



The revision of the Framework for the Development of Environment Statistics

Workshop on Environment Statistics for South East Asia Countries
Hanoi, Viet Nam, 5-7 December 2011



United Nations Statistics Division

Contents have been updated according to current developments in the revision process (August 2012)

UNSD current methodological developments in Env Stats: overview

1. FDES – under revision 2012
2. Core Set of Environment Statistics, developing - 2012
3. SEEA – under revision, to be submitted to the SC 2012 for adoption.

1,2 and 3 are being prepared for the consideration of the SC 2012 and to be presented to Rio + 20 (June, 2012)

Available and adopted by SC

- International Recommendations for Water Statistics
- SEEA Water (*intermediate standard*)

Developing:

- International Recommendations for Energy Statistics, adopted 2011, to be published by the end of 2011
- SEEA Energy

- The UN FDES 1984 is a broad framework that relates the components of the environment to information categories.
- The components of the environment define the scope of environment statistics.
- The information categories reflect the fact that environmental problems are the result of human activities and natural events.

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				
2. Fauna				
3. Atmosphere				
4. Water (a) Freshwater (b) Marine water				
5. Land/soil (a) surface (b) sub-surface				
6. Human settlements				

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Developments relevant to environment statistics since 1984

- 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

Developments relevant to environment statistics since 1984 (2)

- 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

Agreed criteria for the revised FDES

- Be adaptable, flexible, easy to follow;
- Be clearly aligned with the objective of environment statistics;
- Make the scope of environment statistics clear;
- Make the dimension of environment statistics clear;
- Help organize environment statistics;
- Help set up standard classifications and definitions;
- Provide coherence with other frameworks;
- Help identifying data gaps;
- Help identifying a core set of environment statistics;
- Facilitate the identification of roles and responsibilities;
- Represent the state of the art.

Decisions of the 41st (2010) session of the UNSC

- The Statistical Commission in 2010:
- Endorsed the programme of work for the revision of the FDES and the development of a core set of environment statistics.

Conceptual basis

- Humans use environmental resources for production and consumption.
- Environmental resources consist of three major parts: (1) non-renewable resources such as oil and minerals that are extracted from the environment, (2) renewable resources such as fish, wood, and drinking water that are produced and maintained by the processes and functions of ecosystems, (3) ecosystem services such as maintenance of the quality of the atmosphere, climate, operation of the hydrological cycle including flood controls and drinking water supply, waste assimilation, recycling of nutrients, generation of soils, pollination of crops, and the maintenance of a vast genetic library. These crucial services are generated and sustained by the work of ecosystems.
- As a result of human activities, environmental conditions, natural processes and the capacity of ecosystems to provide their goods and services all experience change.
- These changes, in turn, initiate changes in the human subsystem's economic and social processes.

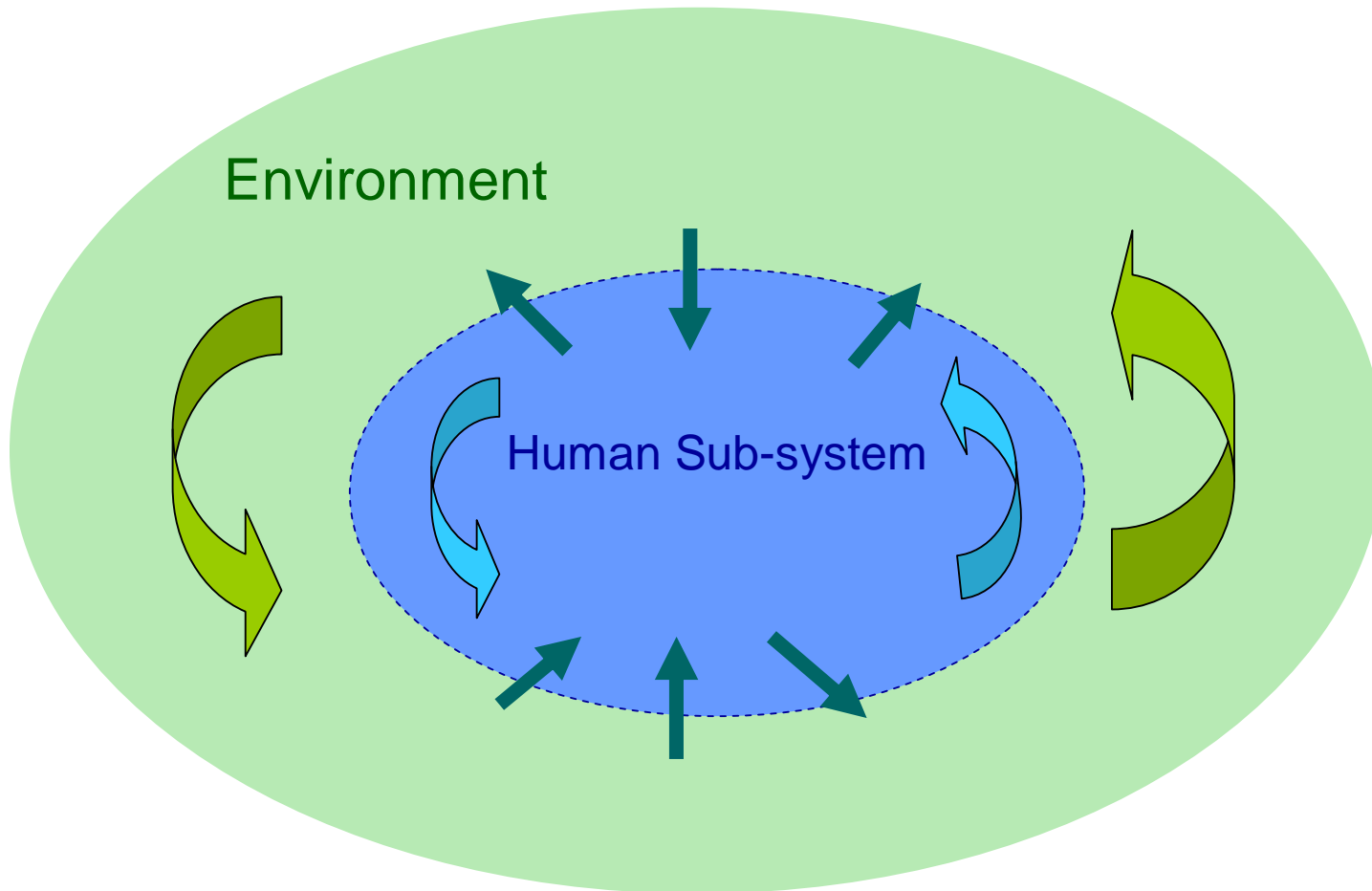
- The objective of environment statistics is to provide quality statistical information for policy and decision making about the state, and changes of the state, of the environment, and its links with human wellbeing, economic and social development.

- Environment statistics describe the quantitative and qualitative aspects of the state of the environment and its interactions with human activities.
- The environment includes natural resources and ecosystems.
- The state, and the changes of the state, of the environment is in the centre of environment statistics. Measuring the interactions with humans create the links with economic and social statistics.

- The revised FDES is a basic organizing framework to guide environment statistics (what to collect).
- The revised FDES is a logical structure to organize information – a structure to organize the supply of statistics to respond to various information needs and to fill in multiple analytical and reporting frameworks.
- The revised FDES is a framework for synthesizing data from various subject areas and sources.

- The revised FDES aims at basic environment statistics that can serve multiple purposes and facilitate data integration within the environment statistics domain and with other (economic and social) statistical domains.

- The focus of the revised FDES is the ENVIRONMENT but it includes clear links to economic and social spheres, to other frameworks and analytical models.
- The revised FDES is conceptually comprehensive, permits 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. It is comprehensive and integrative, an overarching framework that encompasses all aspects of the environment.



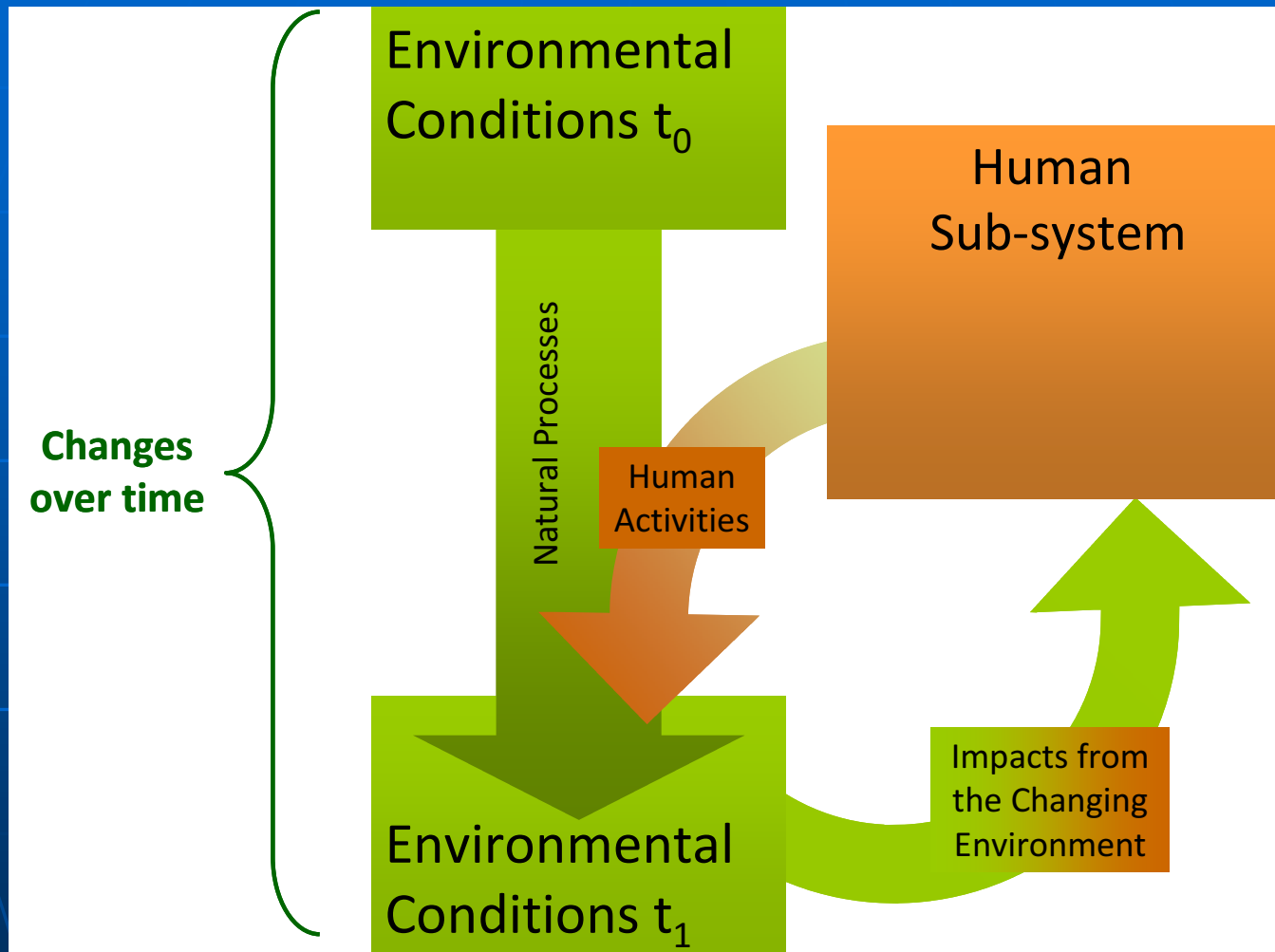
Processes within the environment



Processes within the human sub-system

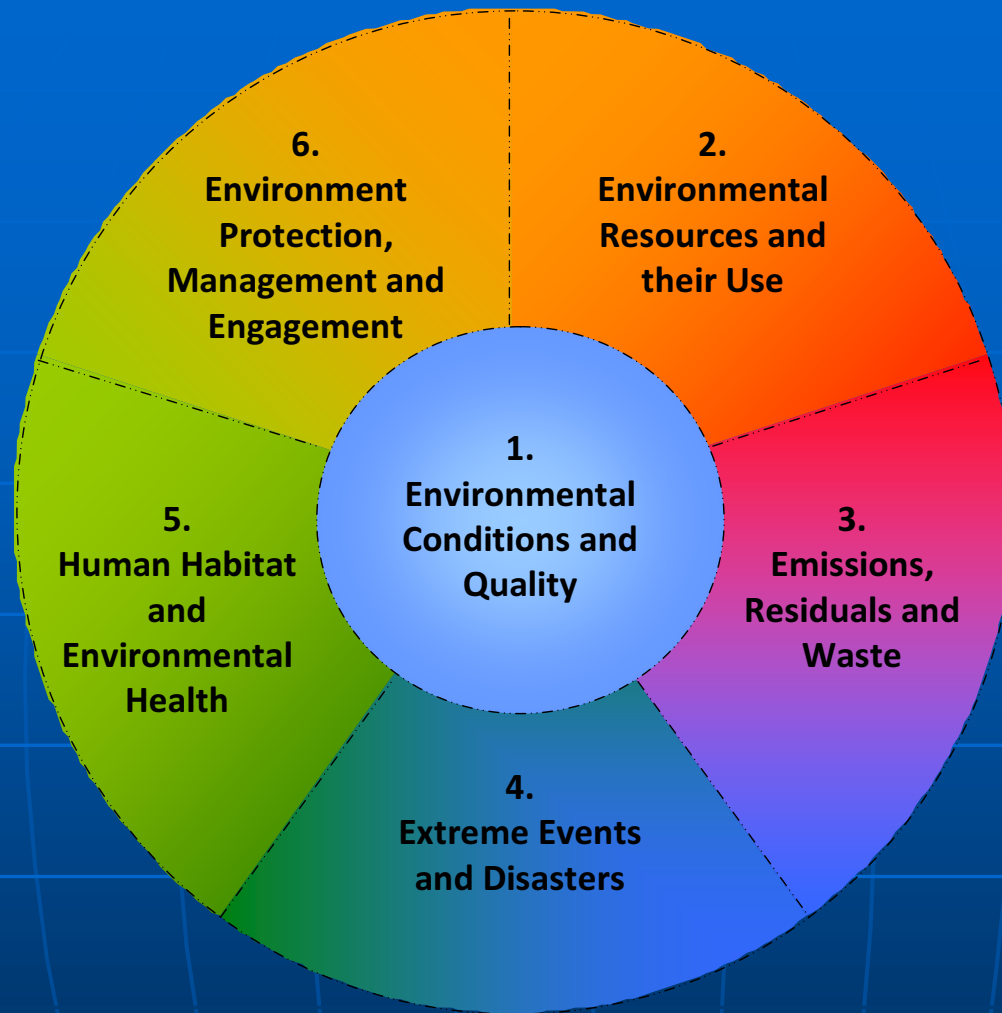


Interactions between the environment and the human sub-system



FDES Conceptual foundation- preliminary

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1. Component

1.1 Sub-component

1.1.1 Topic

FDES, Components preliminary.

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Structure and components of the FDES

Component 1: Environmental Conditions and Quality

- Sub-component 1.1: Physical Conditions
- Sub-component 1.2: Soil and Land Cover
- Sub-component 1.3: Biodiversity and Ecosystems
- Sub-component 1.4: Environmental Quality

Component 2: Environmental Resources and their Use

- Sub-component 2.1: Non-Energy 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: Emissions, Residuals and Waste

- 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

Component 4: Extreme Events and Disasters

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

Component 5: Human Habitat and Environmental Health

- Sub-component 5.1: Human Habitat
- Sub-component 5.2: Environmental Health

Component 6: Environment Protection, Management and Engagement

- Sub-component 6.1: Environment Protection and Resource Management Expenditure
- Sub-component 6.2: Environmental Governance and Regulation
- Sub-component 6.3: Disaster Preparedness and Management
- Sub-component 6.4: Environmental Awareness

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1. Environmental conditions and quality

- Physical data
- Geo-spatial and qualitative data
- Natural attributes of the environment, ecosystems, environmental quality
- Source: meteorological, hydrological, geological, geographical information
- State elements in DPSIR
- Future experimental ecosystem accounts in SEEA



1.
Environmental
Conditions
and Qualities

2. Environmental resources and their use


- Physical data
- Stocks and changes of environmental resources
- Use and management of environmental resources
- Sources: geological etc data on reserves and stocks; sector statistics on use and management, GIS, etc.
- State and Pressure in DPSIR
- Asset and physical flow accounts in SEEA



2.
Environmental
Resources
and their Use

3. Emissions, residuals and wastes

- Physical data
- Generation, management and discharge to residuals and waste to air, water, land
- Source: monitoring and estimates based on activity statistics and technological coefficients
- Pressure and elements of response
DPSIR
- Physical flow accounts in SEEA



3.
Emissions,
residuals and
wastes

4. Extreme Events and Disasters

- Physical data
- Occurrence and impact of natural and technological disasters
- Source: administrative records, remote sensing, seismic and meteorological authorities. Some additional social and economic data on impacts on the human subsystems are also considered
- Pressure and impact in DPSIR



4.
Extreme
Events and
Disasters

5. Human Habitat and Environmental Health

- Physical and geospatial data
- Environment and human habitats, population, sanitation, environmental health
- Sources: social and economic data on impacts on the human subsystem
- Pressure and Impact in DPSIR



5.
Human Habitat
and
Environmental
Health

6. Environment Protection, Management and Engagement

- Environment protection and resource management expenditure and other monetary transactions (monetary data)
- Environmental education, information, governance (descriptive and qualitative data)
- Response in DPSIR
- Sources: administrative records, surveys.
- Environmental protection expenditure accounts in SEEA

6. Environment
Protection,
Management
and
Engagement

Core Set of Environment Statistics -CSES-

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Core set of environment statistics

- The Expert Group Meeting recommended that, as a response to the request by many developing countries, UNSD should also establish

a Core (minimum) Set of Environment Statistics

- to provide guidance to countries that have very limited resources and are at the early stages of developing environment statistics.

Core set of environment statistics (2)

- Should include a limited number of variables accompanied by methodological description and guidance for their compilation.
- Should be based on *UNSD List of Environmental Indicators* (adopted by Statistical Commission 1995) and on assessment of international data collections, major global/regional indicator initiatives, and consider pertinent data needs created by global environmental conventions and MEAs

Progress in the Core set of environment statistics

For the EGM in May 2011, UNSD compiled 2575 statistics/indicators from 37 sources (65 lists/sets) comprising international, regional institutions, conventions etc., selected 10 themes (and sub-themes) under which to organize them, and then presented a more refined list of statistics/indicators to the meeting.

The EGM:

- (i) agreed with the process being followed;
- (ii) agreed that the leading criteria for the selection of the core set should be policy relevance, measurability, methodological soundness and frequency of use; and
- (iii) recommended that UNSD continue the work following the evolving structure of the revised FDES.

Progress in the Core set of environment statistics (2)

- The EGM expressed that it had to be kept in mind that the objective was to set up a core (minimum) set of environment statistics that all countries would produce based on standardized methodologies.
- The EGM reinforced the point that the core set should be about “**statistics**” and not indicators.
- The EGM agreed that the core set would be: allocated in the FDES structure; combined into the FDES document; part of the global consultation process; and submitted to the Statistical Commission in 2012 for adoption.
- UNSD is currently finalizing the list of statistics to be included in the revised FDES.

*Thank you for your
attention*



United Nations Statistics Division
<http://unstats.un.org/unsd/environment/fdes.htm>

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