



**Results of the review of the 1984 FDES: missing elements,
topics and dimensions and new developments to be
considered**



**Expert Group Meeting on the Framework for the Development of
Environment Statistics
(New York, 4-6 May 2011)**

United Nations Statistics Division



Objective and rationale

- Summarize **missing elements** and topics that need **strengthening** and/or **transformation** from the 1984 FDES
- In light of the developments of the past 25 years, the structure, main contents, properties, purpose and scope of the 1984 FDES have to be revised and updated

“Changing environmental trends and priorities, accompanied by corresponding data requirements, call for a continuous critical review of the purposes of the framework, and periodic revisions are expected” [1984 FDES]



Developments relevant to environment statistics since 1984 (1)

- Knowledge about the environment, its components and interrelations
- Better understanding of links between well-being, ecology, economic development and social aspects
- Institutional frames regulating statistical and environmental official functions in NSOs, Environmental Ministries and relevant authorities (water, biodiversity, forest, etc) have developed significantly
- Developments of environment statistics at the national, regional and global scales, providing experience and know how
- Increasing availability of new technologies in statistics
- Unprecedented development of information technology



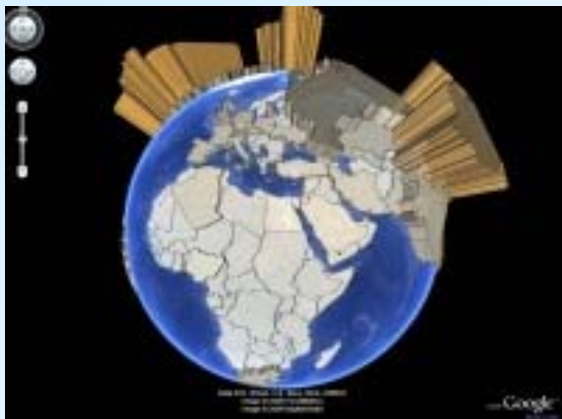
Developments relevant to environment statistics since 1984 (2)

- Mainstreaming the concept of sustainable development
- Integration of environmental aspects into sector policies
- Environmental policy issues and new policy instruments
- Internationally agreed development and environmental goals and targets
- Open government and increased involvement of the public, increased demand for information
- Emerging environmental issues - such as climate change, biodiversity loss, desertification, food security- and the international conventions and agreements with accompanying special data requirements
- Appearance of new economic/market instruments to regulate pressures on the environment
- Growing need for internationally comparable data



Geostatistic developments

- **Geostatistics:** Geographic Information Systems (**GIS**) - remote sensing and spatial statistics, can possibly transform the way environment (and other) statistics are produced and disseminated





Methodological developments in statistics

- Revised **SEEA 2012** (vol 1) (and SEEA Water, the IRWS, and future SEEA Energy) - milestone methodological development in the field
- Emergence of environmental **classifications**
- Integration of environmental aspects into **sectoral** statistics



How do these developments influence the revision of the FDES?





Important elements in the revision of the 1984 FDES

- To be further elaborated in the revised FDES, currently missing or not sufficiently developed are the:
 - **Objective** of environment statistics
 - **Scope** of environment statistics
 - **Purpose and uses** of the **FDES**
- The FDES also needs a profound analysis and improvement on:
 - The **structure of the FDES**, that is, the way the contents are organized
 - The **dimensions, themes and topics** of FDES.
- Differentiate between **environment statistics** as a domain, and the **FDES** as an organizing structure



1. Objective and scope of environmental statistics

- The **objective** of **environment statistics** was established as providing statistical information to improve policy and decision-making, on the state (and changes of the state) of the environment and its links with human well-being and economic and social development [2010 EGM].
- The **scope** of **environment statistics** includes ecosystems and natural resources and recognized that environment statistics describe the qualitative and quantitative aspects of ecosystems and natural resources and their interactions with human activities and natural events. [2010 EGM].



2. Scope and coverage of the 1984 FDES

“Comprehensiveness – A framework for environment statistics should permit access to the whole spectrum of current and potential environmental concerns, whether the objective is to deal with all of them or with only a selection of them” [1984 FDES, pg 9].

- Both the 1984 FDES’s **scope and coverage** seem somehow vague, developed at the dawn of the environmental statistics field.

Need for clear scope of the revised FDES

Sustain comprehensiveness, as evolution within environment statistics adds more topics, variables and cross-cutting issues relevant to the diverse countries

Revised FDES should be **comprehensive** and **integrative** as well as providing an overarching framework that encompasses all aspects of the environment [EGM2009]



3. Objective, uses and users of the FDES

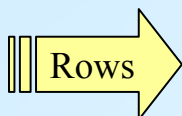
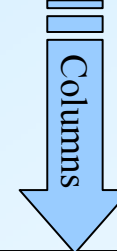
*“The **objective** of the framework is to assist in the development, co-ordination and organization of environment statistics at the national and international levels.” [1984 FDES]*

- The 1984 FDES does not explicitly says that it can help to identify **main partners** in environmental statistics production within a country (and also within the international community),

The revised purpose will include that it can help identify data gaps in addition to the key institutional partners within environment statistics production.

Also, a description of the main users of the FDES including NSOs and other institutions will be added

4. Structure of the 1984 FDES (synthesis matrix)



Components of the environment	Information categories			
	Social and economic activities, natural events	Environmental impacts of activities/ events	Responses to environmental impacts	Inventories, stocks and background conditions
1. Flora	Topic	Topic	Topic	Topic
2. Fauna	Topic	Topic	Topic	Topic
3. Atmosphere	Topic	Topic	Topic	Topic
4. Water <ul style="list-style-type: none"> freshwater marine water 	Topic	Topic	Topic	Topic
5. Land/soil <ul style="list-style-type: none"> Surface Sub-surface 	Topic	Topic	Topic	Topic
6. Human settlements	Topic	Topic	Topic	Topic



4. About the structure of the 1984 FDES

(synthesis matrix)

Overall

Application of 1984 FDES (rows, columns, topics) to different cross cutting issues is not straight forward. The link to policy is not evident

This needs to be improved in the revised FDES since environment statistics routinely needs to deal with these types of themes or cross-themes.

Rows

- Highly aggregated
- They are mutually exclusive, but inter-relationships among components are not facilitated by 1984 structure
- Apart from the media rows, Human Settlements is problematic (partially overlapping)

More disaggregation is needed, enable the explicit interrelations among environmental components



About the structure of the 1984 FDES (2)

(synthesis matrix)

Columns

- Require careful consideration of alternative ways of **re-structuring columns** or analytical categories (consider developments and user needs for analysis, reporting, policy making and information to the public).
- **PSR and** derivate sequences (DPSIR, etc.) implicitly suggest **causality** (or have been **interpreted** as such). Statistically not supported.
- The **PSR** (and derivate sequences) might work better when used for analytical purposes of specific topics and dimensions of the environment (not so much for organizing environment statistics as a whole). Allocation in specific context easier than ES as a whole.

Columns should be significantly improved in revised FDES, so that analytical categories can be more integral and simple



5. Contents and topics in the revised FDES

- More emphasis on **State of the environment**. Topics and also the column representing the State and its variables are underdeveloped in 1984 FDES. The Expert Group, along with main users in many countries, has noted that they should be the primary focus of attention.
- Cross cutting issues not sufficiently addressed 1984 FDES:
 - Loss of biodiversity
 - Climate change
 - Green economy and green growth
 - Natural resources degradation and depletion



5. Contents and topics in the revised FDES (2)

- Topics and themes such as **Waste, Disasters, Forest, Energy** ... are present in layers of FDES, and can be explicitly illustrated as applications and topics
- **Socio economic aspects:** in 1984 FDES “socio-economic” (column 1) include driving forces affecting the environment ...probably should not be an explicit part of revised FDES.



About Human Settlements



- HS contents **re-allocated** among the media or understood as a sub-system where humans live?
- HS should be considered as a **spatial dimension** or remain as an environment component as presented in the 1984 FDES?
- Using the ecosystem approach, can we think of “human settlements” as the **human ecosystem**?
- Can we add urban spaces in a similar fashion as the MEA? Using the ecosystem approach, can we think of “human settlements” as the **human ecosystem**?
- Can we add an **urban ecosystem** in a similar fashion as the MEA?

To be discussed in depth during the WG



6. Criteria to be fulfilled by the revised FDES



- a) Be adaptable, applicable, easy to follow
- b) Be clearly aligned with the objectives of environment statistics
- c) Make the scope of environment statistics clear
- d) Make the dimensions of environment statistics clear
- e) Help organize environment statistics
- f) Help to set up standard classifications and definitions
- g) Be coherent with other internationally agreed frameworks
- h) Help to identify data gaps
- i) Help to identify a core set of statistics
- j) Facilitate the identification of roles and responsibilities of players
- k) Represent the state of the art



7. Key challenges in developing the revised FDES



- **Comprehensive** framework, be useful for most environmental concerns, topics, dimensions, issues and themes that are **globally relevant**
- Be **adapted** to **most countries'** needs
- **Flexible** enough to accommodate **country- and region-specific** dimensions, topics and segments of variables, as needed. This can be attained by avoiding strict or closed sets of information in favor of illustrative sets that outline possible sets and contents



7. Key challenges in developing the revised FDES



- Satisfies the revised FDES' **purpose** and **criteria**
- **Statistically feasible** (applicable), based on the characteristics of a majority of statistical systems at the national level
- Possibly **multi-layered** framework, in order to accommodate different levels of aggregation of the topics and information, from the most synthetic matrix to more disaggregated levels showing sets of variables



Thank you
Danke
Xie xie
Khawp khun
Yum eotic
Salamat
Mahalo
Juspa
Obrigada
Spacibo
Arigato
Gracias