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ECONOMIC COMMISSION FOR EUROPE

**WORLD HEALTH ORGANIZATION
REGIONAL OFFICE FOR EUROPE**

Meeting of the Parties to the Convention on the
Protection and Use of Transboundary Watercourses
and International Lakes

and

Meeting of the Signatories to the Protocol on Water
and Health to the Convention

Working Group on Water and Health
Sixth meeting
Geneva, 31 May – 2 June 2006
Item 5 (b) of the provisional agenda

**DRAFT REPORTING GUIDELINES FOR PROGRESS RELATED TO TARGETS ON
WATER SUPPLY AND SANITATION (ARTICLE 6, PARA. 2 (A) TO (E))**

Note by the secretariat *

I. INTRODUCTION

1. An expert consultation on target setting and progress monitoring of water and wastewater services (Copenhagen, 9 -10 May 2005)¹ reviewed current reporting schemes for indicators on

* This document is being issued on the above date owing to a lack of human resources in the secretariat.

¹ Full report available under URL <http://www.euro.who.int/document/wsn/protMtgMay05.pdf>

water and sanitation. The *ad hoc* expert group was composed of experts from Croatia, the Czech Republic, Denmark, Finland, Germany, Hungary, Malta, the Netherlands, Poland, Slovakia and the Ukraine. Support was given by the WHO Office at the Mediterranean Action Plan, the Organization for Economic Cooperation and Development (OECD), the International Organization for Standardization (ISO) and the European union of national associations of water suppliers and waste water services (EUREAU), as well as by the UN Economic Commission for Europe and the WHO Regional Office for Europe.

2. The meeting took cognizance of reporting schemes to which the Parties to the Protocol are already participating. These include, but are not limited to:

(a) The WHO-UNICEF Joint Monitoring Programme on Water Supply and Sanitation, and

(b) The legal *acquis communautaire* under the European Union, specifically the EU drinking water directive Council Directive 98/83/EC²

3. The meeting resulted in a proposal for a tool for data collection and reporting in the form of a more concise questionnaire than what is used for the JMP.

4. The present document introduces the completed draft data collection and reporting system, compares its components to relevant existing reporting systems, and describes the experiences of a pilot study. It concludes with a number of recommendations for an appropriate element in the work plan of the Protocol.

II. REPORTING

2.1 Reporting Format

The proposed reporting format consists of five forms:

- (a) The country-level contacts
- (b) A review of existing data compiled from household surveys
- (c) Information on access to improved drinking water and sanitation from government sources
- (d) Information on utility performance to be obtained from providers
- (e) National water supply and sanitation objectives and policies
- (f) Inventory of national reports

The reason for Section (1) is obvious.

Sections (2) and (3) were asked as cross reference to the WHO-UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP), which aims to report globally on the status

² The text of the Drinking water directive can be found at URL http://europa.eu.int/servlet/portail/RenderServlet?search=DocNumber&lg=en&nb_docs=25&domain=Legislation&coll=&in_force=NO&an_doc=1998&nu_doc=83&type_doc=Directive accessed 27 April 2006

of water supply and sanitation coverage. JMP has been producing report coverage since 1990, based on government data, but changed to including data from household surveys such as the Demographic and Health Survey (DHS), Multiple Indicator Cluster Survey (MICS) and World Health Surveys (WHS) in calculating estimates. Full information on the JMP and its work can be obtained from http://www.who.int/water_sanitation_health/monitoring/en/

This paper will focus on the other sections of the proposed reporting format.

2.2 Access to Improved Drinking Water and Sanitation

Section (3) is again subdivided in three sub-sections:

(a) Population data

Population is geographically diversified by urban and rural area, and respondents are invited to share the definition of urban area applied in preparing the response, as this has been known to differ from country to country.

(b) Proportion of the population currently with access to improved drinking water supply

The geographical distinction between urban and rural areas introduced under 3.1. is maintained, and information is gathered on:

- (i) The proportion of the population served with piped water into the dwelling, yard or plot
- (ii) The proportion of the population without household connection but with reasonable access to an improved water source
- (iii) The proportion of the population without improved drinking water facilities

(c) Proportion of the population currently with access to improved sanitation

The geographic distinction is maintained as under 3.1. and 3.2. above, and information is gathered on:

- (i) The proportion of the population served with household connections to conventional public sewers
- (ii) The proportion of the population without household connections to sewers but served with improved sanitation facilities
- (iii) The proportion of the population without access to improved sanitation section

Section (3) thus complements information obtained from household surveys and site visits under (2) with government-collected data. Completion of this section is a major step forward to bring the monitoring mechanism under the Protocol in line with progress monitoring towards the achievement of the Millennium Development Goals, particularly Goal 7 Target 10.

2.3 Information on Service Quality

Both the General Comment number 15³ of the International Covenant on Economic, Social, and Cultural Rights (ICESCR)⁴ adopted in 2002⁵ in which water is recognized as a basic human right, as well as the Millennium Development Goal 7/10 make it clear that mere access is not sufficient. Water should also be “safe” and must be available in quantities that are sufficient and continuous. The issue of safety, and performance of the supply is addressed in the next section of the proposed reporting format.

Section (4) is divided in four sub-sections:

(a) Drinking water quality

Consistent with the WHO view that microbiologically quality should be given priority, and with the provisions of the EU drinking water directive, this section gathers information on the type of disinfection applied, and the microbial failure rate vis-à-vis *E. coli* and enterococci.

(b) Performance of drinking water supply systems

Conscious of the fact that the performance of drinking-water systems is a major determinant of the quality of the drinking-water ultimately reaching the customer, this section inquires on:

- (i) Metered water production, consumption and water loss
- (ii) Failure to comply with legal residual chlorine at tap, where applicable
- (iii) Pipe breaks (as a major potential source of contamination)
- (iv) Continuity of service (as a major potential source of contamination)

(c) Sewerage collection and treatment

This section inquires on:

- (i) The volume of wastewater treated as percentage of the total volume of wastewater produced
- (ii) The volume of wastewater discharged to nature

³ The full text of the Comment is available from URL: [http://www.unhchr.ch/tbs/doc.nsf/0/a5458d1d1bbd713fc1256cc400389e94/\\$FILE/G0340229.doc](http://www.unhchr.ch/tbs/doc.nsf/0/a5458d1d1bbd713fc1256cc400389e94/$FILE/G0340229.doc) accessed 24 April 2006

⁴ The ICESCR is one of the major human right treaties that have been adopted and are being monitored within the framework of the United Nations human rights systems. It has been in force since 1976 and has been ratified by 153 States. Ratifying states are legally bound to implement the provisions of the treaty at the national level. The full text of the Covenant can be found at URL: http://www.unhchr.ch/html/menu3/b/a_ceschr.htm

⁵ Full text available <http://www.unhchr.ch/tbs/doc.nsf/0/a5458d1d1bbd713fc1256cc400389e94?Opendocument> accessed 24 April 2006

(d) Sewerage utility performance

In parallel to the performance of water supply utilities, this section inquires on:

(i). The performance of the network by reporting the number of blockages in the sewerage pipe network.

2.4 National Water Supply and Sanitation Objectives and Policies

Noting the need for Parties to set targets, the reporting form invited communication of established targets and goals, and possibly of the policies leading towards these goals under section (5).

2.5 Inventory of National Reports

Finally, under section (6), the reporting form invited respondents to communicate original and additional sources of information.

III. PILOT STUDY

3.1 Timing

The reporting form was sent out (English only) on 19 October 2005; responses were received until 31 December 2005.

At the time of the deadline, 15 countries had responded. Two countries submitted a response past the deadline. A summary of the responses obtained is contained in Annex 3.

3.2 Discussion

The partial response received from the countries nevertheless allows a number of important insights in the challenges a reporting mechanism will face. These are summarized below.

3.2.1 Response – General Comments

(a) European Union countries formed the majority of respondents (10). One EU applicant country sent in a response, as did one EFTA country. Other responses came from other Member States of the WHO Regional Office for Europe.

(b) Federally structured states send in response by component state, rather than reporting on national level. The information received shows significant differences in the components of federal states.

(c) In both federal and non-federal states, completion of the questionnaire was the work of more than one agency. In one case, responses received from one national authority were significantly different from received by another national authority.

(d) Although all efforts were made to provide clear and unequivocal guidance on completing the questionnaires, many deviated and/or inaccurate responses appear in the completed questionnaires:

- (i) Prescribed units are not in line with those given in the questionnaire due to discrepancy between the national data gathering practices and that suggested by WHO, including with regard to multipliers (10^3 10^6 etc.)
- (ii) Basic calculations are wrongly reported (percentage failure rate vs. percentage compliance rate)

(e) Inconsistency in legal definitions hampers consistent reporting – there is, for example, no unified definition of the term “urban” area.

3.2.2 Response – section comments

Water supply and sanitation

Basic information on access to improved drinking water and sanitation (section 3) was a section which generated least responses.

Amongst the comments, least information was received concerning the sanitation sector.

Service

Responses to methods of disinfection and microbial failure rate were generally well responded. It must be borne in mind here that previous studies on compliance with the EU drinking water directive⁶ had indicated not only the importance of microbial non-compliance, but also the importance of chemical non-compliance, with major problem areas to be found in the area of nitrate, fluoride, arsenic, lead, THM and boron. There seems to be little doubt that the reporting system could also capture chemical non-compliance issues.

Contrary to original expectations, the section on service performance was the most responded section. Nearly all countries were able to respond to information requests on drinking-water quality **and** performance of the utility. There seems to be sufficient information in the countries available, in an accessible manner, to include performance of water supply systems in the reporting mechanism of the Protocol.

Sanitation was, as in the previous sector, much less responded to. No responses were received on the performance of sanitation networks. It would be appropriate to consider the elimination of questions related to the performance of sanitation services.

⁶ Hulsman A. (2005) “Implementation of the Drinking Water Directive 98/93/EC in Europe” WEKNOW/KIWA

Objectives

The majority of respondents provided information on national objectives and policies. There is inconsistency in the way in which these targets are expressed: improvement in sanitation, for example, can be expressed in increase of population served, in population equivalent treated, in financial investment, in extent of sewerage network, in performance of the sewerage utility.

In many cases, respondents refer explicitly to EU Directives – particularly the drinking water directive and the wastewater directive.

Two important lessons are to be drawn from these responses:

- (a) Most countries have already set targets, so that the issue of target setting under the Protocol can be dovetailed with the approach of the *acquis communautaire*.
- (b) Work needs to be undertaken to express targets in a consistent manner by all Parties.

IV. OVERALL CONCLUSIONS

The following general conclusions can be drawn from this work:

1. The JMP remains an important tool to gauge access to water and sanitation in the WHO European region, including in the European Union. To ensure coverage of all Parties, internal mechanisms for monitoring and reporting need to be strengthened, as does the capacity of the Secretariat.
2. The EU Drinking water directive is a major piece of health-protecting legislation developed based on the WHO Guidelines for Drinking-water Quality; the reporting mechanism under the Protocol should be harmonized with those of the EU drinking water directive, particularly in those areas where compliance difficulties have been demonstrated to exist. These are:
 - (a) Microbiological compliance, especially with regard to *E. coli* (and to a lesser extent with enterococci)
 - (b) Chemical compliance, especially with regard to nitrate, fluoride, arsenic, lead, and THM, with countries retaining the right to add parameters to reflect areas of specific national concern.
3. The proposed comprehensive reporting mechanisms has been shown to be capable of capturing information on the drivers of failing microbial and chemical quality, particularly the performance of water supply systems and, to a lesser extent, sanitation systems. Water utility performance assessment is as such not covered by the EU Drinking water directive, yet makes an important complementary evidence base against which targets can be set and progress monitored. It is therefore proposed that indicators on the performance of water utilities be included in the Protocol monitoring system.

4. Similarly, the proposed comprehensive reporting mechanism was shown to be able to capture some information on the current status of sewerage, albeit not on the performance of sewerage networks. It seems possible to include a an element of reporting on the performance of the sewerage network in the Protocol reporting system, which, for EU Member States could be based on the requirements of the EU Council Directive 91/271/EC urban wastewater treatment directive, and for others on the example of more restricted reporting pioneered in the Mediterranean region.
5. It is proposed to drop the intended reporting on the performance of sewerage networks.
6. Most countries seem to have set objectives and targets, often in line with EU directives, in the area of water supply and sanitation. Such existing target setting should be integrated in the work of the Protocol and compared to that of non-EU countries. Harmonization in the expression of the targets and the monitoring of progress will generate significant amount of work.
7. Harmonization between the work of the Protocol and the exigencies of the EU Directive seems to be perfectly possible.

Annex I



World Health Organization

Global Water Supply and Sanitation Assessment 2006

European Region

CONTENTS

This questionnaire consists of the following forms:

- Form 1: Country level WHO contacts**
- Form 2: Existing sources of population-based data**
- Form 3: Reported access to drinking water and sanitation**
- Form 4: Inventory of national reports**

Please fill out the sections shaded in light green. For forms 2, 3 and 4, notes and calculation methods are provided to guide you fill out the questionnaire.

FORM 1: COUNTRY-LEVEL WHO CONTACTS

COUNTRY:	
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Name and position of person(s) compiling this information **at country level** (*please provide telephone, fax and e-mail details so that queries can be addressed where required*):

Name:	
Title:	
Agency:	
Address:	
Phone #:	
Fax #:	
E-mail:	

Name:	
Title:	
Agency:	
Address:	
Phone #:	
Fax #:	
E-mail:	

Name:	
Title:	
Agency:	
Address:	
Phone #:	
Fax #:	
E-mail:	

(Please add a separate sheet to continue, if necessary.)

FORM 2: EXISTING DATA FROM HOUSEHOLD SURVEYS

A **separate form** should be used for each existing source of information available. Types of source could include Censuses, Demographic and Health Surveys (DHS), Multiple Indicator Cluster Surveys (MICS), or other surveys which are nationally representative. In case you have more than one survey to provide us with, please copy and paste, as many as necessary, this section of the questionnaire into the file.

Table 2.1: Survey information

2.1.a	Survey title:	
2.1.b	Year of survey:	
2.1.c	Survey setting <i>[please tick off your option by double-clicking the box]:</i>	<input type="checkbox"/> Urban
		<input type="checkbox"/> Rural
		<input type="checkbox"/> Both urban and rural
2.1.d	Name of organization responsible:	
2.1.e	Did the survey have government support? <i>[please tick off your option by double-clicking the box]</i>	<input type="checkbox"/> Yes <i>[please specify the agency]</i>
		<input type="checkbox"/> No
		<input type="checkbox"/> Now known
2.1.f	Was survey representative of <i>[please tick off your option by double-clicking the box]:</i>	<input type="checkbox"/> The whole country
		<input type="checkbox"/> One region <i>[please specify]</i>
		<input type="checkbox"/> One district <i>[please specify]</i>
		<input type="checkbox"/> All urban areas
		<input type="checkbox"/> All rural areas
		<input type="checkbox"/> Slums
		<input type="checkbox"/> Other <i>[please specify]</i>
2.1.g	Name and contact information of responsible person:	Name:
		Title:
		Agency:
		Address:
		Phone #:
		Fax #:
	E-mail:	

Table 2.2: Data on access to water supply and sanitation based on the findings of the survey described on the previous page

2.2.a	Sample size:	Number of people covered by the survey	
2.2.b	Sample size:	Number of households covered by the survey	
2.2.c	Average household size:	Average number of household members covered by the survey	

Table 2.2: Data on access to water supply and sanitation based on the findings of the survey described on the previous page (continued)

2.2.d	Water supply coverage by households (H) or population (P) <i>[please tick off your option by double-clicking the boxes below]</i>						
Water service type	% of URBAN households / population having access to this type of service		% of RURAL households/ population having access to this type of service		% of TOTAL households/ population having access to this type of service		Comments and/or clarification
	H <input type="checkbox"/>	P <input type="checkbox"/>	H <input type="checkbox"/>	P <input type="checkbox"/>	H <input type="checkbox"/>	P <input type="checkbox"/>	
1							
2							
3							
4							
5							
6							
7							
8							
9							
	TOTAL						

2.2.e		Sanitation supply coverage by households (H) or population (P) <i>[please tick off your option by double-clicking the boxes below]</i>					
Sanitation service type	% of URBAN households / population having access to this type of service		% of RURAL households / population having access to this type of service		% of TOTAL households / population having access to this type of service		Comments and/or clarification
	H <input type="checkbox"/>	P <input type="checkbox"/>	H <input type="checkbox"/>	P <input type="checkbox"/>	H <input type="checkbox"/>	P <input type="checkbox"/>	
1							
2							
3							
4							
5							
6							
7							
8							
9							
	TOTAL						

Please note below any sources of possible bias identified:

PLEASE, if possible, enclose a copy of the original survey reports when you return the completed questionnaire.

FORM 3: ACCESS TO IMPROVED DRINKING WATER AND SANITATION

This form is **to be completed ONLY WHEN** no information from household surveys referred to in Form 2 are available or when existing surveys do not provide enough information as to allow working out drinking water and sanitation access estimates. It should be prepared based on reliable reported data (official reports, government communication, etc.). The sources should be cited.

Table 3.1: Population data

3.1.a	Total population of the country:	
3.1.b	Urban population of the country:	
3.1.c	Rural population of the country:	
3.1.d	Source of the data:	
3.1.e	Year of the data:	
3.1.f	Definition of urban and rural areas:	

Table 3.2: Proportion of population currently with access to improved drinking water supply

		Urban (%)	Rural (%)	Total (%)
3.2.a	Proportion of population served with piped water into dwelling, yard or plot (individual household connection from a piped distribution system)			
3.2.b	Proportion of population without household connection but with reasonable access to an improved water source (public tap/standpipe, tubewell/borehole, protected dug well, protected spring, rainwater collection)			
3.2.c	Proportion of population without improved drinking water facilities (unprotected dug well, unprotected spring, tanker-truck, cart with small tank/drum, river, stream, dam, lake, pond, canal, irrigation channel)			
3.2.d	Source of the data:			
3.2.e	Year of the data:			
3.2.f	Definition of urban and rural areas:			

Table 3.3: Proportion of population currently with access to improved sanitation

		Urban (%)	Rural (%)	Total (%)
3.3. a	Proportion of population served with household connections to conventional public sewers			
3.3. b	Population of population without household connections to sewers but served with improved sanitation facilities (toilet flushing to septic tank, composting toilet, improved pit latrine (VIP), pit latrine with slab)			
3.3. c	Proportion of population without access to improved sanitation services (pit latrine without slab, open pit, bucket latrine, hanging toilet/hanging latrine, open defecation)			
3.3. d	Source of the data:			
3.3. e	Year of the data:			
3.3.f	Definition of urban and rural areas:			

FORM 4: INFORMATION FROM PROVIDERS OF SERVICES**Table 4.1: Drinking-water quality**

4.1.a	Drinking-water disinfection	Is the water supplied disinfected with chlorine?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
4.1.b	Percentage of water samples that fail to meet the national standard for <i>E. coli</i>	Please see WatSan_S2 of the guidance document for calculation.		%
4.1.c	Percentage of samples that fail to meet the standard for enterococci	Please see WatSan_S2 of the guidance document for calculation.		%
4.1.d	Survey year of the above data:			

Table 4.2: Performance of drinking-water supply systems

4.2.a	Metered water production			m ³ /year
4.2.b	Metered water consumption			m ³ /year
4.2.c	Unaccounted-for water	Daily loss expressed as volume per km of supply line		m ³ /km/day
4.2.d	Failure rate to comply with legal residual chlorine at point of consumption	Only in cases of mandatory chlorination		%
4.2.e	Pipe breaks	Number of pipe breaks per km of supply line per year		/km/year
4.2.f	Continuity of service	Average hours of service per day for water supply		hours/day
4.2.g	Survey year of the above data:			

Table 4.3: Sewerage quality (wastewater treatment)

4.3.a	Volume of wastewater treated as percentage of total volume of wastewater produced			%
4.3.b	Volume of discharge of treated wastewater to nature as percentage of total volume of treated wastewater			%
4.3.c	Volume of reuse of treated wastewater as percentage of total volume of treated wastewater			%
4.3.d	Survey year of the above data:			

Table 4.4: Sewerage utility performance (sewerage network)

4.4.a	Blockage of the network	Number of blockages per km of sewerage network per year		/km/year
4.4.b	Survey year of the above data:			

**FORM 5: NATIONAL WATER SUPPLY
AND SANITATION OBJECTIVES AND POLICIES**

Please indicate **any national water supply and sanitation sector objectives** that exists (e.g. for the proportion of population to receive water through in-house water connections, or the proportion of municipal wastewater to be treated with primary treatment) and identify the measures that have been put in place to achieve these objectives, as well as the progress that has been achieved so far.

	Objective	Target value	Current value	Target date
1.				
2.				
3.				
4.				
5.				

(Please add rows to continue, if necessary.)

Please briefly describe policy measures that have been undertaken to achieve the objectives above:

Please indicate any references where more information about these policies may be found:

FORM 6: INVENTORY OF NATIONAL REPORTS

Please list **any major national water supply and sanitation sector reports** produced during the period 1995-2005, such as:

- National development plans
- Water and sanitation sector assessments
- Project reports in which overall sector information is given
- Reports from national statistics systems

	Title of the report/publication	Date/Year of publication	Number of pages	Where available (Institution name, address, e-mail, phone #, fax #, etc.)
1.				
2.				
3.				
4.				
5.				
6.				
7.				

(Please add rows to continue, if necessary.)

Annex II**World Health Organization****Global Water Supply and Sanitation Assessment 2006***European Region***GUIDANCE ON FILLING OUT THE QUESTIONNAIRE**

This questionnaire is part of a global exercise, which is being conducted jointly by WHO and UNICEF, through the Joint Monitoring Programme for Water Supply and Sanitation (JMP) to assess the status of the water supply and sanitation sector. It is intended for collecting national statistics on access to improved drinking water supply and sanitation. This exercise will draw upon, where possible, existing sources of population-based data (sample household surveys, census, etc).

The World Health Organization and UNICEF are the designated United Nations agencies responsible for conducting recurrent assessments of the water supply and sanitation sector and to disseminate this information widely to Governments, multilateral and bilateral agencies, NGOs, and to the public in general. These assessments are made normally every 2 years and are used as important reference to policy-making at the global, regional and country levels.

The findings of this exercise, jointly with already collected information, will set out in a report to be launched in 2006, which will be of great relevance to policy- and decision-making at global, regional and country levels. Its conclusions will provide the basis for intensive advocacy work at all levels to accelerate investment towards the achievement of the MDG7 Target 10.

The questionnaire will also serve the commitments taken by the Parties to the Protocol on Water and Health with regard to target setting and progress monitoring of health determinants related to water supply and sanitation.

The findings will furthermore serve to inform the work of the OECD Environmental Action Programme (EAP) Task Force and incorporated into a report on water supply and sanitation in Eastern Europe, Caucasus and Central Asia that the OECD will prepare for the next Environment for Europe Conference in 2007.

Notes on completing form 2

A **separate form** should be used for each existing source of information available. Types of source could include Censuses, Demographic and Health Surveys (DHS), Multiple Indicator Cluster Surveys (MICS), or other surveys which are nationally representative. In case you have more than one survey to provide us with, please copy and paste, as many as necessary, this section of the questionnaire into the file.

- This form is for recording all sources of existing and available population-based data on water supply and sanitation coverage. Please use one copy for each survey available.
- Different household surveys may categorize types of water and sanitation services in different ways. The categories in the boxes below are potentially found in surveys. They serve as an example only. Do not try to convert the categories found in surveys into the categories below. Copy in the data sheet the service category precisely as they appear in the survey.
- The numeric columns of URBAN, RURAL, and TOTAL in Table 2.2, sections 2.2.d and 2.2.e, should add up to 100%. Please try to fill out all six columns (three for water supply and another three for sanitation) as much as data are available.
- The criteria to define urban and rural populations adopted by the survey would be very useful.
- **If possible, please enclose a copy of the original survey reports when you return the completed questionnaire.**

<p>Water service types may, for example, include the following categories:</p> <p>Piped water Piped into dwelling Piped into yard or plot Public tap/standpipe</p> <p>Tubewell/borehole</p> <p>Dug well Protected well Unprotected well</p> <p>Water from spring Protected spring Unprotected spring</p>	<p>Sanitation service types may include the following categories:</p> <p>Private flush/pour flush used individually by one family: Flush to piped sewer system Flush to septic tank Flush to pit (latrine) Flush to somewhere else Flush to unknown place/not sure where</p> <p>Flush / pour flush to piped sewer, septic tank, etc, which are shared by 2 or more families</p> <p>Private Ventilated Improved Pit latrine (VIP)</p> <p>Shared Ventilated Improved Pit latrine (VIP)</p>
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Rainwater collection	Private pit latrine with slab
Tanker-truck	Shared pit latrine with slab
Cart with small tank/drum	Pit latrine without slab / open pit
Surface water (river, stream, dam, lake, pond, canal, irrigation channel)	Composting toilet
Other (to be specified)	Bucket
	Hanging toilet/hanging latrine
	No facilities or bush or field
	Other (to be specified)

Notes on completing form 3

This form is **to be completed ONLY WHEN** no information from household surveys referred to in Form 2 are available or when existing surveys do not provide enough information as to allow working out drinking water and sanitation access estimates. It should be prepared based on reliable reported data (official reports, government communication, etc.). The sources should be cited.

- The completion of this form should be carried out only if population-based information (household surveys, censuses) are not available or are insufficient to allow drinking water and sanitation coverage statistics to be worked out.
- The coverage statistics to be used as basis for the calculations of this form should be reliable documents from a recognized source. Such a source or sources should be cited.
- The proportion of population served and unserved according to the different fields of the tables 3.2 and 3.3 should be broken down according to urban, rural, and total populations as indicated in the table. Please try to fill out the fields for urban, rural, and total as much as data are available.
- It would be useful that **at least two forms** are filled out: one from for the most recent estimates, another estimated done any time over the 90's so a trend can be established.
- Urban populations are those populations living within urban centres according to national criteria. Urban slums should be considered as part of urban areas.
- Rural populations are those living outside urban centres according to national criteria.
- The national criteria on urban and rural, if provided, would be very useful.
- Reasonable access to a public water point is broadly defined as the availability of at least 20 litres of water from an improved source per person per day from a public water point such that the time to walk to the source, fetch water and come back home does not exceed 30 min.
- Connection to a public sewer: a pipeline outlet from the household to the public sewerage system.
- Improved sanitation facilities: private, satisfactory sanitary means of excreta disposal, such as any of those indicated in sections 3.3.a and 3.3.b, that hygienically separates human excreta from human contact.
- Indicative examples: definition of “functioning”

The following definitions are examples only. They should be adapted at country level to suit local conditions.

Water systems:

- For reticulated systems leading to household connections, yard taps or standpipes to be considered “functioning”, they should operate at over 50 % of design capacity on a daily basis.
- For handpumps, “functioning” means those operating for over 70 % of the time, when the time-lag between breakdown and repair does not exceed two weeks.

Sanitation systems:

- “Functioning” means that the facility is structurally and operationally sound and is attractive for and encourages use.

Calculation methodology for form 4

Table 4.1: Drinking-water quality

WatSan S2 Drinking-water quality	
<i>Definition of indicator</i>	The indicator refers to regulated public water supplies Proportion of the drinking-water samples analysed which fail to comply with the EU Directive on the quality of water intended for human consumption.
<i>Specification of data needed</i>	<ul style="list-style-type: none"> • Number of non-compliant samples (E) • Total number of samples taken from a defined spatial unit (a water supply zone or other regional entity defined for regulatory purposes in the member country) over the previous year (T)
<i>Data sources, availability</i>	Accurate information on the number of valid drinking-water measurements taken from the defined spatial area and the results should be available from the relevant monitoring agency or the licensed water undertaker.
<i>Computation</i>	The 'percentage compliance' indicator can be computed as: $((T-E)/T) * 100$
<i>Units of measurement</i>	Percentage

Annex III

			<i>3.1. POPULATION DATA</i>					
			3.1.a. Total pop	3.1.b. Urban pop	3.1.c. Rural pop	3.1.d. Source	3.1.e. Year	3.1.f. Def
Region	Status	Country						
O	N	A	76,875		76,875	Gov	2005	
EU	N	B						
EUA	S	C						
EU	P	D				Gov		
EU	P	E	6,043,161			Gov	2005	
EU	P	F	3,380,498	2,646,930	733,568	Int	2004	"=>2000
EU	S	G	707,529	485,304		Gov	2004	not quant
EU	P	H	1,351,000	935,680	415,389	Gov	2005	
EU	P	I						
EU	S	J	82,440,309			?	2001	
EU	P	K	3,483,972	2,332,098	1,151,874	Gov	2001	
EU	S	L						
O	S	M						
EU	S	N						
O	S	O	7,490,001			Gov	2002	
O	S	P	642,900					
O		Q	615,035	358,175	256,860	Gov	1991	Legal
EU	P	R	5,380			Gov	2003	
EUA	P	S	67,803,927					
O		T	9,800,000	7,056,000	2,744,000	Gov	2004	Legal
EFTA	P	U	4,606,363	3,560,137	1,046,226	Gov	2,005	=>200

<i>3.2. PROPORTION OF POPULATION WITH ACCESS TO IMPROVED WATER SUPPLY</i>													
			<i>3.2.a. Prop of pop with piped water into dwelling</i>			<i>3.2.b. Prop of pop with reasonable access</i>			<i>3.2.c. Prop of pop without improved dw facilities</i>			<i>3.2.d. Source</i>	<i>3.2.e. Year</i>
<i>Region</i>	<i>Status</i>	<i>Country</i>	<i>Urban (%)</i>	<i>Rural (%)</i>	<i>Total (%)</i>	<i>Urban (%)</i>	<i>Rural (%)</i>	<i>Total (%)</i>	<i>Urban (%)</i>	<i>Rural (%)</i>	<i>Total (%)</i>		
O	N	A			93.4			6.6					2005
EU	N	B											
EUA	S	C											
EU	P	D											
EU	P	E											
EU	P	F			99.6			0.4					2003
EU	S	G	100.0	100.0	100.0							Gov	2005
EU	P	H	96.0	70.0	85.9	4.0	33.5	12.3	0.0	6.5	2.8	Gov	2004
EU	P	I											
EU	S	J			99.1			0.9					2001
EU	P	K	92.1	55.6	79.9							Gov	2001
EU	S	L											
O	S	M											
EU	S	N											
O	S	O			60.0			15.0			25.0	Gov	2003
O	S	P	59.0	23.0	82.0			9.1			9.4	Gov	1998
O		Q	96.2	39.5	72.5	3.8	60.5	27.5				Gov	1991
EU	P	R			85.4			13.6	0.0	1.0	1.0	Gov	2004
EUA	P	S	71.1	74.7	72.6	3.3	12.9	7.3	1.5	7.2	4.6	Gov	2003
O		T	91.9	47.2	79.2	8.1	47.8	19.2	0.0	5.0	1.4	Gov	2004
EFTA	P	U	100.0	100.0	100.0	0	0	0	0	0	0	Gov	2004

3.3. PROPORTION OF PEOPLE CURRENTLY WITH ACCESS TO IMPROVED SANITATION																		
Region	Status	Country	3.3.a. Prop of pop with household connect to sewer			3.3.b. Prop of pop w/out household connection but with improved sanitation facilities			3.3.c. Prop of pop without access to improved sanitation facilities			3.3.d. Source			3.3.e. Year		3.3.f. Definition	
			Urban (%)	Rural (%)	Total (%)	Urban (%)	Rural (%)	Total (%)	Urban (%)	Rural (%)	Total (%)			Total (%)				
O	N	A																
EU	N	B																
EUA	S	C																
EU	P	D																
EU	P	E	23.2	62.8	86.0	0.8	13.2	14.0								2004	U=>50K	
EU	P	F	65.6	18.9	84.6	12.7	2.8	15.5									U=>2K	
EU	S	G	73.0	9.0	60.0	27.0	91.0	60.0					Gov	2004				
EU	P	H			72.0			28.0								2004		
EU	P	I																
EU	S	J			94.6			5.4								2001		
EU	P	K	90.7	50.4	77.3								Gov	2001		>3K + leg def		
EU	S	L																
O	S	M																
EU	S	N																
O	S	O			1222396.0			1235.0						Gov	2001			
O	S	P	59.2		59.2									Gov	2004			
O		Q	62.0			38.0								Gov	1991	Leg		
EU	P	R			55.4			43.0	0.0	1.6	1.6		Gov	2003	n.a.			
EUA	P	S	91.8	51.8	75.2	6.3	41.9	20.9	0.5	6.2	2.9		Gov	"=>10K				
O		T	78.9	18.9	61.9	Respondent combined 3.3.a & 3.3.b			21.1	81.1	37.9		Gov					
EFTA	P	U	no reply received on item 3.3															

<i>4.1. DRINKING WATER QUALITY</i>						
			<i>4.1.a. Drinking-water disinfection</i>	4.1.b. Microbial failure rate E coli	4.1.c. Microbial failure rate enterococci	Year
Region	Status	Country				
O	N	A	Y	1.8	2	2005
EU	N	B	N	0.62	0.44	2001
EUA	S	C	Y	>1	>1	2004
EU	P	D	Y	100	100	2003
EU	P	E				
EU	P	F	Y	99.3	99.3	2003
EU	S	G	Y	2.1	5.31	2004
EU	P	H	Y	1	1.2	
EU	P	I	n.a	0.1	0.5	2004
EU	S	J	Y/N	0.75	0.24	
EU	P	K	Y	0	0	2004
EU	S	L				
O	S	M	Y	6	10	2002
EU	S	N	N	0	0	
O	S	O	Y	0.09	0.21	2004
O	S	P				
O		Q	Y	11.65	18.02	2004
EU	P	R	Y	0.89	1.69	2004
EUA	P	S	Y			
O		T	Y	2.02 - 20.91(*)	20	
EFTA	P	U	Y	6	7	2003

4.2. PERFORMANCE OF DRINKING-WATER SUPPLY SYSTEMS									
			4.2.a. Production (million cu.m/y)	4.2.b. Consumption (million cu.m/y)	4.2.c. Unaccounted-for water (cu.m/km/d)	4.2.d. Failure rate of res. chlorine	4.2.e. Pipe breaks (km/y)	4.2.f. Continuity of service (hours/day)	4.2.g. Year
Region	Status	Country							
O	N	A	Unknown		Unknown	Unavailable	Unknown	24/7	2005
EU	N	B	4	0	near 0	near 0		24/7	2001
EUA	S	C	500	310					2003
EU	P	D	61	57	4.5	0	0.0274	24/7	
EU	P	E							
EU	P	F	397	164	4.17	0	0.0876	24/7	2003
EU	S	G	69	69				24/7	2004
EU	P	H	103	41	35			n.a	2002
EU	P	I	41	41	800	0		24/7	1999
EU	S	J	5409	4774	530				2001
EU	P	K	0	0	38.7 mln cu.m/y(*)	0			2004
EU	S	L							
O	S	M	6	6	4.43		0.01	24/7	2002
EU	S	N	1	1	1.3		Unknown	24/7	2004
O	S	O	696	381	149	0.09 est			2002
O	S	P							
O		Q	0	0	0.057	12			2004
EU	P	R	379	268	116	34.2		24	2003
EUA	P	S	5008						2002
O		T	1,041	906	14.2	0	0.0026	24/7	2004
EFTA	P	U	850		18			24	2004

			<i>4.3. SEWERAGE SERVICE QUALITY</i>				<i>4.4. SEWERAGE UTILITY PERFORMANCE</i>		
			<i>4.3.a. Volume treated</i>	<i>4.3.b. Volume discharged</i>	<i>4.3.c. Volume reused</i>	<i>4.3.d. Year</i>	<i>4.4.a. Blockage</i>	<i>4.4.b. Year</i>	
Region	Status	Country							
O	N	A							
EU	N	B	79.6	20.4	0.0	1998			
EUA	S	C	22.9	100.0	0.0	2003			
EU	P	D	20.0	100.0	0.0	2003			
EU	P	E	63.0	99.3	0.7	2004			
EU	P	F	17.7	100.0	0.0	2002			
EU	S	G	60.0	0.0	100.0	2005			
EU	P	H	94.0	94.0	0.0	2004			
EU	P	I	100.0	100.0	0.0	2004			
EU	S	J	99.1	99.1		2001			
EU	P	K	62.0			2004			
EU	S	L							
O	S	M	97.0	100.0	0.0	2002		2002	
EU	S	N	100.0						
O	S	O	11.3			2002			
O	S	P							
O		Q							
EU	P	R	100.0			2004			
EUA	P	S	47.3			2002			
O		T	99.2	93.8		2004	0.014	2004	
EFTA	P	U					no response received		

5 NATIONAL WATER SUPPLY AND SANITATION OBJECTIVES AND POLICIES

				<i>Public piped water supply</i>			<i>Public sewerage system</i>			
<i>Region</i>	<i>Status</i>	<i>Country</i>		<i>Target value</i>	<i>Current value</i>	<i>Target date</i>		<i>Target value</i>	<i>Current value</i>	<i>Target date</i>
O	N	A								
EU	N	B								
EUA	Status	C		85 - 90%	76%	2020	Public sewerage system	60%	43%	2020%
EUA	Status	C					Municipal wastewater treatment	Primary 25% , Secondary 4.8%	Primary 21%, Secondary 4%	2020
EU	P	D	Compliance DWD	100%	100%	2005	Municipal wastewater treatment	1.46 M pop eq	0.29 M pop eq	2007
EU	P	D	Predict, detect and prevent pollution	100%	90%	2015				
EU	P	E					Municipal wastewater treatment systems Coverage	80%	63%	2010
EU	P	E					N-removal	75%	70%	2005
EU	P	E					P-removal	75	79	

5 NATIONAL WATER SUPPLY AND SANITATION OBJECTIVES AND POLICIES

				<i>Public piped water supply</i>		<i>Public sewerage system</i>				
<i>Region</i>	<i>Status</i>	<i>Country</i>		<i>Target value</i>	<i>Current value</i>	<i>Target date</i>		<i>Target value</i>	<i>Current value</i>	<i>Target date</i>
	P	F		Ensure compliance with new regulation of pressure between 2 and 10 bars and a flow of min 300 l/h	Inventory of not compliant water connections before 31/12/2006	2015	Municipal wastewater treatment systems - Coverage	4.51 M pop eq 19.600 km of sewer and 3.195 km of main collectors	2.62 M pop eq or 16.240 km sewers 1.244 km of collectors	2012
EU	S	G						Compliance with 91/271/EU through installation of collection of networks and appropriate treatment facilities for agglomerations >2K		

5 NATIONAL WATER SUPPLY AND SANITATION OBJECTIVES AND POLICIES

				<i>Public piped water supply</i>			<i>Public sewerage system</i>			
<i>Region</i>	<i>Status</i>	<i>Country</i>		<i>Target value</i>	<i>Current value</i>	<i>Target date</i>		<i>Target value</i>	<i>Current value</i>	<i>Target date</i>
EU	P	H		All water to meet EU DWD	Transitory situation for Fe, turb, Mn	2008 for towns >2K, 2013 for all others				
EU	P	I								
EU	S	J								
EU	P	K	Achieve compliance with EU Directives and national legislation	Fe limit value 200 ug/l	50% exceedence of norm	2020	Reduce by one half the amount of partially treated wastewater compared to 2000	70.6 million cu.m	141 million cu.m in 2000 and 74 million cu.m in 2003	2020
				E. coli and enterococci 0/100 ml	60% exceedence in dug wells	2020				
				Nitrate 50 mg/l	40% exceedence in dug wells	2020				

5 NATIONAL WATER SUPPLY AND SANITATION OBJECTIVES AND POLICIES

Region	Status	Country		<i>Public piped water supply</i>			<i>Public sewerage system</i>		
				Target value	Current value	Target date	Target value	Current value	Target date
EU	P	K	Expand the network of public drinking water supply to cover no less than 95% of urban population	Not less than 95% of urban population covered with public drinking water supply	79.9% of inhabitants of LIT (92.1% urban and 55.6% rural) have piped water in dwelling)	2020			
			Provide good quality water to rural areas		Concentration of nitrate in dug wells exceeds norm in 40% of cases; microbiological failure rate 60%	2020			

5 NATIONAL WATER SUPPLY AND SANITATION OBJECTIVES AND POLICIES

				<i>Public piped water supply</i>			<i>Public sewerage system</i>			
<i>Region</i>	<i>Status</i>	<i>Country</i>		<i>Target value</i>	<i>Current value</i>	<i>Target date</i>		<i>Target value</i>	<i>Current value</i>	<i>Target date</i>
			Renovate and expand network, and install Fe eliminators in 64 cities	Fe limit value 200 ug/l	Some water supply systems are obsolete. Fe concentration exceeds norm in 50% of cases	2020				
EU	P	K	Supply NW Lithuania	F limit value 1.5 mg/l	Norm exceeded	2020				
EU	S	L								
O	S	M								
EU	S	N					Municipal wastewater treatment - Primary and secondary treatment	100	100	
EU	S	N					N-removal	75	74	2006
EU	S	N					P-removal	75	80	1996

5 NATIONAL WATER SUPPLY AND SANITATION OBJECTIVES AND POLICIES

				<i>Public piped water supply</i>			<i>Public sewerage system</i>			
<i>Region</i>	<i>Status</i>	<i>Country</i>		<i>Target value</i>	<i>Current value</i>	<i>Target date</i>		<i>Target value</i>	<i>Current value</i>	<i>Target date</i>
EU	P	R					Increase the proportion of the population connected to the sewerage system	57	56.4	2005
							Connection to sewerage system in all agglomerations above 2K			2015
EUA	P	S								
O		T	Increase percentage of population with centralized water supply	85.4	79.3	2010	Increase population with access to centralized sanitation	70.3	61.9	2010
			Construct iron removal facilities	3		2010	Construct wastewater treatment plants	100% of wastewater in urban areas		2010
EFTA	P	U								