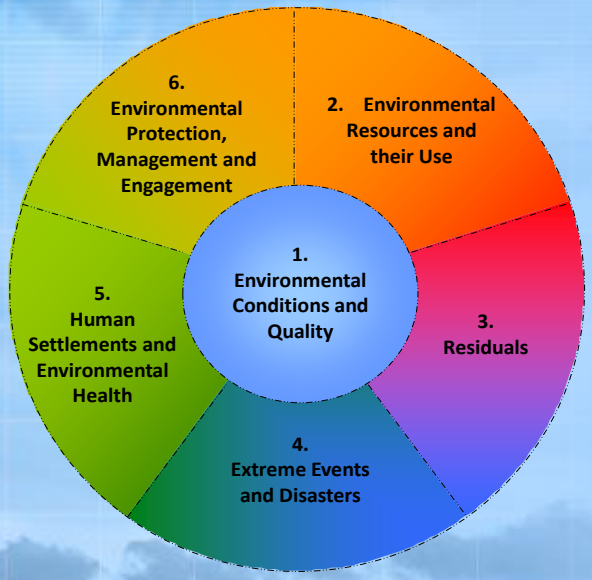
Framework for the Development of Environment Statistics and its supporting tools

(Manual on the Basic Set of Environment Statistics, Environment Statistics Self-Assessment Tool (ESSAT))



Consultative meeting on the implementation framework for the environmental dimension of the 2030 agenda in the Arab region

Cairo, Egypt, 18-21 September 2017

Environment Statistics Section, United Nations Statistics Division

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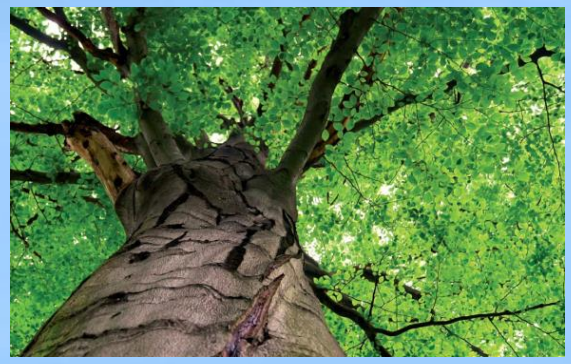


1. Need for a framework for developing environment statistics

Environment statistics		Needs for a framework that:
multi- and interdisciplinary.	→	marks out the areas and the corresponding statistics that fall into its scope.
types of sources of environment statistics: statistical surveys, administrative records, remote sensing and thematic mapping, monitoring systems, scientific research and special projects.	→	provides common tools (definitions, classifications) that bring the different data together in an integrative manner.
multitude of sources means a multitude of stakeholders.	→	marks out the roles of the different stakeholders and brings them together to a common platform.

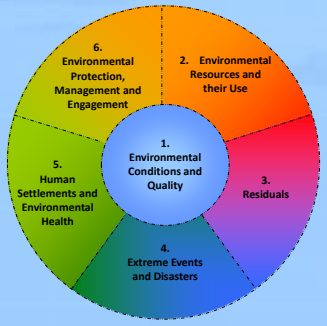
❖Need an internationally recognized and recommended framework to guide the development, coordination and organization of environment statistics.

Not to mention, an unprecedented demand for environment statistics per the Sustainable Development Goal agenda!

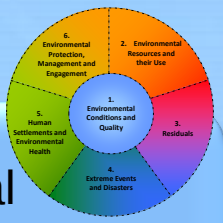
2. Revision of the FDES and development of a Core Set of Environment Statistics

UN Statistical Commission mandate: The 41st session (2010) endorsed the revision of the 1984 FDES and the development of a Core Set of Environment Statistics.

UN Statistical Commission endorsement: The 44th session (2013) endorsed the revised Framework (FDES 2013) as the framework for strengthening environment statistics programmes in countries.



2. Revision of the FDES and development of a Core Set of Environment Statistics



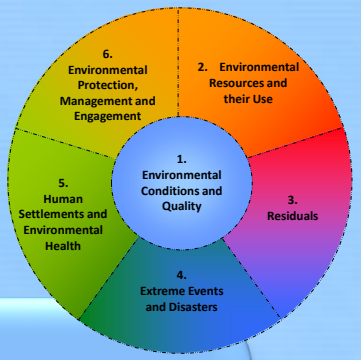
- 1984 – 2010: improved scientific knowledge and emerging environmental concerns called for a revision of the FDES 1984.
- To develop the draft Core Set of Environment Statistics, more than 2,500 environmental indicators and statistics were analyzed, in terms of relevance, statistical feasibility and methodological soundness.
- The draft Core Set was tested in 25 countries through a pilot exercise (August to September 2012): substantive improvement, prioritized statistics within Basic Set.
- Both the revised FDES and the Basic Set were subjected to a Global Consultation process, 76 countries, areas and organizations provided feedback (September to November 2012).

Expert Group on the Revision of the FDES

Comprised of experts representing all regions, including developing (13) and developed (10) countries, as well as 7 international agencies and UNCEEA. It represented the interest of NSOs, environmental ministries and agencies, and academia.

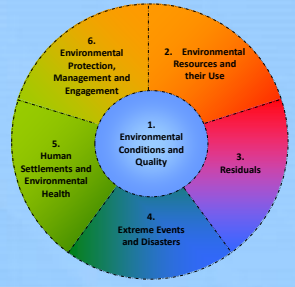
Expert Group and UNSD met four times and worked together remotely continually during the process.

3. Description of the FDES



- The resulting FDES 2013 is a flexible, multi-purpose conceptual and statistical framework that marks out the scope of environment statistics.
- It provides an organizing structure to guide the collection and compilation of environment statistics at the national level, bringing together data from the various relevant subject areas and sources.
- It is broad, comprehensive and integrative. It covers the issues and aspects of the environment that are relevant for policy analysis and decision making and it can be applied to inform about cross-cutting issues such as climate change.

3. Description of the FDES



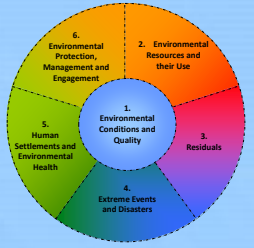
Scope of the FDES

- The scope of the FDES covers biophysical aspects of the environment, those aspects of the human sub-system that directly influence the state and quality of the environment, and the impacts of the changing environment on the human sub-system.
- It includes interactions within and among the environment, human activities and natural events.

Audience of the FDES

Though the FDES has been designed to guide countries at early stages in the development of their environment statistics programmes, it is relevant to, and recommended for use by, countries at any stage of development.

3. Description of the FDES

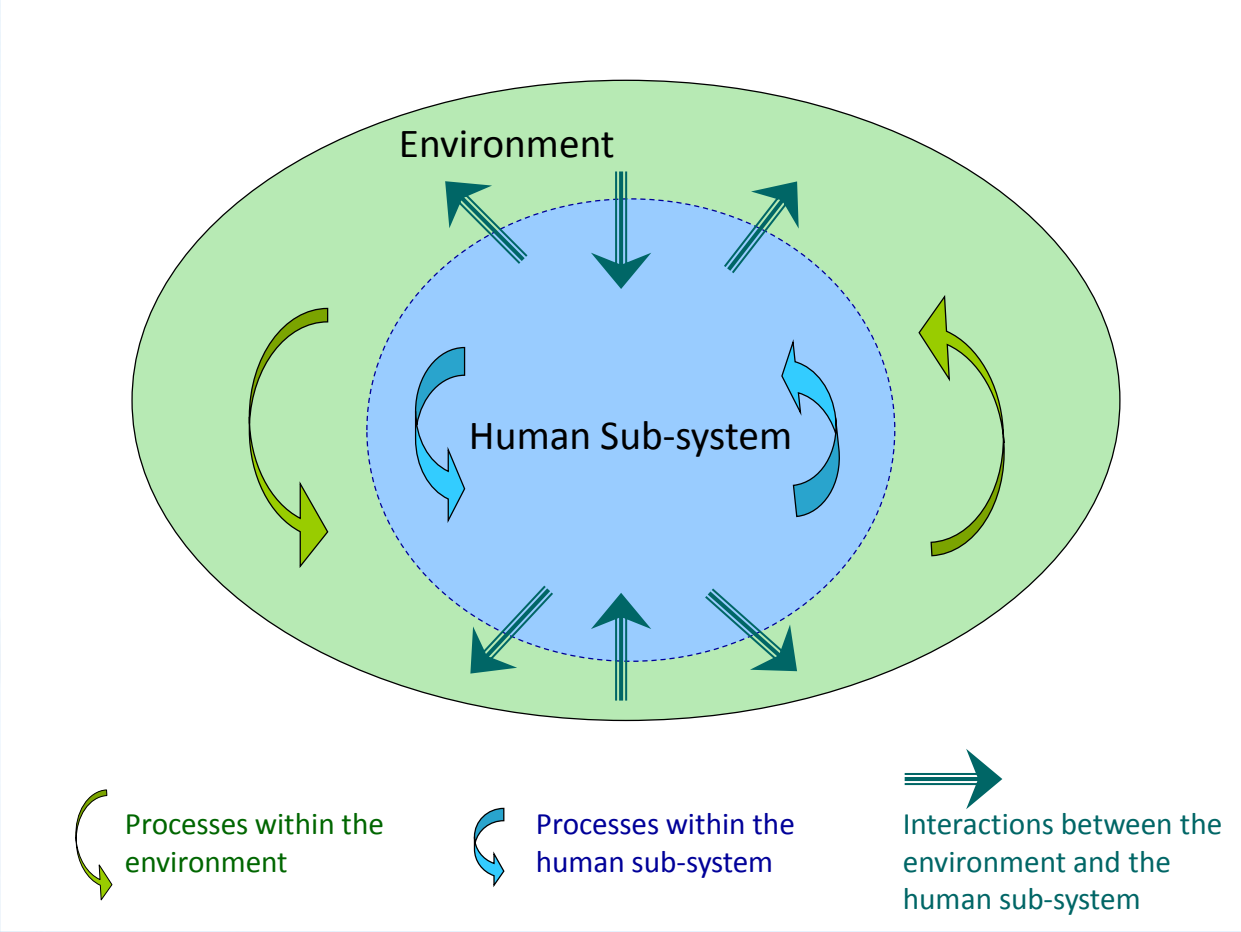


Users of the FDES

- The FDES 2013 targets a broad user community, including environmental statisticians in national statistical offices (NSOs), environmental ministries and agencies, as well as other producers of environment statistics.
- It helps to mark out the roles of the different data producers, thus facilitating coordination at different levels.
- It also indicates the corresponding availability of methodologies and classifications and the most common sources of data and identifies the typical institutional partners to facilitate interagency cooperation.
- It can also be used by international and regional institutions, as well as by other users and producers.

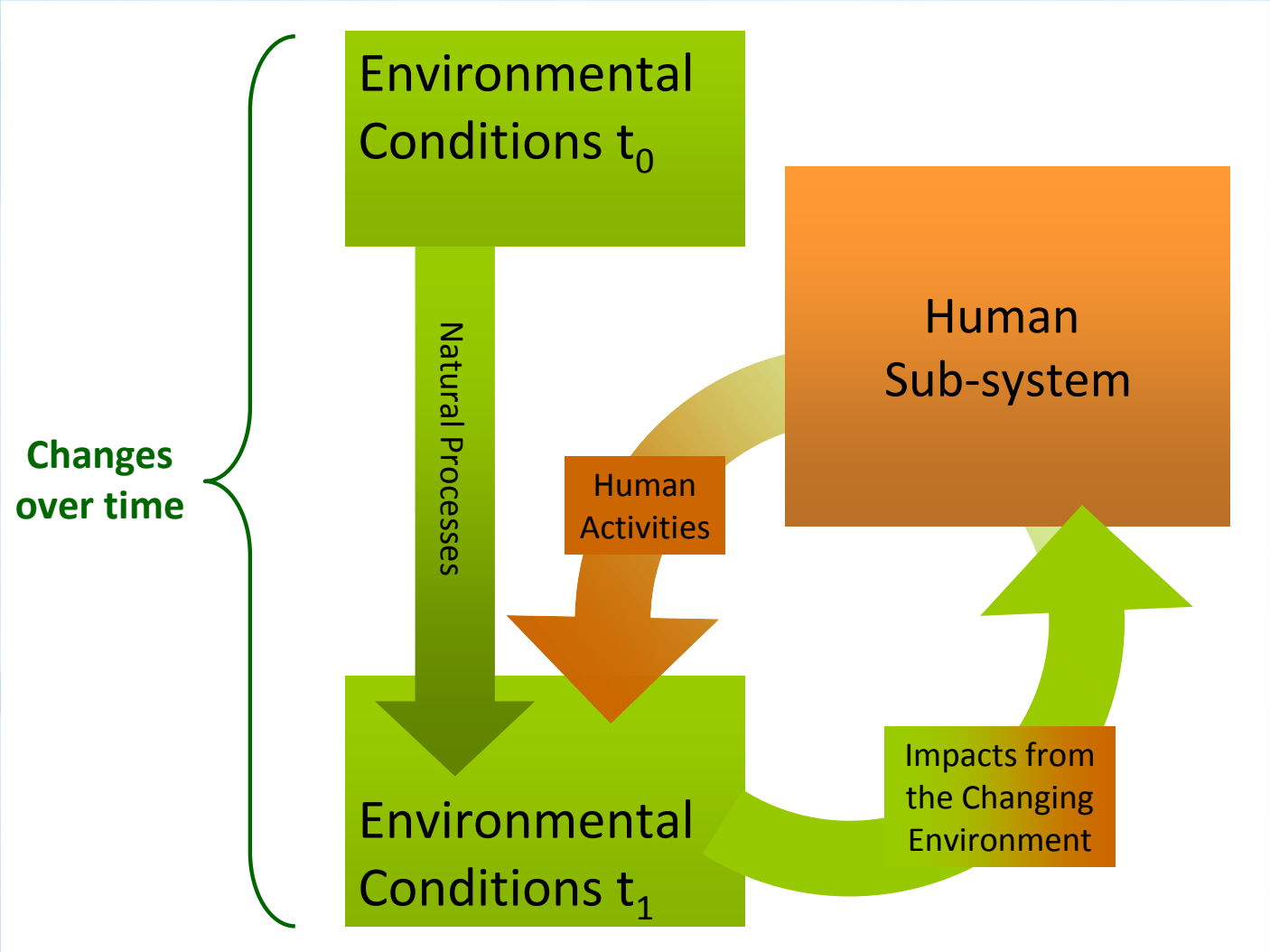
4. Conceptual foundation of the FDES

The environment, the human sub-system, and interactions between them

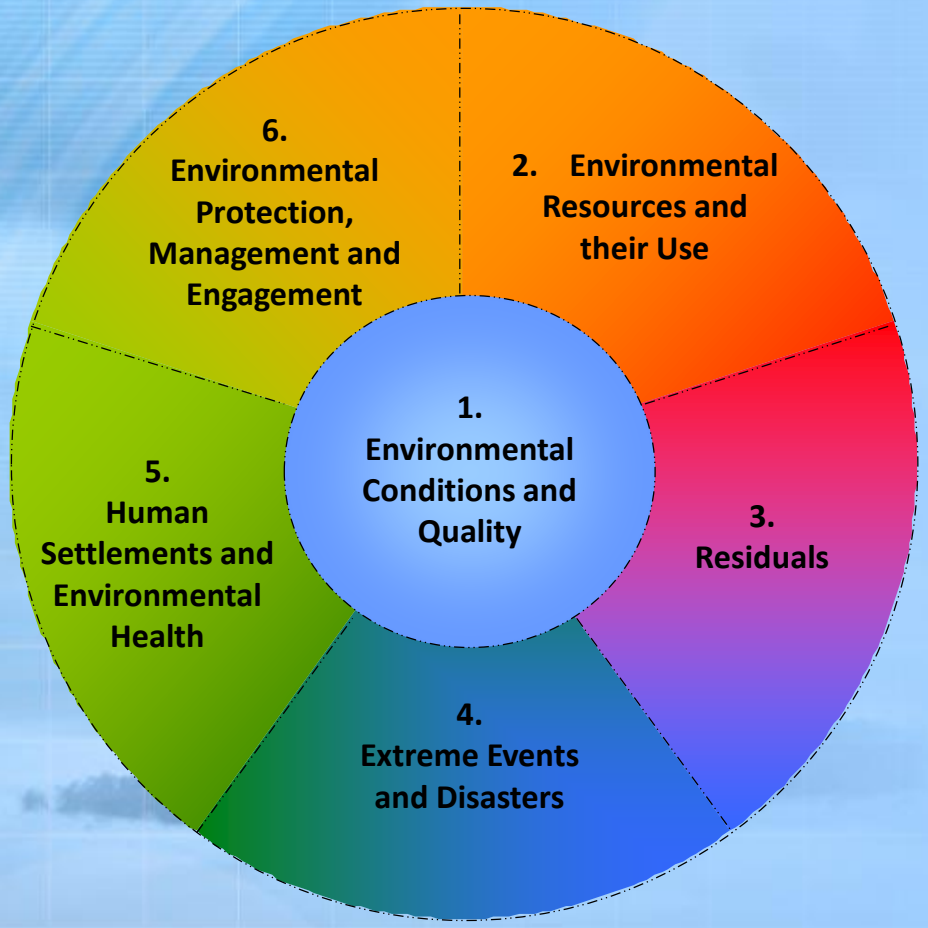


4. Conceptual foundation of the FDES

Environmental conditions and their changes



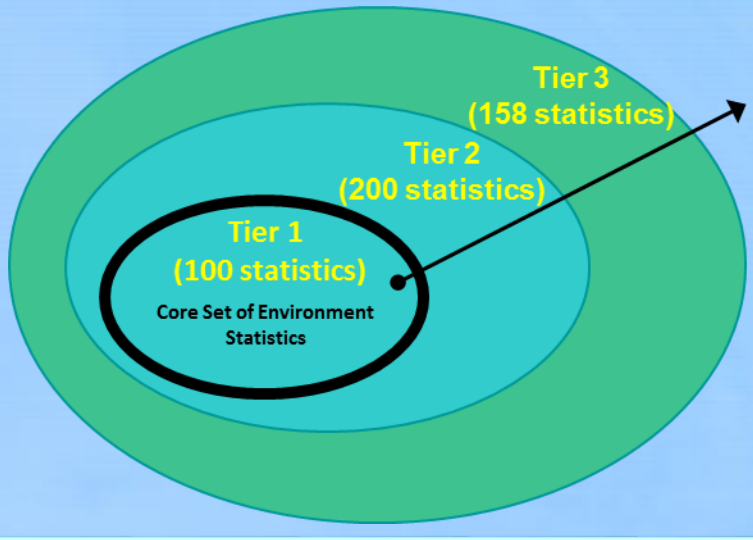
5. FDES structure and overview of its 6 components



- 6 components
- At the centre of the FDES: Component 1: Environmental Conditions and Quality
- All of the components relate to each other
- Multi-level (component, sub-component, topic, individual statistics)
- Flexible
- Adaptable

The Basic Set of Environment Statistics

- **Basic Set of Environment Statistics** is a comprehensive, but not exhaustive, set of environment statistics.
- Basic Set is organized in **three tiers**, based on the level of relevance, availability and methodological development of the statistics.



- **Tier 1**, corresponds to the **Core Set of Environment Statistics**, which are of high priority and relevance to most countries and have a sound methodological foundation.
- **Tier 2** includes environment statistics which are of priority and relevance to most countries but need more investment in time, resources or methodological development.
- **Tier 3** includes environment statistics which are either of lower priority or require significant methodological development.

	Component 1	Component 2	Component 3	Component 4	Component 5	Component 6	Total
Tier 1	32	30	19	4	12	3	**100**
Tier 2	58	51	34	11	22	24	**200**
Tier 3	51	43	5	16	20	23	**158**
Total	141	124	58	31	54	50	**458**

Number of Statistics
Core Set or Tier 1 = 100
Basic Set = 458

A multi-level approach of the FDES

Levels of the FDES

1 digit	2 digits	3 digits	4 or 5 digits
Component	**Sub-component**	**Statistical Topic**	**Statistics**

Component 1: Environmental Conditions and Quality	Sub-component 1.1: Physical Conditions Sub-component 1.2: Land Cover, Ecosystems and Biodiversity Sub-component 1.3: Environmental Quality
Component 2: Environmental Resources and their Use	Sub-component 2.1: Mineral Resources Sub-component 2.2: Energy Resources Sub-component 2.3: Land Sub-component 2.4: Soil Resources Sub-component 2.5: Biological Resources Sub-component 2.6: Water Resources
Component 3: Residuals	Sub-component 3.1: Emissions to Air Sub-component 3.2: Generation and Management of Wastewater Sub-component 3.3: Generation and Management of Waste Sub-component 3.4: Release of Chemical Substances
Component 4: Extreme Events and Disasters	Sub-component 4.1: Natural Extreme Events and Disasters Sub-component 4.2: Technological Disasters
Component 5: Human Settlements and Environmental Health	Sub-component 5.1: Human Settlements Sub-component 5.2: Environmental Health
Component 6: Environmental Protection, Management and Engagement	Sub-component 6.1: Environmental Protection and Resource Management Expenditure Sub-component 6.2: Environmental Governance and Regulation Sub-component 6.3: Extreme Event Preparedness and Disaster Management Sub-component 6.4: Environmental Information and Awareness

Example of Basic Set of Environment Statistics

Component 1: Environmental Conditions and Quality

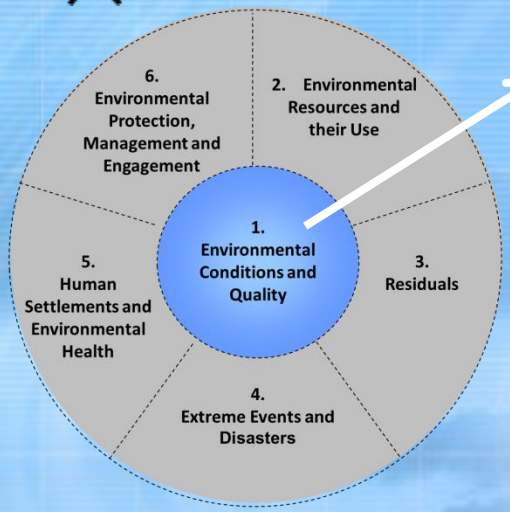
Sub-component 1.3: Environmental Quality

Topic	Statistics and Related Information (**Bold Text - Core Set/Tier 1**; Regular Text - Tier 2; *Italicized Text - Tier 3*)
Topic 1.3.1: Air quality	a. Local air quality
	1. **Concentration level of particulate matter (PM_{10})**
	2. **Concentration level of particulate matter ($PM_{2.5}$)**
	3. **Concentration level of tropospheric ozone (O_3)**
	4. **Concentration level of carbon monoxide (CO)**
	5. **Concentration level of sulphur dioxide (SO_2)**
	6. **Concentration levels of nitrogen oxides (NO_X)**
	7. Concentration levels of heavy metals
	8. Concentration levels of non-methane volatile organic compounds (NMVOCs)
	9. *Concentration levels of dioxins*
	10. *Concentration levels of furans*
	11. Concentration levels of other pollutants
	12. Number of days where maximum allowable levels were surpassed per year
	b. Global atmospheric concentrations of greenhouse gases
	1. Global atmospheric concentration levels of carbon dioxide (CO_2)
	2. Global atmospheric concentration levels of methane (CH_4)

Flexibility and adaptability: prioritizing components, sub-components and topics

Flexibility and adaptability: tiers

Overview of each Component of the FDES 2013

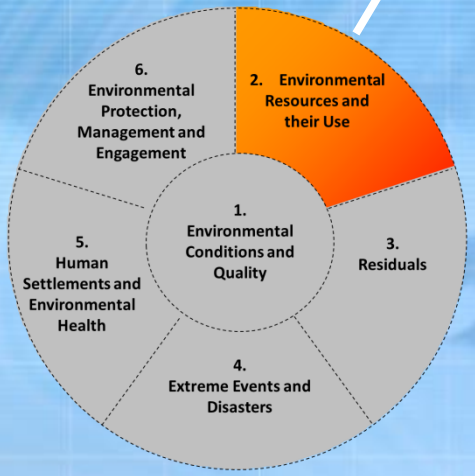


Component 1: Environmental Conditions and Quality	Sub-component 1.1: Physical Conditions Sub-component 1.2: Land Cover, Ecosystems and Biodiversity Sub-component 1.3: Environmental Quality

Example of Core Set Statistics within a topic of Component 1:

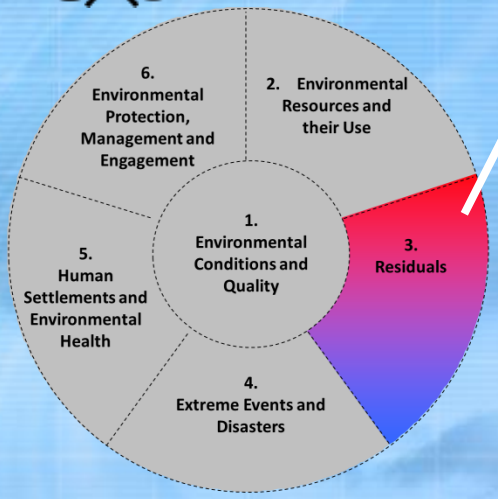
Topic 1.2.2: Ecosystems and biodiversity	a. General ecosystem characteristics, extent and pattern	**1. Area of ecosystems**
	c. Biodiversity	**1. Known flora and fauna species**

Component 2: Environmental Resources and their Use	Sub-component 2.1: Mineral Resources Sub-component 2.2: Energy Resources Sub-component 2.3: Land Sub-component 2.4: Soil Resources Sub-component 2.5: Biological Resources Sub-component 2.6: Water Resources



Example of Basic Set Statistics within a topic of Component 2:

Topic 2.5.3: Crops	a.	Main annual and perennial crops	
		1. **Area planted**	Area
		2. **Area harvested**	Area
		3. **Amount produced**	Mass
		4. *Amount of organic production*	Mass
		5. *Amount of genetically modified crops produced*	Mass
	b.	Amount used of:	
		1. **Natural fertilizers** (e.g., manure, compost, lime) (also in 3.4.1.a)	Area, Mass, Volume
		2. **Chemical fertilizers** (also in 3.4.1.a)	Area, Mass, Volume
		3. **Pesticides** (also in 3.4.1.b)	Area, Mass, Volume
		4. Genetically modified seeds	Mass
	c.	Monoculture/resource-intensive farming systems	
		1. Area being used for production	Area
		2. Amount produced	Mass
		3. *Amount of genetically modified crops produced*	Mass
	d.	Imports of crops	Currency, Mass
	e.	Exports of crops	Currency, Mass



Component 3: Residuals	Sub-component 3.1: Emissions to Air Sub-component 3.2: Generation and Management of Wastewater Sub-component 3.3: Generation and Management of Waste Sub-component 3.4: Release of Chemical Substances

Example of Core Set Statistics within a topic of Component 3:

Topic 3.1.1: Emissions of greenhouse gases	a. Total emissions of direct greenhouse gases (GHGs), by gas:	**1. Carbon dioxide (CO_2)**
		2. Methane (CH_4)
		3. Nitrous oxide (N_2O)
	b. Total emissions of indirect greenhouse gases (GHGs), by gas:	**1. Sulphur dioxide (SO_2)**
		2. Nitrogen oxides (NOx)

Component 4: Extreme Events and Disasters	Sub-component 4.1: Natural Extreme Events and Disasters Sub-component 4.2: Technological Disasters

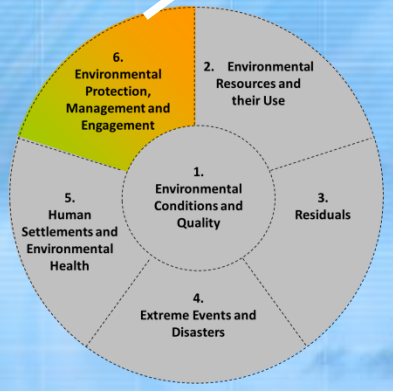
Example of Core Set Statistics within a topic of Component 4:

Topic 4.1.1: Occurrence of natural extreme events and disasters	a. Occurrence of natural extreme events and disasters	**1. Type of natural extreme event and disaster** (geophysical, meteorological, hydrological, climatological, biological)
		2. Location
Topic 4.1.2: Impact of natural extreme events and disasters	a. People affected by natural extreme events and disasters	**1. Number of people killed**
	b. Economic losses due to natural extreme events and disasters (e.g., damage to buildings, transportation networks, loss of revenue for businesses, utility disruption, etc.)	

Component 5: Human Settlements and Environmental Health	Sub-component 5.1: Human Settlements Sub-component 5.2: Environmental Health

Example of Core Set Statistics within a topic of Component 5:

Topic 5.1.2: Access to selected basic services	**a. Population using an improved drinking water source**
	b. Population using an improved sanitation facility
	c. Population served by municipal waste collection
	e. Population connected to wastewater treatment
	f. Population supplied by water supply industry



Component 6: Environmental Protection, Management and Engagement	Sub-component 6.1: Environmental Protection and Resource Management Expenditure Sub-component 6.2: Environmental Governance and Regulation Sub-Component 6.3: Extreme Event Preparedness and Disaster Management Sub-component 6.4: Environmental Information and Awareness

Example of Core Set Statistics within a topic of Component 6:

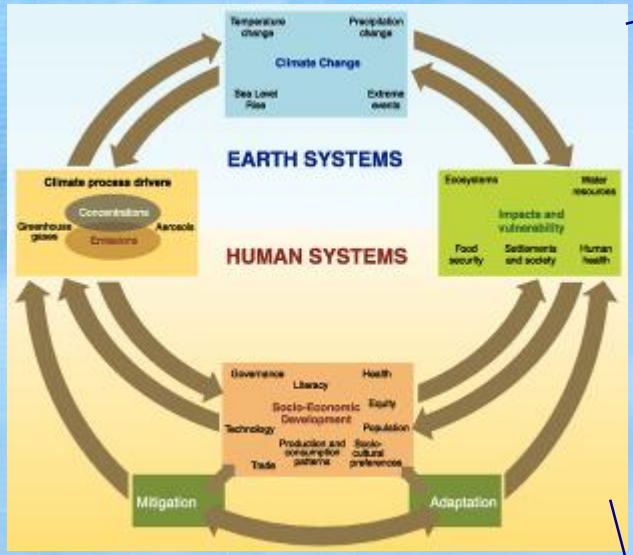
Topic 6.1.1: Government environment protection and resource management expenditure	a. Government environment protection and resource management expenditure	**1. Annual government environmental protection expenditure**

6. Applications of the FDES to cross-cutting issues (Chapter 5 of FDES 2013)

- The FDES can be applied to inform about cross-cutting policy issues important to countries at any given time.

- Examples:
  - Water and the environment
  - Energy and the environment
  - Climate change
  - Agriculture and the environment

Climate change statistics



Source: Intergovernmental Panel on Climate Change

Climate Process Drivers

Sub-component 1.3: Environmental Quality	Sub-component 3.1: Emissions to Air
1.3.1 Air quality	3.1.1 Emissions of greenhouse gases 3.1.2 Consumption of ozone depleting substances

Climate Change Evidence

Sub-comp. 1.1: Physical Conditions	Sub-comp. 4.1: Natural Extreme Events and Disasters
1.1.1 Atmosphere, climate and weather 1.1.2 Hydrographical characteristics	4.1.1 Occurrence of natural extreme events and disasters

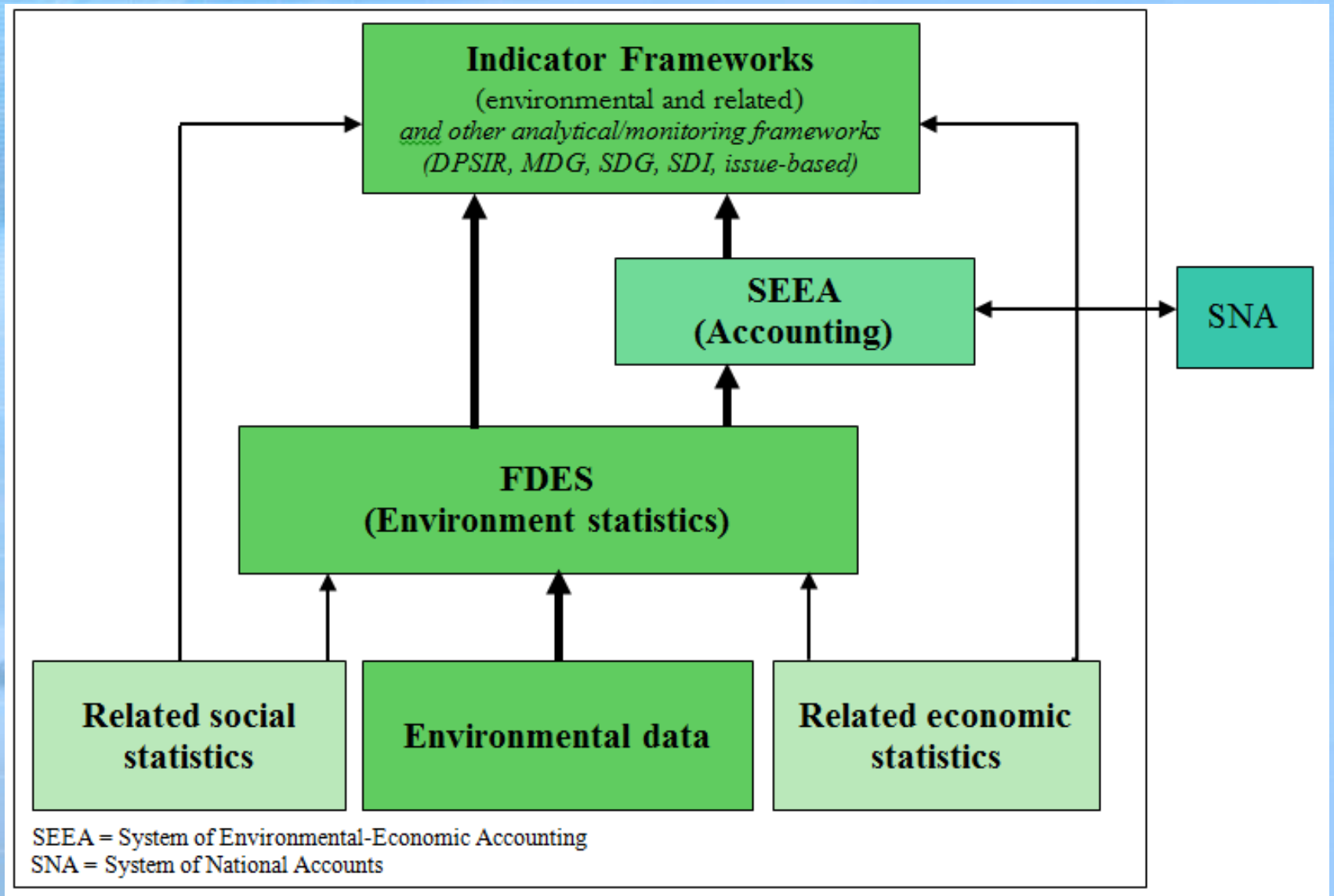
Climate Change Impacts and Vulnerability

Sub-comp. 1.1: Physical Conditions	Sub-comp. 1.2: Land Cover, Ecosystems and Biodiversity	Sub-comp. 1.3: Environmental Quality	Sub-comp. 2.3: Land	Sub-comp. 4.1: Natural Extreme Events and Disasters	Sub-comp. 5.1: Human Settlements	Sub-comp. 5.2: Environmental Health
1.1.2 Hydrographical characteristics 1.1.4 Soil characteristics	1.2.1 Land cover 1.2.2 Ecosystems and biodiversity 1.2.3 Forests	1.3.3 Marine water quality	2.3.1 Land use	4.1.2 Impact of natural extreme events and disasters	5.1.3 Housing conditions	5.2.3 Vector-borne diseases 5.2.4 Health problems associated with excessive UV radiation exposure

Mitigation and Adaptation

Sub-comp. 2.2: Energy Resources	Sub-comp. 6.1: Environmental Protection and Resource Management Expenditure	Sub-comp. 6.2: Environmental Governance and Regulation	Sub-comp. 6.3: Extreme Event Preparedness and Disaster Management
2.2.2 Production, trade and consumption of energy	6.1.1 Government environmental protection and resource management expenditure 6.1.2 Corporate, non-profit institution and household environmental protection and resource management expenditure	6.2.2 Environmental regulation and instruments 6.2.3 Participation in MEAs and environmental conventions	6.3.1 Preparedness for natural extreme events and disasters

7. Links between the FDES and social and economic statistics



Countries who have been using the FDES

Sub-regional bodies:

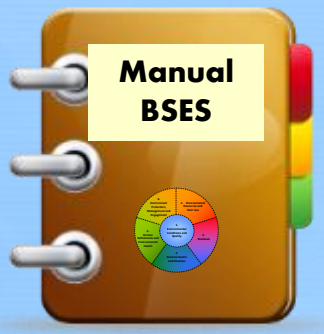
Common Market for Southern and Eastern Africa

East African Community

Gulf Cooperation Council

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

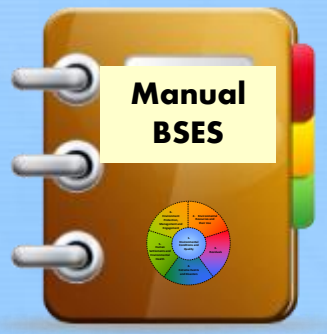
8. Manual on the Basic Set of Environment Statistics



What?

- The Manual provides methodological guidance for developing countries with regard to the collection and compilation of environmental data and its transformation into statistics.
- The Manual is a practical and detailed guide to each 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. The Manual includes boxes, diagrams and good practices.
- It comprises a series of methodology sheets.
- The methodology sheets focus on statistical methods to be used in the collection and compilation of environment statistics. They facilitate the use of these methods by all providers of environmental data.

8. Manual of the Basic Set of Environment Statistics



For whom?

- 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.

8. Outline of the Manual

Introduction

- Presents the main objectives and audience of the Manual and briefly describes how it can be used.

The Basic Set of the FDES 2013

- Describes what the Basic Set is, what its main objectives are and how it was built and structured according to the FDES 2013.
- Describes how the Basic Set can be adapted and completed according to each country´s priorities, data availability and developmental path.

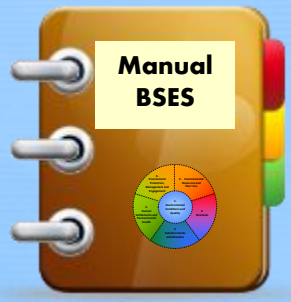
Methodology and metadata sheets for the Basic Set statistics

- Brief Introduction about how the template works, a description of the fields, and its organization
- Collection of methodology sheets following the template (see later).

Compilation of good practices

- A selection of national practices used in the collection/compilation of environment statistics.

8. Concept of the Manual



Objective

To 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.

These methodology sheets offer detailed methodological guidance including definitions, classifications, statistical methods for collection and/or compilation, dissemination and main uses of the environment statistics.

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 using a common template.

The methodology sheets are being developed in a modular and progressive manner.

8. Progress of the Manual

Now available online:

Mineral resources

Energy resources

Water resources

Soon to be available online:

Crops and livestock

Forests

GHG emissions

Human settlements

http://unstats.un.org/unsd/environment/FDES/Manual_BSES.htm

Under compilation:

Air quality

Ecosystems and biodiversity

Generation and management of waste

Natural extreme events and disasters

Example: Mineral Resources

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

Mineral Re
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(Subcomponent 2.1 Mi
of the Basic Set of Environment S

Version
14 April 2

Elaborated by the Environment Statistics Sectio
in collaboration with the Expert Gr

Methodological sheets of the BSES
http://unstats.un.org/unsd/environm

Methodology Sheet for 2.1 Mineral Resources

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 (**Bold Text - Core Set/Tier 1**; Regular Text - Tier 2; *Italicized Text - Tier 3*)	Category of Measurement	Potential Aggregations and Scales	Methodological Guidance
a.	Mineral resources		• 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	• United Nations Framework Classification for Energy and Mineral Resources (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
	1. **Stocks of commercially recoverable resources**	Mass, Volume		
	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	• 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	• 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		

1. Introduction/ Relevance

Minerals are elements or compounds composed of a concentration of naturally occurring solid, liquid, or gaseous materials in or on the Earth's crust.[1] Mineral resources are those that are being used by the human sub-system or could be used as raw materials, contributing to material progress, as they are useful for construction, infrastructure and consumer products. Mineral resources consist of mineral reserves located on or below the earth's surface that are economically exploitable, given current technology and relative prices.[2]

Mineral resources represent a unique type of environmental asset in that they can be extracted and used in economic activity but cannot be renewed on any human time scale. There is therefore particular interest in understanding the rate at which these assets are extracted and depleted, the overall availability of these assets, and the sustainability of the industries that exploit them.[3]

There are three main environmental issues related to mineral resources. The first one is the **depletion of mineral resources**. Minerals have been traditionally used to build houses and produce small tools used every day. They have also been used as money. Since the industrial revolution, the use of iron and other metals has increased. Our infrastructures like bridges are now built using steel. Moreover minerals are now also used to produce the electronic products that surround us. By definition, mineral resources are not renewable so their depletion reduces their availability in the environment over time. The scale of their extraction can determine the amount of

which is placed on the resource. Statistics on their
gement of these resources over time.

econd is the issue of the **destruction of the environment**.
environment is sometimes required. Extraction of mir
o ecosystems, restructure the land, remove soil and wate

y, the third issue is that the extraction and use of mi
onment in the form of air pollution, water pollution, soil p

sub-component 2.1 Mineral Resources covers statistics
neral resources. The statistics about the destruction of the
cluded in Sub-Component 1.2: Land Cover, Ecosystems a
tics on the generation, management and discharge of res
rces are covered in Component 3: Residuals.

Definitions and description of the statisti

ral resources include a wide variety of metallic and non-m
the subsoil. The Central Product Classification (CPC v2.1)
minerals, electricity, gas and water. Mineral products
leum and natural gas (CPC Division 12), uranium and thori
ncluding iron, copper, nickel, aluminium and precious me
lay and monumental or building stone, including limes
l, natural bitumen and asphalt and clay (CPC Division 15

. *Mineral Reserves, Resources, Resource Potential, and Certainty*. Availab
C, IMF, OECD and WB (2009). *System of National Accounts 2008*, page 2
unstats.un.org/unsd/nationalaccount/docs/SNA2008.pdf
C, FAO, IMF, OECD and WB (2014). *System of Environmental-Economic A*
unstats.un.org/unsd/envaccounting/seearev/SEEA_CF_Final_en.pdf

5. Uses and dissemination

5A. Potential presentation/dissemination formats

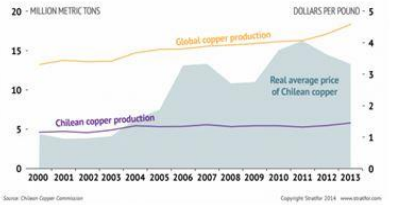
The following images illustrate some of the potential dissemination formats.

Australia's Identified Mineral Resources Table 1

December 2014

Commodity	Units	Australia							World	
		JORC Reserves (a) (% of Accessible EDR)	Demonstrated Resources			Inferred Resources (c)	Accessible EDR (d)	Mine Production 2014 (e)	Economic Resources 2014 (f)	Mine production 2014 (g)
			Economic EDR) (b)	Subeconomic: Para-marginal	Subeconomic: Sub-marginal					
Antimony	kt Sb	62.6 (45%)	138.8	8.9	0	62.8	136.8	5.6	1900	160
Bauxite	Mt	2067 (34%)	6192	144	1429	2036	6192	78.6	28 000	234
Copper	Mt Cu	25.94 (29%)	88.48	1.28	0.43	50.77	88.48	0.97	700	18.7
Diamond	Mc	99.15 (45%)	219.51	0	0	35.99	219.51	9.288	730	130.1
Gold	t Au	3550 (39%)	9112	244	95	4562	9082	274	55 000	3114
Iron										
Iron ore	Mt	20 497 (38%)	54 412	1569	1727	62 167	54 412	735	190 000	3220
Contained iron	Mt Fe	9865 (39%)	24 639	799	570	36 173	24 639	424	67 000	
Lead	Mt Pb	12.82 (37%)	34.72	3.35	0.14	20.21	34.72	0.73	87	5.49
Lithium	kt Li	854 (56%)	1533	0	0	179	1533	*	13 533	36*
Manganese ore	Mt	121 (53%)	228.9	23.1	167	311.9	226.9	7.67	1520	51

CHILEAN COPPER PRODUCTION AND PRICES



Western Australia Mineral Statistics Digest 2014

9. The Environment Statistics Self-Assessment Tool (ESSAT)

Background of the ESSAT:

In 2013, the 44th session of the United Nations Statistical Commission approved the FDES 2013 and the work programme for its implementation. This included the development of the ESSAT for countries to use in assessing and diagnosing the state of environment statistics in the application of the FDES.

UNSD, in collaboration with the Expert Group on Environment Statistics, has since developed the ESSAT in support of the FDES 2013.

Purpose of the ESSAT

The purpose of the ESSAT is to assist countries in:

- developing their environment statistics programmes;
- collecting their own data on the environment; and
- assessing the state of environment statistics and the needs for their development at the national level while being consistent with the scope of the FDES 2013.

Use of the ESSAT

The ESSAT should be used as a guide to a multi-stakeholder consultation and discussion process. The completion of the ESSAT, while usually led by the National Statistical Office or the Ministry of Environment, should be carried out as a joint effort by all main relevant stakeholders that play an active role in the production, dissemination and use of environment statistics.

It is therefore recommended that a country establishes or convenes a committee, inter-institutional working group or task force to bring together all the stakeholders to discuss and agree on a common set of responses representing the situation in the country, and that this process is carried out collaboratively in a clear and transparent manner.

Examples of countries using ESSAT

Structure of the ESSAT

Introduction – defines background, use and structure of the ESSAT as well as key concepts. It summarizes the two parts.

Part I: Institutional Dimension of Environment Statistics – focuses on the overall institutional and organizational structure of national statistics, and on specific information regarding environment statistics in terms of policy frameworks, mandates, institutional setup, organization, collaboration, resources, international cooperation and uses.

Part II: Statistics Level Assessment – is based on the Basic Set of Environment Statistics. It follows the hierarchical structure of the FDES (in descending order: component, sub-component, statistical topic, statistic) and serves as a tool to assess the national relevance, importance, availability and sources of the individual statistics contained in the Basic Set. It also helps to identify relevant quantitative and qualitative data gaps, and to develop a plan for filling them in with a view to strengthen environment statistics according to national priorities, needs and available resources.

Structure of ESSAT Part I: Institutional Dimension of Environment Statistics

Part I contains much information which may be of interest from a managerial or policy perspective. It is divided into the following sections:

A. Identification of institutions
B. Existing national policies relevant to the environment
C. Mandate and organization of national statistics
D. Mandate and organization of environment statistics
E. Production of environment statistics
F. Uses of environment statistics
G. Inter-institution collaboration for the production of environment statistics
H. Existing and required resources for environment statistics
I. International and regional network
J. Technical assistance and training
K. The way forward in environment statistics

Section B – Existing national policies relevant to the environment

Questions aimed at understanding existing national policies and priorities relevant to the environment.

Questions include:

Are there specific environmentally-relevant policies or strategies in place, such as on environmental protection/sustainability, sustainable development (national sustainable development strategy), green economy/green growth, climate change etc.?

Rank the most important national environmental issues. (H = High importance; M = Moderate importance; L = Lesser importance; NR = Not relevant; NAp = Not applicable)

Section C – Mandate and organization of national statistics

Questions aimed at determining the mandate for statistics (if in existence) in a country, and determining the parties responsible and involved in delivering on this mandate.

Section C is not directly relevant to environment statistics, but rather to statistics in general.

Questions include:

- Is there a Statistical Act or Law in place?
- Is there a national statistical system in place?
- Which institution is responsible for the coordination of the national statistical system?
- Is there a national statistical plan/programme/strategy in place (e.g., National Strategy for the Development of Statistics)?

Section D – Mandate and organization of environment statistics

Questions in this section focus only on environment statistics.

Questions include:

- Is there an institution with a legal mandate to produce environment statistics?
- Is there a national environment statistical system in place?
- Is there a department, division or unit responsible for environment statistics in the National Statistical Office?
- Are there other national institutions (e.g., Meteorological Office, Ministry of Water) that have an environment statistics department, division or unit, or that have a responsibility to collect environmental information?

Section K – The way forward in environment statistics

Questions include:

- K1. In which areas are there plans to strengthen and develop environment statistics programmes, units and/or activities in the country?

Legal framework (describe)	
Institutional set up (describe)	
Budgetary resources (describe)	
Human resources (describe)	
Technical assistance and training (describe)	
Advocacy (describe)	
Other (describe)	

- What are the main vehicles through which the country requires technical assistance and capacity building to develop environment statistics?
- What are the most important areas where the country needs technical assistance and capacity building to develop environment statistics? [e.g., water, energy, disasters, natural resources, emissions and concentration of pollutants, environmental surveys, geographic information systems] Specify:

Objectives and Use of ESSAT Part II

- To improve the capacity of countries to assess where they stand with respect to the development of environment statistics.

- A means for countries to assess their current position and set a basis from which they may construct and/or strengthen their environment statistics programmes within the national statistical systems.

Self-Assessment Tool Part II: individual statistic level

Relevance of Statistic at the National Level (High /Medium /Low/Not Relevant/Not Applicable)	صلة الإحصاء على مستوى الدولة (عال/ متوسط / متدن / ليس له صلة / غير منطبق)
Priority for National Data Collection (High /Medium /Low/Not a Priority)	أولوية جمع البيانات على مستوى الدولة (عالية / متوسطة / متدنية / ليست أولوية)
Availability of Statistic at the National Level (Identical/Similar/Not Available)	توفر الإحصاء على مستوى الدولة (متطابق / مشابه / غير متوفر)

- Relevance refers to importance for national environmental concerns or policy considerations (High, Medium, Low, Not Relevant, Not Applicable)
- Priority for national data collection (High, Medium, Low, Not a Priority)
- Availability
  - Identical (I): available according to the concepts, definitions, classifications and methodology recommended in the FDES 2013.
  - Similar (S): available but not according to the concepts, definitions, classifications and methodology recommended in the FDES 2013.
  - Not Available (NAv): the statistic is not available nationally.

Self-Assessment Tool Part II: individual statistic level

Primary Institution(s) Responsible for Collecting Statistic Check all that apply		
NSO	Ministry of Environment or equivalent institution	Other (specify):

- Primary institution: Name of the institution responsible for collecting, processing and storing the data from the reporting units (e.g., meteorological institution for weather data).

المؤسسات الأساسية المسؤولة عن جمع الاحصاءات ضع إشارة صح أمام جميع ما ينطبق		
المكتب الوطني للإحصاء	وزارة البيئة أو مؤسسة نظيرة لها	أخرى (يرجى تحديدها)

Self-Assessment Tool Part II: individual statistic level

Type of Data Source

نوع مصدر البيانات

- Statistical surveys (SS) – e.g., censuses or sample surveys of population, housing, agriculture, enterprises, households, employment, and different aspects of environment management;
- Administrative records (AR) of government and non-government agencies in charge of natural resources as well as other ministries and authorities
- Remote sensing (RS) – e.g., satellite imaging of land use, water bodies or forest cover;
- Monitoring systems (MS) – e.g., field-monitoring stations for water quality, air pollution or climate;
- Scientific research (SR);
- Special projects (SP) undertaken to fulfil domestic or international demand.

Self-Assessment Tool Part II: individual statistic level

Requirements or User Requests for Collection/ Reporting on this Statistic Check all that apply				Periodicity (Annual/Monthly/Daily/Hourly/Other [specify])	Earliest Year Available	Latest Year Available	Format of Statistic (Publication/Excel/Database/Website/Individual records)	Unit of Measurement
Sub-national	National	Regional	International					

- **Requirements**: By level (sub-national, national, regional (e.g., European Union, Caribbean Community), international);
- **Periodicity**: e.g., annual (A), monthly (M), daily (D), hourly (H), other (specify);
- **Earliest/latest year available**
- **Format of statistic**: e.g., in publication or report (P), Excel files (E), database (D), website (W), individual records not readily useable (I);
- **Unit of measurement**: e.g., m^3, tonne, mm.