UNSD/UNEP QUESTIONNAIRE 2004 ON ENVIRONMENT STATISTICS

Section: WATER

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GUIDANCE

INTRODUCTION

The data collection is a joint activity between the United Nations Statistics Division (UNSD) of the Department of Economic and Social Affairs (DESA) and the United Nations Environment Programme (UNEP). It contributes to the development of the UNSD International Environment Statistics Database. The data will be analyzed and consolidated by UNSD for use in international work, in particular for UNEP's Global Environmental Outlook, and will be made available to countries, United Nations specialized agencies and other regional and international organizations, as well as to the general public.

The Water Section deals with the core information concerning the water resource management in a country. The tables cover renewable fresh water resources, fresh water abstraction and supply, waste water generation and treatment, as well as water quality in rivers, lakes and coastal areas.

The collection and compilation of water related data requested in this questionnaire may be conducted by different institutions in a country. The national statistical offices or ministries of environment are asked to compile the data from the different sources.

Due to the complex nature of water-related environmental issues, it is highly appreciated if countries provide additional information that assists the analysis and interpretation of the data in the Supplementary Information Sheet (W9).

In the case where countries answered the UNSD Questionnaire 2001 on Environment Statistics, the 2004 Questionnaire has been pre-filled with these data.

The definitions for the water tables are predominantly those adopted by the OECD/Eurostat Joint Questionnaire on Environment Statistics. Other definitions are sourced from UNSD and its Glossary of Environment Statistics, UNESCO's International Hydrological Programme, and Environment Canada. Some of the definitions have been modified for the purposes of this questionnaire.

The definitions are listed in order of appearance of the variables. Where variables are repeated, such as in tables W4C and W5, the definition can be found where the variable first appeared.

Changes from UNSD Questionnaire 2001 on Environment Statistics:

Table W4A is a new table dealing with waste water generation.

Table W5 is a new table covering public water supply and waste water generation and treatment at the city level.

The table on pollutant discharges has not been requested in 2004 due to a general lack of good quality data.

STEPS TO FOLLOW

For all the tables you are kindly asked to:

- ☑ Fill in the contact information at the top of each table.
- ☑ Check the pre-filled data and, if required, kindly update in the table. Tables are prefilled from the UNSD Questionnaire 2001.
- ☑ Fill in the requested variables with data in accordance with the definitions provided (see the Definitions Sheet). If a different definition or methodology has been used, please explain the differences in a footnote (see below) or provide the definition and/or methodology applied in the supplementary information sheet (W9).
- ☑ If data are not available for the years stated in each table, please provide the data you might have for other years and add a footnote for the years to which the data apply.
- ☑ Use footnotes to give additional information on data. For this purpose, use the first column after the data for an alphabetical code, and write your explanatory text in the footnote text column, preceded by the code of the footnote. Check also pre-filled footnotes and correct them if necessary.
- ☑ Please distinguish between 'data is not available', in which case the field should be left blank, and 'data is zero', in which case the field should be filled with a "0".
- ☑ Please report data in the requested unit. A conversion matrix is provided.
- ☑ Please note that the exclamation mark in the first column of each table indicates high priority data for international work. In the event that complete data are not available from your country, please make efforts to submit data for those variables marked as priority.
- ☑ Please note that the use of indentation in the category column of each table indicates which variables are subsets and which variables are totals.
- ☑ Do not hesitate to attach any documents or reference which could help UNSD to interpret your data.
- ☑ Please deliver all suitable data you have available.
- ☑ If you have any questions, do not hesitate to contact Ulrich Wieland at UNSD, e-mail: wieland@un.org, tel. +1 917 367 4201, fax +1 212 963 0623.

DESCRIPTION OF TABLES

Table number	Description
W1	The table covers the main components to assess the freshwater resources and their availability in a country. **Renewable freshwater** (surface and groundwater**) resources** are replenished by precipitation (less evapotranspiration) falling over the territory of the country and ending up as river runoff and recharge to the aquifers (**internal flow**) and by inflows to surface waters and groundwater from other countries (**external inflow**). Climatic, ecological, economic and other limitations to the availability of these resources for abstraction are reflected in the variables **Renewable groundwater available for annual abstraction** and **Regular freshwater resources at 95 percent of the time.** The data requested in the table are usually based on hydrological/meteorological monitoring and modelling.
W2	The total volume of **freshwater available for use** is composed of **water abstracted from fresh (surface and ground) water resources** of the country, of water originating from other sources, such as imports of bulk water from other countries or desalinated water from non-fresh water resources, and the reuse of treated waste water (reclaimed water). Water that is returned without use (e.g. mine water) and water exported in bulk to another country are not considered to be available for use and are therefore subtracted from the total. Abstraction of freshwater is broken down by main water abstractor sectors/activities, according to the International Standard Industrial Classification of All Economic Activities, Third Revision (ISIC Rev.3). Please note that water abstracted directly from the atmosphere into storage tanks is not accounted for.
W3	**Total water supply** is the volume of water supplied for final use, either as **public water supply** (by economic units belonging to ISIC 41), as **self supply** (where the abstractor is also the end user), or as **other supply** (where the abstractor supplies the water to a different end user). Public water supply is broken down by main groups of activities to which the water is supplied according to ISIC rev.3.
W4A	The amount of waste water generated is linked to the amount of water used. For industries and households, the major part of the water used (except water that is contained in the product or otherwise irretrievable, water that is lost due to leakage, and evaporation) is returned to the environment as (treated or non-treated) waste water. The table asks for the estimated volume of waste water according to its origin (main economic activities defined by ISIC rev.3, and households), regardless to its pollutant content, its pathways and its destination.

Table number	Description
W4B	Generated waste water is discharged to the environment after or without treatment, directly, or through a collecting system. Waste water can be treated at **public** (urban) **waste water treatment plants** that are linked to public (urban) waste water collecting systems (sewerage). Waste water treatment can be carried out by **other treatment plants** usually operated by certain industrial activities/establishments; however, these plants frequently also treat waste water from households. Waste water (especially from households) can be treated in **independent treatment facilities** (such as septic tanks) in areas where public or industrial treatment is not available. The table asks for the volumes of waste water treated, according to the level of treatment that is specified as **mechanical, biological** and **advanced**. The waste water can go through only one, two or all three levels of treatment – the volumes should be allocated according to the highest level of treatment, without double-counting the same volumes under the consecutive treatment levels. The output of the waste water treatment process is the treated effluent and the residual **sewage sludge.**
W4C	The share of the resident population connected to public/urban waste water collecting system, to public/urban waste water treatment and to independent treatment facilities indicate the coverage and level of sanitation. The table also asks for the number and design capacity of waste water treatment plants according to the provided level of treatment to understand the infrastructure available for waste water treatment.
W5	Waste water collection and treatment is often concentrated in urban settlements. The table includes selected variables on water supply and waste water treatment at city level. Please select the largest city (cities) in terms of population for reporting. If data can be provided for more cities, please duplicate the table.
W6-W8	Tables W6-W8 ask for information on the water quality of selected rivers, lakes and coastal areas as measured at selected measuring stations. The tables include the most frequently measured parameters of ambient water quality, for which the annual mean concentrations are to be reported, accompanied by information on the selected water body and measuring station. The selection of the water bodies should be based on their national (economic, demographic, geographic, hydrologic) importance and on the quantity and quality of available measurements. The selection of the measuring station should be based on the availability of longer time series of measurements. Please duplicate the tables if you can provide information for more measuring stations/water bodies.

CONVERSION TABLE

To Convert	To	Multiply by
gallons (UK)	l	4.54609
gallons (US)	l	3.785411784
m^3	l	1000
liter (l)	m^3	0.001
ml	l	0.001

Section: WATER

Definitions for Water Tables

TABLE		DEFINITIONS
W1	**Long-term annual average**	Arithmetic average over at least 20 consecutive years. Please provide average over available period and indicate the length of the time period in the footnotes.
W1	**Precipitation**	Total volume of atmospheric wet precipitation (rain, snow, hail, dew, etc.) falling on the territory of the country over one year, in millions of cubic meters (mio m^3).
W1	**Actual evapotranspiration**	Total actual volume of evaporation from the ground, wetlands and natural water bodies and transpiration of plants. The 'actual evapotranspiration' is calculated using different types of mathematical models, ranging from very simple algorithms (Budyko, Turn Pyke, etc.) to schemes that represent the hydrological cycle in detail.
W1	**Internal flow**	Total volume of river run-off and groundwater generated, in natural conditions, exclusively by precipitation into a territory. The internal flow is equal to precipitation less actual evapotranspiration and can be calculated or measured. If the river run-off and groundwater generation are measured separately, transfers between surface and groundwater should be netted out to avoid double counting.
W1	**Actual external inflow of surface and ground waters**	Total volume of actual flow of rivers and groundwater, coming from neighboring countries.
W1	**Total renewable fresh water resources**	= Internal flow + Actual external inflow of surface and groundwaters
W1	**Outflow of surface and ground waters**	Actual outflow of rivers and groundwater into neighboring countries and/or into the sea.
W1	**Renewable groundwater available for annual abstraction**	Recharge less the long term annual average rate of flow required to achieve ecological quality objectives for associated surface water. It takes account of the ecological restrictions imposed to groundwater exploitability; other restrictions based on economic and technical criteria could also be taken into account in terms of accessibility, productivity and maximum production cost deemed acceptable by developers. The theoretical maximum of groundwater available is the recharge.

TABLE		DEFINITIONS
W1	**Regular freshwater resources 95% of the time**	Portion of the total freshwater resource that can be depended on for annual water development during 19 out of 20 consecutive years, or at least 95 percent of the years included in longer consecutive periods. This item yields information about the average annual long-term availability of fresh water for use in human activities.
W2	**Fresh surface water**	Water which flows over, or rests on the surface of a land mass, natural watercourses such as rivers, streams, brooks, lakes, etc., as well as artificial watercourses such as irrigation, industrial and navigation canals, drainage systems and artificial reservoirs. Water abstracted through bank filtration is included under fresh surface water. Sea-water, and transitional waters, such as brackish swamps, lagoons and estuarine areas are considered non-fresh water and are not included here.
W2	**Fresh ground water**	Water which is being held in, and can usually be recovered from, or via, an underground formation. All permanent and temporary deposits of water, both artificially charged and naturally occurring in the subsoil, of sufficient quality for at least seasonal use are included. This category includes phreatic water-bearing strata, as well as deep strata under pressure or not, contained in porous or fractured soils. Ground water includes springs, both concentrated and diffused, which may be subaqueous.
W2	**Total water abstraction**	Water removed from any source, either permanently or temporarily, during a specified period of time. Mine water and drainage water are included. Water abstractions from ground water resources in any given time period are defined as the difference between the total amount of water withdrawn from aquifers and the total amount charged artificially or injected into aquifers. The amounts of water artificially charged or injected are attributed to abstractions from that water resource from which they were originally withdrawn. Water used for hydroelectricity generation is an in-situ use and should be excluded.
W2	**Total gross fresh water abstraction**	Total of fresh surface water and fresh groundwater abstractions over one year within the national territory.
W2	**Water returned without use**	Water abstracted from any fresh water source and discharged into fresh waters without use, or before use. Occurs primarily during mining and construction activities. Discharges to the sea are excluded.
W2	**Imports of water**	Total volume of bulk fresh water that is imported from other countries as a commodity through pipelines or on ships. Bottled water is excluded.
W2	**Exports of water**	Total volume of bulk fresh water that is exported to other countries as a commodity through pipelines or on ships. Bottled water is excluded.
W2	**Desalinated water**	Total volume of water obtained from desalination processes. (From seawater, brackish water etc.)

TABLE		DEFINITIONS
W2	**Total reuse of fresh water**	Fresh water that has undergone waste water treatment and is deliverable to a user as reclaimed waste water. This means the direct supply of treated effluent to the user. Excluded is waste water discharged into a watercourse and used again downstream. Recycling within industrial sites is excluded.
W2	**Total fresh water available for use**	= Total gross fresh water abstraction - Water returned without use + Imports of water - Exports of water + Desalinated water + Total reuse of fresh water
W2	**Non-fresh water abstraction**	Includes sea water and transitional water, such as brackish swamps, lagoons and estuarine areas.
W3	**Total public water supply**	Water supplied by economic units engaged in collection, purification and distribution of water (including desalting of sea water to produce water as the principal product of interest, and excluding system operation for agricultural purposes and treatment of waste water solely in order to prevent pollution.) It corresponds to ISIC division 41. Deliveries of water from one public supply undertaking to another are excluded.
W3	**Irrigation water**	Water which is applied to soils in order to increase their moisture content and to provide for normal plant growth.
W3	**Self-supply**	Abstraction of water for own final use. Includes water drawn from village wells.
W3	**Other supply**	Any supply of water not specified elsewhere. In particular, supplies from commercial and industrial establishments, whether marketed or not. Also included is supply of reusable water.
W3	**Water losses during transport**	Volume of water lost during transport between a point of abstraction and a point of use, and between points of use and reuse.
W3	**Total water supply**	Delivery of water to users and abstraction for own final use. Total water supply excludes water used in hydropower generation. (Total public water supply + Self-supply + Other supply)
W4A	**Total waste water generated**	The quantity of water in cubic meters (m^3) that is discharged due to being of no further immediate value to the purpose for which it was used or in the pursuit of which it was produced because of its quality, quantity or time of occurrence.
W4B	**Waste water treated in public treatment plants**	All treatment of waste water in municipal treatment plants by official authorities, or by private companies for local authorities, whose main purpose is waste water treatment.
W4B	**Mechanical treatment**	Processes of a physical and mechanical nature which result in decanted effluents and separate sludge. Mechanical processes are also used in combination and/or in conjunction with biological and advanced unit operations. Mechanical treatment is understood to include at least such processes as sedimentation, flotation, etc. To avoid double counting, water subjected to more than one treatment should be reported under the highest level of treatment only.

TABLE		DEFINITIONS
W4B	**Biological treatment**	Processes which employ aerobic or anaerobic micro-organisms and result in decanted effluents and separated sludge containing microbial mass together with pollutants. Biological treatment processes are also used in combination and/or in conjunction with mechanical and advanced unit operations. To avoid double counting, water subjected to more than one type of treatment should be reported under the highest level of treatment only.
W4B	**Advanced treatment**	Process capable of reducing specific constituents in waste water not normally achieved by other treatment options. For the purpose of this questionnaire, advanced treatment technology covers all unit operations which are not considered to be mechanical or biological. In waste water treatment this includes e.g. chemical coagulation, flocculation and precipitation, break-point chlorination, stripping, mixed media filtration, micro-screening, selective ion exchange, activated carbon adsorption, reverse osmosis, ultra-filtration, electro-flotation. Advanced treatment processes are also used in combination and/or in conjunction with mechanical and biological unit operations. To avoid double counting, water subjected to more than one treatment should be reported under the highest level of treatment only.
W4B	**Treated in other treatment plants**	Treatment of waste water in any non-public treatment plants, i.e. industrial waste water plants. Excluded from 'Other waste water treatment' is treatment in facilities covered under independent treatment facilities such as septic tanks.
W4B	**Treated in independent treatment facilities**	Individual private treatment facilities to treat domestic and other waste water in cases where a public waste water network is not available or not justified either because it would produce no environmental benefit or it would involve excessive cost. Examples of such systems are treatment in septic tanks.
W4B	**Non treated waste water**	Waste water discharged into ambient media without treatment.
W4B	**Total sewage sludge production**	The accumulated settled solids, either moist or mixed, with a liquid component as a result of natural or artificial processes, that have been separated from various types of waste water during treatment (Please provide the data as dry weight. If data is only available for wet weight, please fill in the data for wet weight and specify this in a footnote).

TABLE		DEFINITIONS
W4B	**Total waste water treatment**	Process to render waste water fit to meet applicable environmental standards or other quality norms for recycling or reuse. Three broad types of treatment are distinguished in the questionnaire: mechanical, biological and advanced. For the purpose of calculating the total amount of treated waste water, volumes reported should be shown only under the highest type of treatment to which it was subjected. Thus, waste water treated mechanically as well as biologically should be shown under biological treatment, and waste water treated in accordance with all three types should be reported under advanced treatment. Waste water treatment does not include the collection of waste water or storm water, even when no treatment will be possible without collection.
W4C	**Population connected to waste water collecting system**	The percentage of the resident population connected to the public waste water collecting systems (sewerage). Public waste water collecting systems may deliver waste water to treatment plants or may discharge it without treatment to the environment.
W4C	**Population connected to waste water treatment**	The percentage of the resident population whose waste water is treated at public waste water treatment plants.
W4C	**Population connected to independent treatment (septic tanks)**	The percentage of resident population whose waste water is treated in individual, often private facilities such as septic tanks.
W6A	**Biochemical Oxygen Demand (BOD5)**	Amount of dissolved oxygen required by organisms for the aerobic decomposition of organic matter present in water. This is measured at 20 degrees Celsius for a period of five days. The parameter yields information on the degree of water pollution with organic matter.
W6A	**Dissolved Oxygen (DO)**	Amount of gaseous oxygen (O_2) actually present in water expressed in terms of its presence in the volume of water (milligrams of O_2 per litre).
W6A	**Chemical Oxygen Demand (COD)**	Index of water pollution measuring the mass concentration of oxygen consumed by the chemical breakdown of organic and inorganic matter. This is a measure of potassium permanganate ($KMnO_4$) consumed, calculated in terms of oxygen equivalent.
W6A	**Total Dissolved Solids (TDS)**	Total weight of dissolved mineral constituents in water. Excessive amounts make water unsuitable for drinking or for use in industrial processes.
W6A	**Total Phosphorus**	Sum of phosphorus compounds in water measured in terms of phosphorus. Phosphorus is an element that, while being essential to life as a key limiting nutrient factor, nevertheless contributes - together with nitrogen - to the eutrophication of lakes and other bodies of water.
W6A	**Total Nitrogen**	Sum of inorganic and organic nitrogen compounds (excluding N_2) in water measured in terms of nitrogen. Nitrogen - together with phosphorus - contributes to eutrophication of water bodies.

TABLE		DEFINITIONS
W6A	**Faecal Coliform**	Microorganisms found in the intestinal tract of human beings and animals. Their presence in water indicates faecal pollution rendering water unsuitable for drinking without prior treatment.
W7A	**Surface area**	Area covered by the surface of the lake.
W7A	**Stratification**	The arrangement of a body of a lake into two or more horizontal layers of differing characteristics, such as temperature, density, etc.
W7A	**Residence time (Hydraulic retention time)**	The time interval that a portion of water is in a lake.
W7A	**Chlorophyll-a (Chl-a)**	The photosynthetic green pigment present in most plants or algae. Chlorophyll-a is an indicator of the degree of eutrophication of water bodies.

Section: WATER

Country:	Contact person:	Tel:
Contact institution:	E-mail:	Fax:

Table W1: Renewable Fresh Water Resources

Priority	Category	Unit	Long term annual average		1990*		1995*		1996		1997		1998		1999		2000		2001		2002	
!	Precipitation (1)	mio m^3/y																				
!	Actual evapotranspiration (2)	mio m^3/y																				
!	**Internal flow (3)=(1)-(2)**	mio m^3/y																				
!	Actual external Inflow of surface and ground waters (4)	mio m^3/y																				
!	**Total renewable fresh water resources (5)=(3+4)**	mio m^3/y																				
	Outflow of surface and ground waters	mio m^3/y																				
!	Renewable groundwater available for annual abstraction	mio m^3/y																				
	Regular freshwater resources 95% of the time	mio m^3/y																				

Notes :

***If data are not available for the years stated in each table, please provide the data you might have for other years and add a footnote for the years to which the data apply.**

Footnotes

Code	Footnote text

Section: WATER

Country: Contact person: Tel:

Contact institution: E-mail: Fax:

Table W2: Water Abstraction by Source

Priority	Category	Unit	1990*		1995*		1996		1997		1998		1999		2000		2001		2002	
!	**Total fresh surface water abstracted (1)**	mio m^3/y																		
!	*by*: Public supply (ISIC 41)	mio m^3/y																		
!	Agriculture, fishing and forestry (ISIC 01-05)	mio m^3/y																		
	of which for Irrigation	mio m^3/y																		
!	Manufacturing industries (ISIC 15-37)	mio m^3/y																		
	Production of electricity (ISIC 40)	mio m^3/y																		
	Other economic activities	mio m^3/y																		
	Households	mio m^3/y																		
!	**Total fresh ground water abstracted (2)**	mio m^3/y																		
!	*by:* Public supply (ISIC 41)	mio m^3/y																		
!	Agriculture, fishing and forestry (ISIC 01-05)	mio m^3/y																		
	of which for Irrigation	mio m^3/y																		
!	Manufacturing industries (ISIC 15-37)	mio m^3/y																		
	Production of electricity (ISIC 40)	mio m^3/y																		
	Other economic activities	mio m^3/y																		
	Households	mio m^3/y																		
!	**Total gross fresh water abstraction (3)=(1)+(2)**	mio m^3/y																		
	Water returned without use (4)	mio m^3/y																		
	Imports of water (5)	mio m^3/y																		
	Exports of water (6)	mio m^3/y																		
	Desalinated water (7)	mio m^3/y																		
	Total reuse of fresh water (8)	mio m^3/y																		
!	**TOTAL fresh water available for use (9)=(3)-(4)+(5)-(6)+(7)+(8)**	mio m^3/y																		
	Non-fresh water abstraction	mio m^3/y																		

Notes :

***If data are not available for the years stated in each table, please provide the data you might have for other years and add a footnote for the years to which the data apply.**

Footnotes

Code	Footnote text

Section: WATER

Country: | Contact person: | Tel:
Contact institution: | E-mail: | Fax:

Table W3: Water Use by Supply Category and Activities

Priority	Category	Unit	1990*	1995*	1996	1997	1998	1999	2000	2001	2002
!	**Total public water supply (ISIC 41) (1)**	mio m^3/y									
	of which used by: All economic actitivites	mio m^3/y									
	Agriculture, forestry, fishing (ISIC 01-05)	mio m^3/y									
	of which for irrigation	mio m^3/y									
	Manufacturing industries (ISIC 15-37)	mio m^3/y									
	Production and distribution of electricity (ISIC 40)	mio m^3/y									
	Other economic activities	mio m^3/y									
	Households	mio m^3/y									
	Self-supply (2)	mio m^3/y									
	Other supply (3)	mio m^3/y									
	Total water supply (4) = (1)+(2)+(3)	mio m^3/y									
	Water losses during transport	mio m^3/y									
!	Population connected to public water supply	**%**									

Notes :

***If data are not available for the years stated in each table, please provide the data you might have for other years and add a footnote for the years to which the data apply.**

Footnotes

Code	Footnote text

Section: WATER

Country:	Contact person:	Tel:
Contact institution:	E-mail:	Fax:

Table W4A: Waste Water Generation

Priority	Category	Unit	1990*		1995*		1996		1997		1998		1999		2000		2001		2002	
!	**Total waste water generated**	1000 m^3/d																		
	by: Agriculture, forestry and fishing (ISIC 01-05)	1000 m^3/d																		
	Mining and quarrying (ISIC 10-14)	1000 m^3/d																		
	Manufacturing Industries (ISIC 15-37)	1000 m^3/d																		
	Production and distribution of electricity (ISIC 40)	1000 m^3/d																		
	Construction (ISIC 45)	1000 m^3/d																		
	Other economic activities	1000 m^3/d																		
	Households	1000 m^3/d																		

Notes :

***If data are not available for the years stated in each table, please provide the data you might have for other years and add a footnote for the years to which the data apply.**

Footnotes

Code	Footnote text

Section: WATER

Country:	Contact person:	Tel:
Contact institution:	E-mail:	Fax:

Table W4B: Waste Water Treatment

Priority	Category	Unit	1990*		1995*		1996		1997		1998		1999		2000		2001		2002	
!	**Waste water treated in <u>public</u> treatment plants**	1000 m^3/d																		
	of which: Mechanical treatment	1000 m^3/d																		
	Biological treatment	1000 m^3/d																		
	Advanced treatment	1000 m^3/d																		
!	**Waste water treated in <u>other</u> treatment plants**	1000 m^3/d																		
	Waste water treated in <u>independent</u> treatment facilities	1000 m^3/d																		
!	Non-treated waste water	1000 m^3/d																		
	Total sewage sludge production	1000 t																		

Notes :

***If data are not available for the years stated in each table, please provide the data you might have for other years and add a footnote for the years to which the data apply.**

Footnotes

Code	Footnote text

Section: WATER

Country:	Contact person:	Tel:
Contact institution:	E-mail:	Fax:

Table W4C: Waste Water Treatment Facilities

Priority	Category	Unit	1990*		1995*		1996		1997		1998		1999		2000		2001		2002	
!	Population connected to waste water collecting system	%																		
!	Population connected to waste water treatment	%																		
!	Population connected to independent treatment (septic tanks)	%																		
!	**Waste water treatment plants**	number																		
	of which: Mechanical treatment	number																		
	Biological treatment	number																		
	Advanced treatment	number																		
!	**Design capacity of waste water treatment plants**	1000 m^3/d																		
	of which: Mechanical treatment	1000 m^3/d																		
	Biological treatment	1000 m^3/d																		
	Advanced treatment	1000 m^3/d																		

Notes :

***If data are not available for the years stated in each table, please provide the data you might have for other years and add a footnote for the years to which the data apply.**

Footnotes

Code	Footnote text

Section: WATER

Country: | Contact person: | Tel:

Contact institution: | E-mail: | Fax:

Table W5: Selected Variables at the City Level — City:

Water bodies providing public water supply:

Water bodies to which waste water is discharged:

Priority	Category	Unit	1990*	1995*	1996	1997	1998	1999	2000	2001	2002
!	City Population	1000									
!	Population connected to waste water collecting system	%									
!	Population connected to waste water treatment	%									
!	Public water supply (ISIC 41):	mio m^3/y									
	of which to Households	mio m^3/y									
!	Waste water generated	1000 m^3/d									
!	**Treated in public treatment plants**	1000 m^3/d									
	of which: Mechanical treatment	1000 m^3/d									
	Biological treatment	1000 m^3/d									
	Advanced treatment	1000 m^3/d									
!	Treated in other treatment plants	1000 m^3/d									
!	**Waste water treatment plants**	number									
	of which: Mechanical treatment	number									
	Biological treatment	number									
	Advanced treatment	number									
!	**Total design capacity of waste water treatment plants**	1000 m^3/d									
	of which: Mechanical treatment	1000 m^3/d									
	Biological treatment	1000 m^3/d									
	Advanced treatment	1000 m^3/d									

Notes :

***If data are not available for the years stated in each table, please provide the data you might have for other years and add a footnote for the years to which the data apply.**

Footnotes

Code	Footnote text

Section: WATER

Country:	Contact person:	Tel:
Contact institution:	E-mail:	Fax:

Table W6A: Water Quality of Selected Rivers

Name of River A:

Name of Measuring station:

Distance to mouth or downstream frontier: **km**

Sampling frequency: **Minimum:** **/year**

Maximum: **/year**

Sampling depth: **m**

Priority	Category	Unit	1990*		1995*		1996		1997		1998		1999		2000		2001		2002	
!	Annual average flow	m^3/s																		
!	Biochemical oxygen demand (BOD5)	mg O_2/l																		
!	Dissolved oxygen (DO)	mg O_2/l																		
	Chemical oxygen demand (COD)	mg O_2/l																		
	Total dissolved solids (TDS)	mg/l																		
	Total phosphorus	mg P/l																		
	Total nitrogen	mg N/l																		
	Faecal coliform	MPN/100ml**																		
	Other, specify ……	……																		

Notes :

***If data are not available for the years stated in each table, please provide the data you might have for other years and add a footnote for the years to which the data apply.**

****MPN/100ml: Most Probable Number per 100 ml**

Footnotes

Code	Footnote Text

Section: WATER

Country:	Contact person:	Tel:
Contact institution:	E-mail:	Fax:

Table W6B: Water Quality of Selected Rivers

Name of River B: **Sampling frequency:** **Minimum:** **/year**

Name of Measuring station: **Maximum:** **/year**

Distance to mouth or downstream frontier: **km** **Sampling depth:** **m**

Priority	Category	Unit	1990*		1995*		1996		1997		1998		1999		2000		2001		2002	
!	Annual average flow	m^3/s																		
!	Biochemical oxygen demand (BOD5)	mg O_2/l																		
!	Dissolved oxygen (DO)	mg O_2/l																		
	Chemical oxygen demand (COD)	mg O_2/l																		
	Total dissolved solids (TDS)	mg/l																		
	Total phosphorus	mg P/l																		
	Total nitrogen	mg N/l																		
	Faecal coliform	MPN/100ml**																		
	Other, specify ……	……																		

Notes :

***If data are not available for the years stated in each table, please provide the data you might have for other years and add a footnote for the years to which the data apply.**

****MPN/100ml: Most Probable Number per 100 ml**

Footnotes

Code	Footnote Text

Section: WATER

Country:	Contact person:	Tel:
Contact institution:	E-mail:	Fax:

Table W7A: Water Quality of Selected Lakes

Name of Lake A:

Name of Measuring station:

Surface area: **km²**

Mean depth: **m**

Maximum depth: **m**

Sampling depth: **m**

Sampling frequency: **Minimum:** **/year**

Maximum: **/year**

Type of stratification:

Inflow: **km³**

Residence time: **years**

Priority	Category	Unit	1990*		1995*		1996		1997		1998		1999		2000		2001		2002	
!	Chlorophyll-a (Chl-a)	mg chl-a/l																		
!	Biochemical oxygen demand (BOD5)	mg O_2/l																		
	Chemical oxygen demand (COD)	mg O_2/l																		
	Total dissolved solids (TDS)	mg/l																		
	Total phosphorus	mg P/l																		
	Total nitrogen	mg N/l																		
	Faecal coliform	MPN/100ml**																		
	Other, specify ……	……																		

Notes :

***If data are not available for the years stated in each table, please provide the data you might have for other years and add a footnote for the years to which the data apply.**

****MPN/100ml: Most Probable Number per 100 ml**

Footnotes

Code	Footnote text

Section: WATER

Country:	Contact person:	Tel:
Contact institution:	E-mail:	Fax:

Table W7B: Water Quality of Selected Lakes

Name of Lake B:

Name of Measuring station:

Surface area: **km^2**

Mean depth: **m**

Maximum depth: **m**

Sampling depth: **m**

Sampling frequency: **Minimum:** **/year**

Maximum: **/year**

Type of stratification:

Inflow: **km^3**

Residence time: **years**

Priority	Category	Unit	1990*		1995*		1996		1997		1998		1999		2000		2001		2002	
!	Chlorophyll-a (Chl-a)	mg chl-a/l																		
!	Biochemical oxygen demand (BOD5)	mg O_2/l																		
	Chemical oxygen demand (COD)	mg O_2/l																		
	Total dissolved solids (TDS)	mg/l																		
	Total phosphorus	mg P/l																		
	Total nitrogen	mg N/l																		
	Faecal coliform	MPN/100ml**																		
	Other, specify ……	……																		

Notes :

***If data are not available for the years stated in each table, please provide the data you might have for other years and add a footnote for the years to which the data apply.**

****MPN/100ml: Most Probable Number per 100 ml**

Footnotes

Code	Footnote Text

Section: WATER

Country:	Contact person:	Tel:
Contact institution:	E-mail:	Fax:

Table W8A: Water Quality of Selected Coastal Areas

Name of the estuary/coastal location:

Name of Measuring station:

Mean depth: **m**

Maximum depth: **m**

Sampling frequency: **Minimum:** **/year**

Maximum: **/year**

Sampling depth: **m**

Priority	Category	Unit	1990*		1995*		1996		1997		1998		1999		2000		2001		2002	
!	Chlorophyll-a (Chl-a)	mg chl-a/l																		
!	Biochemical oxygen demand (BOD5)	mg O_2/l																		
	Chemical oxygen demand (COD)	mg O_2/l																		
	Total phosphorus	mg P/l																		
	Total nitrogen	mg N/l																		
	Faecal coliform	MPN/100ml**																		
	Other, specify ……	….....																		

Notes :

***If data are not available for the years stated in each table, please provide the data you might have for other years and add a footnote for the years to which the data apply.**

****MPN/100ml: Most Probable Number per 100 ml**

Footnotes

Code	Footnote Text

Section: WATER

Country:	Contact person:	Tel:
Contact institution:	E-mail:	Fax:

Table W8B: Water Quality of Selected Coastal Areas

Name of the estuary/coastal location:

Name of Measuring station:

Mean depth: **m**

Maximum depth: **m**

Sampling frequency: **Minimum:** **/year**

Maximum: **/year**

Sampling depth: **m**

Priority	Category	Unit	1990*		1995*		1996		1997		1998		1999		2000		2001		2002	
!	Chlorophyll-a (Chl-a)	mg chl-a/l																		
!	Biochemical oxygen demand (BOD5)	mg O_2/l																		
	Chemical oxygen demand (COD)	mg O_2/l																		
	Total phosphorus	mg P/l																		
	Total nitrogen	mg N/l																		
	Faecal coliform	MPN/100ml**																		
	Other, specify ……	….....																		

Notes :

***If data are not available for the years stated in each table, please provide the data you might have for other years and add a footnote for the years to which the data apply.**

****MPN/100ml: Most Probable Number per 100 ml**

Footnotes

Code	Footnote Text

Section: WATER

Country:	Contact person:	Tel:
Contact institution:	E-mail:	Fax:

Table W9: Supplementary Information Sheet on the Water Section

(Calculation method used for various inflows and outflows; the reference period covered in the long-term annual averages; the methodology used for estimating evapotranspiration etc.)