	258	220	210	56	62	49	36
Secondary special educational institutions	191	140	109	131	19	17	9	28
Health and recreation facilities, total	5,965	4,306	107	771	1216	955	24	149

Table 11. The number of examined children's educational institutions, where the drinking water quality on microbiological parameters was tested

Institutions	the number of examined institutions				the number of institutions where a deviation was registered			
	2018	2019	2020	2021	2018	2019	2020	2021
Children's and adolescent institutions, everything	29,423	25,097	16,912	19,979	4,623	4,148	2,518	3,156
including: preschool educational institutions	8,557	7,659	6,551	7,800	1,311	1,263	902	1,140
Boarding institutions	522	484	322	415	83	76	28	23

⁵ https://ukrstat.gov.ua/operativ/operativ2005/osv_rik/osv_u/znz_u.html

Institutions	the number of examined institutions				the number of institutions where a deviation was registered			
	2018	2019	2020	2021	2018	2019	2020	2021
General educational institutions	13,216	11,761	9,491	10,408	2,511	2,219	1,528	1,828
Vocational and technical educational institutions	326	283	232	231	31	30	29	24
Secondary special educational institutions	193	138	115	113	16	15	8	12
Health and recreation facilities, everything	6,595	4,772	201	1,003	671	544	23	129

During 2018-2021, the laboratory centers to the Ministry of Health of Ukraine (from July 1, 2021 - CDCP to the Ministry of Health) conducted testing of the quality of drinking water in children's and adolescent institutions. In 2021, 27,076 (in 2018 - 46,567) samples of drinking water were tested on sanitary-chemical parameters, and 33,955 (in 2018 - 57,687) water samples were tested on microbiological parameters.

Table 12. Quality of drinking water in children's educational institutions, where drinking water was tested on chemical parameters

Institutions	The number of examined samples by year				Number of non-standards samples by year				% discrepancy by year			
	2018	2019	2020	2021	2018	2019	2020	2021	2018	2019	2020	2021
Children's & adolescent institutions, everything	46,567	38,507	22,563	27,076	9,700	8,269	4,700	5,752	20.8	21.5	20.8	21.2
including: preschool educational institutions	12,908	11,433	8,598	10,168	2,807	2,460	1,796	2,108	21.7	21.5	20.9	20.7
Boarding institutions	1056	862	519	527	190	167	77	83	18.0	19.4	14.8	15.7
General educational institutions	21,303	17,606	12,445	13,607	4,804	3,989	2,646	3,090	22.6	22.7	21.3	22.7
Vocational and technical educational institutions	598	501	401	380	93	94	64	53	15.6	18.8	16.0	13.9
Secondary special educational institutions	420	312	242	325	37	31	19	61	8.8	9.9	7.9	18.8
Health and recreation facilities, everything	10,119	7,783	358	2,002	1,769	1,520	92	356	17.5	19.5	25.7	17.8

Table 13. Quality of drinking water in children's educational institutions, where drinking water quality on microbiological parameters was tested

Institutions	The number of examined samples by year				Number of non-standards samples by year				% discrepancy by year			
	2018	2019	2020	2021	2018	2019	2020	2021	2018	2019	2020	2021
Children's and adolescent institutions, everything	57,687	48,254	28,263	33,955	6,501	6,231	3,548	4,075	11.3	12.9	12.6	12.0
including: preschool educational	16,898	15,667	11,294	13,095	1,744	1,962	1,400	1,493	10.3	12.5	12.4	11.4

Institutions	The number of examined samples by year				Number of non-standards samples by year				% discrepancy by year			
	2018	2019	2020	2021	2018	2019	2020	2021	2018	2019	2020	2021
institutions												
Boarding institutions	1,385	1,156	685	628	134	89	52	32	9.7	7.7	7.6	5.1
General educational institutions	26,417	21,580	14,981	16,801	3,514	3,114	1,980	2,249	13.3	14.4	13.2	13.4
Vocational and technical educational institutions	662	618	470	398	38	40	38	31	5.7	6.5	8.1	7.8
Secondary special educational institutions	436	357	279	307	55	58	19	16	12.6	16.2	6.8	5.2
Health and recreation facilities, everything	11,873	8,876	554	2,720	1,016	968	59	252	8.6	10.9	10.6	9.3

3. Please assess the progress achieved from the baseline towards meeting the target and indicate any challenges encountered.

According to the National report on the quality of drinking water and the state of drinking water supply in 2019-2020, the level of coverage of centralized water supply services did not change in cities, urban-type settlements and villages (Table 14, data on the territories of the Donetsk and Luhansk oblasts and the Autonomous Republic of Crimea that are not under the control of the government of Ukraine are not available and are not taken into account). Currently, the preparation of the National Report on the quality of drinking water and the state of drinking water supply for 2021 is underway, which, after approval, will be posted in November 2022 on the official website of the MCTD, therefore, data for 2021 are not presented in the report.

It is worth noting that progress in villages' access to centralized water supply services has not been achieved compared to the indicators established for 2015 and 2020. Compared to 2016, access to centralized water supply in urban-type settlements (townships) has slightly increased.

Table 14. Coverage of settlements with centralized water supply in Ukraine

Year	Cities			Urban type settlements			Villages		
	Total, unit	with centralized water supply		In total, Unit	with centralized water supply		In total, unit	with centralized water supply	
		Unit	%		unit	%		unit	%
2016	404	401	99.3	672	586	87.2	26,084	7,609	29.2
2019	406	402	99.0	683	623	91.2	26,076	7,017	26.9
2020	406	402	99.0	685	625	91.2	26,061	6,995	26.8

In addition to the quantitative ratio, the deterioration of the quality of drinking water from rural centralized water supply systems is also noted. Many rural water supply systems do not have purification facilities and disinfection units, and there is no laboratory control of the quality of drinking water.

According to the State Water Agency, in 2015, in rural areas, only every fourth of the more than 14 million rural population had the opportunity to consume high-quality drinking water. About 6,500 villages, or only every fifth of their total number, had tap water pipes for drinking and household purposes. More than half of drinking water samples from groundwater sources in rural areas did not meet current standards and regulations. In 2020, only 4.1 million people out of 15.7 million rural population, or

26%, used the centralized water supply systems. Only 6.4 thousand out of 28.4 thousand villages had drinking water supply systems built according to the projects.

7.1% of the rural houses had a tap of water supply in the premises, 4.4% of rural houses were connected to sewerage, 8.4% - to water heating, 0.3% - to hot water supply, 18.6% rural households used water from street stands. The rest of the rural population used local sources for their drinking needs - mine and tube wells, self-made catchments, others, as well as transported water.

In some regions, the issue of population supply with drinking water is acute, not only in terms of quality, but also in terms of quantity. Scheduled water supply and its interruption results in bacterial contamination of drinking water.

One of the urgent tasks to solve the problem of the lack of centralized water supply and centralized drainage in settlements today is to provide high-quality drinking water to settlements that are supplied with transported water.

According to the MCTD, in 2020 transported water was supplied to 790 settlements in 8 regions of the country, in which almost 250,000 people live (Dnipropetrovska, Donetska, Zaporizska, Kirovohradska, Mykolaivska, Odeska, Poltavska and Khersonska oblasts). In general, during 2019-2020 the situation with the provision of transported water to settlements has not changed, although the number of settlements, compared to 2019, has increased due to settlements and the population of the Zaporizhia region (from 202 in 2019 to 263 settlements in 2020), the share of the population, which used transported water was increased from 3.6% in 2019 to 4.8% in 2020 of the total population of the Zaporizska oblast.

Transported drinking water was used in 9 regions in 2015, in particular, 27.8% of settlements and 4.1% of the population were supplied by water trucking in the Zaporizska oblast; in Mykolaivska - 14% and 0.46%; in Odeska - 11.9% and 1.6%; in Dnipropetrovska - 10.5% and 1.7%; in Lvivska - 3.0% and 0.5%; in Kirovohradska - 2.2% and 5.3%; in Khersonska - 1% each; in Poltavska - 0.4% and 0.1%; in Ivano-Frankivska - 0.25% and 0.08%, respectively. That is, in 2021, the situation with the supply of transported water has been improved somewhat.

Particularly vulnerable regions in terms of access to drinking water during 2019-2021 there were still territories that were affected by the war in the east which are under the control or not under the control of the government of Ukraine. In addition, the situation was complicated by the COVID-19 pandemic. In 2022, with the beginning of the full-scale aggression of the Russian Federation, the water and electricity supply networks in Ukraine were destroyed, leaving more than 4.6 million people with limited access to water. In total, more than 6 million people in Ukraine have problems with access to drinking water every day as [estimated by UNICEF](#).

According to the estimate of the International Organization for Migration⁶, as of June 2022, access to water supply continues to be a problem for an increasing proportion of respondents in the east (4% suffer from lack of water supply, 10% have unstable water supply) and in the south (5% and 7%, respectively). The situation with access to water supply has slightly worsened in the rest of the macro-regions compared to the previous survey (May 2022).

[According to the MCTD information](#), in 2022 the cities of Borodyanka, Mykolaiv, Zaporizhzhia, Sumy, Chernihiv, Kharkiv and Uzhgorod received assistance from UNICEF to restore water supply. [According to the information of Mykolaivska OVA](#) as of April 17, 2022, electricity supply, water supply, and drainage were suspended in 89 settlements (in six of them -partially) of Bashtan and Mykolaiv rayons, as a result of hostilities, the Dnipro-Mykolaiv water main was damaged, which supplies water from the Dnipro River to Mykolaiv. In this period population was provided by water from storage tanks and artesian wells, as well as at the expense of collective purification plants and packaged drinking water. In May, the water supply was restored, using water from the South Bug River and artesian wells (the Cabinet of Ministers allocated UAH 56 million from the reserve fund of the state budget⁷). According to the MCTD⁸, equipment for the restoration of water supply is and will be provided by a Danish company.

⁶ <https://displacement.iom.int/reports/zvit-pro-vnutrishne-peremischennya-v-ukraini-opituvannya-zagalnogo-naselennya-raund-6-23>

⁷ <https://www.minregion.gov.ua/press/news/uryad-vydilyv-56-mln-grn-na-vidnovlennya-vodopostachannya-u-mykolayevi/>

⁸ <https://www.minregion.gov.ua/press/news/vidnovlennya-krytychnoyi-infrastruktury-mykolayiv-ta-kramatorsk-otrymayut-obladnannya-vid-kompaniyi-aarsleff/>

In April 2022, in accordance with the order "On the allocation of funds from the Reserve fund of the State Budget for financial support of Water utility Chernihivvodokanal, the Government allocated UAH 150 million to restore centralized water supply and drainage in the city of Chernihiv (reconstruction of water pumping station No. 2 "Podusivka" and other urgent measures)⁹. The water supply of Irpin was restored with the help of experts from Kyivvodokanal, Irpinvodokanal, Zhytomyrvodokanal and subcontractors (two strands of polyethylene pipes with a diameter of 160 mm, a length of 7 km were laid and water wells were installed in 18 days, funded by the International Committee of the Red Cross in Ukraine, the total budget of works is about UAH 20 million).

According to the SSUFSCP and the Ministry of Education and Science of Ukraine, progress is being made in preschool and school educational institutions with regard to access to improved water sources - centralized water supply systems due to the reduction of the use of well and transported water, while greater progress was achieved for schools compared to 2015.

However, according to the Ministry of Health, the situation with the quality of drinking water in children's educational institutions is not improving. With the overall reduction of the drinking water quality monitoring program (number of objects and samples) in these institutions in recent years, a fairly significant proportion of non-standard drinking water samples on sanitary-chemical and microbiological parameters has been observed: in 2021 it was 21.2% and 7.5 %, respectively (in 2018 – 20.8% and 11.3%).

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

Achieving NTs 6 - 8 contributes to the implementation of SDG 6 "Clean water and adequate sanitation", SDG 3 "Strong health and well-being", 4 "Quality education" and SDG 11 "Sustainable development of cities and communities".

5. *If no target has been set in this area, explain why.*

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

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

NT 7. Provision of the population with centralized drainage systems and NT 8. To provide children with improved sanitary conditions at preschools and schools".

In the NTs revision in 2019, three updated NTs and corresponding indicators of progress were proposed: NT 9. Ensure the development of the legislative and regulatory framework in accordance with WHO-UNICEF and EU norms on equal access to sanitation, NT 10. Increase the population's access to improved sanitation conditions, NT 11. By 2025, provide 100% of schools, pre-schools, healthcare facilities with access to improved sanitation.

2. *Please describe the measures taken (for example, legal/regulatory, financial/economic, informational/educational and managerial measures) to achieve this target.*

On July 1, 2022, the Parliament adopted in the first reading the draft law on the sewage disposal of populated areas, which defines the legal, economic and organizational principles of the functioning of centralized and non-centralized drainage systems in Ukraine, which will contribute to the introduction of European standards on environmental protection into Ukrainian legislation in the field of water drainage negative impact of wastewater discharges¹⁰. At the moment, the draft law is being prepared for the second reading¹¹.

The draft law "On sewage disposal of populated areas", developed by the MCTD, defines subjects of relations; objects of legal regulation; principles of state policy; guarantees of consumer rights in the field of water drainage; responsibilities of central executive bodies and local self-government bodies;

⁹ <https://www.minregion.gov.ua/press/news/uryad-vydilyv-koshty-na-zdijsnennya-pershochergovyh-zahodiv-z-likvidacziyi-naslidkiv-bojovyh-dij-u-harkivskij-oblasti-ta-na-vidnovlennya-system-vodopostachannya-u-chernigovi/>

¹⁰ <https://www.minregion.gov.ua/press/news/nataliya-hoczyanivska-vr-pryjnyala-u-pershomu-chytanni-zakonoprojekt-shhodo-implementacziyi-standartiv-yes-v-zakonodavstvo-ukrayiny-u-sferi-vodovidvedennya/>

¹¹ http://w1.c1.rada.gov.ua/pls/zweb2/webproc4_1?pf3511=73527

requirements for local rules for the acceptance of wastewater to the centralized drainage systems of the settlement; responsibilities of subjects of relations in the field of drainage.

By order of the [CMU dated 28 April 2021 No. 388](#) the Concept of the State target social program "Drinking water of Ukraine" for 2022-2026 (the Program) was approved. February 15, 2022 the program was approved by the Verkhovna Rada, aimed at the development and reconstruction of centralized water supply and drainage systems through the construction (new construction, reconstruction, capital repair) of 1,093 water supply networks (water treatment facilities, main water pipelines), centralized water supply networks, treatment facilities and 280 water supply and treatment facilities. Implementation of the Program will provide 7,414,000 people with quality drinking water by 2026¹².

The Ministry of Regions has developed a draft order of the Cabinet of Ministers of Ukraine "On Amendments to the Concept of the National Targeted Social Program "Drinking Water of Ukraine" for 2022-2026. After the coordination procedures, the draft order of the Ministry of Regions will be sent to the Government for consideration.

3. *Please assess the progress made from the baseline towards meeting the target and indicate any problems encountered*

According to the National report on the quality of drinking water and the state of drinking water supply in 2019-2020, the level of coverage of centralized water drainage services did not change in cities, urban-type settlements and villages (Table 15, data on the territories of the Donetsk and Luhansk oblasts and the AR Crimea not under the control of the government of Ukraine are not available and are not taken into account). Compared with the data of 2016, progress has been noted in terms of population access in urban-type cities and towns.

In rural areas, provision of settlements with centralized water drainage systems remains at a low level – only 1.8% of the total number of rural settlements have sewage, and it is decreasing compared to 2016.

Table 15. Providing settlements with centralized water drainage systems in Ukraine

Year	Cities			Urban type settlements			Villages		
	Total, unit	with sewerage		In total, unit	with sewerage		In total, unit	with sewerage	
		Unit	%		Unit	%		Unit	%
2016	404	380	94.1	672	406	60.4	26,084	577	2,2
2019	406	392	96.6	683	435	63.7	26,076	465	1.8
2020	406	392	96.6	685	438	63.9	26,061	461	1.8

In 2019, at the expense of the State Regional Development Fund¹³ 44 objects of water supply and sewage infrastructures were financed for a total amount of 448.6 million hryvnias. In particular, projects related to water drainage were implemented in 8 oblasts (Zakarpatska, Ivano-Frankivska, Rivnenska, Ternopil'ska, Kharkiv'ska, Kherson'ska, Khmelnytska, Cherniv't'ska) and city Kyiv. In 2020 14 water supply and drainage projects for a total amount of 247.34 million hryvnias were financed with the funds of the State Regional Development Fund¹⁴. Projects related to drainage were implemented in 7 oblasts (Donetsk, Ivano-Frankivska, Sumka, Ternopil'ska, Kharkiv'ska, Kherson'ska, Khmelnytska) and city Kyiv.

According to the SSUFSCP data (Table 16), during the reporting period, access to improved sanitation - centralized drainage systems increased in children's educational institutions due to reduction of unsewered facilities institutions connected to pit latrines: in particular, in 2021, the number of uncanalized preschool educational institutions has decreased by 3 times (to 11 (0, 09%) from 33 (0.2%) in 2018) as well as number of schools not served by sewerage has decreased (down to 99 institutions (0.66%) from 279 (1.7%) in 2018). Also, the share of educational institutions using pit latrine has decreased: in 2021, 36.6% of preschool and 43.8% of school educational institutions used pit latrines,

¹² <https://www.rada.gov.ua/news/Novyny/219438.html>

¹³ <https://zakon.rada.gov.ua/laws/show/351-2019-%D1%80#Text>

¹⁴ <https://zakon.rada.gov.ua/laws/show/211-2020-%D1%80#Text>

while in 2018, respectively: 51.5% and 51.7%. It should be noted that a significant improvement in the sanitary conditions of children's educational institutions took place in 2021 compared to previous years.

Table 16. access to sanitation of preschool and school educational institutions in Ukraine (according to data of the SSUFSCP)

Institutions	Year				
	2015	2018	2019	2020	2021
Preschool institutions					
Total number of objects	15,072	12,325	12,167	11,731	11,981
provided by pit latrines/cesspool	4,902	6,347	5,440	5,365	4,386
%	32.5	51.5	44.7	45.7	36.6
have no sanitation conditions	95	33	32	25	11
%	0.6	0.2	0.26	0.21	0.09
Schools /General educational institutions					
Total number of schools	16,849	16,054	15,831	15,455	15,033
provided by pit latrines/ cesspool	7,813	8,305	8,183	7,972	6,581
%	46.4	51.7	51.7	51.6	43.8
have no sanitation conditions	675	279	244	201	99
%	4.0	1.7	1.54	1.3	0.66

According to the Ministry of Education and Science of Ukraine, in the reporting period, the level of connection to the sewerage of general and secondary education institutions (schools) increased and in 2021 was 94%, compared to 90.9% in 2018, and moreover, the rate of improvement of access to sewerage was higher than the connection to water supply.

Table 17. Number of schools with water supply and sewerage

Year	the total number of schools	number of schools with tap water	number of schools with access to sewerage
2018	16,200	14,798 (91.3%)	14,724 (90.9%)
2019	15,500	14,364 (92.7%)	14,321 (92.4%)
2020	15,200	14,148 (93.1%)	14,141(93.0%)
2021	14,900	13,997 (93.9%)	14,010 (94.0%)

According to the Ministry of Education and Science of Ukraine, the situation with school access to sanitation has reached the level of access to water supply, and in 2021 the number of schools connected to sewerage was slightly higher than those connected to water pipelines. Unfortunately, it is not possible to compare the data of the Ministry of Education and Science of Ukraine of this period with previous reporting periods and with the data of the SSFSCRCP due to the peculiarities of data collection, reporting forms and information analysis. Since 2016, the Ministry of Health of Ukraine has not collected relevant information for NTs 6 and 8. Coordination and unification of data collection and reconciliation of reporting for NTs to the Protocol is necessary.

4. *Please describe how the target in this area contributes to global and regional commitments, including the 2030 Agenda for Sustainable Development.*

Achieving the NTs on improving access to sanitation and drainage will contribute to the implementation of SDG 6.2, as well as the achievement of SDG 3 for health and SDG 4 for education.

5. *If no target has been set in this area, explain why.*

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

For each list of targets in this area:

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

In 2011, one common NT was established for the target areas regarding the levels of efficiency of collective water supply systems (Article 6.2.e 1st part) and drainage systems (Article 6.2.e 2d part):

NT 9. Reducing the length of the drainage and water supply pipelines that are in an emergency.

As a result of the NTs revision new in 2019, 6 new NTs were proposed: NT 12. To implement the RAB-regulation methodology; NT 13. To harmonize the requirements for the development of water supply management plans (optimization schemes) with European standards (Water Safety Plans) and implement management plans (optimization schemes) at the local level for all settlements of Ukraine, starting for large cities; 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.); NT 15. To reduce the level of non-productive water consumption for reducing the cost of material resources in the drinking water cost; NT 16. To reduce electricity costs of water supply; 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.

2. Please describe the measures taken (for example, legal/regulatory, financial/economic, informational/educational and managerial measures) to achieve this target.

To solve current issues in the field of centralized water supply and drainage during 2019-2021. the following regulatory documents were developed and approved by the MCTD:

- "Rules for the provision of services for centralized water supply and centralized drainage and standard contracts for the provision of services for centralized water supply and centralized drainage" were developed and approved by the Resolution of the Cabinet of Ministers of Ukraine dated 07/05/2019 No. 690. In 2022, the CMU Resolution No. 85 dated 02.02.22 amended the above-mentioned rules;

- the Resolution of the Cabinet of Ministers of Ukraine dated 15.01.2020 No. 11 "On Amendments to the Resolution of the Cabinet of Ministers of Ukraine dated August 25, 2004 No. 1107" was approved in order to bring the Resolution "On Approval of the Procedure for the Development and Approval of Standards for Drinking Water Supply" into compliance with the laws of Ukraine "About housing and communal services" and "About drinking water, drinking water supply and drainage". The resolution entered into force on January 31, 2020;

- the order of the MCTD dated April 19, 2021 No. 97 approved a new edition of the Rules for the use of centralized communal water supply and drainage systems in populated areas of Ukraine (new name - Rules for the use of centralized drinking water supply and centralized water drainage systems in populated areas of Ukraine). The order was registered with the Ministry of Justice on June 25, 2021 under No. 839/36461;

- On May 1, 2021, the Law of Ukraine dated December 3, 2020 No. 1060 "On Amendments to Certain Laws of Ukraine Regarding the Regulation of Certain Issues in the Provision of Housing and Communal Services" entered into force. According to this Law, a number of amendments were made to the Laws of Ukraine "On Local Self-Government in Ukraine", "On Heat Supply", "On Metrology and Metrological Activities", "On the Natural Gas Market", "On Commercial Accounting of Thermal Energy and Water Supply", "On housing and communal services";

- developed by the MCTD in 2020 draft [order of the Cabinet of Ministers of Ukraine "On approval of the Concept of the State target program "Drinking water of Ukraine" for 2021-2025"](#) and the draft Law of Ukraine "On the State Target Social Program "Drinking Water of Ukraine" for 2022-2026". By order of the CMU of April 28, 2021 No. 388 the Concept of the State target social program "Drinking water of Ukraine" for 2022-2026 was approved. MCTD has developed a draft order of the Cabinet of Ministers of Ukraine "On Amendments to the Concept of the State Target Social Program "Drinking Water of Ukraine" for 2022-2026. After the coordination procedures, the draft order of the MCTD will be sent to the Government for consideration. On 11/18/2021, the Verkhovna Rada of Ukraine adopted as a basis the draft Law of Ukraine "On the State Target Social Program "Drinking Water of Ukraine" for 2022-2026" (reg. No. 5723). The main result of the implementation will be the restoration of the water supply and drainage infrastructure, ensuring the quality of drinking water in territorial communities of Ukraine. As of February 21, 2022, the Law has been sent to the President for signature.

Due to the destruction of the water supply and drainage infrastructure as a result of the armed aggression of the Russian Federation, the State Target Social Program "Drinking Water of Ukraine" requires significant changes, both in terms of increasing the amount of funding for the restoration of destroyed and damaged objects, and taking into account the prospects of Ukraine acquiring the status of a candidate

country for membership in the European Union, namely, the introduction of new standards and modern technologies for the treatment of drinking water and wastewater.

3. *Please assess the progress achieved from the baseline towards meeting the target and indicate any challenges encountered.*

There has been no progress in reducing the emergency rate of water supply networks over the last two reporting years.

In 2015, the total length of water supply networks (excluding the Donetsk oblast) was estimated at 106,374.4 km, dilapidated and emergency - 36,185.4 km (34%); only 573.6 km or 1.6% of the requirement was replaced.

In 2019, the total length of water supply networks (excluding the Donetsk oblast) was 105,020 km, of which 36,631.6 km or 34.9% were dilapidated and emergency, replaced during the year - 934,000 km or 2.55% of need.

In 2020, the total length of water supply networks (excluding the Donetsk oblast) was 106,536.4 km, of which dilapidated and emergency networks were 36,916.25 km or 34.7%, replaced during the year - 838.5 thousand km or 2.3% of the need.

As for the emergency rate of water supply networks, during the reporting years, as well as in 2015, this parameter differed significantly by region. The accident rate of water supply networks in the Donetsk oblast has increased - 25.3 (2019) and 32.26 (2020) accidents per 1 km of the network; as well as in Luhanska oblast - from 9.3 in 2015 to 12.3 in 2019, in 2020 the parameter decreased to 0.99 accidents per 1 km of the network. The lowest accident rate was in the Chernivtska oblast in 2019-2020. remained at the level of 0.24 accidents per 1 km of the network. In 2020, the lowest accident rate was in the Khersonska oblast - 0.042, while in 2015, the rate for this region was 6.7 accidents per 1 km of the network.

According to the National Report, non-productive losses and technological costs of water in centralized water supply systems (without taking into account the data of the Republic of Crimea, Donetsk oblast) in 2015 amounted to 786.33 million m³ or 35.23% of the volume of water raised, in 2019 - 690,16 million m³ or 34.9%; in 2020 - 571.42 million m³ or 29.8%. There is a tendency to decrease losses and technological costs of water, but the values of this indicator still remain at a sufficiently high level, that is, about a third of the raised water is lost.

Table 18. Number of pumping equipment and length of water supply networks in Ukraine

Number of equipment and networks	2015	2019	2020
Water pumping equipment*	14,665	14,675	15,401
needs a replacement, units (%)	3,850 (26.3%)	3,820 (26%)	3,276 (21.3%)
replaced during the year, units (%)	936 (24.3%)	1,505 (39.4%)	1,318 (40.2%)
Water supply networks (km), including*	106,374.4	105,020	106,536.4
obsolete and emergency networks, km (%)	36,185.4 (34%)	36,630.6 (34.9%)	36,916.25 (34.7%)
replaced during the year, km	573.6 (1.6%)	934 (2.5%)	838.5 (2.3%)

*excluding Donetsk oblast

During 2019-2020 the largest volume of unproductive water uses and water losses (more than 50% of the volume of raised water) was observed in Chernivetska oblast - 61.8 and 62 %, Zakarpatska oblast - 50.7 and 51.2%, Donetsk oblast - 49.5 and 50.1%.

In 2018, the majority of vodokanal began to look for alternative ways of disinfecting drinking water after the stoppage of liquid chlorine production by the monopolist Dniproazot, JSC (almost all domestic enterprises use chlorine). For example, in 2021 Rivneoblvodokanal, KP received a grant to install equipment for the production of sodium hypochlorite (it is planned to install the equipment by the end of 2022). The plant for the synthesis of sodium hypochlorite is already operating at the Novy Dvir station in Rivne city, it was launched in 2020. In 2020, Khersonvodokanal won similar equipment from Slovakia, which was delivered in January 2021 (water is supplied 24/7 to Tavriyskyi and Shumenskyi microdistricts

of the city)¹⁵. In 2019, installations for the synthesis of sodium hypochlorite were installed at Khmel'nitskvodokanal, KP.

According to Kyivvodokanal, PJSC data, the enterprise is actively implementing the Stop Chlorine program. In 2021, 30% of Kyiv residents have already consumed water disinfected with chlorine dioxide (Dniprovska water station), and 10% of the water from artesian wells is disinfected with sodium hypochlorite¹⁶. In addition, in 2019, the reconstruction of the chlorine management at the Desnianska water station was completed.

4. *Please describe how the target in this area contributes to global and regional commitments, including the 2030 Agenda for Sustainable Development.*

The targets NT 12-17 will implement SDG 6 Clean Water and Sanitation and especially target 6.1, as well as the SDG 3 Healthy Lives and Well-being and SDG 11 Sustainable Development of Cities and Communities.

5. *If no target has been set in this area, explain why.*

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

1. *Please describe the current target indicator and its control period, as well as provide information on the history of the adoption of the indicator and the legal justification, current national and international legislation*

In 2011, a joint target indicator for the areas regarding the levels of performance of collective systems and other systems for water supply sanitation was established.

In 2019, 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; NT 19. To replace pumping equipment with efficient optimal ones at large enterprises.

2. *Please describe the measures taken (for example, measures of a legal/regulatory, financial/economic, informational/educational and managerial nature) to achieve this target indicator.*

The main provisions and tasks in the field of wastewater treatment and sanitation 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 Wellbeing of the Population”, “Rules for the Protection of Surface Water from Pollution by Return Waters” and acts regulating the operation of the centralized sanitation.

On July 1, 2022, in the first reading the Draft Law on Wastewater Disposal in Settlements was adopted by Verkhovna Rada of Ukraine. Currently, the Draft Law is being prepared for the second reading.

[The National Target Program “Drinking Water of Ukraine” for 2022-2026](#)” (see p. 2 of III. Access to Drinking Water of this Report) includes projects for the construction of wastewater treatment facilities; projects for the construction of local sewerage networks, hydraulic structures; projects to create basic wastewater quality control laboratories and equip them with modern control and analytical equipment.

3. *Please provide an assessment of the progress made against the baseline towards the target and indicate any challenges encountered.*

No significant progress was made in the replacement of emergency sewerage networks and the reduction of accidents. The percentage of replacement of pipelines during the reporting years practically did not change, only a slight increase of this indicator was observed in relation to 2015 (1.04%), in 2019-2020 1.3% and 1.4%, respectively. At the same time, the part of obsolete and emergency sewerage networks

¹⁵ <https://suspilne.media/143527-slovaki-profinansuut-sistemu-dla-ocisenna-vodi-u-rivnomu-so-i-comu-robitimut/>

¹⁶ <https://www.vodokanal.kiev.ua/news/yakisna-ta-smachna-voda-dlya-kiyan-chim-znezarazhuemo-zamist-chloru-ta-yaki-perevagy-cze-dae/>

during the reporting period increased from 40.9% in 2019 to 41.9%, and compared to 2015, it increased by 7.8%.

In 2015, the total length of sewerage networks was 37,404.5 km, obsolete and emergency - 12,749.3 km or 34.1%; 133.1 km or 1.04% of the requirement was replaced.

In 2019, the total length of sewerage networks was 39,350.6 km, including obsolete and emergency - 16,101.4 km or 40.9%; 191.9 km or 1.2% of the requirement was replaced. Excluding Donetska oblast, these indicators were as follows: 34,601 km; 13,204 km or 38.2%, 184 km or 1.4%, respectively.

In 2020, the total length of sewerage networks was 39,707.8 km, including obsolete and emergency - 16,618.4 km or 41.9%; 186 km or 1.1% of the requirement was replaced. Excluding Donetska oblast, these indicators were as follows: 34,956.6 km; 13,680.2 km or 39.1%, 173.8 km or 1.3%, respectively.

During 2019-2020, the largest percentage of pipes that needed replacement due to their unsatisfactory technical condition (more than 50%) was in Kharkivska, Donetska, Luhanska, Volynska and Zaporizka oblasts.

Table 19. The number of sewage pumping equipment of and the length of sewage networks in Ukraine

Number of equipment and length of networks	2015	2019	2020
Sewage pumping equipment*	7,039	7,110	7,253
needs a replacement, units (%)	2,096 (29.8%)	2,154 (30.3)	2,055 (28.3%)
replaced during the year, units	336 (16.0%)	365 (16.9%)	332 (16.2%)
Sewage networks, km	37,404.5	39,351	39,707.8
Including obsolete and emergency networks, km (%)	12,749.3 (34.1%)	16,101 (40.9%)	16,618.4 (41.9%)
replaced during the year, km	133.1 (1.04%)	192 (1.2%)	186 (1.1%)

*excluding Donetska oblast

In 2019-2020, the largest percentage of replaced sewage networks (to those that needed replacement) was in Chernivetska - 8.1 and 9.2% and Kyivska oblast - 9.0%. According to 2020 data, in 7 oblasts and in Kyiv city, this indicator ranged from 1 to 2.7%/ In the rest of the oblasts, this indicator ranged from 0.2 to 1%.

Regarding the accident rate of sewerage networks, in particular, the indicator of the number of accidents per 1 km of the network, it was the largest in Donetska oblast - 97.4 and 119.18 accidents, respectively; the smallest - in the Kirovohradska oblast - 0.09.

4. Please describe how the target indicator set in this area contributes to the fulfillment of global and regional commitments, in particular the 2030 Agenda for Sustainable Development.

The targets NT 18-20 will implement SDG 6 Clean Water and Sanitation and especially target 6.1, as well as SDG 3 Healthy Lives and Well-being and SDG 11 Sustainable Development of Cities and Communities.

5. If the target indicator in this area is not set, explain why.

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

For each list of targets in this area:

1. *Please describe the current target indicator and its control period, as well as provide information on the history of the adoption of the indicator and the legal justification, current national and international legislation*

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

In 2019, two common NTs are proposed for the target areas (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); 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.

2. *Please describe the measures taken (for example, legal/regulatory, financial/economic, informational/educational and managerial measures) to achieve this target.*

The arrangement and operation of water supply systems sanitary protection zones (SPZs) are regulated by a number of normative documents, which establish the requirements of a strict regime for their organization and further operation. In particular, requirements for SPZs exploitations are set out in following documents:

- Sanitary norms and rules of planning and development of settlements, approved by Decree of the State Sanitary Doctor of Ukraine dated 19.06.96 No. 173 (with amendments);
- Resolution of the Cabinet of Ministers of Ukraine dated 18.12.1998 No. 2024 “On the Legal Regime of Zones of Sanitary Protection of Water Bodies”;
- 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, Ne 2640-82;
- Water Code of Ukraine.

The development of optimization schemes of centralized water supply and drainage systems is approved at the legislative level in Ukraine¹⁷. Such schemes are developed for the purpose of rational use of drinking water in the process of production and provision of centralized water supply services, and the establishment of optimal uninterrupted operation of centralized water supply and drainage systems. These schemes are complex program documents, where, based on the analysis of the current state of water supply and drainage systems as a whole and their individual elements, the identification of “bottlenecks” is carried out, and the development of a set of measures to eliminate them, as well as the development of water supply and drainage systems in order to improve quality water and wastewater treatment efficiency, reliability of such systems. It is worth noting that in terms of water quality, the optimization schemes are not coordinated with the methodology of water safety planning, in accordance with the recommendations and guidance of the WHO, taking into account that the Meeting of the Parties to the Protocol already in 2010 recognized Water Safety Plans as the main instrument for the implementation of the Protocol. The implementation of the measures envisaged in the optimization schemes is often held back in practice due to a lack or absence of funding.

The DSTU ISO 24511:2013 “Water Supply and Drainage” is in force in Ukraine. Guidelines for the management of water drainage systems and the evaluation of their services, which are intended for water drainage services of both public and private forms of ownership. This standard is applicable to drainage systems as a whole and at all stages of their improvement (for example, cesspools, local systems, drainage networks, and sewage treatment plants).

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

¹⁷ <https://zakon.rada.gov.ua/rada/show/v0476738-10#Text>

3. *Please provide an assessment of the progress made against the baseline towards the target and indicate any challenges encountered.*

Since 2018, only some large vodokanals in Ukraine have started implementing ISO standards in their activities. It should be noted, that the certification according to DSTU ISO standards is not mandatory, it is a voluntary certification system. Kyivvodokanal, PJSC has currently implemented a quality management system according to DSTU EN ISO 9001:2018 (EN ISO 9001:2015, IDT, ISO 9001:2015, IDT) “Quality management systems. Requirements” (implementation started in 2018)¹⁸. In 2020, Mykolaiivvodokanal, MKP received the DSTU ISO 9001:2015 certificate. Until 2018, only Bilotscerkivvoda, LLC received certificates for the management system of the international standard ISO 9001 and the effectiveness of the environmental management system in accordance with the requirements of the international standard ISO 14001.

4. *Please describe how the target in this area contributes to global and regional commitments, including the 2030 Agenda for Sustainable Development.*

The targets NT 21 and NT 22 ensure the safety of drinking water and implement target 6.1, and SDG 11 Sustainable Development of Cities and Communities.

5. *If no target has been set in this area, explain why.*

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

For each list of targets in this area:

1. *Please describe the current target indicator and its control period, as well as provide information on the history of the adoption of the indicator and the legal justification, current national and international legislation*

In 2019, common NTs for target areas are proposed to Article 6.2.f ,1st and 2nd parts (see previous area).

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

For each list of targets in this area:

1. *Please describe the current target indicator and its control period, as well as provide information on the history of the adoption of the indicator and the legal justification, current national and international legislation*

NT 10. 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%.

2. *Please describe the measures taken (for example, legal/regulatory, financial/economic, informational/educational and managerial measures) to achieve this target.*

Environmental protection from wastewater pollution issues is regulated by many laws, resolutions and orders of the Cabinet of Ministers of Ukraine and central executive bodies. The policy frameworks in this area are enshrined in the Water Code of Ukraine and the Laws of Ukraine “On Environmental Protection”, “On Drinking Water, Drinking Water Supply and Drainage”, “On Environmental Impact Assessment” (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 2022-2026 (2022).

¹⁸ <https://vodokanal.kiev.ua/vprovadzheniya-standart%D1%96v-iso>

In 2021, the Order of MCTD “On Approval of Amendments to the Rules for the Acceptance of Wastewater to Centralized Sewage Systems and the Procedure for Determining the Amount of Fees for Excessive Wastewater Discharges to Centralized Sewage Systems” was approved. 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. There are also a large number of by-laws and regulatory documents.

3. *Please provide an assessment of the progress made against the baseline towards the target and indicate any challenges encountered.*

During the reporting period, there is a positive trend in the reduction of discharges of polluted wastewater into water bodies, which took place in the reporting period for 2014-2016, and the reduction of discharges of polluted (insufficiently treated) wastewater in 2021, compared to 2015, decreased by 38 %. During the reporting period, against the background of a gradual reduction in the total volume of wastewater and the amount of polluted wastewater that was discharged into water bodies, the share of discharges of polluted/insufficiently treated wastewater changed: 14% - in 2019, 10% - in 2020 and rose to 12%, which amounted to 543.093 million m³ - in 2021, which is partly due to the reduction of production in the conditions of the COVID-19 pandemic and the effect of quarantine.

In 2021, 4,686.152 million m³ of wastewater was discharged into surface water bodies. Of the total volume of wastewater discharged into water bodies, 543.093 million m³ (11.59%) are polluted water, 1,430.164 million m³ (30.52%) are normatively treated, 2,712.895 million m³ (57.89%) are normatively clean without treatment. Among them, 171.528 million m³ (of which 103.045 million m³ were contaminated) of mining-quarry wastewater and 179.333 million m³ (of which 88.359 million m³ were contaminated) of collector and drainage water were discharged.

Table 20. Return water discharge

Year	General discharge of wastewater million m ³	Including		
		polluted (insufficiently cleaned) million m ³	%	normatively cleared million m ³
2015	5,581	875.1	15.68	1,389
2018	5,412	952	17.59	1,058
2019	5,374	737.2	13.72	1,188
2020	5,159.386	518.35	10.05	1,425.329
2021	4,686.152	543.093	11.59	1,430.164

4. *Please describe the measures taken (for example, legal/regulatory, financial/economic, informational/educational and managerial measures) to achieve this target.*

NT 23 fully corresponds to the NT SDG 6.3.

5. *If no target has been set in this area, explain why.*

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

1. *Please describe the current target indicator and its control period, as well as provide information on the history of the adoption of the indicator and the legal justification, current national and international legislation*

In 2011, the NT was not established.

In 2019, two NT were proposed: NT 24: Develop legislation on storm water management; 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.

2. *Please describe the measures taken (for example, legal/regulatory, financial/economic, informational/educational and managerial measures) to achieve this target.*

On July 1, 2022, in the first reading the Draft Law on Wastewater Disposal in Settlements was adopted by Verkhovna Rada of Ukraine, which, among other, provides for the regulation of storm water management. Currently, the Draft Law is being prepared for the second reading. In particular, the Draft

Law introduces the terms “surface wastewater”, “surface wastewater disposal system”. Art. 19 of the Draft Law provides for features of drainage of surface wastewater.

3. *Please provide an assessment of the progress made against the baseline towards the target and indicate any challenges encountered.*

It is impossible to assess the progress due to the lack of statistical data.

4. *Please describe the measures taken (for example, legal/regulatory, financial/economic, informational/educational and managerial measures) to achieve this target.*

Targets NT 24 and NT 25 ensure a direct contribution to the implementation target 6.3 regarding the reduction of pollution from diffuse sources of water pollution.

5. *If no target has been set in this area, explain why.*

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

1. *Please describe the current target indicator and its control period, as well as provide information on the history of the adoption of the indicator and the legal justification, current national and international legislation*

In 2011, NT 11 was established: Increasing the efficiency of wastewater treatment plants performance by 2020.

In 2019, a new NT was proposed: NT 26. Reduce wastewater discharges from WWTPs, the quality of which does not meet the requirements of Council Directive 91/271/EEC.

2. *Please describe the measures taken (for example, legal/regulatory, financial/economic, informational/educational and managerial measures) to achieve this target.*

Issues of wastewater quality and treatment are regulated by the Water Code of Ukraine and laws: “On Environmental Protection”, “On Drinking Water, Drinking Water Supply and Drainage”, “On Environmental Impact Assessment”. The measures are provided 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.

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 MCTD Order from January 1, 2017, No. 316 and registered with the Ministry of Justice of Ukraine from January 15, 2018 No.56/31508 and No. 57/31509, respectively. Amendments to these Rules were approved by MCTD Order dated November 9, 2021 No. 286¹⁹.

3. *Please provide an assessment of the progress made against the baseline towards the target and indicate any challenges encountered.*

In recent years, under development projects financed by foreign investors, the reconstruction of individual wastewater treatment plants has begun, but the complete cycle of treatment and disposal of sludge, even at these plants, is missing.

In 2018, the implementation of the sewage sludge management project began at Chornomorskvodokanal, KP. According to the National Report, in 2019, 15, and in 2020, 20 treatment facilities of centralized wastewater systems underwent partial or full reconstruction.

During 2017-2021, the tender procedures for the reconstruction project of the Bortnichi aeration station (Kyiv) continued. According to Kyivvodokanal data, the construction site was expected to open at the end of 2021, the total project implementation period is 6 years²⁰.

¹⁹ <https://zakon.rada.gov.ua/laws/show/z1671-21#Text>

²⁰ <https://vodokanal.kiev.ua/news/na-yakomu-etapi-rekonstrukciya-bsa/>

4. *Please describe the measures taken (for example, legal/regulatory, financial/economic, informational/educational and managerial measures) to achieve this target.*

Target NT 26 has a direct contribution to the achievement of SDG 6.3 on the reduction of pollution from point sources of water pollution.

5. *If no target has been set in this area, explain why.*

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

For each list of targets in this area:

1. *Please describe the current target indicator and its control period, as well as provide information on the history of the adoption of the indicator and the legal justification, current national and international legislation*

In 2011, the NT was not established.

In 2019, three indicators were proposed: NT 27. To introduce mechanisms of encouraging water utilities to use modern methods of sludge processing; NT 28. Reduce the amount of generated sludge; NT 29. To conduct land reclamation under sludge fields.

2. *Please describe the measures taken (for example, legal/regulatory, financial/economic, informational/educational and managerial measures) to achieve this target.*

According to State Building Regulation B.2.5-75:2013 “Sewerage. External Networks and Structures. The main provisions of the design” sewage sludge formed in the process of wastewater treatment must undergo treatment that ensures their reuse, rational use of the territory, protection of the soil, groundwater and atmosphere, the possibility of biogas utilization (for settlements with a load of more than 300,000.0 equivalent inhabitants).

In the European Union, in accordance with Article 14 of Council Directive 91/271/EEC on Urban Wastewater Treatment dated May 21, 1991, sewage sludge is reused, if appropriate. Moreover, in such a way as to minimize their negative impact on the natural environment.

Pursuant to the requirements of the fifth paragraph of Article 11 of the Law of Ukraine “On Drinking Water, Drinking Water Supply and Drainage”, the MCTD order dated 12.12.2018 No. 341 “Procedure for the reuse of treated wastewater and sludge if the norms of maximum permissible concentrations of pollutants” is adopted. According to order No. 341, sewage sludge that has undergone the necessary technological stages of treatment can be used for soil fertilization in accordance with the Law of Ukraine “On Land Protection” taking into account the features defined by Article 39 of the said Law; as an alternative type of fuel in accordance with the Law of Ukraine “On Alternative Energy Sources”.

Sewage sludge used for fertilization must meet the requirements of DSTU 7369:2013 and have a positive conclusion of the state sanitary-epidemiological examination.

DSTU 8727:2017 “Sewage Sludge. Preparation of Organo-Mineral Mixture from Sewage Sludge” entered into force on April 1, 2018.

3. *Please provide an assessment of the progress made against the baseline towards the target and indicate any challenges encountered.*

There are no state 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 “Sewage. Requirements for Sewage and Sludge for Irrigation and Fertilization”.

In 2018, the implementation of the sewage sludge management project began at Chornomorskvodokanal, KP.

The sediment treatment system is planned to be modernized as part of the reconstruction of the Bortnichi Aeration Station (BSA) in Kyiv. Zhytomyrvodokanal, KP also plans to introduce thermal modernization of sludge²¹.

4. *Please describe the measures taken (for example, legal/regulatory, financial/economic, informational/educational and managerial measures) to achieve this target.*

The achievement of NTs 27-29 has a direct contribution to the achievement of SDG 6.3 and 6.4 on the reduction of pollution from point sources of water pollution and the introduction of wastewater and sludge processing with energy and ash recycling, which will also contribute to the achievement of SDG 11 Sustainable Development of Cities and Communities.

5. *If no target has been set in this area, explain why.*

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

For each list of targets in this area:

1. *Please describe the current target indicator and its control period, as well as provide information on the history of the adoption of the indicator and the legal justification, current national and international legislation*

In 2011, the NT was not established.

In 2019, the 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 was established, but not approved.

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

2. *Please describe the measures taken (for example, legal/regulatory, financial/economic, informational/educational and managerial measures) to achieve this target.*

Regarding the quality of wastewater used for irrigation purposes, the normative documents, among others, are the following:

- Irrigation and Drainage Strategy in Ukraine for the period up to 2030, approved by the CMU Order of the 14th August, 2019 No. 688-p;
 - Procedure for the Reuse of Treated Wastewater and Sludge if the Norms of Maximum Permissible Concentrations of Pollutants (MCTD Order No. 341 dated 12.12.2018);
 - Procedure for State Water Monitoring Implementation, approved by the CMU Resolution dated 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 the identification of the main anthropogenic impacts (including point and diffuse sources of pollution) on the quantity and quality of water resources are in progress;
 - DSTU 7369: 2013 “Sewage. Requirements for Sewage and Sludge for Irrigation and Fertilization” sets requirements for the quality of wastewater used for fertilization.
3. *Please provide an assessment of the progress made against the baseline towards the target and indicate 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 is not provided up to design standards.

Irrigation with wastewater is not carried out in Ukraine due to the low quality of treated wastewater and high risks of deterioration of the quality of agricultural products, salinization and loss of fertile soil properties when untreated wastewater is used for irrigation.

²¹ <https://vodokanal.zt.ua/news/v-zitomiri-bude-zaprovadzeno-novitnu-tehnologiu-znevodenna-osadu->

4. *Please describe the measures taken (for example, legal/regulatory, financial/economic, informational/educational and managerial measures) to achieve this target.*

NT 30 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. In addition, NT 30 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.

5. *If no target has been set in this area, explain why.*

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

1. *Please describe the current target indicator and its control period, as well as provide information on the history of the adoption of the indicator and the legal justification, current national and international legislation*

In 2011, the NT was not established.

In 2019, NCP 31 was established: To improve the quality of water in sources of drinking water.

2. *Please describe the measures taken (for example, legal/regulatory, financial/economic, informational/educational and managerial measures) to achieve this target.*

Hygienic water quality standards of water bodies to meet drinking, household and other needs of the population were approved by Order of the Ministry of Health on May 2, 2022 No. 721 to replace SaNPiN 4630-88 “Sanitary Rules and Norms for the Protection of Surface Water from Pollution”.

State institutions - Regional Laboratory Centers of the Ministry of Health of Ukraine (from July 1, 2021 Centres for Disease Control and Prevention (CDCP) to the Ministry of Health) constantly monitor and supervise compliance with the safety of drinking water, including monitoring of water from reservoirs that are used as sources of drinking water; research of sources of centralised and decentralised water supply according to microbiological and more than 70 sanitary and chemical indicators; monitoring the content of nitrates in the water of decentralised water supply sources, in particular wells and catchments, the water from which is used for consumption by children under the age of 3 in accordance with paragraph 8.3 of the resolution of the CMU meeting of 19.05.2010 No. 20 «On Prevention of Children Water-Nitrate Methemoglobinemia».

The existing legislative framework in Ukraine in the field of drinking water quality control is sufficiently developed and in general can ensure activity. The main document that determines the requirements for water quality in the source of drinking water supply is DSaNPiN 2.2.4-171-10 “Hygienic Requirements”, which was developed taking into account the requirements of the EU Directive on Drinking Water.

Measures to raise awareness about the quality of drinking water include the publication of relevant information on the websites of local state administrations, local self-government bodies, central executive authorities, disease control and prevention centers of the Ministry of Health of Ukraine, on Facebook, in printed publications, etc.

Currently, there is no online monitoring of raw (especially surface) water quality. The project of such monitoring the quality of untreated surface water was developed by the MEPNR with the involvement of other interested ministries and agencies (MoH, State Emergency Service, State Water Agency), but was not approved by a regulatory document.

There are natural problems with source water in small settlements, in particular with regard to fluoride content (in Poltavaska, Chernihivska, Lvivska, Odeska oblasts), iron (in Ternopilaska, Kyivska and other oblasts), etc.

An important issue is anthropogenic pollution of surface water sources due to untreated industrial and domestic effluents, which contain a wide range of pollutants. Separately, it should be noted the problems of phosphate pollution of water resources due to the use of synthetic phosphate detergents and the problems of surface waters blooming, which are sources of drinking water supply.

The subjects of relations in this sphere are: state authorities and local self-government bodies, whose sphere of management includes drinking water supply (and drainage) facilities; vodokanals; consumers of

drinking water (and/or drainage services). The following authorities are responsible for monitoring the state of the sector and the quality and state of water resources:

- Ministry for Communities and Territories Development of Ukraine, Ministry of Health of Ukraine monitors the state of sources,
- State Service of Ukraine on Food and Consumer Protection (SSUFSCP) under the Ministry of Economy of Ukraine carries out supervision and control of facilities,
- Ministry of Environmental Protection and Natural Resources of Ukraine, State Water Resources Agency of Ukraine (State Water Agency), Ukrainian Geological Survey (Geonadra) carry out monitoring of the condition of water bodies (surface and underground waters), which are sources of drinking water supply;
- State Emergency Service in Ukraine (SESU) – prevention and elimination of emergency situations at drinking water supply facilities (drainage) and their consequences.
- several other ministries (Ministry of Defense of Ukraine, Ministry of Infrastructure of Ukraine, Ministry of Energy of Ukraine) resolve issues related to the functioning of departmental water supply (water drainage) systems subordinated to them.

Measures for arranging and maintaining zones and the regime of sanitary protection of water supply sources, modernization of water supply sources, construction of new and modernization, replacement of pipelines were planned in the Water Management Development Program and the National Target Program “Drinking Water of Ukraine”.

Ukraine has not taken steps to develop the legislative framework for implementing the principles of proactive management of water and sanitation safety and planning tools for such management as Water Safety Plans (WSP), in accordance with WHO recommendations and the updated EU Directive on drinking water and Sanitation Safety Planning (SSP), respectively WHO recommendations..

3. *Please provide an assessment of the progress made against the baseline towards the target and indicate any challenges encountered.*

According to the CDCP data, over the past 5 years, the share of water samples from the water resources of I category, which did not meet the standards, according to chemical and microbiological indicators, has increased against the background of a decrease in the total number of tested samples. A similar trend of growth of non-standard samples for water bodies of the category II, which did not meet the standards for chemical and microbiological indicators, is observed. Across the country, there is a slight improvement in the state of water bodies of the 1st category, both in terms of sanitary and chemical indicators, and in terms of microbiological indicators - in 2021, the levels of water quality non-compliance indicators decreased slightly due to a decrease in the total number of tested samples and tested samples that did not meet the standards.

In 2021, the share of tested water samples from water bodies of the I category that did not meet the standards was 15.1% (314 out of 2,076) according to chemical parameters, and 15.4% (285 out of 1,851) according to microbiological parameters; from water bodies of the II category that did not meet the standards, in 2021, according to chemical parameters, was 22.8% (2,129 out of 9,347), according to microbiological parameters 23.4% (2,869 out of 12,280).

Table 21. Water quality from surface reservoirs according to physicochemical and microbiological parameters

	Chemical parameters					Microbiological parameters				
	2015	2018	2019	2020	2021	2015	2018	2019	2020	2021
Water samples from I category water bodies										
Total	3,606	3,033	2,503	2,140	2,076	4,057	2,627	2,571	2,081	1,851
Does not meet the standards	391	585	479	399	314	377	590	534	408	285
Share, %	10.8	19.3	19.1	18.6	15.1	9.3	22.4	20.8	19.6	15.4

Water samples from II category water bodies										
Total	12,215	15,519	12,072	8,470	9,347	19,125	18,915	14,571	10,261	12,280
Does not meet the standards	2,372	3,223	2,890	1,977	2,129	2,358	3,571	3,498	2,370	2,869
Share, %	19.4	20.8	23.9	23.3	22.8	12.3	18.9	24.0	23.1	23.4

The quality of drinking water in centralized water supply systems is adversely affected by the unsatisfactory sanitary and technical condition of water supply facilities and networks, the percentage of their degradation, which is from 30% to 70% in different regions, untimely capital and ongoing planned and preventive repairs and elimination of accidents.

The supply of water according to schedules and its long absence in water supply networks contributes to bacterial contamination of drinking water. The situation is significantly worsened by cases of disconnection of water supply objects from energy supply systems, which is a gross violation of Article 6 of Chapter II of the Law of Ukraine "On Drinking Water, Drinking Water Supply and Drainage".

A significant reduction in the monitoring and control of the quality of the source and drinking water in rural areas is associated with the slow, long-term process of transferring the water supply infrastructure to the balance of local self-government bodies, which was further complicated by decentralization (the reform of the voluntary association of territorial communities, which has been implemented since 2014), lack of specialized organizations for technical maintenance, operation of water supply and drainage systems and lack of production control of water quality in rural areas.

Considering that more than $\frac{3}{4}$ of the rural population consumes water from wells and individual wells, which are mostly in unsatisfactory technical condition, the issue of water quality and safety is a serious problem in rural communities.

Due to the military actions of the Russian Federation in Ukraine since 2014, monitoring and control of water quality and safety in the annexed territory of the Republic of Crimea and the occupied territories of Donetsk and Luhansk oblasts have been lost.

4. *Please describe the measures taken (for example, legal/regulatory, financial/economic, informational/educational and managerial measures) to achieve this target.*

Target 31 implements SDG target 6.1.

5. *If no target has been set in this area, explain why.*

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

For each list of targets in this area:

1. *Please describe the current target indicator and its control period, as well as provide information on the history of the adoption of the indicator and the legal justification, current national and international legislation*

In 2011, the NT was not established.

In 2019, NT 32 was proposed: To improve the safety and quality of water used for bathing by sanitary-biological parameters

Currently, State Building Norms B.2.2-12:2019 "Planning and Development of Territories", State Building Norms B.2.2-5:2011 "Landscaping" (with amendments) are in force.

The heads of local executive bodies, local self-government bodies, enterprises, institutions and organizations, regardless of the form of ownership, conduct appropriate organizational measures every year before the beginning of the bathing (resort) season within the recreation zones at water objects that are used for physical and recreational purposes or for recreation of people, in accordance with clause 9 of the Order of the Ministry of Internal Affairs dated 04.10.2017 No. 301 "On Approval of the Rules for the Protection of People's Lives on Water Bodies of Ukraine".

2. Please describe the measures taken (for example, legal/regulatory, financial/economic, informational/educational and managerial measures) to achieve this target.

In 2017, according to the CMU resolution from January 20, 2016 No. 94-p, all basic Sanitary Rules and Norms (SanPiNs) regulating the safety of water objects used for recreation were cancelled, 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”, 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.

Hygienic water quality standards of water bodies to meet drinking, household and other needs of the population were approved by order of the Ministry of Health on May 2, 2022 No. 721²² to replace SanPiN 4630-88 “Sanitary Rules and Norms for the Protection of Surface Water from Pollution”.

The Rules for the Protection of People's Lives on Water Bodies of Ukraine were approved by an order of the Ministry of Internal Affairs on April 10, 2017, No. 301.

Annually, in accordance with paragraph 9 of the above-mentioned Rules, within preparation for the restoration season, the Oblast state administrations approve the local programs of measures ensuring the 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, and systematic laboratory control of water from open water bodies is organized.

The Ministry of Health of Ukraine, Center of Public Health of the Ministry of Health of Ukraine, and Centres for Disease Control and Prevention (CDCP) to the Ministry of Health conduct laboratory monitoring and control of the quality of water for swimming on beaches and in recreational areas on the territory of the country, including in the Donetsk, Zaporizska, Mykolaivska, Odeska, Khersonska oblasts, which have access to the sea coast, and on rivers, including in the city of Kyiv on the Dnipro River. In case of detection of violations, administrative measures are applied to violators.

SESU and SSUFSCP perform a supervisory function and apply means of administrative influence.

Relevant information is regularly provided on the websites of local state administrations, local self-government bodies, and the Centers for Disease Control and Prevention of the Ministry of Health of Ukraine during the summer health season. Information is also published in the local mass media, sanitary education and explanatory work are carried out among the population on the prevention of acute intestinal infectious diseases, food poisoning, and the need to observe the rules of personal hygiene in emergency conditions. However, the mechanisms for operationally informing the population about the sanitary-epidemiological condition of such objects have not yet been developed.

In May-August 2021, CDCP conducted a study of 6,374 samples of the river and marine water for microbiological parameters, of which 1,060 samples (16.6%) did not meet the standards for microbial contamination according to the LPEC index (lactose-positive *Escherichia coli*), etc.; according to chemical parameters – 4,331 tested samples, of which 938 samples (21.7%) did not meet the standards. During the same period of the previous years, 1,465 samples (19.5%) did not meet the standards for microbial contamination according to the LPEC index, etc., and according to chemical indicators - 997 samples (22.0%); in 2019 - 1,779 samples (18.3%) for microbial contamination according to the LPEC index, etc., and 1,063 samples (8.1%) for chemical parameters; in 2018 – 1,675 (8.6%) and 1,366 (8.1%), respectively.

A negative trend is observed for areas of water bodies of the II category, which are used for swimming, sports and recreation of the population, as well as those located within the boundaries of settlements.

According to the Ministry of Health, during 2019-2021 the share of the examined samples of marine water that did not meet the standards was, respectively, according to sanitary and chemical parameters: in 2019 – 7.9%, in 2020 – 12.1%, in 2021 – 9.4%; according to microbiological parameters: in 2019 – 8.8%,

²² <https://ips.ligazakon.net/document/RE37860?an=19>

in 2020 – 16.7%, in 2021 – 7.5%. There is a tendency to decrease the share of non-standard samples of marine water.

Table 22. Results of examination of water samples for bathing, according to the data of the CDCP in 2018-2021

Year	number of water samples		number of samples	
	examined	non-standard	examined	non-standard
	microbial pollution		chemical pollution	
2018	2,218	218 (9.8%)	5,699	380 (6.7%)
2019	2,494	197 (7.9%)	5,220	460 (8.8%)
2020	2,564	311 (12.1%)	4,503	752 (16.7%)
2021	3,033	286 (9.4%)	4,917	371 (7.5%)

SSUFSCP has ensured the conduct of water samples from reservoirs, in particular those used for recreational purposes. According to the results of water samples from water bodies during inspections of health and recreation facilities (for children and adults), the share of deviations according to bacteriological parameters was 15.5% in 2018, 15.7% in 2019, and 14.4% in 2020, in 2021 – 25%. The share of deviations according to sanitary and chemical parameters was 29.5% in 2018, 24.5% in 2019, 19.6% in 2020, and 20% in 2021.

In Ukraine, there is no single online list of objects intended for bathing. At the national level, information on beaches and recreational areas in the territory of the country is not collected, there are no statistics for Ukraine. There is no information with a list of such objects on the websites of territorial state administrations, information can be obtained only upon special request from ministries and agencies.

3. *Please provide an assessment of the progress made against the baseline towards the target and indicate any challenges encountered.*

The NT has not been established.

4. *Please describe the measures taken (for example, legal/regulatory, financial/economic, informational/educational and managerial measures) to achieve this target.*

Work in this direction can contribute to the achievement of the SDG 11 Sustainable Development of Cities and Communities, SDG 11.6 Ensure the development and implementation of local development strategies aimed at economic growth, job creation, tourism, recreation and development of the local culture, and production of local products, as well as the SDG 3 Healthy Lives and Well-being.

5. *If no target has been set in this area, explain why*

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

1. *Please describe the current target indicator and its control period, as well as provide information on the history of the adoption of the indicator and the legal justification, current national and international legislation*

In 2011, the NT was not established.

In 2019, the NT - To increase the quantity of water bodies of a “good” ecological status, which are used for aquaculture, in particular for fish breeding, was established, but not approved.

Indicator: Number of water bodies used for aquaculture, in particular for fish breeding, having a good ecological status (by dissolved oxygen content, BOD, COD, organic content parameters).

2. *Please describe the measures taken (for example, legal/regulatory, financial/economic, informational/educational and managerial measures) to achieve this target.*

The legislative framework regarding the quality of water for aquaculture includes the Water Code of Ukraine (Article 36. on establishing maximum permissible concentrations of substances in water bodies whose water is used for fish farming), the laws: “On Aquaculture” dated September 18, 2012, No. 5293-VI; “On Fish Farming, Industrial Fishing and the Protection of Water Bio-resources” from July 8, 2011

No. 3677-VI (Environmental Water Quality Standards for Fish Farming Water Objects). In force also the Order of the State Monitoring of Water Resources, in accordance with the CMU resolution from September 19, 2018 No. 758 and the Order of the Ministry of Agrarian Policy dated July 30, 2012 No. 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 demand (BOD₅), chemical oxygen demand (COD), suspended solids and ammoniac nitrogen)” registered in the Ministry of Justice of Ukraine dated 14.08.2012 No. 1369/21681. 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>.

State Fisheries Agency of Ukraine plans to develop the Code of Responsible Fisheries Policy in accordance with the principles of the Code of Conduct for Responsible Fisheries and EU Regulation No. 1380/2013 of 11.12.2013 on the Common Fisheries Policy on fisheries and aquaculture, in particular ensuring water quality and good ecological the state of water bodies used for aquaculture.

At the same time, there are urgent needs regarding i) the development of scientific study and support ii) the development of state regulation of anthropogenic thermal and biological pollution of water bodies, the impact of aquaculture on the state of aquatic ecosystems, the quality of water resources and the health of the population (in particular, the impact of chemical food additives, genetically modified products and medicines - antibiotics, fungicides, etc.); iii) development of water use accounting (procedure of collection, systematization and analysis of reporting data on water use in fish farming in river basins) and production of aquaculture products, in accordance with FAO recommendations; development of water quality monitoring in the places of return water discharges and the corresponding development of the potential of regional accredited and certified laboratories and strengthening of control of waters used for aquaculture.

3. *Please provide an assessment of the progress made against the baseline towards the target and indicate any challenges encountered.*
4. *Please describe the measures taken (for example, legal/regulatory, financial/economic, informational/educational and managerial measures) to achieve this target.*
5. *If no target has been set in this area, explain why.*

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

1. *Please describe the current target indicator and its control period, as well as provide information on the history of the adoption of the indicator and the legal justification, current national and international legislation*

In 2011, the NT was not established for this area due to its non-recognition among national priority areas, lack of information and resources.

In 2019, NT 34 was proposed: To introduce recognized good practices for management of enclosed waters available for bathing.

In this area following acts are in force: State Building Regulation B.2.2-12:2019 “Planning and Development of Territories”, State Building Regulation B 2.2-9:2018 “Public Buildings and Facilities. Basic Provisions”, State Building Regulation B.2.2-3:2018 “Buildings and Structures. Educational Institutions”, State Building Regulation B.2.2-4:2018 "Buildings and Structures. Preschool Education Institutions", State Building Regulation B.2.2-13-2003 “Sports and Physical Culture and Recreation Facilities”, State Building Regulation B.2.2-40:2018 “Inclusiveness of Buildings and Structures”, SOU 36.0-23721802-001:2020 “Swimming and Bathing Pools of all Types and Purposes. Preparation of Water. General Requirements”, SOU 97.2-32774846-001:2014 “Pools. General Requirements”, SOU 97.2-32774846-002:2014 “Water Parks. General Requirements”, DSTU EN 15288-1:2020 (EN 15288-1:2018, IDT) “Swimming Pools for Public Use”, DSTU EN 16582-1:2019 (EN 16582-1:2015, IDT) “Domestic Swimming Pools - Part 1: General Requirements Including Safety and Test Methods”, DSTU EN 16713-1:2020 (EN 16713-1:2016, IDT) “Domestic Swimming Pools. Water Supply Systems”.

It is impossible to obtain information about the specified objects without special requests from ministries and departments due to the lack of a single online network of such objects that belong to different forms of ownership (communal, private, departmental, etc.). The management of these facilities refers to the 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 measures taken (for example, legal/regulatory, financial/economic, informational/educational and managerial measures) to achieve this target.*

In Ukraine, as a result of deregulation by the CMU Order from January 20, 2016 No. 94-p, all normative acts that regulated this activity and have been in effect since Soviet times were cancelled. 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 within Sanatoriums” (1977), “Methodological Recommendations on Preventive Disinfection in Sport Swimming Pools” (31.03.1980, No. 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”. Updated by-laws have not yet been approved.

The management of these objects belongs to the powers of local state administrations and local self-government bodies within the communal ownership of settlements, urban and rural communities; to the property of ministries, departments or enterprises, legal entities or individuals who operate a swimming pool or other places specially designated for swimming, within the limits of private property.

Supervision and control over compliance with the requirements of sanitary legislation are carried out by SSUFSCP inspectors, and monitoring studies of water in pools are carried out by the CDCP or under agreements.

In the majority of operating old and new swimming pools at educational institutions, outdated schemes of water treatment with water disinfection by the chlorination method are used.

There is no registration of swimming pools, water parks and other enclosed water facilities for swimming at the national level, nor is there a single online network of such facilities. There is no information on the websites of regional state administrations either. Regular monitoring and control of the water quality of closed water bodies for bathing are not carried out. Water quality studies are carried out by local supervisory and control services upon request or in the event of an emergency, chlorine poisoning or other circumstances.

The regulatory framework for the implementation of modern methods of water treatment, including alternatives to chlorination methods of disinfection and methods of water conditioning, needs revision. European standard DIN 19643-1:1997 “Treatment of the Water of Swimming-pools and Baths - Part 1: General Requirements” and current Ukrainian regulatory documents rely only on the use of methods based on chlorine or chlorine compounds.

During the reporting period (in September 2019), one case of chlorine vapor poisoning was registered in the “7 Ocean” water park in Khmelnytskyi. In total, 21 people sought medical help, including 19 children. After checking the condition of the water in the pools, it was found that the content of bound chlorine was exceeded by more than 13 times. A similar situation occurred in January 2022 (16 children from Vinnytsia were injured due to exceeding the permissible time of continuous stay in premises where disinfectants are used; according to the results of research, no deviations from the norm and an excess of chlorine concentration were found either in the air or in the water).

3. *Please provide an assessment of the progress made against the baseline towards the target and indicate any challenges encountered.*

The NT has not been established.

4. *Please describe the measures taken (for example, legal/regulatory, financial, economic, informational/educational, and managerial measures) to achieve this target.*

The NT 34 implements the SDG 4.1 Ensure access to quality school education for all children and adolescents and SDG 4.7. Create a modern learning environment in schools, including inclusive education, through innovative approaches.

5. *If no target has been set in this area, explain why.*

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

1. *Please describe the current target indicator and its control period, as well as provide information on the history of the adoption of the indicator and the legal justification, current national and international legislation*

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

In 2019, three NTs and indicators were proposed:

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: 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 includes:

- The Water Code of Ukraine, Chapter 20. Protection of waters from pollution, littering and exhaustion;
- The Land Code of Ukraine, Chapter 27. Use of technologically contaminated lands, Article 167. Land protection from contamination by hazardous substances;
- Law of Ukraine “On Waste Management” (Chapter IV. Hazardous waste);
- 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 Resolution No. 413 dated 07.07.2017);
- The National Waste Management Strategy of Ukraine was approved at the meeting of the CMU 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 No. 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 measures taken (for example, legal/regulatory, financial/economic, informational/educational and managerial measures) to achieve this target.*

As part of the implementation of the Council Nitrate Directive 91/676/EEC, Ukraine implemented the following measures in the reporting period: in June 2020, an Interdepartmental Working Group was established to speed up the implementation of the Nitrate Directive. In June 2021, MEPNR approved the Method for designating Nitrate Vulnerable Zones (NVZs), which provides a basis for mapping NVZs and developing a program of measures to reduce and prevent water pollution by biogenic substances nitrogen and phosphorus, in the agricultural sector. In November 2021, the Ministry of Agrarian Policy and Food of Ukraine approved the Order “Rules for Ensuring Soil Fertility and the Use of Certain Agrochemicals”, which refers to “good” agricultural practice in the context of the implementation of the Nitrates Directive (November 24, 2021 No. 382, registered in the Ministry of Justice of Ukraine on January 14, 2022, under No. 34/37370).

3. *Please provide an assessment of the progress made against the baseline towards the target and indicate 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>.

4. *Please describe the measures taken (for example, legal/regulatory, financial/economic, informational/educational and managerial measures) to achieve this target.*

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

5. *If no target has been set in this area, explain why.*

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

1. *Please describe the current target indicator and its control period, as well as provide information on the history of the adoption of the indicator and the legal justification, current national and international legislation*

In 2011, one NP was established: 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 2019, the NT of 2011 was revised and a new NT was proposed:

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.

- Please describe the measures taken (for example, legal/regulatory, financial/economic, informational/educational and managerial measures) to achieve this target.*

Ukraine implements Directive 2000/60/EC of the European Parliament and the Council of October 23, 2000, according to the Association Agreement between Ukraine and the EU (ratified by Law No. 1678-VII of September 16, 2014). In order to approximate its provisions and norms, a number of by-laws were approved in 2016-2018. In the reporting period, the following were approved:

MEPNR Orders: “On Approval of Plans-Schedules for the Process of Developing River Basin Management Plans” from November 27, 2020 No. 313; “On Approval of State Water Monitoring Program” from 12.31.2020 No. 410; “Procedure of Functioning of the Module “Submission of a Report on Water Use in Electronic Form” of the portal of electronic services of the State Water Resources Agency” from 18.12.2020 No. 375; “On Approval of the Procedure for Exchanging Documents in Electronic Form Issuing a Permit for Special Water Use” from February 19, 2019 No. 75.

Since 2019, Ukraine has started preparing River Basin Management Plans (RBMPs) in accordance with the requirements of harmonized water legislation in accordance with the EU-Ukraine Association Agreement, which is reflected in the CMU Resolution “On Approval of the Procedures for Development of River Basin Management Plans “ (May 18, 2017 No. 336). The first step was the implementation of a new state program for monitoring surface and underground water in accordance with the requirements of the EU WFD from January 1, 2019, by a CMU resolution. With the support of the OSCE, a Monitoring Plan for the Don River Basin has been prepared. Work continues on the preparation of the RBMPs of the Dniester, Dnipro and Vistula rivers. Three basin laboratories in the State Water Resources Agency are fully staffed and will monitor surface waters of the Don (Slovyansk), Dniester (Ivano-Frankivsk) and Dnipro (Vyshhorod) basins.

As of 2020, 13 basin management of water resources have been created, and the existing water resources management system has been changed to a more flexible, democratic and open (transparent) decentralized system of integrated management based on the basin principle. In addition, in order to ensure the rational use and protection of water and the reproduction of water resources, their integrated management, and the formation of basin councils was ensured. In Ukraine, basin councils are formed in 8 areas of river basins: Dnipro, Dniester, Danube, Southern Bug, Don, Vistula, Black Sea and Azov rivers. In 2018, 13 basin councils were formed. During the meetings of the three basin councils of the sub-basins of the upper, middle and lower Dnipro in 2020, a public discussion was held to determine the main water and ecological problems in the Dnipro basin.

- Please provide an assessment of the progress made against the baseline towards the target and indicate any challenges encountered.*

As part of international support, draft River Basin Management Plans have been prepared and are being prepared in Ukraine for the following:

1. The Danube river (sub-basin of 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 Dnipro river (the upper part of the basin from the border with the Republic of Belarus). EU project “Environmental Protection of International River Basins”, 2012-2016.
3. The Dnipro river. EU project “Water Initiative Plus” 2016-2020, “EU for the Environment: Water Resources and Environmental Data”, 2022-2024.
4. The Dniester river. GEF Project “Promoting Transboundary Cooperation and Integrated Water Resources Management in the Dniester River Basin”, 2017-2019.
5. The Vistula River (Western Bug sub-basin), 2018-2020. Project supported by UNESCO, UNECE, GEF.
6. The Don River. OSCE Project Coordinator in Ukraine “Supporting Water Resources Planning and Management in Eastern Ukraine”, 2018-2021.

Strategic Action Program until 2035 for the Dniester basin has been developed and defines strategic directions for reducing water pollution and strengthening bilateral cooperation in the field of water resources management and promoting the rational use of water. The Action Program will help implement

concrete steps to reduce pollution in the Dniester River Basin and synchronize measures in the Dniester River Basin Management Plans.

4. *Please report how the target in this area contributes to global and regional commitments, including the 2030 Agenda for Sustainable Development*

Targets 38 and 39 implement the SDG target 6.5.

5. *If no target has been set in this area, explain why.*

XX. Additional national or local specific targets

In cases where additional targets have been set, for each target:

1. *Please describe the current target indicator and its control period, as well as provide information on the history of the adoption of the indicator and the legal justification, current national and international legislation*

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 2019, these three national targets 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; NT 41. Raise public awareness on water safety and health; 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.

The indicators were set for implementation of the following legal acts: 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 measures taken (for example, legal/regulatory, financial/economic, informational/educational and managerial measures) to achieve this target.*

Public funding is provided for the elaboration of the annual National Report on Drinking Water Quality and the State of Drinking Water Supply in Ukraine. Public funding, contributions from organizations and sponsors are used to conduct Water and Environment conferences held by the Ministry of Environmental Protection and Natural Resources of Ukraine and the State Water Resources Agency of Ukraine, 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 MCTD in the framework of AQUA-UKRAINE International Water Forum. International donors, professional associations, producers (water utilities), and 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.

At the same time, with the aim of increasing environmental awareness and involving citizens in the implementation of integrated approaches to the management of water resources according to the basin principle, a number of environmental and educational campaigns were carried out during 2019-2021, like World Water Day, International Clean Beach Day, events to celebrate the days of rivers: Dniester, Danube, Southern Bug, Siverskiy Donets, Dnipro, Desna, Western Bug, Molochnaya. Due to the COVID-19 pandemic, most events in 2020-2021 were held online.

The State Water Resources Agency has created a prototype information system with basic functionality, allowing it to start issuing e-permits for special use of water resources in the spring of 2019.

The State Water Resources Agency has developed the "Geoportal" information system with water cadastre data. The State Water Resources Agency has ensured the publication of data sets "State Surface Water Monitoring Data" and "State Water Cadastre" in the form of open data (.csv) on the data.gov.ua portal.

The Ministry of Environmental Protection and Natural Resources together with other Centers for Environmental Protection, created a broad IT-platform Open Environment.

13 Basin Councils have been established in the main river basins with the involvement of stakeholders for the purpose of effective management of river basins, preparation of RBMPs and joint implementation of programs of measures to improve the ecological state of water resources and solve other urgent problems in the basins.

3. Please provide an assessment of the progress made relative to the baseline towards the target and any challenges encountered.

During the reporting period, regular publication of the annual National Report on Drinking Water Quality and the State of Drinking Water Supply in Ukraine was established on the MCTD website. For 2017, the National Report included a chapter on the Protocol on Water and Health. All central bodies of executive power responsible for 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 are involved on an ongoing basis in the National Report preparation.

Ukraine once every three years prepares a Summary Report on the progress in the implementation of the Protocol on Water and Health. All previous Summary Reports in English are available for public access on the official website of the Protocol.

The main source of information on the quality of drinking water according to 12-18 physico-chemical parameters are water utilities, which provide data on their websites with different frequencies (once a month-quarter).

In Ukraine, water forums (AQUA UKRAINE, AQUATERM), scientific conferences, information companies and promotions dedicated to international water days are held every year and have already become a tradition (the World Water Day on March 22, Clean Shores Day - September 17, the Danube Day, the Dniester Day, the Dnipro Day, and River Days in Ukraine).

Ukrainian associations of water utilities (Association Ukrvodokanalekology, Ukrainian Drinking Water Association, Clean water) annually hold wide-ranging events (exhibitions, business forums, seminars) to improve education and exchange experience for specialists in the industry, develop partnerships with colleagues from other countries. At the same time, the issue of personnel training for both the water supply and sanitation sector, as well as for water resources management, remains critical and requires the support of the state.

The Ministry of Health of Ukraine, State Enterprise Center of Public Health of the Ministry of Health of Ukraine, and Centres for Disease Control and Prevention (CDCP) to the Ministry of Health constantly participate in the preparation of the Drinking Water Quality and the State of Drinking Water Supply in Ukraine, which is posted annually on the website of the MCTD and to the Summary Report on in accordance with article 7 of the Protocol on Water and Health.

The Ministry of Health of Ukraine, State Enterprise Center of Public Health of the Ministry of Health of Ukraine, and Centres for Disease Control and Prevention (CDCP) to the Ministry of Health constantly

participate in the preparation of materials for publication on the quality of drinking water and other waters that are relevant to the Protocol in accordance with Bathing Water Directive (76/160/EEC), Council Directive 98/83/EC on the quality of water intended for human consumption, Council Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural sources and the Council Directive 91/271/EEC concerning urban waste-water treatment with a given frequency.

Ukraine fulfils the international obligation to report on the progress of the implementation of the Protocol every 3 years. Ukraine participated in five cycles of reporting on the Protocol, prepared and submitted to the UNECE Protocol Secretariat National Summary Reports on the progress of the implementation of the Protocol - Report on basic and national indicators in 2010, 2013, 2016, 2019 and 2022.

4. *Please report how the target in this area contributes to global and regional commitments, including the 2030 Agenda for Sustainable Development*

The national targets ensure the implementation of SDG 6.

5. *If no target has been set in this area, explain why.*

Part three. Common indicators

I. Quality of the drinking water supplied

1. Context of the data

1. What is the proportion of the population covered (in millions of people, or % of the total population of the country) by the types of water supply, reflected in the reporting in accordance with sections 2 and 3 below?

The purpose of this question is to find out the degree of coverage of the population with data on water quality, which are provided in accordance with sections 2 and 3 below.

Please indicate the type of water supply for which data are included in the tables below and the proportion of the population covered by such water supply. Please also specify the source of the water quality data provided (for example, data from regulatory authorities).

According to the MCTD data, in 2016, 26.92 million persons or 67.38 % of the total population of cities, townships and villages included in the official report used centralised water supply service. In 2020, 68.6% of the population used centralised water supply services.

According to the data of local executive bodies and water management organizations, in 2015, 1.3 thousand rural settlements with a population of more than 950 thousand persons in 16 Ukrainian oblasts (Dnipropetrovska, Donetsk, Zakarpatska, Zaporizska, Ivano-Frankivska, Kyivska, Kirovohradska, Lvivska, Luhanska, Mykolaivska, Odeska, Poltavska, Rivnenska, Kharkivska and Khersonska oblasts) used truck and low-quality water.

According to 2020 data, only 4.1 million persons from 15.7 million rural population, or 26%, used centralised water supply service. Only 6.4 thousand rural settlements out of their total number of 28.4 thousand have drinking water supply systems built according to the projects. 7.1% of the rural housing stock have an internal water mains, 4.4% have water drainage and sewerage, 8.4% have water heating, 0.3% have hot water supply, and 18.6% have public water pumps. The rest of the rural population used local sources for their drinking needs like mine and tubes wells, self-made catchments, springs, as well as imported water.

3. In Chapters 2 and 3, compliance assessment standards refer to national standards. In case of deviation of the national standards from those stipulated in the WHO guidelines, please provide information on the indicators stipulated by these standards. The purpose of this question is to identify any possible differences between the national standards for microbiological and chemical parameters of water quality and the corresponding values provided in the WHO guidelines.

2. Bacteriological quality

Please indicate the proportion of samples that do not meet the national standard for E. coli. Parties may also report up to three other priority microbiological indicators and/or pathogens for which water quality

is regularly monitored. If possible, please provide data separately for urban and rural areas using the table below. If this is not possible, please consider reporting data by alternative categories that may apply in the country, for example by "non-centralized and centralized" water supply or by categories based on population. In this case, please indicate which categories are displayed in the report, renaming the columns of the "area/category" column in the following table accordingly. If it is impossible to provide data either by urban and rural areas, or by alternative categories, please report only aggregate (national) values. Please comment on trends or provide any other important information that aids the interpretation of the data.

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. This report provides a Table containing an integrated assessment of the bacteriological quality of drinking water in centralised water supply systems.

Table 23. Indicators of epidemiological safety of drinking water

WatSan_S2	Initial value (2014, 2015-2017)	Current value (2021)
<i>Escherichia coli</i>	No separate entry in the official reporting form	
Enterococcus	No separate entry in the official reporting form	

Table 24. Number of samples from different water supply systems analyzed by microbiological parameters

WatSan_S2	Baseline value	Interim values			Current value
	2015	2018	2019	2020	2021
<i>Samples analysed for microbiological indicators, collected at:</i>					
centralised water supply facilities, unit	144,649	186,317	166,705	117,216	123,023
Including: municipal water mains, unit	78,967	91,403	84,387	60,571	65,068
rural water mains, unit	28,807	41,502	33,077	21,603	22,525
water distribution networks, unit	125,236	132,806	117,786	81,838	87,623
sources of decentralised water supply, unit	50,677	61,578	50,347	35,728	33,008
<i>Shares of sub-standard samples of drinking water, that failed to meet microbiological sanitary requirements, collected at:</i>					
centralised water supply facilities, %	4.6	7.7	8.2	7.6	7.5
Including: municipal water mains, %	3.1	5.1	5.7	4.7	5.1
rural water mains, %	7.6	11.8	11.4	13.8	11.9
water distribution networks, %	4.4	7.8	8.3	7.6	7.8
sources of decentralised water supply, %	18.0	23.4	24.6	22.6	22.9

3. Chemical quality

Please indicate the proportion of samples that do not meet the national standard of chemical water quality from the following parameters:

- a) Arsenic;
- b) Fluorine;
- c) Lead;
- d) Nitrate

Please also identify no more than three additional chemical parameters that are a priority in a national or local context.

If possible, please provide data separately for urban and rural areas using the table below. If this is not possible, please consider submitting data from alternative categories that may apply in your country, such as "non-centralized and centralized" water supply or categories based on population. In this case, please specify which categories are displayed in the report, renaming the columns of the column "region / category" accordingly in the following table. If it is impossible to provide data by urban and rural areas, as well as by alternative categories, please report only aggregate (national) values. Please comment on trends or provide any other important information that aids the interpretation of the data.

Table 25. Drinking water quality by physico-chemical parameters

Contaminants	Baseline value	Interim values			Current value
	2015	2018	2019	2020	2021
Fluorine	No separate entry in the official reporting form				
Nitrate and nitrite	No separate entry in the official reporting form				
Nitrate (Centralised water supply)	No separate entry in the official reporting form	2.62	2.6	2.0	2.0
Arsenic		0.0	0.0	0.0	0.0
Lead	0.8	0.9	1.5	0.5	0.2
Iron	5.5	3.3	2.0	4.2	3.3
Additional physical-chemical parameter 1: <u>Manganese</u>	2.1	3.7	3,4	6.4	7.6
Additional physical-chemical parameter 2: <u>Cadmium</u>	1.1	0.7	0.7	0.1	0.0
Additional physical-chemical parameter 3: <u>Carbon tetrachloride</u>	0	0.3	0.0	0.0	0.0
Additional physical-chemical parameter 4: <u>Chloroform</u>	36.4	23.3	31.6	36.5	17.7
Samples analysed, collected at:					
Nitrate (Centralised water supply)	No separate entry in the official reporting form	74,801	64,321	46,000	46,905
Arsenic		492	594	394	350
Lead	2,447	3,602	3,132	2,590	2,654
Iron	2,275	3,286	3,047	3,269	3,186
Manganese	2,626	6,509	4,313	5,517	5,099
Cadmium	2,083	3,537	2,678	2,332	2,374
Carbon tetrachloride	679	729	575	442	348
Chloroform	3,353	5,096	4,294	2,816	2,080

Table 26. Drinking water quality by physico-chemical parameters

WatSan_S2	Baseline value	Interim values			Current value
	2015	2018	2019	2020	2021
<i>Samples analysed for chemical indicators, collected at:</i>					
centralised water supply facilities, unit	117,755	146,007	128,441	94,303	95,453
Including: municipal water mains, unit	58,898	67,470	60,581	45,026	45,154
rural water mains, unit	25,924	32,955	24,675	18,350	16,408
water distribution networks, unit	95,458	105,083	92,502	65,434	59,492
sources of decentralised water supply, unit	78,305	82,215	76,940	46,617	45,469
<i>Shares of sub-standard samples of drinking water, that failed to meet chemical sanitary requirements, collected at:</i>					
centralized water supply facilities, %	15.7	22.7	22.3	21.7	21.2
Including: municipal water mains, %	12.4	18.5	17.2	16.8	18.2
rural water mains, %	22.5	29.8	31.2	26.9	28.9
water distribution networks, %	13.5	18.5	18.6	17.6	18.3
sources of decentralised water supply, %	32.7	34.4	30.4	32.6	33.5

II. Outbreaks and incidences of infectious diseases related to water

In filling out the table below, 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 (eg 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 other important information supporting interpretation of the data.

Table 27. Incidents of water-related diseases

	Incidence (number of people)*					Number of outbreaks (confirmed WRD)*				
	Baseline value	Value reported in previous reporting years			Current value	Baseline value	Intermediate value			Current value
	2015	2018	2019	2020	2021	2015	2018	2019	2020	2021
Cholera	0/0	1/0	0/0	0/0	0/0	0/0	1/0	0/0	0/0	0/0
Bacterial dysentery (shigellosis)	0/0	0/0	88/57	5/0	0/0	0/0	0/0	4/1	1/0	0/0
EGCP**	It is not reported separately in the official statistical form									
Enteritis by Yersinia enterocolitica	0	0	0	0	0	0	0	0	0	0
Typhoid fever	0	0	0	0	0	0	0	0	0	0
Viral hepatitis A	55/0	288/132	295/5	26/0	20/0	8/0	28/1	39/1	6/0	2/0
Legionellosis	0	0	0	0	0	0	0	0	0	0
Cryptosporidiosis	0	0	0	0	0	0	0	0	0	0
Rotavirus enteritis	360/35	251/48	200/7	26/0	158/15	18/2	33/2	31/1	6/0	20/1
Acute intestinal infections, (AII) identified	360/155	197/0	502/16	133/16	212/6	13/1	25/0	45/1	14/1	19/1
Acute intestinal infections of unknown etiology	109/0	231/0	284/92	167/0	402/31	13/0	29/0	26/2	12/0	20/1

* X/Y - where X- data related to incidents or outbreak in general and Y - data related to water-borne incidents or outbreaks

** Entero-haemorrhagic *E. coli*.

In 2021, 3 outbreaks related to the use of poor-quality drinking water were registered, and 52 people were affected, including 47 children: 1 outbreak of rotavirus infection - 15 children were affected (Odesa - Chornomorsk, DZ); 1 outbreak of AII of identified etiology - 6 people were affected, including 7 children (Ternopilska - Ternopil city, kindergarten), 1 outbreak of AII of unknown etiology - 31 people were affected, including 29 children (Chernivetska - village Ispas Vyzhnytsky district, kindergarten).

In 2020, 1 outbreak related to the use of poor-quality drinking water was registered, while 16 students of grades 1-8 were affected by the AII of norovirus etiology (Rivnenska - village Yasnohirka, Sarnensky district, school - use of poor-quality tap water due to contamination of the school borehole).

In 2019, 6 outbreaks related to the use of poor-quality drinking water were registered, 177 residents were affected, including 151 children: - 1 outbreak of viral hepatitis A - 5 residents were affected, including 3 children (Cherkaska - village Nova Hreblya, Zhashkiv district, household well water); 1 outbreak of rotavirus infection - 7 children were affected (Ternopilska - Ternopil city, kindergarten - bottled water), 1 outbreak of shigellosis - 57 people were affected, including 54 children (Odesa - Sergiyivka village of Belgorod-Dnistrovsky district, recreation camp - water from centralized water supply networks, the possible contamination caused by an emergency situation at the water supply), 1 outbreak of the AII of identified etiology - 16 residents were affected, including 15 children (Ternopilska - village Novosilka, Zalishchytsky district, household well water), 2 outbreaks of AII of unknown etiology – 92 people were affected, including 72 children (Donetska - village Ivanopilya, Kostiantynivskiy district, at home - drinking water from centralized water supply due to interruptions of water supply - 66, of them 47 children; Mykolayivska - village of Koblevo, Berezanskyi district, out-of-town children's health and recreation facility - affected 25 children - drinking water is imported).

In 2018, 3 outbreaks related to the use of poor-quality drinking water were registered, 180 residents were affected, including 70 children: 1 outbreak of viral hepatitis A - 132 residents were affected, including 27 children (Mykolaivska - the city of Mykolaiv , the household - drinking water); outbreak of rotavirus infection – 48 residents were affected, including 43 children.(Kyivska, Kyiv-Svyatoshyn rayon, v. Sofiyska Borschagivka, residential complexes: “Lvivskiy maetok”, “Sofiyskyi quarter”, “Sofiyska slobidka”, - 48 dwellers affected , including 34 children due to contamination caused by emergency on water pipeline; Vinnytsia - Stryzhavka village, "Kazka" kindergarten - 9 children were affected).

In 2015, 3 outbreaks water-borne related were registered (190 people were affected, including 148 children) – an outbreak of intestinal infection in the city of Kyiv (Bortnychy district – 155, including 121 children), 2 outbreaks of rotavirus infection in the city of Zolotonosha, Cherkaska oblast (15 affected, including 12 children) and in v. Ozhenino of the Ostrozkyi rayon of the Rivnenska oblast (20 affected, including 15 children) due to the use of poor-quality drinking water from the centralized water supply.

Data on the incidence of cholera, shigellosis, EGCP, viral hepatitis A, and typhoid are generated on the basis of state statistical forms No. 1 and 2, which record the total number of patients. Link to water is fixed only when data is provided for outbreaks.

Table 28. General morbidity of the population by individual infectious diseases

	Disease incidents (number of people)					Disease incidents rates (per 100,000 people)				
	Baseline value	Value for previous reporting years			Current value	Output value	Value for previous reporting years			Current value
	2015	2018	2019	2020	2021	2015	2018	2019	2020	2021
Cholera	0	1	0	0	0	0.0	0.002	0.0	0.0	0.0
Bacterial dysentery (shigellosis)	933	835	845	291	222	2.06	1.97	2.00	0.69	0.53
Enteritis provoked by <i>ersinia enterocolitica</i>	128	97	99	44	47	0.28	0.23	0.23	0.10	0.11
Typhoid fever	4	5	1	1	1	0.01	0.01	0.002	0.002	0.002
Viral hepatitis A	2,481	2,767	3,172	1,190	405	5.48	6.52	7.51	2.83	0.97
Legionellosis	0	0	1	0	0	0.0	0.0	0.002	0.0	0.0
Cryptosporidiosis	22	25	45	24	11	0.05	0.06	0.11	0.06	0.03
Rotavirus enteritis	12,388	13,268	9,511	2,663	4,158	27.38	31.28	22.53	6.34	9.96
Campylobacter enteritis	114	149	158	154	189	0.27	0.35	0.37	0.37	0.45

III. Access to drinking water

If possible, please provide segregated data for urban and rural areas using 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 supply 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 trends or provide any other important information supporting interpretation of the data with regards to access to drinking water.

According to the National Report on the quality of drinking water and the state of drinking water supply in 2019 and 2020, the level of coverage of centralized water supply services has not changed in cities, urban-type settlements and villages (data on the non-government controlled areas of Donetsk and Luhansk oblasts are missed and not taken into account).

According to the available information summarized at the national level for 2016, the share of the urban (cities and urban-type settlements) population that has access to centralized water supply was 88.3% (24.7 million out of 27.97 million), while only 18.5% (2.22 million out of 11.98 million people) of the rural population had access to centralized water supply (Table 29, 30). According to 2020 data, 87.3% of the urban population and 26.5% of the rural population had access to centralized water supply.

National estimates are estimates and are based on generalized statistics regarding the availability of centralized water supply in a settlement. In Ukraine, according to administrative governance, there are 3 types of settlements: cities, urban-type settlements, and villages. In the evaluation of the urban population's access to centralized water supply, the data for cities and towns of the urban type are summarized. Access to centralized water supply in Ukraine is assessed taking into account only access to centralized water supply.

Table 29. Access population to centralized water supply in Ukraine

Share (%) of the population has access to drinking water	2016	2020
Urban population (cities and townships)	88.3% 24.7 million out of 27.97 million people	87.3%
Rural population (villages)	18.5% 2.22 million out of 11.98 million people	26.5%

Table 30. Number of settlements and population provided with centralized water supply services

	2016			2019	2020	
	Number of settlements with centralized water supply	The population with centralized water supply		Number of settlements with centralized water supply	Number of settlements with centralized water supply	The population of centralized water supply
Cities	99.3% (401 out of 404 cities)	90.9% (22.38 out of 24.61 million people)	88.3% (24.7 million out of 27.97 million people)	99.0% (402 out of 406 cities)	99.0% (402 out of 406 cities)	87.3%
Townships	87.2% (586 out of 672 townships)	69.1% (2.32 out of 3.36 million people)		91.2% (623 out of 683 townships)	91.2% (625 out of 685 townships)	

Village	29.2% (7609 out of 26084 villages)	18.5% (2.22 out of 11.98 million people)	18.5% (2.22 million out of 11.98 million people)	26.9% (7017 out of 26076 villages)	26.8% (6995 villages out of 26061)	26.5%
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The WHO-UNICEF Joint Monitoring Program reporting based on the definitions of "access to drinking water" has not been implemented in Ukraine. The main parameter of official reporting refers to settlements or the population (estimated data), supplied by centralized water supply, information on the population's access to non-centralized water supply systems (wells, wells, catchments, etc.) is not available at the national level.

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 the 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 trends or provide any other important information supporting interpretation of the data regarding to access to sanitation.

According to the data of the National Reports of 2016, 2019, 2020, the relevant information summarized at the national level regarding the population with access to sewerage is presented only for 2016 and 2020. In 2016, 68.3% (19.11 million out of 27.97 million) of the population lived in cities and townships with sewage, while only 3% (360 thousand) of the rural population lived in villages with sewage. In 2020, respectively, 71.7% of urban population and 5.3% of rural population lived in the settlements with centralized drainage systems.

National estimates are calculated based on generalized statistics regarding the availability of sewerage in a settlement. In Ukraine, according to administrative governance, there are 3 types of settlements: cities, townships, and villages. Definitions of JMP regarding access to sanitation do not apply in Ukraine. Improved sanitary conditions associated with access to centralized drainage.

Table 31. Provision of population by centralized water drainage services in Ukraine

Percentage of population with access to drainage systems	2016	2020
Urban population (cities and townships)	68.3% (19.11 million out of 27.97 million people)	71.7%
Rural population (villages)	3% (0.36 million out of 2.2 million people)	5.3%

Table 32. Number of settlements and population provided with centralized water drainage services

	2016		2019	2020		
	Number settlements with centralized drainage	The population with centralized drainage	Number settlements with centralized drainage	Number settlements with centralized drainage	The population with centralized drainage	
City	94.1% (380 out of 404)	73% (17.97 out of 24.61 million people)	68.3% (19.11 out of 27.97 million people)	96.6% (392 out of 406 cities)	96.6% (392 out of 406 cities)	71.7%

Township	60.4% (406 towns out of 672)	1.14% (1.14 out of 3.36 million people)		67.3% (435 towns out of 683)	63.9% (438 towns out of 685)	
Village	2.2% (577 villages out of 26084)	3% (0.36 out of 11.98 million people)	3% (0.36 out of 11.98 million people)	1.8% (465 villages out of 26076)	1.8% (461 villages out of 26061)	5.3%

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

1. Water quality

1. Please indicate, based on national water classification systems, the percentage of water bodies or the percentage of the volume (preferably) of water falling under each defined classes (e.g. for EU countries and other following the EU Water Framework Directive classification, the percentage of surface waters of high, good, moderate, poor and bad ecological status and the percentage of groundwaters/surface waters of good or poor chemical status; for other countries, in classes I, II, III, etc.).

Stategeonadra, as a subject of the environment monitoring system, is the customer of state-level groundwater monitoring works. Regional geological enterprises are the executors of these works.

In 2021, regional geological enterprises within the framework of the EU Water Initiative project for Eastern Partnership countries plus received equipment for monitoring groundwater bodies of the Dnipro River basin, which was transferred to the operational divisions of the State Enterprise (SE) "Ukrainian Geological Company" and served the territory of 8 operational subdivisions in Volynska, Rivnenska, Kyivska, Zhytomyrska, Chernihivska, Vinnytska, Khmelnytska, Sumka, Kharkivska, Poltavska, Dnipropetrovska, Zaporizska, Odeska, Mykolaivska, Khersonska oblasts and one branch of SE "Centrukrgeology" PJSC "Nadra of Ukraine" (Cherkaska and Kirovohradska oblasts).

The number of delineated groundwater bodies within river basin districts according to the information of the Stategeonadra and surface water bodies according to the information of BUVRs is given in Table 33.

Table 33. Number of surface water and groundwater bodies in the river basins of Ukraine

River basin	Number of surface water bodies	Number of groundwater bodies
Dnipro	3,879	61
Dniester	1,154	20
Don	699	36
Danube	-	16
Subbasin of the Lower Danube	105	-
Vistula	-	9
Southern Bug	1,090	12
Azov rivers	557	15
Rivers of the Black Sea	231	6
Total	-	175

As part of the National Program for the Development of the Mineral and Raw Materials Base of Ukraine for the period until 2030, 6 artesian wells were drilled during 2018-2021 with the aim of providing the population with high-quality drinking water: Khersonska - 1 (Komyshany), Dnipropetrovska - 1 (Magdaliniivka), Donetsk - 2 (Ocheretine village, Arkhangelske village), Kyivska - 1 (Ivankiv village), Poltavska - 1 (Radyvonivka village).

Water quality according to national classification systems (according to the Water Framework Directive)

The assessment of the ecological status of surface water bodies (SWB) was carried out based on the data of observations of hydrometeorological organizations of the State Emergency Service of Ukraine. In 2019 - 2021 diagnostic monitoring in accordance with the Procedure for State Water Monitoring (Resolution of the Cabinet of Ministers of September 19, 2018 No. 758) was carried out step by step: in 2019 - for SWB

in the Don River Basin, in 2020 - in the basins of the Dniester, Vistula, Danube rivers and in 2021 - in all river basins of Ukraine. Processing and analysis of the results of monitoring for 2021 are still ongoing. In the combined table, the assessment is given only for the SWB of the Dnipro basin (sub-basins of the upper and middle Dnipro, Desna, Pripyat) and drinking water intakes of the Don Basin.

The classification of SWB of basins was conducted in accordance with the Methodology approved by the Order of the Ministry of Environment No. 5 of January 14, 2019, registered with the Ministry of Justice on February 5, 2019 under No. 127/33098. The assessment of the ecological status was made according to biological, physico-chemical and hydromorphological parameters, according to the data of the hydrometeorological organizations of the State Emergency Service and the results of monitoring of specific basin synthetic and non-synthetic pollutants and physico-chemical parameters obtained at monitoring points located on the SWB, from which water intake is carried out for drinking purposes with an intake volume of more than 100 m³/ day (hereinafter referred to as drinking water intakes), received by basin water resources departments and regional offices of water resources of the State Water Agency.

In the basin of the Don River (sub-basin of the Siverskyi Donets River) in 2019, diagnostic monitoring was carried out in 26 SWBs at 33 points, including drinking water intakes of 3 SWBs at 5 monitoring points. The results of the classification of the reservoirs of the Don river basin indicate a "moderate" status of 22 SWBs, of which 3 rSWBs are drinking water intakes, "good" status - 2 SWBs, and "poor" status - 2 SWBs. SWBs of "high" and "bad" ecological status were not identified.

In the basin of the Dniester River in 2020, 43 SWBs at 50 points were studied, of which 13 WSBs at 17 points were drinking water intakes. As a result of the assessment of the ecological status, it is shown: "good" ecological status of 1 SWB, "moderate" - 26 SWBs (of which 7 SWBs are drinking water intakes), "bad" - 12 SWBs (of which 5 SWBs are drinking water intakes), "bad" - 4 SWBs (including 1 SWB drinking water intake).

In the basin of the Vistula River in 2020, 11 SWBs were studied in 13 points, including one drinking water intake in 1 point. According to the monitoring results, 1 SWB has a "good" environmental status, "moderate" - 5 SWBs (of which 1 SWB is a drinking water intake), "poor" - 3 SWBs, "bad" - 2 SWBs.

In the Danube river basin in 2020, diagnostic monitoring for biological parameters was carried out in 46 SWBs at 57 points, including drinking water intakes in 9 SWBs at 10 points. As a result of the study, according to biological parameters, 4 SWBs have a "high" ecological status, "good" - 19 SWBs, "moderate" - 17 SWBs, "poor" - 5 SWBs, "bad" - 1 SWB. According to the results of monitoring of biological and physico-chemical parameters of drinking water intakes, 8 SWBs have a "moderate" status, and 1 SWB - of "poor".

In the Dnipro river basin (sub-basins of the upper and middle Dnipro, Desna, Pripyat) in 2021, 61 SWBs at 99 points were investigated, of which 7 SWBs at 20 points are drinking water intakes. According to the assessment results, 15 SWBs are of "high" ecological status (of which 2 SWBs are drinking water intakes), "good" - 9 SWBs (of which 4 SWBs are drinking water intakes), "moderate" - 24 SWBs (of which 1 SWB is drinking water intakes), "poor" - 10 SWBs, "bad" - 3 SWBs.

In 2021, the monitoring data of 2 SWBs at 5 points of drinking water intakes in the Don river basin were processed: 1 SWB has a "good" environmental status, and 1 SWB has a "moderate" one.

Table 34. Assessment of the ecological status of the SWBs based on the results of diagnostic monitoring in 2019-2021 in the basins of the Don, Dniester, Vistula, Danube and Dnipro rivers

Class of environmental status of MPW	baseline value, %	Intermediate value, %			Current value, %
	2017	2018	2019	2020	2021
Don basin					
High	-	-	-	-	0
Good	-	-	8	-	50
Moderate	-	-	84	-	50
Poor	-	-	8	-	0
Bad	-	-	-	-	0
Dniester basin					
High	-	-	-	-	-
Good	-	-	-	2	-
Moderate	-	-	-	60	-

Poor	-	-	-	28	-
Bad	-	-	-	10	-
Vistula basin					
High	-	-	-	-	-
Good	-	-	-	9	-
Moderate	-	-	-	46	-
Poor	-	-	-	27	-
Bad	-	-	-	18	-
Danube Basin*					
High	-	-	-	9	-
Good	-	-	-	41	-
Moderate	-	-	-	37	-
Poor	-	-	-	11	-
Bad	-	-	-	2	-
Danube basin drinking water intakes (biological and physico-chemical parameters)					
High	-	-	-	-	-
Good	-	-	-	-	-
Moderate	-	-	-	89	-
Poor	-	-	-	11	-
Bad	-	-	-	-	-
Dnipro basin (Upper, Middle subbasins)*					
High	-	-	-	-	25
Good	-	-	-	-	15
Moderate	-	-	-	-	30
Poor	-	-	-	-	16
Bad	-	-	-	-	5

* - according to biological parameters

According to the State Water Agency, in 2021 monitoring of the state of SWBs was carried out at 558 monitoring points on transboundary sections of watercourses in accordance with intergovernmental agreements, at places of drinking water intakes (95 monitoring points) and at surface water bodies where there is a risk of not achieving environmental goals.

In the area of the Dnipro basin, observations were made at 206 monitoring points, 41 of them in drinking water intake sites. According to the results of the research, the state of the Dnipro basin SWBs is of a moderate level. An increased content of COD (chemical oxygen demand) and BOD (biochemical oxygen demand) parameters is observed. The oxygen dissolved in water parameter is within the normative values. Volatile organic compounds (trichloromethane, dichloromethane), polyaromatic hydrocarbons (fluoranthene, naphthalene, anthracene), pesticides (cybutrin, cypermethrin) and heavy metals (nickel, lead) are identified among the chemical priority substances.

In the area of the Dniester river basin, observations were made at 80 points, 13 of them in drinking water intake sites. In 2021, there was a fluctuation in the content of COD and DOD parameters; a slight increase in the average annual values of the dry residue content. 4 drinking water intakes corresponded to the 1st class of chemical state - "good", the other 9 monitoring points of drinking water intakes corresponded to the 2nd class of chemical state - "not achieving good".

In the area of the Don River basin, observations were made at 72 monitoring points, 6 of them at drinking water intake sites.

In the area of the Danube river basin, observations were made at 96 monitoring points, 11 of them in drinking water intake sites. In 2021, in the locations of drinking water intakes in the riverbeds of the Danube River (Izmail, Kiliya, Vylkove), the quality indicators did not change significantly compared to 2020, but there was a slight fluctuation in the content of sulfates, BOD and COD parameters.

In all regions, the locations of drinking water intakes of the Prut and Siret subbasins (Prut river: 772 km, Lenkivtsi village, drinking water intake of Chernivtsi city; 867 km, Kolomyia city; Zhonka river, a tributary of the Prut river, 3 km, Yaremche, drinking water intake of Yaremche, Water Utility of c. Yaremche; Siret River, 448 km, drinking water intake of Storozhynets) in 2021, water quality according to physical and chemical parameters was characterized as clean, and the content of pollutants was below average values. An excess of the suspended substances was recorded only in the summer months. Among

the chemical priority substances in the SWBs of these sub-basins, the environmental quality standards were exceeded by the content of polyaromatic hydrocarbons - fluoranthene, benzo(b)fluoranthene, benzo(k)fluoranthene; volatile organic compounds - trichloromethane (chloroform); heavy metals - cadmium, nickel. Lead and mercury were not found in any monitoring sites.

According to monitoring results, the state of water bodies at water intake sites and water bodies of the Tisza sub-basin in 2021, compared to 2020, did not change significantly. Qualitative parameters of the state of water were within the normative values.

In the area of the Vistula River basin, studies were made at 19 monitoring points, 4 of them in drinking water intake sites. The surface waters of the basin are not used for drinking water supply. The population's drinking water needs are met using groundwater. Taking into account the exceeding of the maximum permissible and average annual environmental standards of quality, the SWBs of the Vistula basin, covered by monitoring, corresponded to the II class of chemical status ("failure to achieve good").

In the area of the Pivdenny Bug river basin, research was made at 15 monitoring points in drinking water intake sites. The surface waters of the basin are polluted mainly by organic compounds. High values of parameters on organic pollution of BOD and COD were identified in the drinking water intakes. The values of parameters on the content of ammonium salts, nitrites and nitrates, in most monitoring points, is significantly below the level of toxic impact. The average magnesium content was within 13.3-34.06 mg/dm³. Average concentrations of total iron were within 0.01-0.30 mg/dm³, manganese - 0.009-0.028 mg/dm³. In general, the values of water quality parameters in the basin almost do not differ from last year's values of parameters and are in moderate status and were within seasonal fluctuations of hydrological and hydrochemical regimes.

In the area of the Black Sea rivers basin, observations were carried out at 5 monitoring points, water quality monitoring was not conducted at drinking water intake sites. The Black Sea rivers basin is characterized by high values of salt content parameters - dry residue, sulfates and chlorides due to regional specifics.

In the area of the Azov rivers basin, observations were carried out at 19 monitoring points, 5 of them in drinking water intakes (Kalchik River, Berda River, and the Kakhovsky Main Canal). The waters of the rivers Kalchik and Berda were characterized by high values of the salt content parameters: dry residue (maximum values of 3,246-4,967 mg/dm³, respectively), sulfates (maximum values of 1,354-2,836.9 mg/dm³, respectively).

The state of underground water (according to the StateGeonadra data)

As of 01.01.2019, 262 location of groundwater pollution were identified in Ukraine (according to the data of the State Enterprise "Geoinform Ukraine", belonging to the StateGeonadra), and as of 01.01.2021 - 197 main locations of groundwater pollution. Groundwater in the zone of influence of the main pollution locations is polluted by chlorides, sulfates, nitrates, ammonia, rhodanides, phenols, oil products, manganese, lead, strontium in quantities that, in some cases, exceeded several times the MPC norms.

Groundwaters of Ukraine, in particular artesian, in many regions (AR Crimea, Donbas, Low Dnipro region) in terms of its quality do not meet the standards for water supply sources, what is related to the nature of their formation and anthropogenic pollution, therefore require purification. At the same time, only a few artesian water supply facilities have water treatment units. In 2021, the specific weight of tested drinking water samples from non-centralized water supply sources that did not meet the requirements was 33.5% according to sanitary-chemical standards (at the level of parameters in 2020 - 32.6%, 2019 - 30.4%, 2018 - 34.4%, 2017 - 32.6%) and 22.9% on microbiological parameters (at the level of parameters' values in 2020 - 22.6%, 2019 - 24.6%, 2018 - 23.4%, 2017 - 20.4 %), including from mine wells that did not meet sanitary requirements, was 35.3% on sanitary-chemical parameters (at the level of parameters in 2020 - 2017 - 33.6%, 37.0%, 35.6%, 34.3%) and 30.0% on microbiological parameters (little higher than in previous years: in 2020 - 28.1%, 2019 - 30.1%, 2018 - 27.9%, 2017 - 23.8%).

2. Water use

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

In comparison with 2015, as a whole, the abstraction and use of surface water in 2021 decreased in Ukraine. Withdrawal and use of surface water for agriculture, industry, and utilities declined, despite a sharp increase in water withdrawal by utilities in 2020.

There are specifics for each of the main river basins.

Data on the intake and use of surface water by the main water users: agriculture, industry and communal services for 8 river basins of Ukraine for the years 2015, 2019-2021 are presented in Table 35 below.

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Table 35. Freshwater abstraction/intake and use by sectors for 2015-2021 in Ukraine and the river basins, million m³

Ukraine (2015-2018)

	2015			2016			2017			2018		
	water intake	WEI, %	water use	water intake	WEI, %	water use	water intake	WEI, %	water use	water intake	WEI, %	water use
Agriculture	2,989		1,621	3,156		1,595	3,196		1,926	4,698		2,029
Industry	3,582		3,487	3,703		3,603	3,000		2,964	3,506		3,409
Communal economy	2,492		1,294	2,423		1,255	2,397		1,237	2,460		1,273
Total	,9063		6,402	9,282		6,453	8,593		6,127	10,664		6,711

Dnipro Basin (2015-2018)

	2015			2016			2017			2018		
	water intake	WEI, %	water use	water intake	WEI, %	water use	water intake	WEI, %	water use	water intake	WEI, %	water use
Agriculture	2,081		1,212	2,026		1,162	2,362		779.6	2805		765
Industry	3,031		2,947	3,119		3,041	2,572		2494	2805		2,669
Communal economy	1,124		680.5	1,100		644.5	1,085		635.6	1113		653.9
Total	6,236		4,839.5	6,245		4,847.5	6,019		3,909.2	6723		4,087.9

Dniester Basin (2015-2018)

	2015			2016			2017			2018		
	water intake	WEI, %	water use	water intake	WEI, %	water use	water intake	WEI, %	water use	water intake	WEI, %	water use
Agriculture	125.7		73.85	109		65.29	106.5		60.84	86.85		74.35
Industry	64.76		67.24	60.08		62.42	69.54		71.43	78.96		80.46
Communal economy	111.9		65.37	111.1		68,21	111.5		67.23	111.7		67,28
Total	302.36		206.46	280.18		195.92	287.54		199.5	277.51		222.09

South Bug Basin (2015-2018)

	2015			2016			2017			2018		
	water intake	WEI, %	water use	water intake	WEI, %	water use	water intake	WEI, %	water use	water intake	WEI, %	water use
Agriculture	121.2		88.33	115.2		98.6	118.3		103.4	103.9		73.3
Industry	108.3		120.9	103.7		115.2	101.1		111.3	99		109.7
Communal economy	65.82		102.9	63.53		92.56	65.7		93.96	66.54		95.03
Total	295.32		312.13	282.43		306.36	285.1		308.66	269.44		278.03

Don Basin (2015-2018)

	2015			2016			2017			2018		
	water intake	WEI, %	water use	water intake	WEI, %	water use	water intake	WEI, %	water use	water intake	WEI, %	water use
Agriculture	55,68		37.06	62.87		43.68	65,69		44.93	70.47		50.11
Industry	243.2		222.6	275.2		254.5	194.8		194.7	453.1		455.5
Communal economy	768		175.5	754.4		181.6	720.1		157.9	748.3		176.3
Total	1,066.88		435.16	1,092.47		479.78	980.59		397.53	1,271.87		681.91

Danube Basin (2015-2018)

	2015			2016			2017			2018		
	water intake	WEI, %	water use	water intake	WEI, %	water use	water intake	WEI, %	water use	water intake	WEI, %	water use
Agriculture	549.9		122.9	787.8		121.7	482.8		120.4	601.6		152.6
Industry	3.28		3.02	3,328		3,061	3.24		2.98	3,583		3,317
Communal economy	38.78		34,15	39.82		30.4	40.03		30.93	41,62		34,12
Total	591.96		160.07	830,948		155,161	526.07		154.31	646,803		190,037

Vistula Basin (2015-2018)

	2015			2016			2017			2018		
	water intake	WEI, %	water use	water intake	WEI, %	water use	water intake	WEI, %	water use	water intake	WEI, %	water use
Agriculture	17.96		18.06	18.47		18.62	18.89		18.62	16.1		16.03
Industry	13.46		9.76	13.1		9.68	12.6		10.38	12.8		10.77
Communal economy	111.5		44.61	109.1		45,51	110.2		49.88	106.4		51.47
Total	142.92		72,43	140.67		73.81	141.69		78,88	135.3		78.27

Black Sea River Basin (2015-2018)

	2015			2016			2017			2018		
	water intake	WEI, %	water use	water intake	WEI, %	water use	water intake	WEI, %	water use	water intake	WEI, %	water use
Agriculture	20.59		14.54	19.98		14.68	21.04		336.2	322.2		249.8
Industry	0.724		11.25	0.669		10.86	0.719		9.3	0.745		5,732
Communal economy	139		98.68	140.8		97.91	139.9		100.6	142.8		96.61
Total	160.314		124.47	161.449		123.45	161.659		446.1	465.745		352.142

Basin of the rivers of the Azov region (2015-2018 years)

	2015			2016			2017			2018		
	water intake	WEI, %	water use	water intake	WEI, %	water use	water intake	WEI, %	water use	water intake	WEI, %	water use
Agriculture	17.1		53.79	16.01		70.04	21.58		461.9	691.7		647.9
Industry	117.4		105.2	127.6		106.8	46.02		70.24	53.05		74.56
Communal economy	133.8		92.22	103.6		94.33	123.6		100.9	129.6		98.65
Total	268.3		251.21	247.21		271.17	191.2		633.04	874.35		821.11

Ukraine (2019-2021)

	2019			2020			2021		
	water intake	WEI, %	water use	water intake	WEI, %	water use	water intake	WEI, %	water use
Agriculture	4,372		1,793	3,059.594		1,758.586	2,784.314		1,273,041
Industry	3,773		3,700	3,560.11		3,652.204	3,092.16		3,158,146
Communal economy	2,411		1,254	2,769.162		1,267.028	2,401,682		1,127,893
Total	10,556		6,747	9,388.866		6,677.818	8,278.152		5,559.08

Dnipro basin (2019-2021years)

	2019			2020			2021		
	water intake	WEI, %	water use	water intake	WEI, %	water use	water intake	WEI, %	water use
Agriculture	2,507		678	2,218,014		703,392	1,739.528		564,023
Industry	2,891		2,770	2,695.014		2,735,769	2,450.153		2,469,104
Communal economy	1,097		638.9	1,499.54		711	1,180.51		598,109
Total	6,495		4,086.9	6,412,568		4,150.161	5,370.191		3,631.236

Dniester basin (2019-2021years)

	2019			2020			2021		
	water intake	WEI, %	water use	water intake	WEI, %	water use	water intake	WEI, %	water use
Agriculture	105.9		79.08	48.413		42.124	43.146		37.558
Industry	70.99		72.35	73.948		74.999	84.731		86.411
Communal economy	108.9		67.64	274.846		148.475	274.677		146.229
Total	285.79		219.07	397.207		265.598	402.554		270.198

South Bug basin (2019-2021years)

	2019			2020			2021		
	water intake	WEI, %	water use	water intake	WEI, %	water use	water intake	WEI, %	water use
Agriculture	109		76.03	71.389		51.347	81.003		55.13
Industry	104.4		114.2	97.703		109.34	92.96		105.11
Communal economy	64.97		90.84	66.973		79.398	61.275		73.968
Total	278.37		281.07	236.065		240.085	235.238		234.208

Don basin (2019-2021years)

	2019			2020			2021		
	water intake	WEI, %	water use	water intake	WEI, %	water use	water intake	WEI, %	water use
Agriculture	66,86		48.06	35.242		21.708	44.57		22.274
Industry	629.9		643.1	618.81		632.511	386.55		397.629
Communal economy	757.3		173	751.187		160.565	715.033		164.336
Total	1,454.06		864.16	1,405.239		814.784	1,146.153		584.239

The Danube Basin (2019-2021years)

	2019			2020			2021		
	water intake	WEI, %	water use	water intake	WEI, %	water use	water intake	WEI, %	water use
Agriculture	699		164	534.31		173.396	727.53		110.118
Industry	3.496		3.691	2.475		2.515	3.308		3.559
Communal economy	40.24		30.37	41.943		26.455	51.951		28.887
Total	742.736		198.061	578.728		202.366	782.789		142.564

Vistula basin (2019-2021years)

	2019			2020			2021		
	water intake	WEI, %	water use	water intake	WEI, %	water use	water intake	WEI, %	water use
Agriculture	18,12		17.93	2.651		2.678	3.497		3.502
Industry	12.07		9.92	10.9		9.255	11.718		7.872
Communal economy	103.7		50.95	41.406		21.028	40.791		19.402
Total	133.89		78.8	54.957		32.961	56.006		30.776

Black Sea Rivers Basin (2019-2021years)

	2019			2020			2021		
	water intake	WEI, %	water use	water intake	WEI, %	water use	water intake	WEI, %	water use
Agriculture	282		191.8	131.713		477.307	135.551		298.317
Industry	0.752		5.178	0.762		6.953	0.687		6.237
Communal economy	139.6		98.5	16.476		25.535	11.227		18.26
Total	422.352		295.478	148.951		509.795	147.465		322.814

The Azov rivers basin (2019-2021years)

	2019			2020			2021		
	water intake	WEI, %	water use	water intake	WEI, %	water use	water intake	WEI, %	water use
Agriculture	584.3		537.9	17.764		258.088	13.258		181.717
Industry	60.12		81.42	60.482		80.854	62.45		82.226
Communal economy	99.2		103.6	76.768		99.921	66.22		78.704
Total	743.62		722.92	155.014		438.863	141.928		342.647

Note: a. Parameter without taking into account the water passed through the turbines of the hydroelectric power plant/gaseous power plant.

According to the StateGeonadra, during the reporting period (2019-2020), the volume of use of groundwater for drinking and technical quality water decreased in comparison with the previous period, mainly due to a reduction of the groundwater extraction with mineralization from 1.5 to 3 g/dm³.

In Table 36, the volumes of underground drinking and technical water (total production, thousand m³/day) for the period 2015-2020 are given.

Table 36. Volume of use of groundwaters of drinking and technical quality and their mineralization

Year	Total, thousand m ³ /day	By mineralization, thousand m ³ /day			
		< 1	1-1.5	1.5 – 3	3-5
2015	2,490.347	2,066.662	252.126	137.560	33.999
2018	2,188.361	1,916.764	133.068	106.378	32.151
2019	2,156.643	1,911.611	118.840	98.912	27.280
2020	1,833.041	1,598.028	125.162	88.027	21.824

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 in place in accordance with paragraph 1 (a)?

YES NO IN PROCESS

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

YES NO IN PROCESS

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

YES NO IN PROCESS

2. *If yes or in progress, please provide summary information on 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 references to existing national legislation and/or regulations addressing water-related disease surveillance and outbreak response.*

3. *Please describe what actions have been taken in your country in the past three years to improve and/or sustain water-related diseases surveillance, early warning systems and contingency plans, as well as to strengthen the capacity of public authorities to respond to WRD outbreaks and incidents, in accordance with the provisions of article 8 of the Protocol.*

In the event of group diseases (outbreaks), information from the first level is provided within 24 hours to a higher-ranking institution, which, if necessary, provides methodical and practical assistance. The main measures are carried on at the first level with the participation of all specialists of institutions of various ministries, departments and services.

In accordance with the current order of the Ministry of Health dated 23.05.2002 No. 190 "On extraordinary submission of notifications to the Ministry of Health of Ukraine", [information is sent to the Ministry of Health of Ukraine and to the State Enterprise Center of Public Health of the Ministry of Health of Ukraine](#) for making management decisions and monitoring their implementation.

The Regulation of interaction between the territorial bodies of the SSUFSCP and Centres for Disease Control and Prevention (CDCP) to the Ministry of Health was agreed.

In the event of complications, plans are drawn up for their elimination, which additionally provide resources (specialists), additional deployment of beds for hospitalization of sick and suspected diseases, the involvement of transport, as well as the entire complex of preventive and anti-epidemic measures aimed at localization and elimination of complications.

At the same time, the registration of urgent messages, filling out epicards, observation of outbreaks, organization and carrying out of disinfection measures, laboratory tests, carrying out factor analysis carried out by specialists of the Centres for Disease Control and Prevention (CDCP) to the Ministry of Health of Ukraine, who may be involved in the epidural investigation of individual cases and outbreaks of infectious diseases, carrying out monitoring examinations of surveillance facilities, including medical and preventive facilities.

Commissions on technogenic and ecological safety and emergency situations work in cities under state administrations.

The system of registration, accounting and reporting on infectious diseases, adopted in Ukraine, provides timely information to the Centres for Disease Control and Prevention (CDCP) to the Ministry of Health and health care institutions about the detection of incidents of infectious diseases in order to take all necessary measures to prevent their spread or the occurrence of epidemic complications and outbreaks among the population.

Identification of infectious patients or suspects of an infectious disease takes place at the first level, which includes health care institutions. The medical staff of health care institutions informs the relevant division of the Regional CDCP to the MOH about the detected case or about the suspicion.

Within 12-24 hours, the notification is sent to the relevant CDCP of the Ministry of Health at the place of detection of the disease, regardless of the patient's place of residence. When an emergency notification is received by the CDCP of the Ministry of Health, an epidemiologist conducts an epidemiological examination of the outbreak of an infectious disease. Data of this survey are included in the map of the epidemiological survey of the outbreak (f. No. 375). At the same level, operational and retrospective epidemiological analysis of morbidity is carried out.

According to the final diagnosis, a monthly report on individual infectious and parasitic diseases is drawn up in the separate units of the CDCP of the Ministry of Health (state statistical reporting form No. 1-monthly) and sent to the second level - to the Regional CDCP of the Ministry of Health of Ukraine in the regions, the city of Kyiv, responsible for sending a monthly summary report according to the state statistical form No. 1-monthly "Report on individual infectious and parasitic diseases" to the State Enterprise Center of Public Health of the Ministry of Health of Ukraine. On the basis of monthly reports, an annual report on the infectious morbidity in the country is drawn up, and once a year the state statistical form No. 2 - annual is accepted and filled out (<https://phc.org.ua/kontrol-zakhvoryuvan/inshifekciyni-zakhvoryuvannya/infekcionyna-zakhvoryuvanist-naseleennya-ukraini>).

Work is carried out in accordance with the Laws of Ukraine "On ensuring the sanitary and epidemic well-being of the population", "On protecting the population from infectious diseases", "On drinking water, drinking water supply and drainage", "On approval of the national target program "Drinking water of Ukraine" for 2011- 2020", "On the ratification of the Protocol on water and health", "Rules for sanitary protection of the territory of Ukraine", etc.

The state-wide automated system of centralized warning functions at the state-wide level to notify automatically the central and local executive authorities, and the SESU management bodies, and ensures the delivery of signals about the threat of occurrence or occurrence of state-wide emergency situations and information on civil protection issues.

Alerting and informing central and local executive authorities, SESU management bodies about the threat of occurrence or emergency situations is carried out by the State emergency service through the relevant operational on-duty service using the state-wide automated system of centralized warning and the automated call system.

Territorial automated systems of centralized warning are functioning in the Autonomous Republic of Crimea, regions, c. Kyiv and c. Sevastopol to ensure the reception of signals and information from the state-wide automated system of centralized warning, notification of senior members of local executive bodies, as well as local self-government bodies, enterprises, institutions, organizations, executive bodies

and civil defence forces and the population through local automated systems of centralized warning and other notification systems in the event of the threat of occurrence or the emergency situations.

Local automated systems of centralized warning provide interaction with the corresponding territorial automated system of centralized warning and corresponding local, special and object warning systems.

Special warning systems are established and operate on nuclear power plants; on main product pipelines; hydrotechnical structures of the Dnieper and Dniester Cascades and in their areas of possible catastrophic flooding. Special warning systems ensure interaction with the relevant territorial and local automated centralized warning systems.

Local warning systems operate at high-risk facilities, the damage zone of which in an emergency situation reaches populated areas or other enterprises, institutions and organizations.

Object warning systems are established and operate at high-risk facilities, in particular at industrial enterprises, storage of hazardous substances, and the zone of possible damage in emergency situations do not extend beyond the territory of these facilities.

The functioning of the system of early detection on emergency situations and notification of the population in the event of their occurrence is regulated by: the Code of Civil Protection of Ukraine; the Law of Ukraine "On objects of increased danger"; by Resolution No. 733 of the Cabinet of Ministers of Ukraine dated September 27, 2017 "On approval of the Regulation on the organization of notification of the threat of occurrence or occurrence of emergency situations and communications in the field of civil protection"; State building regulations V.2.5-76:2014 "Automated systems for early detection of the threat of emergency situations and public notification" (approved by the MCTD Order dated 27.01.2014 No. 29); by order of the Ministry of Internal Affairs of Ukraine dated February 8 2019 No. 93 "On the approval of the Instructions on the practices or procedures of design, research, commissioning, operation and maintenance (support) of automated centralized notification systems", registered with the Ministry of Justice of Ukraine on April 22, 2019 under No. 418/33389.

In accordance with Article 130 of the Code of Civil Protection "Planning the activities of the unified state system of civil protection" for the organization of the activities of the unified state system of civil protection the Cabinet of Ministers of Ukraine, the Council of Ministers of the Autonomous Republic of Crimea, central executive bodies, local state administrations, local self-government bodies, object managers, have to develop and approve the Emergency Response Plan (developed on the relevant scale: on the scale of Ukraine, the industry, the Autonomous Republic of Crimea, oblast, city, district, city district, business entity), Plans for the localization and elimination of the consequences of accidents at high-risk facilities; and business entities with 50 or less employees shall develop and approve instructions for the actions of entity staff in the event of a threat or occurrence of emergency situations.

In addition, the State Emergency Service of Ukraine together with the Central executive bodies worked out the interaction and determined the procedure for exchanging information regarding the threat of occurrence or occurrence of emergency situations.

In accordance with the order of the Ministry of Internal Affairs of Ukraine and the Ministry of Health of Ukraine dated 04/03/2018 No. 275/600 "On the approval of the Instructions on the organization of cooperation between the State Emergency Service of Ukraine and the Ministry of Health of Ukraine in case of emergency situations", registered with the Ministry of Justice of Ukraine 19.04. 2018 No. 479/31931, the coordination and interaction of the State Emergency Service and the Ministry of Health for the implementation of joint tasks to eliminate the medical and sanitary consequences of emergencies, including medical and biological emergencies related to water in the regimes functioning of the unified state system of civil protection were established.

- 3. Please describe what actions have been taken in your country over the past three years to improve and/or sustain water-related disease surveillance, early warning systems and contingency plans, as well as to strengthen 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 actively participated in international initiatives in the field of biosecurity, and implements international directive documents: the Convention on the Prohibition of Biological and Toxic Weapons (1975); International export licensing standards set by the Australian Group, established in 1985;

Resolution of the UN Security Council (No. 1540/2004), which obliges all states to implement measures of national control to prevent the spread of nuclear, chemical and biological weapons; implements the International Medical and Sanitary Regulations (IMSR-2005); The Cartagena Protocol on Biosafety to the 2003 UN Convention on Biological Diversity, which aims to control the transboundary movement of genetically modified organisms.

In Ukraine, a complex of cholera prevention measures was carried out, in particular sanitary-epidemiological monitoring of the sanitary conditions of settlements, water supply facilities, food, markets, medical and health facilities, institutions, etc. was carried out. Measures were taken to prepare all medical institutions for work under conditions of cholera epidemics, to create a stock of the necessary medical, diagnostic, disinfectants and nutrient media for laboratory research.

Action plans for prevention of the occurrence of epidemic complications caused by outbreaks of influenza, SARS and other infections, questions regarding the state of the population's incidence of influenza, acute rotavirus infections and other infections, etc., are approved by decisions of the commissions on technogenic and ecological security and emergencies (CTESE) to the regional, rayon, city state administrations (the emergency anti-epidemic commissions were responsible on these issues before 2013, which were liquidated by the Cabinet of Ministers of Ukraine Resolution from 13.03.2013 № 180).

In the administrative territories of the oblasts, the plans on revision of profiles of hospital units of medical institutions were revised, and the adjustment was done for the bed fund of the medical institutions involved in response on epidemic complications.

In order to improve the organizational potential in the field of biosafety and bioprotection and to strengthen the functioning of the system for the indication of biological pathogenic agents of the regional CDCP of the Ministry of Health with BSL-2 level laboratories in Kharkivska, Lvivska, Odeska oblasts, measures are being taken to ensure the functioning of the state network of laboratories to respond to emergencies events in the field of public health (laboratories with a level of protection not lower than BSL-2), including reference laboratories for the main types of laboratory research, and a research center for the detection and study of pathogens of particularly dangerous infectious diseases.

Part five

Progress achieved in the implementation of other articles of the Protocol

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

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

Article 10. Informing the public

Main information is presented in Part 2. XX. Additional specific targets at the national or local level are on pages 43-45 of this Report.

During the reporting period, the structures of the Ministry of Health worked actively on raising public awareness on issues of sanitary and epidemiological well-being and disease prevention. The heads and leading specialists of the CDCP of the Ministry of Health of Ukraine regularly carried out sanitary and educational and explanatory work with the help of the mass media, various information events and on the websites of the Ministry of Health of Ukraine, the State Enterprise Center of Public Health of the Ministry of Health of Ukraine, specialized research institutes subordinated to the Ministry of Health and National Academy of Medical Sciences of Ukraine. The intensive information-education work is conducted, as a rule, in spring-summer period by the CDCP of the Ministry of Health of Ukraine in cooperation with local self-government bodies, state administrations and the public.

In 2021 specialists of regional CDCP of the Ministry of Health of Ukraine held 3,815 radio and 2,977 television events on various issues, prepared and published 15,023 articles in the press, held 98,000 lectures, conducted and participated in 973 press conferences, 2,115 round table meetings, 938 briefings, 7,328 press releases and 23,916 health bulletins were prepared.

Table 37. Number of information events conducted

Year	Radio event	TV event	Mass media articles	A press conference	Round tables	Briefings	Press releases prepared	Lectures	Health bulletins
2018	6,573	1,940	7,777	177	652	139	4,314	83,833	26,774
2019	7,120	1,766	7,669	179	589	59	3,964	70,758	20,456
2020	10,449	2,892	10,690	518	1,757	913	7,443	61,024	38,094
2021	3,815	2,977	15,023	973	2,115	938	7,328	98,133	23,916

The main issues of information and educational work were: prevention of infectious diseases, prevention of acute intestinal infections and food poisoning, prevention of children water-nitrate methemoglobinemia; state of beaches; drinking water supply state; the situation in recreation places, places of public mass staying, emergency conditions and emergency situations.

Table 38. Types of information events and their number

Thematic	Information activities								
	radio interviews	TV	mass media	press-conference	round table	briefing	press-release	lecture	health bulletin
all topics	3,815	2,977	15,023	973	2,115	938	7,328	98,133	23,916
infection prevention	2,670	1,981	11,757	814	1,814	801	5,391	66,842	17,480
prevention of acute infections	260	155	574	37	47	41	498	7,150	1,533
water-nitrate MGGN	46	15	138	17	9	1	178	965	853
state of the beaches	51	77	125	4	26	6	104	136	101
state of drinking water supply	91	100	261	35	15	11	137	1,031	364
places of recreation and mass stay of the population	168	169	202	48	113	54	219	2,050	800
emergency	24	11	117	17	24	6	11	838	329

Part six

Thematic part linked to priority areas of work under the Protocol

1. Water, sanitation and hygiene in institutional settings

Table 39. Water, sanitation and hygiene provision in social institutions (according to the data of the SSUFSCP)

Institution	2015	2018	2019	2020	2021
Preschool institutions					
Basic sanitation service (access to sewerage + pit latrines), %	98.4	99.8	99.7	99.8	99.9
Basic drinking water service (centralized + non-centralized water supply) %	98.3	97	97.4	97.4	97.7
Basic hygiene service %	n/a	n/a	n/a	n/a	n/a
Schools					
Basic sanitation service (access to sewage + pit latrine)%	96	98.7%	98.5	98.7	99.3
Basic drinking water service, % (centralized + decentralized WS)	96.9	96.9	97.1	97.4	97.8
Basic hygiene service	n/a	n/a	n/a	n/a	n/a
Medical facilities (as of 2015)					
Basic sanitation service (access to sewage and local treatment facilities)	95.8%	n/a	n/a	n/a	n/a
Basic drinking water service (centralized + decentralized water supply)	77%	n/a	n/a	n/a	n/a
Basic hygiene service	n/a	n/a	n/a	n/a	n/a

Year	Number of schools* (thousand)	Number* School students (thousand)	Number of schools, with water supply*	Amount of DHW, with hot water supply*	Number of schools, with improved sanitation*
2015	17.6	3,757			
2018	16.2	3,922	14,798	8,359	14,724
2019	15.5	4,042	14,364	7,301	14,321
2020	15.2	4,138	14,148	7,233	14,141
2021	14,9	4,211	13,997	7,155	14,010

* According to the data of the Ministry of Education and Science of Ukraine regarding the provision of centralized water supply of cold and hot water and institutions connected to the sewer system of general and secondary education institutions (schools).

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

YES NO IN PROCESS

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

YES NO IN PROCESS

4. Do approved policies or programmes include actions:

To improve WAHS in schools

To improve WASH in health-care facilities

Since 2016, information on the access of preschools and schools to water supply and sanitation has not been generated on the basis of the Public Health Center of the Ministry of Health of Ukraine.

Information on the number of inspected children's educational institutions, where drinking water quality testing was carried out on chemical and microbiological indicators, is given, respectively, in Table 10 and in Table 11 (p. 17 of the Report).

During the years 2018-2021, the CDCP conducted testing on the quality of drinking water in children's and adolescent education institutions. In 2021, 27,076 (in 2018 - 46,567) samples of drinking water were examined on sanitary-chemical parameters, also – on microbiological parameters 33,955 samples were tested in 2021 (to compare with 57,687 samples tested in 2018).

In 2021, there was no identified deterioration of the quality of drinking water on sanitary-chemical parameters in both preschool and general educational institutions, although the values of parameters are at fairly high levels. In particular, in 2021, the share of non-standard drinking water samples taken in children's and adolescent institutions on sanitary-chemical and microbiological parameters were 21.2% and 12.0%, respectively (in 2018 - 20.8% and 11.3 %).

In 2021, 5,780 medical and preventive facilities were examined by the CCPD of the Ministry of Health of Ukraine using laboratory and instrumental research methods, compared to 8,235 in 2018. As a result of these researches, 757 (13.1%) medical and preventive institutions did not meet sanitary standards, compared to 18.4% (1,516) in 2017. The key legislation acts setting the requirements in this field for health care facilities are the current DBN V.2.2-10-2000 "Buildings and structures. Health care facilities", DSanPiN "Sanitary and anti-epidemic requirements for health care facilities providing primary medical (medical and sanitary) care", approved by the order of the Ministry of Health on April 2, 2013 No. 259, DSanPiN "Hygienic requirements for accommodation, arrangement, equipment and operation of perinatal centers", approved by the order of the Ministry of Health on January 26, 2012 No. 55, the Draft DSanPiN "Sanitary and anti-epidemic requirements for health care institutions, which provide sanitary-medical care to population"(which was approved to replace old normative act San PiN 5179-90 "Sanitary rules on building, equipment and operation hospitals, maturity hospital and other medical institutions).

Information on the quality of drinking water in children's educational institutions, where drinking water was tested on chemical and microbiological parameters, is given, respectively, in Table 12 (p. 18 of the Summary Report) and Table 13 (p. 18 of the Summary Report).

Table 40. Number of laboratory-examined medical-preventive facilities and quantitatively results of the testing

Year	Total number of facilities laboratory-examined	The number of facilities where the results of laboratory tests do not meet sanitary standards	%
2015	4,773	285	6.0
2018	8,235	1,516	18.4
2019	8,108	1,382	17.0
2020	6,283	687	10.9
2021	5,780	757	13.1

According to [National target program "Drinking water of Ukraine" for 2011-2020](#) (Law of Ukraine dated 03.03.2005 No. 2455-IV in the new edition dated 20.10.2011 No. 3933-VI with amendments dated 20.09.2019 No. 124-IX), the measures to improve access to safe water were declared, including the introduction of drinking water purification stations (installations) in centralized water supply systems, primarily for the water supply of preschool, school and medical institutions, in particular in rural settlements, and the arrangement of drinking water filling points with its delivery by special vehicles.

2.Safe management of drinking water supply

6. Is there a national policy or regulation in the 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 X NO IN PROCESS

10. Do national policies or programmes include actions to improve equitable access to water and sanitation:

- in order to reduce geographical differences*
- in order to ensure the access of vulnerable and marginalized groups*
- in order to preserve the affordability of water for all*

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

The national target program for the development of water management and ecological improvement of the Dnipro river basin for the period until 2021 (approved by the Law of Ukraine dated 24.05.2012 No. 4836-VI) declares measures" to provide centralized drinking water supply for rural settlements that use transported water (water trucking), to search groundwater sources for drinking water supply, to construct modern drinking water supply systems; to ensure the development of the drainage systems; to improve the legal framework and organizational structure of the water management complex to ensure water supply and drainage in low-water and polluted regions".

Part seven

Information about 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:

E-mail address: bon@mepr.gov.ua; oleks.bon@gmail.com

Telephone number: + 38 044 206 31 66

Name and address of the national authority:

Mr. Oleksandr V. BON, National Focal Point of Water Convention and Protocol of Water and Health
Deputy Director of the Department – Head of the Maritime Policy Division, Department of Sustainable Nature Management,
Ministry of Environmental Protection and Natural Resources of Ukraine

35 Mytropolyyta Vasylya Lypkivskogo Str., Kyiv, 03035, Ukraine

Signature:

Date:

31/08/2022