

Session 1.2: Manual on the Basic Set of Environment Statistics



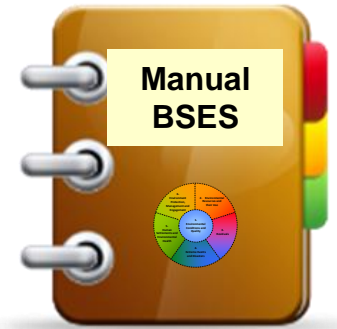
Workshop on Environment Statistics and Information for Sustainable Development in the Arab Region

(Beirut, Lebanon, 12-16 November 2018)





The Manual on the Basic Set of Environment Statistics



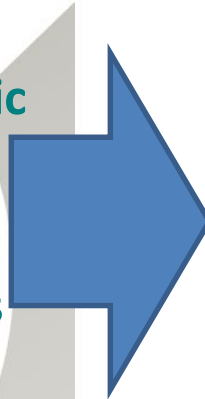
- What it is
- The audience
- The method of work
- The template of the methodology sheets
- What we have done and learned so far
- Examples



Reason

FRAMEWORK FOR THE DEVELOPMENT OF ENVIRONMENT STATISTICS (FDES 2013)

- **Scope of environment statistics**
- **Organizing structure**
- **Comprehensive, though not extensive, list of statistics (Basic Set of Environment Statistics)**
- **Relevance of the statistical topics, the typical data sources and institutional partners and information on the most important aspects of temporal and spatial aggregation, as well as on existing methodology**



FDES 2013 does not include:

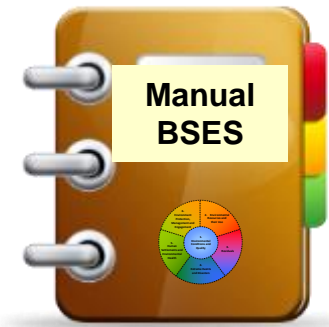
- Methodological guidance with regard to the collection and compilation of environmental data and its transformation into statistics.
- Practical and detailed guide to many of the Basic Set themes, including variable definitions, description of sources and data collection, methods of data compilation/processing for environment statistics production, methods of dissemination and other relevant information.



Objectives

- Produce and disseminate a set of methodology sheets or metadata for the collection or compilation of all environment statistics of the Basic Set of Environment Statistics embedded in the FDES 2013 based on a template agreed by the Expert Group on Environment Statistics.
- Methodology sheets offer:
 - Definitions
 - International sources and recommendations
 - Classifications and groupings
 - Statistical methods for collection and/or compilation
 - Examples of visual dissemination
 - SEEA accounts/tables using the statistics
 - Links to SDG indicators
- Aspects provided by the standards and guidelines established by lead agencies in the relevant fields, such as FAO, UNFCCC and UN-HABITAT, which ensures that the methodology sheets utilize established international best practices. The references can be found with the respective definitions and classifications.





Audience

- Practitioners working in environment statistics programmes or within specific areas of environment statistics.
- They may work at NSOs, Ministries of Environment or other relevant line ministries at the national and sub-national levels.
- This Manual can also serve sub-regional and regional agencies working or planning to work in environment statistics production and dissemination.
- The main target audience of the Manual are environmental statisticians and environmental specialists who work in data analysis and reporting.





Method

This work is being coordinated by UNSD and being carried out in a collaborative way with the Expert Group on Environment Statistics (EGES) and other thematic experts from specialized agencies as needed, using a common template.

As there are 458 environment statistics identified in the Basic Set of Environment Statistics, their methodology sheets are being developed in a modular and progressive manner.

Expert Group on Environment Statistics:

https://unstats.un.org/unsd/envstats/fdes/fdes_eges.cshtml





Plan of Work

1. Preparation

This stage includes the preparatory work to be carried out by UNSD, including the following tasks:

- Prepare work programme, metadata template
- Discuss with experts
- Distribute work among experts

2. Elaboration of draft methodology/metadata sheets

- Elaboration of methodology/metadata sheets (filling all fields of template) for the topics/statistics by responsible experts: UNSD, EGES, other experts from specialized agencies as needed.

3. Review and finalization

- The peer review of the drafts of the methodological sheets is carried out on a continuous basis as drafts become available. Both national and international experts are called upon to review submitted methodology/metadata sheets before their finalization.

4. Dissemination

- The methodology sheets when finalized is disseminated through the website.



Methodology sheets available

- Soils
- Land use/land cover
- Ecosystems and Biodiversity
- Forests
- Minerals
- Energy
- Crops and Livestock
- Water
- Human Settlements
- Environmental Protection Expenditures
- Waste
- Air Quality

https://unstats.un.org/unsd/envstats/fdes/manual_bses.cshtml



Methodology sheets in the pipeline

- Natural Disasters
- Geology
- Environmental Information and Awareness





Example: Mineral Resources

Manual on the Basic Set of Environment Statistics of the FDES 2013



Mineral Resources Statistics

(Subcomponent 2.1 Mineral Resources of the Basic Set of Environment Statistics of the FDES 2013)

Elaborated by the Environment Statistics Section of the United Nations Statistics Division, in collaboration with the Expert Group on Environment Statistics

Version 1.0
28 December 2016

Methodology sheets of the Basic Set of Environment Statistics of the FDES:
http://stats.un.org/esa/energy/2013/2013Manual_8453.htm
http://unstats.un.org/esa/energy/2013/2013Manual_8453.htm



Figure 3.1 Mineral Resources: Overview



The quantities of mineral resources that are available are subject to change over time, either because they are being extracted, or because new discoveries or reclassification of previously unrecoverable resources are taking place, or finally because there may have been catastrophic losses. To estimate the total amount of these resources over time, the approach of stocks and flows is usually used. This means starting with opening balances of the stock, then both increments and decrements in flows affecting the amount of the stock are factored in, to come up with the final closing balance of the given stock of the resource. The stocks and flows approach usually considers all changes to the stock during a year. The initial amount or stock of mineral resources can change over time due to the combined effect of increases and decreases in the amount of the resource. Potential increases to the stocks occur through new discoveries, upward reappraisals and upward reclassifications. Decreases in mineral resource stocks occur because of extraction, catastrophic losses, downward reappraisals and downward reclassifications. In this manner, at the beginning of the year, the opening stocks will be calculated. After incorporating the increases and decreases throughout the year, the closing stocks at the end of the year can be calculated.

For the statistics of the FDES Sub-component 2.1 Mineral Resources: Topic 2.1.1 Stocks and changes of mineral resources, and Topic 2.1.2 Production and Trade of Minerals.

1. Statistics in Sub-Component 2.1 Mineral Resources

mineral resources (Topic 2.1.1)

Component 2: Environmental Resources and their Use			
Sub-component 2.1: Mineral Resources			
Topic 2.1.1: Stocks and changes of mineral resources			
Statistics and Related Information	Category of Measurement	Potential Aggregations and Scales	Methodological Guidance
a. Mineral resources			
1. Stocks of commercially recoverable resources	Mass, Volume	<ul style="list-style-type: none"> By mineral (e.g., metal ores including precious metals and rare earths, coal, oil, gas, stone, sand and clay, chemical and fertilizer minerals, salt, gemstones, abrasive minerals, graphite, asphalt, natural solid bitumen, quartz, mica) National Sub-national 	<ul style="list-style-type: none"> United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources 2009 (UNFC-2009) SEEA Central Framework (2012) asset and physical flow accounts International Standard Industrial Classification of All Economic Activities (ISIC) Rev. 4, Section B, Divisions 05-09
2. New discoveries	Mass, Volume		
3. Upward reappraisals	Mass, Volume		
4. Upward reclassifications	Mass, Volume		
5. Extraction	Mass, Volume		
6. Catastrophic losses	Mass, Volume		
7. Downward reappraisals	Mass, Volume		
8. Downward reclassifications	Mass, Volume		
9. Stocks of potentially commercially recoverable resources	Mass, Volume		
10. Stocks of non-commercial and other known resources	Mass, Volume		
Topic 2.1.2: Production and trade of minerals			
a. Production of minerals	Mass, Volume	<ul style="list-style-type: none"> By mineral (e.g., metal ores including precious metals and rare earths, coal, oil, gas, stone, sand and clay, chemical and fertilizer minerals, salt, gemstones, abrasive minerals, graphite, asphalt, natural solid bitumen, quartz, mica) National Sub-national 	<ul style="list-style-type: none"> Harmonized Commodity Description and Coding Systems (HS) 2012, Section V, Chapters 25 and 26, and Section VI Chapter 28
b. Imports of minerals	Currency, Mass, Volume		
c. Exports of minerals	Currency, Mass, Volume		

(Bold Text - Core Set/Tier 1; Regular Text - Tier 2; Italicized Text - Tier 3)

6. Uses and dissemination

6A. Potential presentation/dissemination formats

The following images illustrate some of the potential dissemination formats. Note that the statistics shown may reflect national classifications rather than the international classifications.

Figure 6.1 Australia's Identified Mineral Resources

Australia's Identified Mineral Resources Table 1
December 2014

Commodity	Units	Demonstrated Resources				Economic Resources 2014 (1)	Accessible Resources 2014 (1)	Economic Resources 2014 (1)	Accessible Resources 2014 (1)
		JORC Resources at Risk of Accessible (200)	Economic (200) (1)	Sub-economic (200) (1)	Sub-marginal (200) (1)				
Antimony	kt Sb	62.6 (45%)	138.8	8.8	0	62.6	138.8	5.8	1800
Bauxite	kt	2087 (34%)	6192	144	1429	2036	6192	79.6	28 000
Copper	kt Cu	25.84 (25%)	88.48	1.28	0.43	50.77	88.48	0.97	700
Diamond	kt	99.15 (45%)	219.91	0	0	35.99	219.91	9.289	730
Gold	t Au	3550 (39%)	9112	244	95	4562	9082	274	55 000
Iron	kt	20 487 (38%)	54 412	1569	1727	62 167	54 412	735	190 000
Iron ore	kt Fe	9665 (39%)	24 639	799	570	36 173	24 639	424	87 000
Lead	kt Pb	12.82 (37%)	34.72	3.35	0.14	20.21	34.72	0.73	87
Lithium	kt Li	854 (96%)	1533	0	0	179	1533	*	13 533
Manganese ore	kt	121 (53%)	228.9	23.1	167	311.9	228.9	7.67	1520

Source: <http://www.ga.gov.au/scientific-topics/minerals/table1> Accessed November 2015
(JORC: Joint Ore Reserves Committee, EDR: Economic Demonstrated Resources, AEDR: Accessible Economic Demonstrated Resources).

Shows statistics on stocks and production by commodity, using national classification for commercial feasibility of resource.

Thank you for your attention!

For more information please contact the Environment Statistics Section
at the United Nations Statistics Division:

E-mail: envstats@un.org

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

