Session 4.2: Waste Questionnaire

United Nations Statistics Division (UNSD) and United Nations Environment Programme

QUESTIONNAIRE 2018 ON ENVIRONMENT STATISTICS

Section: WASTE

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Regional Workshop on Environment Statistics and Climate Change Statistics for the Caribbean Community (CARICOM) Region

St. George's, Grenada, 4-8 November 2019

United Nations Statistics Division

General Information

- Since 1999, about every two years. 9th round sent out in September 2018 (waste and water statistics)

- About 172 member states and areas in 5 languages

- Complemented by the OECD/Eurostat Joint Questionnaire on the State of the Environment – their member states

- Waste statistics
  - R1: Generation of Waste by Source
  - R2: Management of Hazardous Waste
  - R3: Management of Municipal Waste
  - R4: Composition of Municipal Waste
  - R5: Management of Municipal Waste — City Data
  - R6: Electronic Waste Generation and Collection

- Water statistics
  - W1: Renewable Freshwater Resources
  - W2: Freshwater Abstraction and Use
  - W3: Water Supply Industry (ISIC 36)
  - W4: Wastewater Generation and Treatment
  - W5: Population Connected to Wastewater Treatment

Cycle
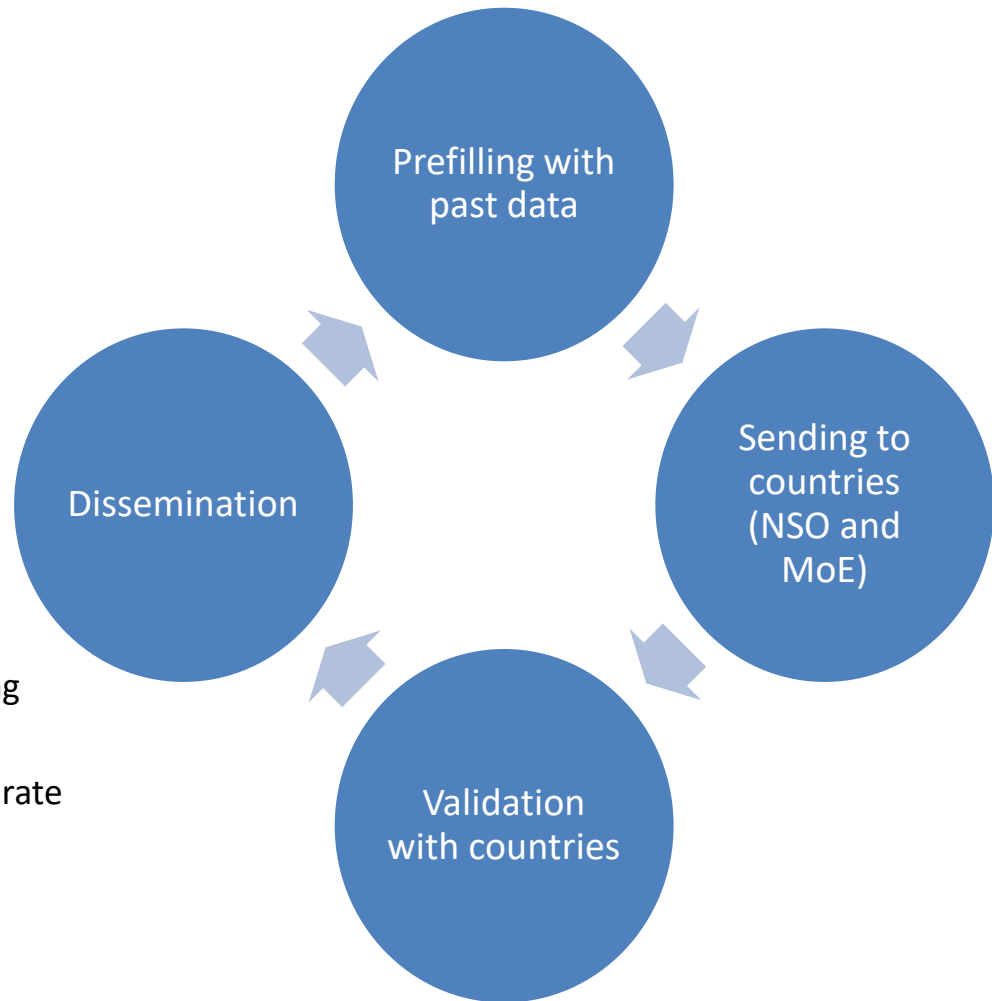
- No estimation or imputation for missing values from UNSD
- Data considered accurate only if confirmed by countries

Prefilling with past data

Sending to countries (NSO and MoE)

Validation with countries

Dissemination

Dissemination: Environment statistics — UN Data

Dissemination: UNSD Environmental Indicators

☁ **Air and Climate**	
🌐 Biodiversity	
💬 Energy and Minerals	
🌲 Forests	
⚙ Governance	
💧 Inland Water Resources	
⚙ Land and Agriculture	
🌐 Marine and Coastal Areas	
🚒 Natural Disasters	
⚙ Waste	

Air Pollution

❯ Consumption of ozone-depleting substances **XLS**
❯ NO_x emissions **XLS**
❯ SO_2 emissions **XLS**
❯ Links to other international data sources
❯ Additional indicators and selected time series

Climate Change

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

Greenhouse Gases

❯ CO_2 emissions **XLS**
❯ Greenhouse gas emissions **XLS**
❯ Greenhouse gas emissions by sector (absolute values) **XLS**
❯ Greenhouse gas emissions by sector (percentage) **XLS**
❯ CH_4 and N_2O emissions **XLS**
❯ Links to other international data sources
❯ Additional indicators and selected time series

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

Data   Sources and Footnotes

Air and climate

Emissions of:		Year
SO_2 (1000t)	…	
SO_2 per capita (kg)	…	
NO_x (1000t)	…	
NO_x per capita (kg)	…	
CO_2 (million tonnes)	0	2011
CO_2 per capita (tonnes)	2	2011
GHG (million tonnes CO_2 eq.)	2	1994
GHG per capita (tonnes CO_2 eq.)	16	1994
Consumption of ozone depleting CFCs (ODP t)	0	2013

Biodiversity

Proportion of terrestrial and marine areas protected (%)	0	2014
Number of threatened species	54	2016
Fish catch (tonnes)	2,707	2015
Change in fish catch from previous year (%)	-5	2015

Economy

GDP growth rate from previous year (%)	2	2016
GDP per capita (at current prices - $US)	9,469	2016
% Value added: agriculture, hunting, forestry, fishing	7	2016
% Value added: mining, manufacturing, utilities	8	2015

Energy

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)	12	2015
Change in agricultural land area since 1990 (%)	-38	2015
Forest area (sq km)	170	2015
Change in forest area since 1990 (%)	0	2015

Population

Population (1000)	107	2015
Population growth rate from previous year (%)	0	2015

Waste

Total population served by municipal waste collection (%)	…	
Municipal waste collected (1000t)	…	

Dissemination: Country Snapshot — Grenada

…ivision

Key Data Users

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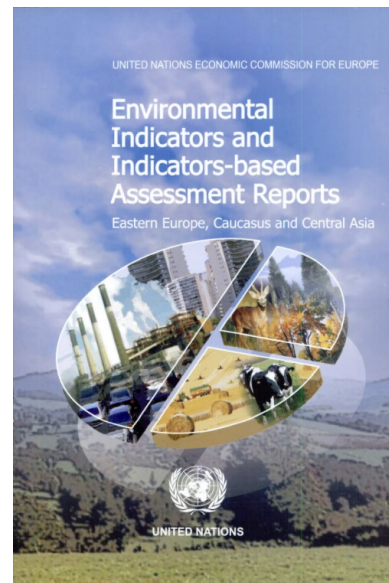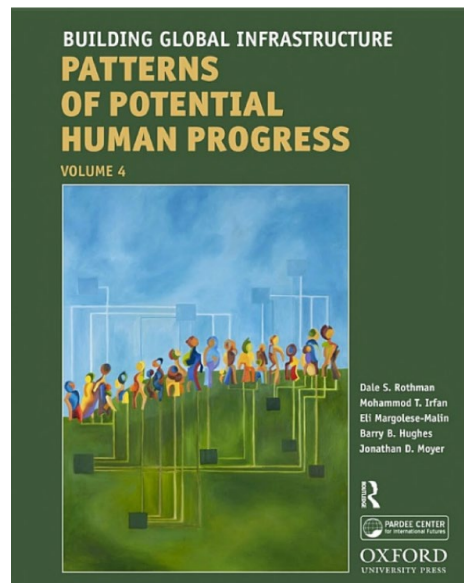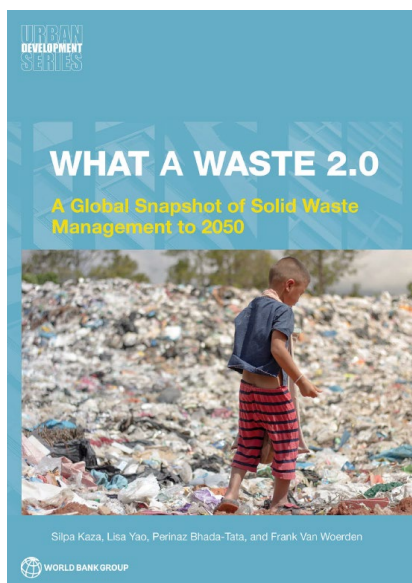
Waste Section

- Introduction, Steps to Follow, Description of Tables
- List of Definitions
- R1: Generation of Waste by Source
- R2: Management of Hazardous Waste
- R3: Management of Municipal Waste
- R4: Composition of Municipal Waste
- R5: Management of Municipal Waste — City Data
- R6: Electronic Waste Generation and Collection

R1: Generation of Waste by Source (thousands of tonnes)

Line	Category	Unit
1	Agriculture, forestry and fishing (ISIC 01-03)	1000 t
2	Mining and quarrying (ISIC 05-09)	1000 t
3	Manufacturing (ISIC 10-33)	1000 t
4	Electricity, gas, steam and air conditioning supply (ISIC 35)	1000 t
5	Construction (ISIC 41-43)	1000 t
6	Other economic activities excluding ISIC 38	1000 t
7	Households	1000 t
8	**Total waste generation (=1+2+3+4+5+6+7)**	1000 t

Country	latest year available	Total waste generation
Bermuda	2017	95.7
Grenada	2012	30.76
Jamaica	1996	14597
Saint Lucia	2017	75
Saint Vincent and the Grenadines	2002	42.5
Suriname	2017	195.22[1,2,3,4,5]

Footnotes: 1: Unit: thousand cubic meters. For the categories : agriculture, forestry and fishing, manufacturing, other economic activities, households and total waste generation. 2: The figures cover a large part of the capital city (district Paramaribo),the second largest district of Wanica and Commewijne. 3: This data contains agricultural waste and waste of Fish and meat. Waste of forestry is not included. 4: Contains Enterprise waste. 5: Other waste contain the following categories: Expired Foodstuff/ Dangerous Waste Materials/ Asbest and Glass/ Tires (only collected in 2014-2017).

R2: Management of Hazardous Waste

Line	Category	Unit
1	Stock of hazardous waste at the beginning of the year	tonnes
2	Hazardous waste generated during the year	tonnes
3	Hazardous waste imported during the year	tonnes
4	Hazardous waste exported during the year	tonnes
5	**Hazardous waste treated or disposed of during the year (=6+7+9+10)**	tonnes
6	*Amounts going to:* Recycling	tonnes
7	Incineration	tonnes
8	*of which:* with energy recovery	tonnes
9	Landfilling	tonnes
10	Other, please specify in the footnote	tonnes
11	Stock of hazardous waste at the end of the year (=1+2+3-4-5)	tonnes

Stock of hazardous waste at the beginning of the year (R2,1)

Hazardous waste generated during the year (R2,2) [+]

Hazardous waste imported during the year (R2,3) [+]

Hazardous waste treated or disposed of during the year (=6+7+9+10) (R2,5) [-]

Hazardous waste exported during the year (R2,4) [-]

Stock of hazardous waste at the end of the year (=1+2+3-4-5) (R2,11)
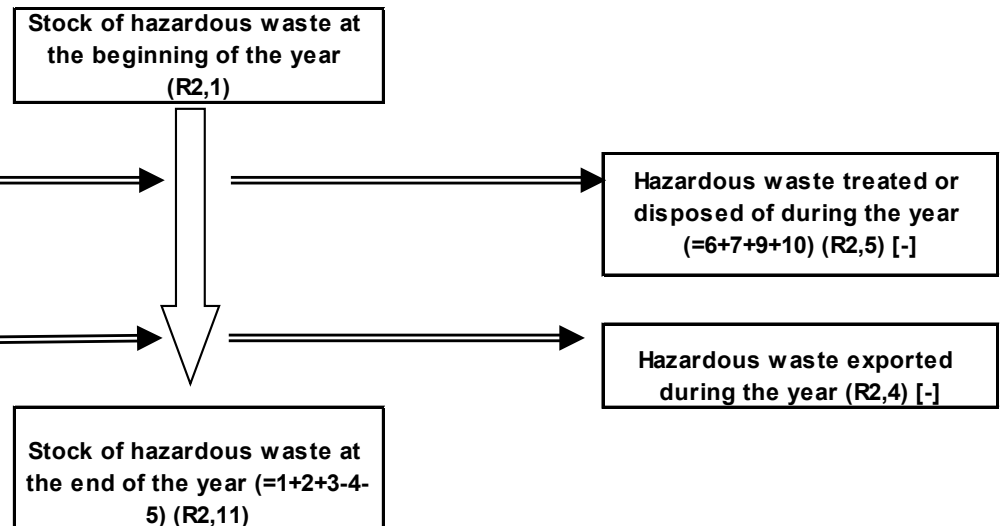
Hazardous waste generation and treatment (tonnes)

Country	latest year	Generated	latest year	Treated or disposed	latest year	Recycling	latest year	Incineration	latest year	Landfilling	latest year	Other
Belize	2000	775[1]	2000	775[1]			2000	775[1]				
Bermuda	2017	525[2]	2017	530[2]	2017	310[2]	2017	5[2]	2017	215[2]		
Dominica	2002	627							2002	502		
Jamaica	2006	10000	2006	8435	1996	0	1996	7500	1996	2500	1996	0
Saint Lucia			2017	1644	2017	1578	2017	0	2017	66	2017	0
Saint Vincent and the Grenadines	2002	0.15	2002	0.15	2002	0	2002	0	2002	0.15	2002	0
Suriname	2017	2.62[3,4]										

Footnotes: 1: Waste from hospitals only. 2: Estimated data. 3:Unit: thousand cubic meters. For the categories : agriculture, forestry and fishing, manufacturing, other economic activities, households and total waste generation. 4: The figures cover a large part of the capital city (district Paramaribo),the second largest district of Wanica and Commewijne.

R3 and R5: Management of Municipal Waste (national and city levels)

Line	Category	Unit
1	Total amount of municipal waste generated	1000 t
2	Municipal waste collected from households	1000 t
3	Municipal waste collected from other origins	1000 t
4	**Total amount of municipal waste collected (=2+3)**	1000 t
5	Municipal waste imported for treatment/disposal	1000 t
6	Municipal waste exported for treatment/disposal	1000 t
7	**Municipal waste managed in the country (=4+5-6)**	1000 t
8	*Amounts going to:* Recycling	1000 t
9	Composting	1000 t
10	Incineration	1000 t
11	*of which:* with energy recovery	1000 t
12	Landfilling	1000 t
13	*of which:* controlled landfilling	1000 t
14	Other, please specify in the footnote	1000 t
15	Total population served by municipal waste collection	%
16	Urban population served by municipal waste collection	%
17	Rural population served by municipal waste collection	%

Municipal waste, collected by or on behalf of municipalities, by public or private enterprises, includes waste originating from: households, commerce and trade, small businesses, office buildings and institutions (schools, hospitals, government buildings). It also includes bulky waste (e.g., white goods, old furniture, mattresses) and waste from selected municipal services, e.g., waste from park and garden maintenance, waste from street cleaning services (street sweepings, the content of litter containers, market cleansing waste), if managed as waste. The definition excludes waste from municipal sewage network and treatment, municipal construction and demolition waste.

R3: Management of Municipal Waste (thousands of tonnes)

	latest year	Municipal waste collected	Recycling	Composting	Incineration	Landfilling	Other
Belize	2000	69.357				69.357	
Bermuda	2017	95.7	1	18	66.6	10	
Dominica	2005	20.906				20.906	
Jamaica	2006	1464				1464	
Saint Lucia	2017	75			0	75	0
Saint Vincent and the Grenadines	2002	37.8	5.7[1]		0	32.1	0
Suriname	2017	195.22[2,3,4]				0.233[4]	

Footnotes: 1: Data refer to recycling and composting together. 2: The figures cover a large part of the capital city (district Paramaribo),the second largest district of Wanica and Commewijne. 3: Unit: thousand cubic meters. 4: Picked -up once per week, Picked -up twice per week, Brought to Dumping Place, Put in a container, Dumped Somewhere else, Different Combinations, Other.

R4: Composition of Municipal Waste (%)

Country	latest year	Paper, paperboard	Textiles	Plastics	Glass	Metals	Other inorganic material	Organic material
Belize	2010	16		19	8	5	14[1]	38
Bermuda	2017	27	4	19	13	5	8	24
Jamaica	2015	17.3	1.9	14.8	5.4	3.8	2	54.8
Saint Lucia	2008	10	9	22	7	5	2	45
Saint Vincent and the Grenadines	2002	32.3	5.8	12.4	8.2	5.6	2.1	33.6
Suriname	2006	8.8		10.5	5.4	2.7		

Footnote: 1: Includes textile waste.

R6: E-Waste Generation and Collection

NEW!

Table R6: E-Waste Generation and Collection

Line	Category	Unit	2010	2011	2012	2013	2014	2015	2016	2017
1	Total E-waste generated	1000 t								
2	Total E-waste collected	1000 t								

Electronic waste, or e-waste, refers to all items of electrical and electronic equipment (EEE) and its parts that have been discarded by its owner as waste without the intent of re-use.

United Nations University

E-Waste Generation and Collection

- No data available.

The Sustainable Development Goals

Make cities and human settlements inclusive, safe, resilient and sustainable

- Target 11.6: By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.

Indicator 11.6.1: Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities

Related to table R5 on Municipal Waste Management in Cities

Indicator 11.6.1: Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities (tier II)

- Custodian Agencies: UN-Habitat and UNSD; partner agencies: UN Environment Programme
- UNSD participating in UN Environment and UN-HABITAT Joint Expert Group Meeting on Waste SDG indicators 11.6.1, 12.4.2, 12.5.1 (participating in refinements to draft methodologies)
- Issues:
  - No internationally agreed definition of urban solid waste
  - What is adequate final discharge? Could it be (recycling) + (composting) + (incineration with energy recovery)?
  - Denominator: Waste "collected" or "generated" ? => Difficult to estimate municipal waste generated.
  - OECD/Eurostat do not collect data at the city level. Eurostat did a pilot at the European regions level => No city level for "developed" countries.
- Available metadata are here: https://unstats.un.org/sdgs/metadata/files/Metadata-11-06-01.pdf

Table R5, line:	Category	Unit
2	**Total amount of municipal waste generated (NEW!)**	
7	Recycling	1000 t
8	Composting	
10	Incineration with energy recovery	

Indicator = (Lines 7 + 8 + 10)/Line 2

Table R5: Management of Municipal Waste – City Data

Line	Category	Unit
1	Total population of the city	1000 inh.
2	Total amount of municipal waste generated	1000 t
3	Percentage of city population served by municipal waste collection	%
4	Municipal waste collected from households	1000 t
5	Municipal waste collected from other origins	
6	**Total amount of municipal waste collected (=4+5)**	
7	*Amounts going to:* Recycling	
8	Composting	
9	Incineration	
10	*of which:* with energy recovery	
11	Landfilling	
12	*of which:* controlled landfilling	
13	Other, please specify in the footnote	

Ensure sustainable consumption and production patterns

- Target 12.4: By 2030, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.

Indicator 12.4.2: Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment (Table R2: Management of Hazardous Waste)

- Target 12.5: By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.

Indicator 12.5.1: National recycling rate, tons of material recycled (Table R1: Generation of Waste by Source; Table R2: Management of Hazardous Waste; and Table R3: Management of Municipal Waste)

Indicator 12.4.2: Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment (tier III)

- Custodian Agencies: UN Environment Programme (more specifically the BRS Secretariat) and UNSD; partner agencies: OECD and Eurostat
- UNSD involved in the methodology and data collection
- Issues:
  - Terminology of the UNSD/UN Environment Programme Questionnaire and national reports under the Basel Convention not harmonized.
  - Definition of treatment: recycled and incinerated or incinerated with energy recovery? (The Basel Convention does not have a definition of treatment)
  - Year of treatment can be different from year of generation.
- Work plan available here: https://unstats.un.org/sdgs/tierIII-indicators/files/Tier3-12-04-02.pdf

Indicator = Line 2/Population	Indicator = Line 6/Line 2	Indicator = Line 7/Line 2

Table R2, line:	Category	Unit
2	Hazardous waste generated during the year	tonnes
5	Hazardous waste treated or disposed of during the year	
6	Recycling	
7	Incineration	

Table R2: Management of Hazardous Waste

Line	Category	Unit
1	Stock of hazardous waste at the beginning of the year	tonnes
2	Hazardous waste generated during the year	
3	Hazardous waste imported during the year	
4	Hazardous waste exported during the year	
5	**Hazardous waste treated or disposed of during the year (=6+7+9+10)**	
6	*Amounts going to:* Recycling	
7	Incineration	
8	*of which:* with energy recovery	
9	Landfilling	
10	Other, please specify in the footnote	
11	Stock of hazardous waste at the end of the year (=1+2+3-4-5)	

Indicator 12.5.1: National recycling rate, tons of material recycled (tier III)

- Custodian Agencies: UN Environment Programme and UNSD; partner agencies: OECD and Eurostat
- Issues:
  - Difficult to have statistics representing all waste, and other types of waste (hazardous waste) already monitored by other indicators => use of municipal waste as a proxy.
  - Discussion with respect to municipal waste "collected" as opposed to municipal waste "generated" is also a feature (as in indicator 11.6.1).
  - Should "composting" and "incineration with energy recovered" be excluded or included?
  - Inclusion of imports-exports of municipal waste.
  - Work plan available here: https://unstats.un.org/sdgs/tierIII-indicators/files/Tier3-12-05-01.pdf

Indicator = Line 8/Line 7; or	Indicator = Line 8/Line 1

Table R3, line:	Category	Unit
1	Total amount of municipal waste generated (NEW!)	
7	Municipal waste managed in the country	1000 t
8	Recycling	

Table R3: Management of Municipal Waste

Line	Category	Unit
1	Total amount of municipal waste generated	
2	Municipal waste collected from households	
3	Municipal waste collected from other origins	
4	**Total amount of municipal waste collected (=2+3)**	
5	Municipal waste imported for treatment/disposal	
6	Municipal waste exported for treatment/disposal	
7	**Municipal waste managed in the country (=4+5-6)**	1000 t
8	*Amounts going to:* Recycling	
9	Composting	
10	Incineration	
11	*of which:* with energy recovery	
12	Landfilling	
13	*of which:* controlled landfilling	
14	Other, please specify in the footnote	

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/