

# Template for summary reports in accordance with article 7 of the Protocol on Water and Health

## Executive summary

*Please provide an overall evaluation of the progress achieved in implementing the Protocol in your country during the reporting period. Please provide a short description of the main steps taken and highlight important achievements, key challenges, success factors and concrete good practice examples.*

*Suggested length: maximum 2 pages*

## Part one General aspects

1. Were targets and target dates established in your country in accordance with article 6 of the Protocol?

*Please provide detailed information on the target areas in part two.*

YES  NO  IN PROGRESS

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

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

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

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

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

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

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.

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

## **Part two**

### **Targets and target dates set and assessment of progress**

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

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

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

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

*For each target set in this area:*

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.
2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).
3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.
4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.
5. If you have not set a target in this area, please explain why.

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

*For each target set in this area:*

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.
2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).
3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.
4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.
5. If you have not set a target in this area, please explain why.

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

*For each target set in this area:*

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.
2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).
3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.
4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.
5. If you have not set a target in this area, please explain why.

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

*For each target set in this area:*

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.
2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5 of the Protocol).
3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.
4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.
5. If you have not set a target in this area, please explain why.

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

*For each target set in this area:*

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.
2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5 of the Protocol).
3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.
4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.
5. If you have not set a target in this area, please explain why.

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

*For each target set in this area:*

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.
2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).
3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.
4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.
5. If you have not set a target in this area, please explain why.

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

*For each target set in this area:*

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.
2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).
3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.
4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.
5. If you have not set a target in this area, please explain why.

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

*For each target set in this area:*

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.
2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).
3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.
5. If you have not set a target in this area, please explain why.

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

*For each target set in this area:*

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.
2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).
3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.
4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.
5. If you have not set a target in this area, please explain why.

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

*For each target set in this area:*

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.
2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).
3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.
4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.
5. If you have not set a target in this area, please explain why.

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

*For each target set in this area:*

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.
2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.
4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.
5. If you have not set a target in this area, please explain why.

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

*For each target set in this area:*

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.
2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).
3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.
4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.
5. If you have not set a target in this area, please explain why.

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

*For each target set in this area:*

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.
2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).
3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.
4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.
5. If you have not set a target in this area, please explain why.

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

*For each target set in this area:*

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

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).
3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.
4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.
5. If you have not set a target in this area, please explain why.

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

*For each target set in this area:*

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.
2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).
3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.
4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.
5. If you have not set a target in this area, please explain why.

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

*For each target set in this area:*

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.
2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).
3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.
4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.
5. If you have not set a target in this area, please explain why.

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

*For each target set in this area:*

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.
2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).
3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.
4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.
5. If you have not set a target in this area, please explain why.

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

*For each target set in this area:*

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.
2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).
3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.
4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.
5. If you have not set a target in this area, please explain why.

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

*For each target set in this area:*

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.
2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).
3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.



4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.
5. If you have not set a target in this area, please 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 and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.
2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).
3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.
4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.
5. If you have not set a target in this area, please explain why.

## **Part three Common indicators<sup>1</sup>**

### **I. Quality of the drinking water supplied**

#### **1. Context of the data**

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

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

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

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

**Bacteriological quality 90 % (the individual wells are not included)**

**Chemical quality 90 % (the individual wells are not included)**

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

*The rationale of this question is to understand where the samples were primarily taken from for the water quality data reported in sections 2 and 3 below.*

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

### Distribution system and point of consumption

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

*The rationale of this question is to understand any possible differences between the national standards for microbiological and chemical water quality parameters and the respective WHO guideline values.<sup>2</sup>*

The drinking water quality requirements are set by Order of the Minister of Health of the RA - On approving sanitary norms and rules N2-III-A 2-1 'Drinking water: the hygienic requirements to water quality of centralized water supply systems', 25 December, 2002, N876, which by law is obligatory to meet for every water supply system in country.

Norms of maximum allowable concentrations are introduced below.

### **NORMS OF MAXIMUM ALLOWABLE CONCENTRATIONS OF HAZARDOUS CHEMICAL SUBSTANCES WITH SUMMARIZED INDICES, ABUNDANT IN NATURAL WATER AND SUBSTANCES OF ANTHROPOGENIC ORIGIN**

Parameters	Units of measurement	Parameter values or maximum allowable concentration (MAC), not more than:	Hazard index	Hazard class 1/
<b>Summarized indices</b>				
Hydrogen ion concentration	pH values	within the limits 6-9		
Total mineralization (solid residue)	mg/l	1000 (1500) 2/		
Total hardness	mmol/l	7,0 (10) 2/		
Permanganate oxidation	mg/l	5.0		
Petroleum products, summarized	mg/l	0,1		
Surface-active substances (SAS), anion-active	mg/l	0.5		
Phenol index	mg/l	0.25		
<b>Inorganic substances</b>				
Aluminum (Al 3+)	mg/l	0.5	s.-t.	2
Barium (Ba 2+)	mg/l	0.1	s.-t.	2
Beryllium (Be 2+)	mg/l	0.0002	s.-t.	1
Boron (B, summarized)	mg/l	0.5	s.-t.	2
Iron (Fe, summarized)	mg/l	0.3 (1.0) 2/	s.d.	3
Cadmium (Cd, summarized)	mg/l	0.001	s.-t.	2
Manganese (Mn, summarized)	mg/l	0.1 (0.5) 2/	s.d.	3
Copper (Cu, summarized)	mg/l	1.0	s.d.	3
Molybdenum (Mo, summarized)	mg/l	0.25	s.-t.	2
Arsenic (As, summarized)	mg/l	0.05	s.-t.	2
Nickel (Ni, summarized)	mg/l	0.1	s.-t.	3
Nitrates (by NO-3)	mg/l	45	s.d.	3
Mercury (Hg, summarized)	mg/l	0.0005	s.-t.	1
Lead (Pb, summarized)	mg/l	0.03	s.-t.	2

<sup>2</sup> The latest edition of the WHO *Guidelines for Drinking-water Quality* is available at: [http://www.who.int/water\\_sanitation\\_health/publications/dwq-guidelines-4/en/](http://www.who.int/water_sanitation_health/publications/dwq-guidelines-4/en/).

Selenium (Se, summarized)	mg/l	0.01	s.-t.	2
Strontium (Sr 2+)	mg/l	7.0	s.-t.	2
Sulphates(SO <sub>4</sub> 2-)	mg/l	500	s.d.	4
Fluorides(F-)				
<b>For climatic zones</b>				
-I and II	mg/l	1.5	s.-t.	2
III	mg/l	1.2	s.-t.	2
Chlorides (Cl-)	mg/l	350	s.d.	4
Chromium (Cr 6+)	mg/l	0.05	s.-t.	3
Cyanides (CN-)	mg/l	0.035	s.-t.	2
Zinc (Zn 2+)	mg/l	5.0	s.d.	3
Organic substances	mg/l			
Lindane	mg/l	0.002 3/	s.-t.	1
DDT Total of isomers	mg/l	0.002 3/	s.-t.	2
2,4-D	mg/l	0.03 3/	s.-t.	2

1) The property limiting the hazard of the substance according to which the following standards are determined: s.-t.– sanitary-toxicological, s.d. – sense defining

2) The value noted parenthetically can be established by the decision of State Chief Sanitary Doctor of the region, for the water-supply system, reasoning from sanitary anti-epidemiologic situation of the area, as well as from water processing technology.

3) The values are established in accordance with proposals of World Health Organization.

### Annex 3

#### VALUE OF MAXIMUM ALLOWABLE CONCENTRATIONS OF HAZARDOUS CHEMICAL SUBSTANCES, INTRODUCED AND ORIGINATED DURING DRINKING WATER TREATMENT IN WATER-SUPPLY SYSTEMS

Parameters	Units of measurement	Standards of maximum allowable concentration (MAC), not more than:	Hazard index	Hazard class
<b>Chlorine 1/</b>				
- residual free	mg/l	within the limits of 0.3-0.5	s.d.	3
- residual bound	mg/l	within the limits of 0.8-0.12	s.d.	3
Chloroform (in case of water chlorination)	mg/l	0.2 2/	s.-t.	2
Residual ozone 3/	mg/l	0.3	s.d.	
Formaldehyde (in case of water ozone treatment)	mg/l	0.05	s.-t.	2
Polyacrylamide	mg/l	2.0	s.-t.	2
Activated silica-acid (by Si)	mg/l	10	s.-t.	2
Polyphosphate (by PO <sub>4</sub> 3-)	mg/l	3.5	s.d.	3
Residual quantities of aluminum and iron containing coagulants	See “aluminum” and “iron” parameters, Table 2			

1/ In case of water disinfection by free chlorine, its contact with the water should last for not less than 30 minutes, in case of fixed chlorine: not less than 60 minutes. The control of residual chlorine is exercised before water enters the water-distribution network. In case when both free and fixed chlorines are present in water, their total concentration should not exceed 1.2 ml/g. In particular cases higher concentration of chlorine in drinking can be allowed by approbation of Hygiene and Anti-epidemiologic Inspection center.

2/ The parameter value is established in accordance with proposals of World Health Organization

3/ The control of residual ozone is exercised after mixing chamber, ensuring a contact for not less than 12 minutes.

#### Annex 4

#### DRINKING WATER ORGANOLEPTIC PARAMETER VALUES

Parameter	Units of measurement	Values, not more than:
Odor	Points	2
Taste	--“--	2
Coloration	Degrees	20/35/1)
Turbidity	turbidity unit (by formalin) or ml/g (by kaolin)	2.6/35/1) 1.5/2/1

The value noted parenthetically can be determined by the decision of State Chief Sanitary Doctor of the region, for the given water-supply system, reasoning from the evaluation of sanitary anti-epidemic situation of the area, as well as from water processing technology.

#### Annex 5

#### DRINKING WATER RADIATION SAFETY PARAMETER VALUES

Parameter	Units of measurement	Norms	Hazard index
Total a-radiation activity	Bq/l	0.1	radiation
Total B-radiation activity	Bq/l	1.0	radiation

#### Annex 10

#### HYGIENIC VALUES OF HAZARDOUS SUBSTANCES CONTAINED IN DRINKING WATER

1. The present list includes hygienic values of hazardous substances in drinking water. This list includes those chemical substances that can be present in drinking water in the mentioned type and can be identified by modern analytical methods.

2. Chemical substances are arranged in the list corresponding to compositions of organic and inorganic substances. Every subsection presents an extended version of the corresponding section. In the subsections, the substances are arranged according to value increase. Organic acids, including pesticides, are standardized by anion, regardless of the kind this organic acid is presented in the list (as an acid, as its anion, or its salt). Elements and cations, the first point of “inorganic substances” section, are standardized for all degrees of summarized oxidation, unless otherwise mentioned.

3. The list has the following vertical columns:

3.1 The first column presents the most common nominations of chemical substances.

3.2 The second column presents the synonyms of chemical substances and some customary nominations.

3.3 The third column presents values of MAC and OAL in mg/l, where MAC - maximum allowable concentrations, in case of which substances do not have direct or indirect influence on human health and do not worsen hygienic conditions of water consumption, OAL (marked with an asterisk) - orienting allowable levels that are developed on the basis of toxicological prognosis based on assessment and express-experimental methods.

If “absence” is stated in the column of values, it means that the concentration of this compound in drinking water should not exceed the detectable limit of the applied investigation method.

3.4 The fourth column presents the hazard limiting index of the substance, according to which the value is established.

- s-t. – sanitary-toxicological

- s.d. – sense defining, including odor (changes the water odor), color (causes the water coloration), f. (originates foam), fl. (originates film on water surface), taste (imparts taste to water), op. (originates opalescence), trb. (causes turbidity).

3.5 The fifth column presents the hazard class of substances:

- 1st class – extremely hazardous

- 2nd class – very hazardous

- 3rd class – hazardous

- 4th class – moderately hazardous

The base of classification is consisted of those parameters that characterize water pollutant chemical substances that present different degrees of hazard for people, depending on origination property of long-term factor of the identification of toxicological, accumulation, hazard limiting index.

The hazard classes of substances take into consideration:

- In case to choose compounds present in drinking water that are subject of priority control,

- In case to establish the consecution of water protection measures requiring additional financial investments,

- In case to make proposals for substitution of very hazardous substances by less hazardous ones in technological processes,

- In case to determine the priority of selection methods development for analytical control of substances in water.

Note: Hygienic values (MAC) of hazardous substances content in water apply also to water resources used for drinking-economical and recreational purposes.

### **HYGIENIC VALUES OF HAZARDOUS SUBSTANCES CONTENT IN DRINKING WATER**

Substance nomination	Synonyms	Parameter value, mg/l	Hazard index	Hazard class
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**More than 700 chemicals.**

## **2. Bacteriological quality**

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

*If possible, please provide segregated data for urban and rural areas in the table below. If this is not possible, please consider reporting by alternative categories available in your country, for example by “non-centralized versus centralized” water supplies or by*

population number-based categories. If you do so, please indicate the reported categories by renaming the rows in the column “area/category” in the table below accordingly.

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

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

Parameter	Area/category	Baseline value (specify year)	Value reported in the previous reporting cycle (specify year)	Current value (specify year)
<i>E. coli</i>	<b>Total</b>	<b><u>Should not be present</u></b>	<b><u>2018</u></b> <b>50263 samples-from which 9372 (18.6%) doesn't meet the national standards</b>	<b><u>2021</u></b> <b>29163 samples-from which 6030 (20.7%) doesn't meet the national standards</b>
	Urban			
	Rural			
Additional parameter 1:	<b>Total</b>			
	Urban			
	Rural			
Additional parameter 2:	<b>Total</b>			
	Urban			
	Rural			
Additional parameter 3:	<b>Total</b>			
	Urban			
	Rural			

### 3. Chemical quality

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

- (a) Arsenic;
- (b) Fluoride;
- (c) Lead
- (d) Nitrate.

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

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

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

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

<i>Parameter</i>	<i>Area/category</i>	<i>Baseline value (specify year)</i>	<i>Value reported in the previous reporting cycle (specify year) 2018</i>	<i>Current value (specify year) 2021</i>
Arsenic	<b>Total</b>	<b>0.05</b>	<b>124 samples/0 (0%)</b>	<b>112 samples/0 (0%)</b>
	Urban			
	Rural			
Fluoride	<b>Total</b>	<b>1.2-1.5</b>	<b>1521 samples/0 (0%)</b>	<b>415 samples/0 (0%)</b>
	Urban			
	Rural			
Lead	<b>Total</b>	<b>0.03</b>	<b>195 samples/0 (0%)</b>	<b>112samples/0 (0%)</b>
	Urban			
	Rural			
Nitrate	<b>Total</b>	<b>45</b>	<b>7742 samples/32 (0.4%)</b>	<b>4577 samples/0 (0%)</b>
	Urban			
	Rural			
Additional parameter 1: <b>Nitrite</b>	<b>Total</b>	<b>3.0</b>	<b>7690 samples/19 (0.2%)</b>	<b>4920 samples/8 (0.16%)</b>
	Urban			
	Rural			
Additional parameter 2: <b>Iron</b>	<b>Total</b>	<b>0.3</b>	<b>3030 samples/1 (0.03%)</b>	<b>2644 samples/0 (0%)</b>
	Urban			
	Rural			

<i>Parameter</i>	<i>Area/category</i>	<i>Baseline value (specify year)</i>	<i>Value reported in the previous reporting cycle (specify year) 2018</i>	<i>Current value (specify year) 2021</i>
Additional parameter 3: <b>Residual chlorine free</b>	<b>Total</b>	<b>0.3-0.5</b>	<b>5665 samples/1178 (20.8%)</b>	<b>6189samples/682 (11.02%)</b>
	Urban			
	Rural			
Additional parameter 1: <b>Chlorides</b>	<b>Total</b>	<b>350</b>	<b>7762 samples/10 (0.1%)</b>	<b>4162 samples/0 (0%)</b>
	Urban			
	Rural			
Additional parameter 1: <b>Sulphates</b>	<b>Total</b>	<b>500</b>	<b>2509 samples/1 (0.04%)</b>	<b>2298 samples/1 (0.043%)</b>
	Urban			
	Rural			
Additional parameter 1: <b>Total hardness</b>	<b>Total</b>	<b>7.0</b>	<b>3941 samples/149 (3.8%)</b>	<b>3672 samples/103 (2.8%)</b>
	Urban			
	Rural			
Additional parameter 1: <b>Ammonia</b>	<b>Total</b>	<b>3.0</b>	<b>6900 samples/125 (1.8%)</b>	<b>3204 samples/102 (3.18%)</b>
	Urban			
	Rural			

## II. Outbreaks and incidence of infectious diseases related to water

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

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

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

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

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

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



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

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

Disease	Incidence rate per 100,000 population (all exposure routes)			Number of outbreaks (confirmed water-borne outbreaks)		Current value (specify year)
	Baseline (specify year)	Value reported in the previous reporting cycle (specify year)	Current value (specify year)	Baseline (specify year)	Value reported in the previous reporting cycle (specify year)	
Shigellosis	422 (14.2) (2019 year) 202 (6.9) (2020 year) 208 (7.1) (2021 year)	728 (24.2) (2016 year) 682 (22.8) (2017 year) 1102 (33.1) (2018 year)	26 (0.9) (2022 January-March)	1 outbreak (water-related) 80 cases (2019 year) 1 outbreak 33 cases (2019 year) 1 outbreak (water-related) 95 cases (2020 year) 1 outbreak (water-related) 13 cases (2021 year) 1 outbreak (water-related) 21 cases (2021 year) 1 outbreak (water-related) 40 cases (2021 year) 1 outbreak 7 cases (2021 year)	1 outbreak 107 cases (2016 year) 1 outbreak 20 cases (2016 year) 1 outbreak (water-related) 35 cases (2017 year) 1 outbreak 48 cases (2017 year) 1 outbreak (water-related) 37 cases (2017 year) 1 outbreak 8 cases (2017 year) 1 outbreak (water-related) 14 cases (2018 year) 1 outbreak 29 cases (2018 year) 1 outbreak (water-related) 37 cases (2018 year) 1 outbreak 33 cases (2018 year)	0 (2022 January-March)
Enterohaemorrhagic <i>E. coli</i> infection	70 (2.4) (2019 year) 3 (0.1) (2020 year) 16 (0.5) (2021 year)	5 (0.2) (2016 year) 18 (0.6) (2017 year) 44 (1.5) (2018 year)	0 (2022 January-March)	0 (2019 year) 0 (2020 year) 0 (2021 year)	0 (2016 year) 0 (2017 year) 0 (2018 year)	0 (2022 January-March)
Typhoid fever	0 (2019 year) 0 (2020 year) 0 (2021 year)	0 (2016 year) 0 (2017 year) 0 (2018 year)	0 (2022 January-March)	0 (2019 year) 0 (2020 year) 0 (2021 year)	0 (2016 year) 0 (2017 year) 0 (2018 year)	0 (2022 January-March)

Viral hepatitis A	6 (0.2) (2019 year)	24 (0.8) (2016 year)	0 (2022 January-March)	0 (2019 year)	0 (2016 year)	0 (2022 January-March)
	4 (0.1) (2020 year)	34 (1.1) (2017 year)		0 (2020 year)	0 (2017 year)	
	3 (0.1) (2021 year)	24 (0.8) (2018 year)		0 (2021 year)	0 (2018 year)	

Legionellosis

Cryptosporiosis

Additional disease 1:

Additional disease 2:

Additional disease 3:

### III. Access to drinking water

*If possible, please provide segregated data for urban and rural areas in the table below. If this is not possible, please consider reporting by alternative categories available in your country, for example by “non-centralized versus centralized” water 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 the trends or provide any other important information supporting interpretation of the data with regard to access to drinking water.*

Percentage of population with access to drinking water	Baseline value (specify year)	Value reported in the previous reporting cycle (specify year)	Current value (specify year)
<b>Total</b>			
Urban			
Rural			

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

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

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

Improved drinking water sources (as per JMP definition)

- Supplies located on premises
- Supplies available when needed
- Supplies that provide drinking water free from faecal contamination

#### IV. Access to sanitation

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

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

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

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

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

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

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

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

##### 1. Water quality

1. On the basis of national systems of water classification, please indicate the percentage of water bodies or the percentage of the volume (preferably) of water<sup>3</sup> falling under each defined class (e.g., for European Union countries and other countries following

<sup>3</sup> Please specify.

the European Union Water Framework Directive<sup>4</sup> 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.).

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

*(i) Ecological status of surface water bodies*

<i>Percentage of surface water classified as:</i>	<i>Baseline value (specify year)</i>	<i>Value reported in the previous reporting cycle (specify year)</i>	<i>Current value (specify year)</i>
High status			
Good status			
Moderate status			
Poor status			
Bad status			
<b>Total number/volume of water bodies classified</b>			
<b>Total number/volume of water bodies in the country</b>			

*(ii) Chemical status of surface water bodies*

<i>Percentage of surface water bodies classified as</i>	<i>Baseline value (specify year)</i>	<i>Value reported in the previous reporting cycle (specify year)</i>	<i>Current value (specify year)</i>
Good status			
Poor status			
<b>Total number/volume of water bodies classified</b>			
<b>Total number/volume of water bodies in the country</b>			

*(iii) Status of groundwaters*

<i>Percentage of groundwaters classified as</i>	<i>Baseline value (specify year)</i>	<i>Value reported in the previous reporting cycle (specify year)</i>	<i>Current value (specify year)</i>
Good quantitative status			
Good chemical status			
Poor quantitative status			
Poor chemical status			
<b>Total number/volume of groundwater bodies classified</b>			
<b>Total number/volume of groundwater bodies in the country</b>			

<sup>4</sup> Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy.

**(b) For other countries**

*(i) Status of surface waters*

<i>Percentage of surface water falling under class<sup>a</sup></i>	<i>Baseline value (specify year)</i>	<i>Value reported in the previous reporting cycle (specify year)</i>	<i>Current value (specify year)</i>
I			
II			
III			
IV			
V			
<b>Total number/volume of water bodies classified</b>			
<b>Total number/volume of water bodies in the country</b>			

<sup>a</sup> Rename and modify the number of rows to reflect the national classification system.

(ii) *Status of groundwaters*

<i>Percentage of groundwaters falling under class<sup>a</sup></i>	<i>Baseline value (specify year)</i>	<i>Value reported in the previous reporting cycle (specify year)</i>	<i>Current value (specify year)</i>
I			
II			
III			
IV			
V			
<b>Total number/volume of groundwater bodies classified</b>			
<b>Total number/volume of groundwater bodies in the country</b>			

<sup>a</sup> Rename and modify the number of rows to reflect the national classification system.

2. Please provide any other information that will help put into context and aid understanding of the information provided above (e.g., coverage of information provided if not related to all water resources, how the quality of waters affects human health).

**2. Water use**

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

<i>Water exploitation index</i>	<i>Baseline value (specify year)</i>	<i>Value reported in the previous reporting cycle (specify year)</i>	<i>Current value (specify year)</i>
Agriculture			
Industry <sup>a</sup>			
Domestic use <sup>b</sup>			

<sup>a</sup> Please specify whether the figure includes both water abstraction for manufacturing industry and for energy cooling.

<sup>b</sup> Please specify whether the figure only refers to public water supply systems or also to individual supply systems (e.g., wells).

## **Part four**

### **Water-related disease surveillance and response systems**

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

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

YES  NO  IN PROGRESS

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

YES  NO  IN PROGRESS

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

YES  NO  IN PROGRESS

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

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

## Part five

### Progress achieved in implementing other articles of the Protocol

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

*Suggested length: up to two pages*

## Part six

### Thematic part linked to priority areas of work under the Protocol

#### 1. Water, sanitation and hygiene in institutional settings

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

*Basic services refer to the following:*

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

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

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

*If the above definitions/categories do not apply in your country, please report for alternative categories for which data are available. In this case, please indicate the reported categories by renaming the rows in the table below accordingly.*

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

<i>Institutional setting</i>	<i>Current value (specify year)</i>
<i>Schools</i>	
Basic sanitation service	90.4% (2021 year)
Basic drinking-water service	98.1% (2021 year)
Basic hygiene service	97.5% (2021 year)
<i>Health-care facilities</i>	
Basic sanitation service	82% (2021 year)
Basic drinking-water service	100% (2021 year)
Basic hygiene service	100% (2021 year)

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

YES  NO  IN PROGRESS

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

YES  NO  IN PROGRESS

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

To improve WASH in schools

To improve WASH in health-care facilities

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

## 2. Safe management of drinking-water supply

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

YES  NO  IN PROGRESS

7. If yes, please provide reference to relevant national policy(ies) or regulatory documentation.

8. In the table below, please provide information on the percentage of the population serviced with drinking-water under a WSP.

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

<i>Percentage of population</i>	<i>Current value (specify year)</i>
<b>Total</b>	

## 3. Equitable access to water and sanitation

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

YES  NO  IN PROGRESS



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

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

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

## **Part seven**

### **Information on the person submitting the report**

The following report is submitted on behalf of \_\_\_\_\_  
[name of the Party, Signatory or other State] in accordance with article 7 of the Protocol on Water and Health.

Name of officer responsible for submitting the national report: **Nune Bakunts, Deputy Director General**

E-mail: **n.bakunts@gmail.com, nune.bakunts@ncdc.am**

Telephone number: **office: +37412 80 80 83, mobile: +37491 42 31 85**

Name and address of national authority: **National Centre of Disease Control and Prevention, Ministry of Health of Armenia, 12 Mkhitar Heratsi str, Yerevan 0025, Armenia**

Signature:



Date: **22 April 2022**

#### **Submission**

1. Parties are required to submit their summary reports to the joint secretariat, using the present template and in accordance with the adopted guidelines on reporting, 210 days before the next session of the Meeting of the Parties. Submission of the reports ahead of this deadline is encouraged, as this will facilitate the preparation of analyses and syntheses to be made available to the Meeting of the Parties.

2. Parties are requested to submit, to the two addresses below, an original signed copy by post and an electronic copy by e-mail. Electronic copies should be available in word-processing software.

#### **Joint Secretariat to the Protocol on Water and Health**

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