



UNSD Water Data Collection

**Workshop on Environment
Statistics**

(Addis Ababa, 16-20 July 2007)

UNSD Water Data Collection

- Focus
 - Physical data
 - Freshwater resources, the abstraction and use of freshwater by economic activities and households and wastewater treatment
- Periodicity
 - Every 2 years
- Coverage
 - UN recognized countries outside of OECD/Eurostat Joint Questionnaire data collection
- Data collection method
 - Send questionnaire to NSOs and Environment Ministries
- Time series
 - Annual time series for all variables collected and long term annual averages also collected for freshwater resources

UNSD Water Questionnaire

- Purpose:
 - collect official national statistics on water
- Consistency:
 - Consistent with the OECD/Eurostat Joint Questionnaire
 - simplified
 - focused on available data
 - variables consistent with the SEEAW

Questionnaire Design

- Guidance
 - Introduction
 - Steps to Follow
 - Description of Tables
 - Conversion Table
- Definitions
 - List of Definitions
- Tables
 - Tables to be filled in by the countries

Water Asset Accounts

1. Opening Stocks

Increases in stocks

2. Returns from the economy

Table W2 Water Use Balance

3. Precipitation

Table W1 Freshwater Resources

4. Inflows

Table W1 Freshwater Resources

4.a. from upstream territories

4.b. from other resources in the territory

Decreases in stocks

5. Abstraction

Table W3 Freshwater Abstraction

6. Evaporation/Actual evapotranspiration

Table W1 Freshwater Resources

7. Outflows

Table W1 Freshwater Resources

7.a to downstream territories

7.b to the sea

7.c to other resources in the territory

8. Other changes in volume

9. Closing Stocks

Physical Use Table

From the environment	1. Total abstraction (=1.a+1.b=1.i+1.ii) 1.a. Abstraction for own use 1.b. Abstraction for distribution 1.i. From water resources: 1.i.1 Surface water 1.i.2 Groundwater 1.i.3 Soil water 1.ii. From other sources 1.ii.1 Collection of precipitation 1.ii.2 Abstraction from the sea	Table W3 Freshwater abstraction
Within the economy	2. Use of water received from other economic units	Table W5 Water Use
3. Total use of water (=1 + 2)		

Physical Supply Table

<p>Within the economy</p>	<p>4. Supply of water to other economic units <i>of which:</i> 4.a. Reused water 4.b. Wastewater to sewerage</p>	<p>Table W2 Water Use Balance & Table W4 Water Supply Industry (ISIC 41)</p>
<p>To the environment</p>	<p>5. Total returns (=5.a+5.b) 5.a. To water resources 5.a.1. Surface water 5.a.2. Groundwater 5.a.3. Soil water 5.b. To other sources (e.g. sea water)</p>	<p>Table W2 Water Use Balance Table W2 Water Use Balance</p>
<p>6. Total supply of water (=4+5)</p>		
<p>7. Consumption (=3-6)</p>		<p>Table W2 Water Use Balance</p>

Questionnaire Tables

Consistent with SEEAW standard tables

- **Table W1** Renewable Freshwater Resources
- **Table W2** Water Use Balance
- **Table W3** Freshwater Abstraction
- **Table W4** Water Supply Industry (ISIC 41)
- **Table W5** Total Water Use

- **Table W6** Wastewater Treatment Facilities
- **Table W7** Population connected to Wastewater Treatment
- **Table W8** Supplementary Information Sheet

Consistent with supplementary tables

Table W1 Freshwater Resources

Line	Category	Unit	Long term annual average	1990	1995	1999
1	Precipitation	mio m ³ /y				
2	Actual evapotranspiration	mio m ³ /y				
3	Internal flow (=1-2)	mio m ³ /y				
4	Inflow of surface and groundwaters	mio m ³ /y				
5	Renewable freshwater resources (=3+4)	mio m ³ /y				
6	Outflow of surface and groundwaters	mio m ³ /y				
7	Regular freshwater resources 95% of the time	mio m ³ /y				

Sources of data

- Meteorological monitoring
- Hydrological monitoring
- Meteorological and hydrological modeling

Table W2 Water Use Balance

Line	Category	Unit	1990	1995	1999
1	Gross freshwater abstracted (=W3,1)	mio m ³ /y			
2	Water returned without use	mio m ³ /y			
3	Net freshwater abstracted (=1-2)	mio m ³ /y			
4	Desalinated water	mio m ³ /y			
5	Reused water	mio m ³ /y			
6	Imports of water	mio m ³ /y			
7	Exports of water	mio m ³ /y			
8	Total freshwater made available for use (=3+4+5+6-7)	mio m ³ /y			
9	Leakage during transport (=W4,4)	mio m ³ /y			
10	Wastewater generated (=11+12+13)	mio m ³ /y			
11	<i>of which:</i> Discharged to inland water bodies	mio m ³ /y			
12	Discharged to marine water bodies	mio m ³ /y			
13	Reused water (=5)	mio m ³ /y			
14	Consumptive water use (=8-9-10)	mio m ³ /y			
15	Water consumption (=14+12)	mio m ³ /y			

Table W3 Freshwater Abstraction

Line	Category	Unit	1990	1995	1999
	<i>Water abstracted</i>				
1	Gross <u>freshwater</u> abstracted (=11+21) (=2+3+4+5+6+7+8)	mio m ³ /y			
2	Water abstraction by water supply industry (ISIC 41) (=12+22)	mio m ³ /y			
	<i>Direct abstraction by:</i>				
3	Households (=13+23)	mio m ³ /y			
4	Agriculture, forestry and fishing (ISIC 01-05) (=14+24)	mio m ³ /y			
6	Manufacturing industries (ISIC 15-37) (15+25)	mio m ³ /y			
7	Electricity industry (ISIC 40) (16+26)	mio m ³ /y			
8	Other economic activities (=17+27)	mio m ³ /y			

Table W3 Freshwater Abstraction

Line	Category	Unit	1990	1995	1999
	<i>Surface water abstracted</i>				
11	Gross <u>fresh surface water</u> abstracted (=12+13+14+15+16+17)	mio m ³ /y			
12	Surface water abstraction by water supply industry (ISIC 41)	mio m ³ /y			
	<i>Direct surface water abstraction by:</i>				
13	Households	mio m ³ /y			
14	Agriculture, forestry and fishing (ISIC 01-05)	mio m ³ /y			
15	Manufacturing industries (ISIC 15-37)	mio m ³ /y			
16	Electricity industry (ISIC 40)	mio m ³ /y			
17	Other economic activities	mio m ³ /y			

Table W3 Freshwater Abstraction

Line	Category	Unit	1990	1995	1999
	<i>Groundwater abstracted</i>				
21	Gross fresh groundwater abstracted (=22+23+24+25+26+27)	mio m ³ /y			
22	Groundwater abstraction by water supply industry (ISIC 41)	mio m ³ /y			
	<i>Direct groundwater abstraction by:</i>				
23	Households	mio m ³ /y			
24	Agriculture, forestry and fishing (ISIC 01-05)	mio m ³ /y			
25	Manufacturing industries (ISIC 15-37)	mio m ³ /y			
26	Electricity industry (ISIC 40)	mio m ³ /y			
27	Other economic activities	mio m ³ /y			

Sources of data

- Statistical surveys on water abstraction
 - Survey of the water supply industry
 - Agricultural and industrial surveys
 - Household surveys
- Administrative sources (water abstraction permits, water abstraction reports)
- Expert estimates and calculations
- Modeling

Table W5 Water Supply Industry

Line	Category	Unit	1990	1995	1999
1	Gross freshwater delivered by water supply industry (ISIC 41)	mio m³/y			
2	Freshwater losses during transport	mio m ³ /y			
3	<i>of which: Losses by evaporation</i>	mio m ³ /y			
4	Losses by leakage	mio m ³ /y			
5	Net freshwater delivered by water supply industry (ISIC 41) (=1-2) (=6+7+8+9+10)	mio m³/y			
	<i>of which delivered to:</i>				
6	Households	mio m ³ /y			
7	Agriculture, forestry and fishing (ISIC 01-05)	mio m ³ /y			
8	Manufacturing (ISIC 15-37)	mio m ³ /y			
9	Electricity industry (ISIC 40)	mio m ³ /y			
10	Other economic activities	mio m ³ /y			
	<i>Population supplied by water supply industry (ISIC 41)</i>				
11	Population supplied by water supply industry (ISIC 41)	%			

Sources of data:

- Survey of the Water Supply Industry

Table W5 Total Water Use

Line	Category	Unit	1990	1995	1999
1	Freshwater use, total (=2+3+5+6+7)	mio m ³ /y			
	<i>of which used by:</i>				
2	Households	mio m ³ /y			
3	Agriculture, forestry and fishing (ISIC 01-05)	mio m ³ /y			
4	<i>of which for irrigation in agriculture</i>	mio m ³ /y			
5	Manufacturing (ISIC 15-37)	mio m ³ /y			
6	Electricity industry (ISIC 40)	mio m ³ /y			
7	Other economic activities	mio m ³ /y			

Sources of data:

- Statistical surveys on water use
 - Survey of the water supply industry
 - Agricultural and industrial surveys
 - Household surveys
- Administrative sources (water abstraction permits, water abstraction reports)
- Expert estimates and calculations

Table W6 Wastewater Treatment Facilities

Line	Category	Unit	1990	1995	1999
Primary urban wastewater treatment					
1	Number of plants	Number			
2	Design capacity (Volume)	1000 m ³ /d			
3	Design capacity (BOD)	1000 kg O ₂ /d			
4	Actual occupation (Volume)	1000 m ³ /d			
5	Actual occupation (BOD)	1000 kg O ₂ /d			
Secondary urban wastewater treatment					
6	Number of plants	Number			
7	Design capacity (Volume)	1000 m ³ /d			
8	Design capacity (BOD)	1000 kg O ₂ /d			
9	Actual occupation (Volume)	1000 m ³ /d			
10	Actual occupation (BOD)	1000 kg O ₂ /d			
Independent wastewater treatment					
11	Actual occupation (BOD)	1000 kg O ₂ /d			
Sewage sludge production					
12	Sewage sludge production (dry matter)	1000 t			

Sources of data

- Survey of waste water treatment facilities
- Household surveys

Table W7 Population connected to Wastewater Treatment

Line	Category	Unit	1990	1995	1999
1	Population connected to urban wastewater collecting system	% of pop.			
2	Population connected to urban wastewater treatment	% of pop.			
3	<i>of which</i> at least secondary treatment	% of pop.			
4	Population with independent wastewater treatment (eg septic tanks)	% of pop.			
5	<i>of which</i> at least secondary treatment	% of pop.			
6	Population not connected to wastewater treatment (100% - (2) - (4))	% of pop.			

Sources of data:

- Survey of the waste water treatment industry
- Population census
- Household surveys
- Expert estimations

Questionnaire is on the web

<http://unstats.un.org/unsd/environment/questionnaire2006.htm>