



Framework for the Development of Environment Statistics

A guide for the development and organization of environment statistics

The Framework for the Development of Environment Statistics (FDES) 2013, including the Core Set of Environment Statistics, as well as an Action Plan for putting the FDES to work, were endorsed by the 44th session of the Statistical Commission (New York, 26 February–1 March 2013)*

Environment statistics for policymaking

The demand for environment statistics is increasing in step with the continued environmental challenges faced by modern society. The recognition that human well-being depends on the environment has led to an increasing emphasis on environmental and sustainability concerns on which decisions and actions need to be taken. Paramount to these actions is the regular production of environment statistics of the highest possible quality to support evidence-based policymaking by enabling the identification of environmental policy issues and allowing their objective quantification.

Environment statistics portray key information about the state of the environment and its most relevant changes through space and time. They strengthen assessments through quantitative techniques, making analyses more robust, timely and progressively harmonized at the international level. Environment statistics are necessary for producing environmental assessments, state of the environment reports, environmental compendia, environmental indicators, indicators of sustainable development, as well as to facilitate environmental-economic accounting.

The member States of the United Nations have addressed this challenging area during the Rio+20 Conference in June 2012. The outcome document, “The Future We Want” contains various references that are relevant to the

work of the United Nations Statistics Division (UNSD) in this regard. This document frequently mentions the importance of data, in particular, environmental data, as well as information and indicators. The Framework for the Development of Environment Statistics (FDES 2013), including the Core Set of Environment Statistics, provides an appropriate means for addressing these information needs as they relate to the environmental dimension of sustainable development. The FDES has been recognized by the 44th session of the Statistical Commission as a useful tool to adequately respond to the increasing demand for information in the follow-up to Rio+20 and the post-2015 development agenda (including Sustainable Development Goals).

The challenge of producing environment statistics

Environment statistics cover a wide range of information and are interdisciplinary in nature. Their sources are dispersed over a variety of data producers, and similarly numerous methods are applied in their compilation. To effectively produce environment statistics, specific statistical and environmental expertise, scientific knowledge, institutional development capabilities, and adequate resources are equally necessary. Many countries still require substantial technical assistance and capacity building. Environment statistics therefore require a proper framework to guide their development, coordination and organization at all levels.

* The United Nations Statistical Commission is the apex entity of the global statistical system bringing together the Chief Statisticians from member states from around the world. It is the highest decision making body for international statistical activities especially the setting of statistical standards, the development of concepts and methods and their implementation at the national and international level.

Box 1: History of the FDES

The FDES was first published in 1984 by UNSD. For almost three decades it has been a useful framework for guiding countries in the development of their environment statistics programmes. However, the combination of lessons learned during its application, along with improved scientific knowledge and emerging environmental concerns over the intervening years, strongly suggested that the FDES was ready for revision.

The 41st session of the United Nations Statistical Commission endorsed a work programme in February 2010 for UNSD to address this revision and develop a Core Set of Environment Statistics with the support of an Expert Group. The revision was based on a review of different conceptual, analytical and indicator frameworks. The revision process involved a great variety of stakeholders represented by producers and users of environment statistics from

countries in all regions and at different stages of development, as well as international organizations, specialized agencies and NGOs. As part of the process to develop the Core Set, more than 2,500 environmental indicators and statistics were analyzed. The Core Set was tested in 25 countries, and both the revised FDES and the Core Set were subjected to a Global Consultation process.

What is the FDES?

The FDES is a multi-purpose conceptual and statistical framework that is comprehensive and integrative in nature and 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. It brings together data from the various relevant subject areas and sources. It is broad and holistic in nature, covering the issues and aspects of the environment that are relevant for policy analysis and decision making by applying it to cross-cutting issues such as climate change.

Though the FDES is relevant to, and recommended for use by countries at any stage of development, its primary objective is to guide countries at early stages in the development of their environment statistics programmes. It can also be used by international and regional institutions, as well as by other users and producers of environment statistics.

The scope and structure of the FDES

The scope of environment statistics covers biophysical aspects of environment and those aspects of its human sub-system that directly influence, or are influenced by, the state and quality of the environment. It includes the interactions within the environment, and among the environment, human activities, and natural events.

The FDES organizes environment statistics in a simple and flexible manner into components, sub-components, statistical topics and individual statistics, using a multi-level approach.

The first level of the structure consists of six components (see Figure 1). The six components of the FDES delineate the scope of environment statistics, and contain and organize the most relevant, specific sets of information in a useful way.

The first component brings together statistics related to the conditions and quality of the environment and their

Box 2: The structure of the FDES

Component 1: Environmental Conditions and Quality

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Sub-component 1.2: Land Cover, Ecosystems and Biodiversity

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Statistical topic 1.2.3: Biodiversity

- a. Flora statistics - terrestrial, freshwater and marine
 1. **Number of known species by status category (Tier 1)**
 2. Species population (Tier 2)
 3. Number of endemic species (Tier 2)
 4. Number of invasive alien species (Tier 2)
 5. *Habitat fragmentation (Tier 3)*
 - b. Fauna statistics - terrestrial, freshwater and marine
- ...

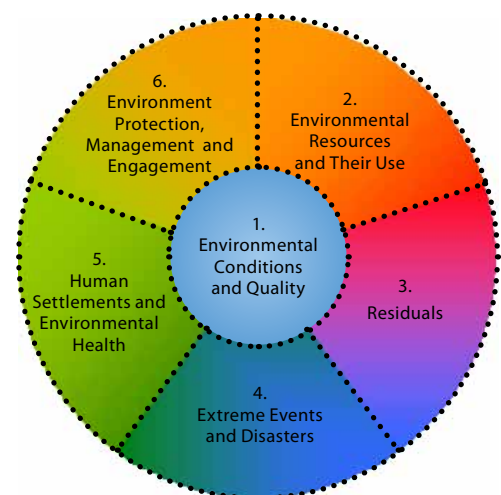


Figure 1. The FDES components

change. The second component groups together statistics related to environmental resources and their use. The third component includes statistics related to the use of regulating services of the environment for the discharge of residuals from production and consumption processes. Statistics related to extreme events and disasters and their impacts are covered by the fourth component. The fifth component brings together statistics related to human settlements and environmental health. The sixth component groups statistics relevant to societal responses and economic measures aimed at protecting the environment and managing environmental resources.

Environmental Conditions and Quality (Component 1) is at the centre of the FDES. The other five components have been set up based on their relationship with the central Component 1. The dotted lines separating the components are an indication of the continuous interactions among them.

Each of the components is broken down into sub-components that in turn contain relevant statistical topics. The statistical topics represent the measurable aspects of the components of the FDES taking into consideration the types and sources of the data needed for their description. The final level contains the actual individual environment statistics (see Box 2).

The Core Set and the Basic Set of Environment Statistics

The FDES lists the most important environment statistics to describe the statistical topics thus providing guidance to countries developing national environment statistics programmes. This Basic Set of Environment Statistics is designed with enough flexibility to be adapted to individual countries' environmental concerns, priorities and resources and, as depicted in Figure 2, it follows a progression of three tiers.

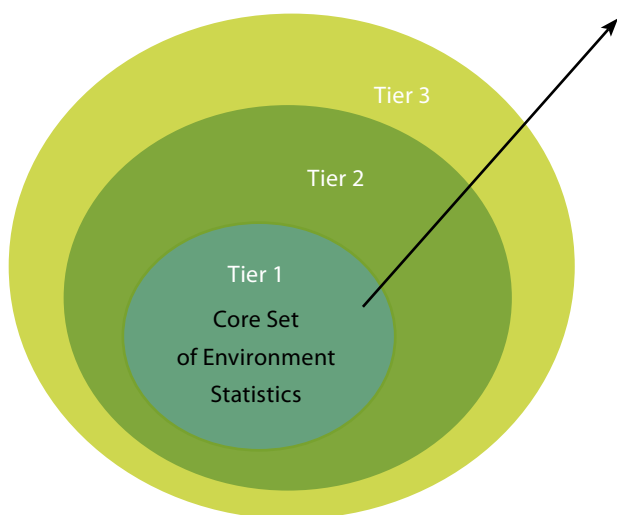


Figure 2. The Core Set and the Basic Set of Environment Statistics

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

The Core Set of Environment Statistics (i.e., Tier 1) represents a broad consensus of opinion; as such, it is intended to foster collection, coordination and harmonization of environment statistics at the national, regional and global levels in the short-term. When a country faces stringent resource constraints, or is at an early stage in the development of environment statistics, the Core Set is well suited to provide guidance in determining priorities. Consequently, depending on their priorities and resources, countries are encouraged to consider producing Tier 2 and Tier 3 statistics in the medium- and in the long-term respectively.

Relation to other existing frameworks

The FDES is structured in a way that allows links to economic and social domains. It is compatible with and supports other state of the art frameworks and systems, both statistical and analytical, such as the System of Environmental-Economic Accounting (SEEA), the Driving force—Pressure—State—Impact—Response (DPSIR) framework, or the MDGs indicator framework.





Putting the FDES to work

The FDES targets a wide user community including environmental statisticians in national statistical offices, environmental administration and management, as well as other producers of environment statistics. It helps to mark out the roles of the different data producers, thus facilitating coordination. UNSD has developed an Action Plan for putting the FDES to work which includes global, regional and national actions, with a focus on assisting countries to develop environment statistics using the FDES and the Core Set.

The Core Set of Environment Statistics will be accompanied by detailed guidance elaborating on agreed concepts, definitions, classifications and data compilation methods. This methodological guidance will be used to train and assist countries, thereby promoting the availability of a defined set of relevant and internationally comparable environment statistics.

Why should countries use the FDES?

The FDES was designed in such a way as to:

- be a flexible, multi-purpose tool that adapts to the needs and priorities of countries and different users;
- help to identify the range of statistics relevant to decision-making;
- facilitate a synthesized presentation of data;
- suitably simplify complex environmental issues;
- be coherent with other existing statistical frameworks and classifications; and thus
- promote sound concepts.

Information on the Web

The FDES 2013 can be downloaded from: <http://unstats.un.org/unsd/environment/fdes.htm>

For more resources including methodological work in environment statistics, questionnaires, indicators, country data, access to data sources and publications, visit:

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

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