



UNSD/UNEP Questionnaire on Environment Statistics – Water

Environment Statistics Section
United Nations Statistics Division (UNSD)

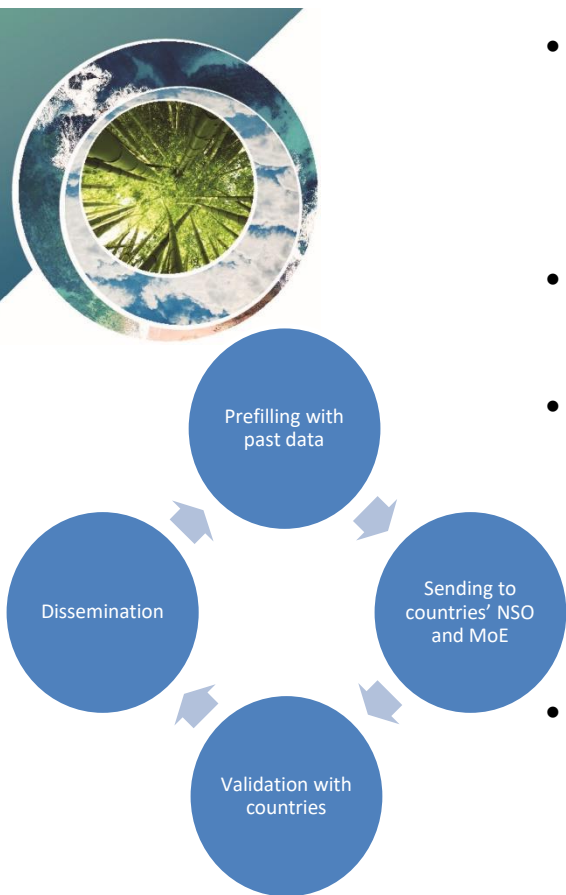
Taller Nacional de Estadísticas Ambientales y de Cambio
Climático en Perú

Lima, 13-15 Diciembre 2022



United Nations Statistics Division

UNSD/UNEP Questionnaire on Environment Statistics



- Since 1999, UNSD has completed 10 data collections on water and waste data (usually biennially) from about 160-170 UN member states. Mandated by UNSC 28th session (1995); reinforced at 34th session (2003).
- [Questionnaires](#) are sent to National Statistical Offices and Ministries of Environment.
- Questionnaires are not sent to Eurostat and OECD members and candidate members. 170+ member states in previous years; about 163 member states in the 2022 collection cycle
- Response rate typically hovers around 50% (2018: 52%; 2020: approx.: 46%).
- No imputation, no estimation. No change in variables collected in 2022 compared to 2020. Instead, focus is more on boosting response rates, especially to those variables related to SDG indicators
- The current (2022) data collection is the 11th one. Thank you for your collaboration!



UNSD/UNEP Questionnaire on Environment Statistics: disseminated outputs



- **UNSD environmental indicators:** <https://unstats.un.org/unsd/envstats/qindicators> Time series, or most recently available data for selected variables provided by countries. Disseminated after completion of collection cycle.
- **Country files:** https://unstats.un.org/unsd/envstats/country_files Individual country data on water and waste. Disseminated periodically during collection cycle. Demand from key users to view Country files as soon as possible.
- **Country snapshots:** <https://unstats.un.org/unsd/envstats/snapshots/> Individual country data spanning many environmental themes.
- **Tailored queries:** Per solicitation from key users (often World Health Organization, UN Environment Programme, UN-HABITAT, academia).



Water section and its many uses...



División de Estadística de las Naciones Unidas y Programa de las Naciones Unidas para el Medio Ambiente

CUESTIONARIO 2022 ESTADÍSTICAS AMBIENTALES

Sección: AGUA

Índice

Guía	Introducción, indicaciones generales, descripción de los cuadros y tabla de conversión
Definiciones	Lista de definiciones
Cuadro W1	Recursos renovables de agua dulce
Cuadro W2	Extracción y utilización de agua dulce
Cuadro W3	Industria del suministro de agua (CIU 36)
Cuadro W4	Generación y tratamiento de aguas residuales
Cuadro W5	Población conectada a servicios de tratamiento de aguas residuales
Cuadro W6	Hoja de información complementaria



Dissemination: Environment statistics — UN Data



Data Glossary Metadata API More

34 databases - 60 million records Update calendar

Databases	Updates	Country data services
Crime <ul style="list-style-type: none">UNODC Homicide Statistics 2012, UNODC Education <ul style="list-style-type: none">UIS Data Centre, UNESCO UIS	@undata 24 Oct The World Tourism Data table in @UNdata was updated with available stats as of mid-Oct 2014: bit.ly/1vulpAm ; thanks @UNWTO	Afghanistan Albania Algeria Andorra Angola

Monthly Bulletin of Statistics and other UNSD data resources

▶ Popular searches

▶ Feedback and reviews



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Dissemination: UNSD Environmental Indicators

- Air and Climate
- Biodiversity
- Energy and Minerals
- Forests
- Governance
- Inland Water Resources **new**
- Land and Agriculture
- Marine and Coastal Areas
- Natural Disasters **new**
- Waste **new**

Air Pollution

- ▶ Consumption of ozone-depleting substances **XLS**
- ▶ NO_x emissions **XLS**
- ▶ SO₂ emissions **XLS**
- ▶ Links to other international data sources

Climate Change

- ▶ Climatological disasters (see Natural Disasters)
- ▶ Participation in climate change agreements (see Governance)
- ▶ Links to other international data sources

Greenhouse Gases

- ▶ CO₂ emissions **XLS**
- ▶ Greenhouse gas emissions **XLS**
- ▶ Greenhouse gas emissions by sector (absolute values) **XLS**
- ▶ Greenhouse gas emissions by sector (percentage) **XLS**
- ▶ CH₄ and N₂O emissions **XLS**
- ▶ Links to other international data sources

<https://unstats.un.org/unsd/envstats/qindicators>



Air and climate

Emissions of:		Year
SO ₂ (1000t)	176	1994
SO ₂ per capita (kg)	6	1994
NO _x (1000t)	161	1994
NO _x per capita (kg)	6	1994
CO ₂ (million tonnes)	3	1994
CO ₂ per capita (tonnes)	0	1994
GHG (million tonnes CO ₂ eq.)	39	1994
GHG per capita (tonnes CO ₂ eq.)	1	1994
Consumption of ozone depleting CFCs (ODP t)	0	2013

Biodiversity

Proportion of terrestrial and marine areas protected (%)	31	2018
Number of threatened species	1,320	2019
Fish catch (tonnes)	377,046 ¹	2018
Change in fish catch from previous year (%)	-4 ¹	2018

Economy

GDP growth rate from previous year (%)	7	2018
GDP per capita (at current prices - \$US)	1,044	2018
% Value added: agriculture, hunting, forestry, fishing	31	2018
% Value added: mining, manufacturing, utilities	15	2018

Energy

Total energy supply (PJ)	855	2017
Energy supply per capita (GJ)	15	2017
Energy use intensity (MJ per USD constant 2011 PPP GDP)	166	2017
Renewable electricity production (%)	30	2017

Land and agriculture

Total area (sq km)	885,800 ¹	2018
Agricultural land (sq km)	396,500 ¹	2018
Arable land (% of agric. land)	34 ¹	2018
Permanent crops (% of agric. land)	5 ¹	2018



Note: The boundaries, the names shown, and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Permanent meadows and pastures (% of agric. land)	61 ¹	2018
Change in agricultural land area since 1990 (%)	27	2018
Forest area (sq km)	466,830	2018
Change in forest area since 1990 (%)	-19	2018

Population

Population (1000)	58,005 ²	2019
Population growth rate from previous year (%)	3 ²	2019

Waste

Total population served by municipal waste collection (%)	...	
Municipal waste collected (1000t)	513 ³	2015
Hazardous waste generated per capita (kg)	0	2015
Proportion of hazardous waste treated or disposed (%)	91	2015
Proportion of municipal waste recycled (%)	1	2015

Water and sanitation

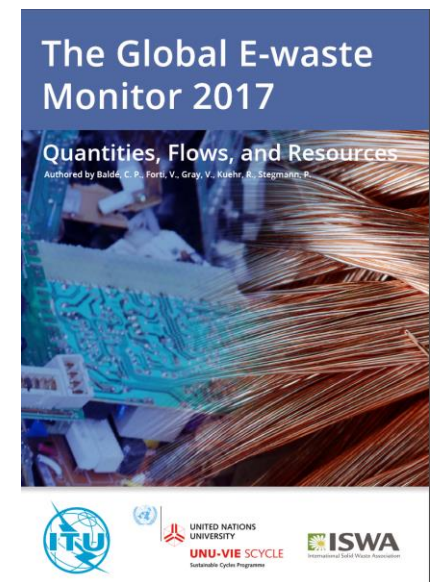
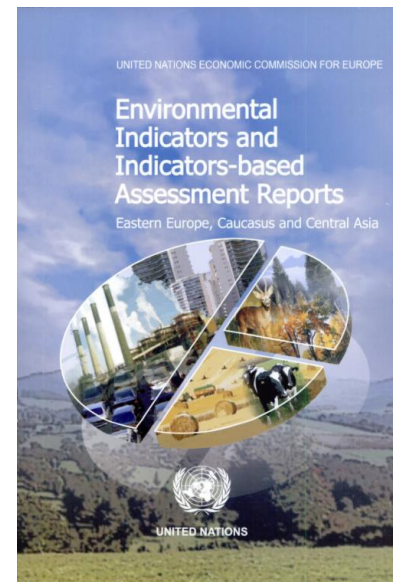
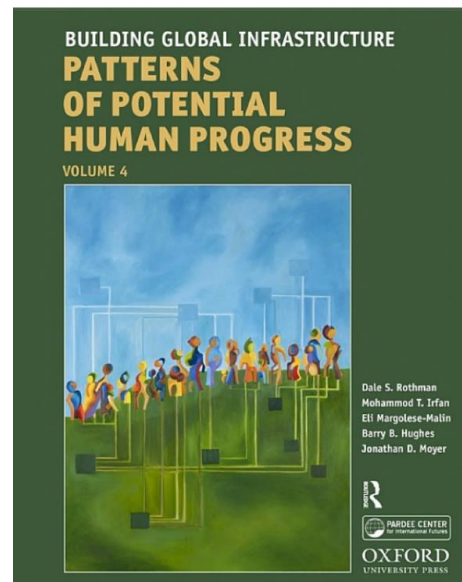
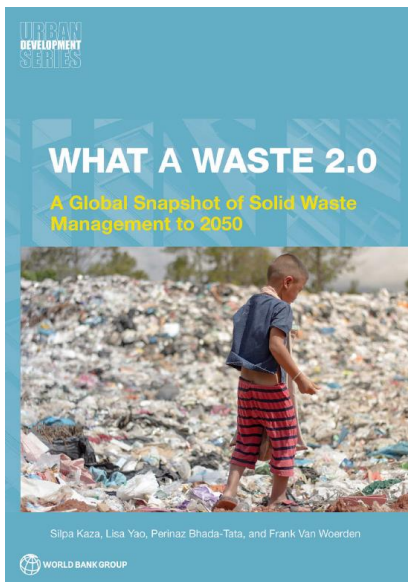
Renewable freshwater resources per capita (m ³)	...	
Proportion of wastewater treated (%)	16 ⁴	2017
Proportion of freshwater abstracted (%)	...	

Dissemination: Country Snapshot — Tanzania



Key Data Users

- International agencies (UNEP, UN-HABITAT, WORLD BANK)
- Academia/Students
- Journalists
- General Public



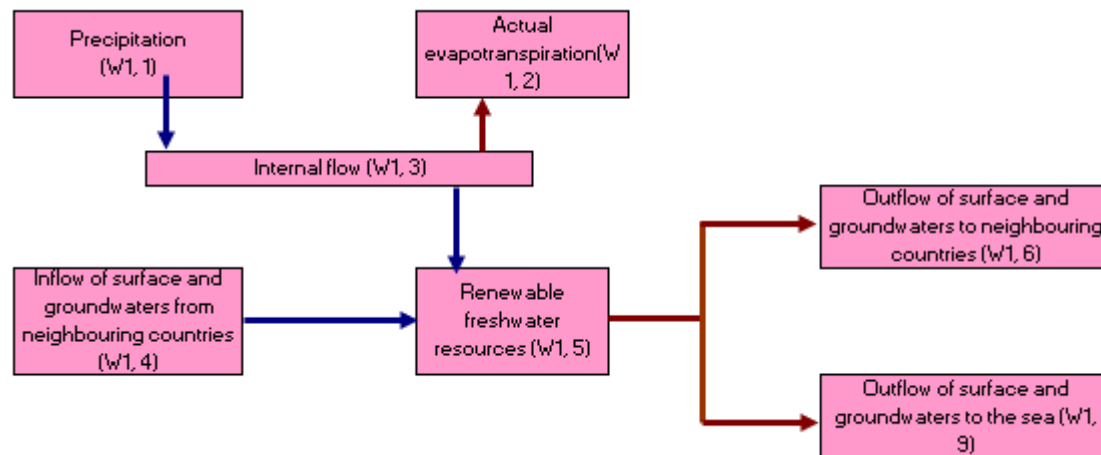
W1: Renewable Freshwater Resources (mio metres³/year)

Section: WATER

Country:

Table W1: Renewable Freshwater Resources

Line	Category	Unit
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 from neighbouring countries	mio m ³ /y
5	Renewable freshwater resources (=3+4)	mio m ³ /y
6	Outflow of surface and groundwaters to neighbouring countries	mio m ³ /y
7	<i>of which:</i> Secured by treaties	mio m ³ /y
8	Not secured by treaties	mio m ³ /y
9	Outflow of surface and groundwaters to the sea	mio m ³ /y



W2: Freshwater Abstraction and Use (mio metres³/year)

Table W2: Freshwater Abstraction and Use

Line	Category	Unit
1	Fresh surface water abstracted	mio m ³ /y
2	Fresh groundwater abstracted	mio m ³ /y
3	Gross freshwater abstracted (=1+2)	mio m ³ /y
4	Water returned without use	mio m ³ /y
5	Net freshwater abstracted (=3-4)	mio m ³ /y
<i>of which abstracted by:</i>		
6	Water supply industry (ISIC 36)	mio m ³ /y
7	Households	mio m ³ /y
8	Agriculture, forestry and fishing (ISIC 01-03)	mio m ³ /y
9	<i>of which for:</i> Irrigation in agriculture	mio m ³ /y
10	Mining and quarrying (ISIC 05-09)	mio m ³ /y
11	Manufacturing (ISIC 10-33)	mio m ³ /y
12	Electricity, gas, steam and air conditioning supply (ISIC 35)	mio m ³ /y
13	<i>of which for:</i> Electric power generation, transmission and distribution (ISIC 351)	mio m ³ /y
14	Construction (ISIC 41-43)	mio m ³ /y
15	Other economic activities	mio m ³ /y
16	Desalinated water	mio m ³ /y
17	Reused water	mio m ³ /y
18	Imports of water	mio m ³ /y
19	Exports of water	mio m ³ /y
20	Total freshwater available for use (=5+16+17+18-19)	mio m ³ /y
21	Losses during transport	mio m ³ /y
22	Total freshwater use (=20-21)	mio m ³ /y
<i>of which used by:</i>		
23	Households	mio m ³ /y
24	Agriculture, forestry and fishing (ISIC 01-03)	mio m ³ /y
25	<i>of which for:</i> Irrigation in agriculture	mio m ³ /y
26	Mining and quarrying (ISIC 05-09)	mio m ³ /y
27	Manufacturing (ISIC 10-33)	mio m ³ /y
28	Electricity, gas, steam and air conditioning supply (ISIC 35)	mio m ³ /y
29	<i>of which for:</i> Electric power generation, transmission and distribution (ISIC 351)	mio m ³ /y
30	Construction (ISIC 41-43)	mio m ³ /y
31	Other economic activities	mio m ³ /y

The table asks for data on abstraction of freshwater, broken down according to the main activity of the water abstractor, as defined by the International Standard Industrial Classification of All Economic Activities (ISIC Rev. 4).



W3: Water Supply Industry (ISIC 36)(mio metres³/year)

Table W3: Water Supply Industry (ISIC 36)

Line	Category	Unit
1	Gross freshwater supplied by water supply industry (ISIC 36)	mio m ³ /y
2	Losses during transport by ISIC 36	mio m ³ /y
3	Net freshwater supplied by water supply industry (ISIC 36) (=1-2) (=4+5+6+7+8+10+11)	mio m ³ /y
<i>of which supplied to:</i>		
4	Households	mio m ³ /y
5	Agriculture, forestry and fishing (ISIC 01-03)	mio m ³ /y
6	Mining and quarrying (ISIC 05-09)	mio m ³ /y
7	Manufacturing (ISIC 10-33)	mio m ³ /y
8	Electricity, gas, steam and air conditioning supply (ISIC 35)	mio m ³ /y
<i>of which to:</i>		
9	Electric power generation, transmission and distribution (ISIC 351)	mio m ³ /y
10	Construction (ISIC 41-43)	mio m ³ /y
11	Other economic activities	mio m ³ /y
<i>Population supplied by water supply industry (ISIC 36)</i>		
12	Total population supplied by water supply industry (ISIC 36)	%
13	Urban population supplied by water supply industry (ISIC 36)	%
14	Rural population supplied by water supply industry (ISIC 36)	%

This table covers water supplied by water supply industries, whether under public or under private control. It corresponds to the term public water supply.

W4: Wastewater Generation and Treatment (1000 metres³/day)

Table W4: Wastewater Generation and Treatment

Line	Category	Unit
1	Total wastewater generated	1000 m ³ /d
2	<i>by:</i> Agriculture, forestry and fishing ISIC (01-03)	1000 m ³ /d
3	Mining and quarrying (ISIC 05-09)	1000 m ³ /d
4	Manufacturing (ISIC 10-33)	1000 m ³ /d
5	Electricity, gas, steam and air conditioning supply (ISIC 35)	1000 m ³ /d
6	<i>of which by:</i> Electric power generation, transmission and distribution (ISIC 351)	1000 m ³ /d
7	Construction (ISIC 41-43)	1000 m ³ /d
8	Other economic activities	1000 m ³ /d
9	Households	1000 m ³ /d
10	Wastewater treated in urban wastewater treatment plants	1000 m ³ /d
11	<i>of which:</i> Primary treatment	1000 m ³ /d
12	Secondary treatment	1000 m ³ /d
13	Tertiary treatment	1000 m ³ /d
14	Wastewater treated in other treatment plants	1000 m ³ /d
15	<i>of which:</i> Primary treatment	1000 m ³ /d
16	Secondary treatment	1000 m ³ /d
17	Tertiary treatment	1000 m ³ /d
18	Wastewater treated in independent treatment facilities	1000 m ³ /d
19	Non-treated wastewater	1000 m ³ /d
20	Sewage sludge production (dry matter)	1000 t

Table W4 asks for data on the amount of wastewater generated as well as the amount of wastewater treated in the sewerage industry, in other treatment plants, and in independent treatment facilities.

W5: Population Connected to Wastewater Treatment (%)

Table W5: Population Connected to Wastewater Treatment

Line	Category	Unit	2000	2001	2002
1	Population connected to wastewater collecting system	%			
2	Population connected to wastewater treatment	%			
3	<i>of which</i> : at least secondary treatment	%			
4	Population with independent wastewater treatment (e.g., septic tanks)	%			
5	Population not connected to wastewater treatment (100% - (2) - (4))	%			

The share of the resident population connected to public wastewater collecting system, to public wastewater treatment and to independent treatment facilities indicate the coverage and level of sanitation.

Examples of how useful it can be to answer the questionnaire



Table W1: Renewable Freshwater Resources

Line	Category	Unit
1	Precipitation	mio m ³ /y
2	Actual evapotranspiration	
3	Internal flow (=1-2)	
4	Inflow of surface and groundwaters from neighbouring countries	
5	Renewable freshwater resources (=3+4)	
6	Outflow of surface and groundwaters to neighbouring countries	
7	<i>of which:</i> Secured by treaties	
8	Not secured by treaties	
9	Outflow of surface and groundwaters to the sea	

- Variables highlighted in yellow directly feed into Sustainable Development Goal indicator 6.4.2: **Level of water stress: freshwater withdrawal as a proportion of available freshwater resources**
- Custodian agency: FAO. Partner agencies: UNEP, IUCN, UNSD, OECD, Eurostat
- Metadata [[link](#)]

Table W2: Freshwater Abstraction and Use

Line	Category	Unit
1	Fresh surface water abstracted	mio m ³ /y
2	Fresh groundwater abstracted	
3	Gross freshwater abstracted (=1+2)	
4	Water returned without use	
5	Net freshwater abstracted (=3-4)	





Table W2: Freshwater Abstraction and Use

Line	Category
22	Total freshwater use (=20-21)
	<i>of which used by:</i>
23	Households
24	Agriculture, forestry and fishing (ISIC 01-03)
25	<i>of which for:</i> Irrigation in agriculture
26	Mining and quarrying (ISIC 05-09)
27	Manufacturing (ISIC 10-33)
28	Electricity, gas, steam and air conditioning supply (ISIC 35)
29	<i>of which for:</i> Electric power generation, transmission and distribution (ISIC 351)
30	Construction (ISIC 41-43)
31	Other economic activities

- Variables highlighted in yellow directly feed into Sustainable Development Goal indicator 6.4.1: **Change in water-use efficiency over time**
- Custodian agency: FAO. Partner agencies: UNEP, IUCN, UNSD, OECD, Eurostat
- Metadata [[link](#)]

Table W2: Freshwater Abstraction and Use

Line	Category	Unit
1	Fresh surface water abstracted	mio m ³ /y
2	Fresh groundwater abstracted	
3	Gross freshwater abstracted (=1+2)	
4	Water returned without use	
5	Net freshwater abstracted (=3-4)	



Table W4: Wastewater Generation and Treatment

Line	Category	Unit
1	Total wastewater generated	
2	<i>by:</i> Agriculture, forestry and fishing (ISIC (01-03))	
3	Mining and quarrying (ISIC 05-09)	
4	Manufacturing (ISIC 10-33)	
5	Electricity, gas, steam and air conditioning supply (ISIC 35)	
6	<i>of which by:</i> Electric power generation, transmission and distribution (ISIC 351)	
7	Construction (ISIC 41-43)	
8	Other economic activities	
9	Households	
10	Wastewater treated in urban wastewater treatment plants	1000 m ³ /d
11	<i>of which:</i> Primary treatment	
12	Secondary treatment	
13	Tertiary treatment	
14	Wastewater treated in other treatment plants	
15	<i>of which:</i> Primary treatment	
16	Secondary treatment	
17	Tertiary treatment	
18	Wastewater treated in independent treatment facilities	
19	Non-treated wastewater	
20	Sewage sludge production (dry matter)	1000 t

- Variables highlighted in yellow directly feed into Sustainable Development Goal indicator 6.3.1: **Proportion of domestic and industrial wastewater safely treated**
- Custodian agencies: WHO, UN-HABITAT, UNSD
- Metadata [[link](#)]



Use of Questionnaire data for System of Environmental Economic Accounting (SEEA) Central Framework and SEEA-Water...

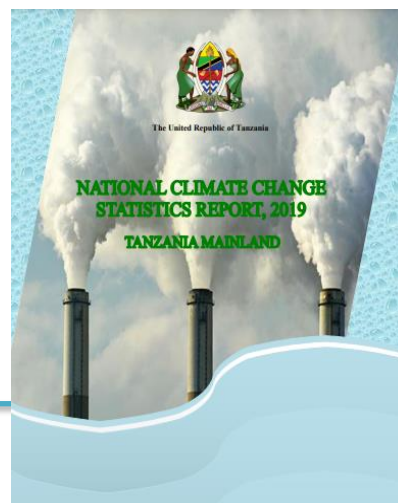
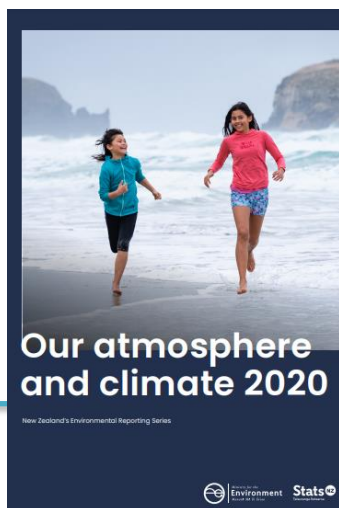
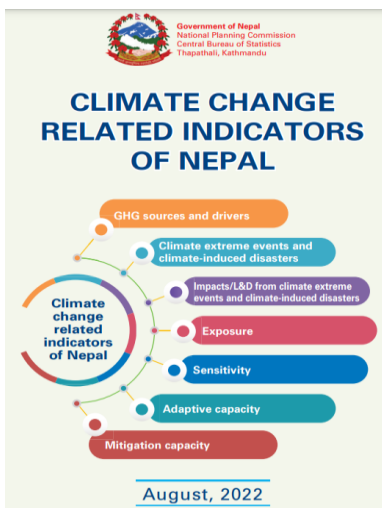
- ... (SEEA CF) provides tools for describing **stocks** and **changes in stocks** of environmental assets (water, land, energy, timber, etc.), as well as supporting **environmental activities**
- Tables W1 (Renewable Freshwater Resources) and W2 (Freshwater abstraction and use) of the Questionnaire serve as input to Asset Accounts for Water Resources
- Tables W2, W3 (Water supply industry) and W4 (Wastewater generation and treatment) of the Questionnaire serve as input to physical flow accounts of water.
- Consistent annual time series are key as opening and closing stock and change over time are of interest.
- Asset accounts for water resources also demand for inflow and outflow of water to and from land surface and subsurface, and on the destination of these flows.



Use of Questionnaire data to apply to the Global Set of Climate Change Statistics and Indicators, and in turn, to a national Compendium on Climate Change Statistics

- Indicators such as those below would have underlying data reported in the Questionnaire:
 - Renewable freshwater resources per capita
 - Freshwater abstracted as a proportion of renewable freshwater resources
 - Water use per capita
 - Proportion of domestic and industrial wastewater flows safely treated
- Any effort undertaken in a country to compile a Compendium on Climate Change Statistics can have some data used to report to the Questionnaire. See collection of Compendia here:

https://unstats.un.org/unsd/envstats/climatechange_reports.cshtml



28 MARZO 2022

statistiche report

Istat Istituto Nazionale di Statistica

I CAMBIAMENTI CLIMATICI: MISURE STATISTICHE | ANNO 2020

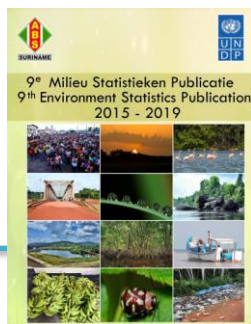
Temperatura media in aumento nelle grandi città, sempre più diffusa la forestazione urbana

United Nations Statistics Division



Use of Questionnaire data to apply to the Framework for the Development of Environment Statistics, and in turn, to a national Compendium on Environment Statistics

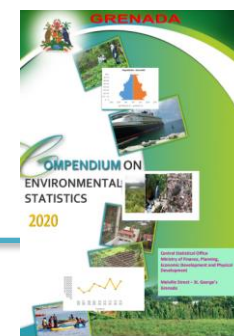
- Within the Framework for the Development of Environment Statistics, the Basic Set of Environment Statistics contained some 450+ statistics which countries can use as applicable when compiling a Compendium of Environment Statistics. Refer: <https://unstats.un.org/unsd/environment/FDES/FDES-2015-supporting-tools/FDES.pdf>
- Sub-component 2.6: Water Resources includes statistics such as: precipitation; actual evapotranspiration; water abstraction (from ground/surface water); desalinated water; reused water.
- Sub-component 3.2: Generation and Management of Wastewater includes statistics such as: Volume of wastewater generated and treated; wastewater discharged to the environment;
- Any effort undertaken in a country to compile a Compendium on Environment Statistics can have some data used to report to the Questionnaire. See collection of Environment Statistics Compendia here: <https://unstats.un.org/unsd/envstats/fdescompendia.cshtml>
- 56 country-compiled Compendia are available here: <https://unstats.un.org/unsd/envstats/fdescompendia.cshtml>



THE GAMBIA BUREAU OF STATISTICS

ENVIRONMENT STATISTICS COMPENDIUM

2020



Thank you for your attention!

For more information please contact
the Environment Statistics Section
at the UN Statistics Division:
E-mail: envstats@un.org

website: <https://unstats.un.org/unsd/envstats/>

