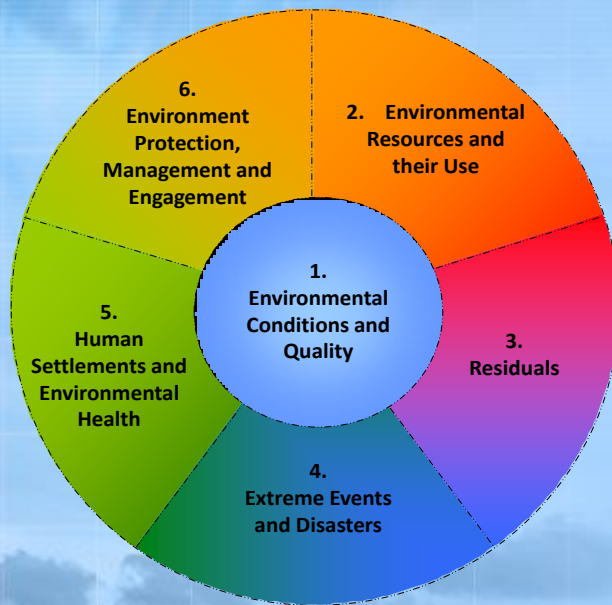


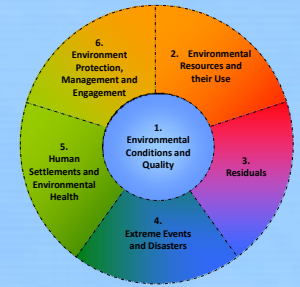
# Components, sub-components and statistical topics of the FDES 2013

## Component 6: Environment Protection, Management and Engagement



**Workshop on Environment Statistics in support of the implementation of the Framework for the Development of Environment Statistics (FDES 2013)**

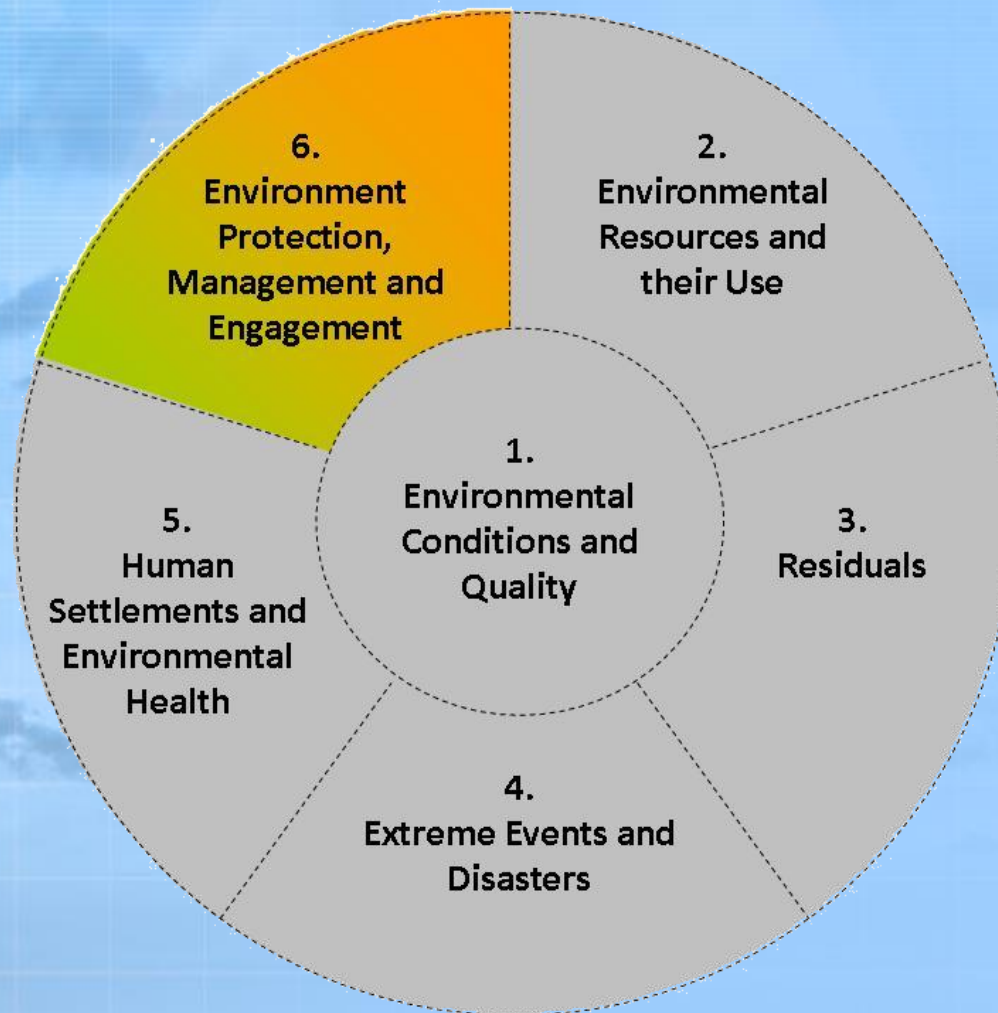
**(Calodyne, Mauritius, 26-29 January 2015)**



- This presentation has been elaborated by the Environment Statistics Section of the United Nations Statistics Division.
- It is based on Chapter 3 of the Framework for the Development of Environment Statistics (FDES) 2013 that can be downloaded here: <http://unstats.un.org/unsd/statcom/doc13/BG-FDES-Environment.pdf>



# Component 6: Environment Protection, Management and Engagement



## Contents of Component 6

Organizes information on environment protection and resource management measures and expenditure as well as social responses that aim at improving the environment and maintaining the health of ecosystems.



# Component 6: Environment Protection, Management & Engagement

## Contents:

- ❖ Statistics on environment protection and natural resource management expenditure
- ❖ Statistics about environmental governance, institutional strength, enforcement of regulations and extreme event preparedness.
- ❖ Contains information on programmes and actions to increase awareness, including environmental information and education, as well as private and community activities aimed at diminishing environmental impacts and improving the quality of local environments.

# Component 6: Overview

<b>Component 6</b>  <b>Environment Protection, Management and Engagement</b>	<b>Sub-Component 6.1</b> <b>Environment Protection and Resource Management Expenditure</b> <i>(two topics, 8 statistics)</i>	<b>Topic 6.1.1:</b> Government environment protection and resource management expenditure <b>Topic 6.1.2:</b> Corporate, non-profit institution and household environment protection and resource management expenditure
	<b>Sub-Component 6.2</b> <b>Environmental Governance and Regulation</b> <i>(three topics, 19 statistics)</i>	<b>Topic 6.2.1:</b> Institutional strength <b>Topic 6.2.2:</b> Environmental regulation and instruments <b>Topic 6.2.3:</b> Participation in MEAs and environmental conventions
	<b>Sub-Component 6.3</b> <b>Extreme Event Preparedness and Disaster Management</b> <i>(two topics, 10 statistics)</i>	<b>Topic 6.3.1:</b> Preparedness for natural extreme events and disasters <b>Topic 6.3.2:</b> Preparedness for technological disasters
	<b>Sub-Component 6.4</b> <b>Environmental Information and Awareness</b> <i>(four topics, 13 statistics)</i>	<b>Topic 6.4.1:</b> Environmental information <b>Topic 6.4.2:</b> Environmental education <b>Topic 6.4.3:</b> Environmental perception and awareness <b>Topic 6.4.4:</b> Environmental engagement

# Sub-Component 6.1: Environment Protection and Resource Management Expenditure

## Sub-Component 6.1

Environment  
Protection and  
Resource  
Management  
Expenditure



**Topic 6.1.1:**  
Government  
environment protection  
and resource  
management  
expenditure

**Topic 6.1.2:**  
Corporate, non-profit  
institution and household  
environment protection  
and resource  
management  
expenditure



# Sub-Component 6.1: Environment Protection and Resource Management Expenditure

## Content:

- ❖ Groups environment protection and resource management expenditures according to their purpose
- ❖ Defines bearers of the expenditures as either general government, corporations, nonprofit institutions, and/or households.

## Relevance

- ❖ Can be used as one measure of the public and private engagement in protecting, restoring and managing the environment towards its more sustainable use.
- ❖ Important for policy makers, analysts and civil society in order to determine the current and desired levels of engagement and commitment from the government and the private sector.





# Sub-Component 6.1: Environment Protection and Resource Management Expenditure

Scope (Classification of Environment Protection Activities, Classification of Natural Resource Management Activities):

- ❖ Environment protection activities include protection of ambient air and climate, wastewater management, waste management, protection and remediation of soil, groundwater and surface water, noise and vibration abatement, protection of biodiversity and landscapes, protection against radiation, and research and development for environment protection.
- ❖ Resource management activities include reducing withdrawals of natural resources (including through the recovery, reuse, recycling, and substitution of natural resources); restoring natural resource stocks (increases or recharges of natural resource stocks); general management of natural resources (including monitoring, control, surveillance and data collection); and production of goods and services used to manage or conserve natural resources.

Covers management of mineral and energy resources; timber resources; aquatic resources; other biological resources; water resources; research and development activities for resource management

## Topic 6.1.1: Government environment protection and resource management expenditure

### Content:

- ❖ **Government** expenditure primarily aimed to protect the environment and manage natural resources. Reference classification CEPA and RMA
- ❖ Government (local, regional and central) expenditure to protect the environment is usually calculated by identifying and aggregating the expenditures considered to be primarily for environment protection and resource management purposes.
  - These expenditures can be found by examining official government finance statistics found in government budgets and/or administrative reports on actual government expenditure incurred.

### Institutional partners:

- ❖ The official institutions in charge of reporting government expenditure (e.g., internal revenue services) and the national and sub-national level institutions (e.g., municipalities).
- ❖ The resulting statistics will usually be at the national level, and can sometimes be disaggregated by functional governmental entities or by governmental levels.
- ❖ National accounts and government finance statistics are typically the divisions in the NSOs which need to be involved when developing these figures.
- ❖ These statistics are expressed in monetary units, typically with annual periodicity, depending on the availability of resources.

## **Topic 6.1.2: Corporate, non-profit institution and household environment protection and resource management expenditure**

Includes:

- ❖ **Corporate, non-profit institution and household** environmental expenditure whose primary aim is to protect the environment and manage its resources.
- ❖ Reference classification CEPA and RMA

Types of data:

- ❖ Statistics on environment protection and resource management expenditure for corporations, non-profit institutions and households usually require the use of specific surveys of establishments in different sectors and industries, (business surveys) and households.

# Sub-Component 6.2: Environmental Governance and Regulation

**Sub-Component  
6.2  
Environmental  
Governance and  
Regulation**



**Topic 6.2.1:**  
Institutional strength

**Topic 6.2.2:**  
Environmental regulation  
and instruments

**Topic 6.2.3:**  
Participation in MEAs  
and environmental  
conventions



# Sub-Component 6.2: Environmental Governance and Regulation

## Content:

- ❖ Setting and enforcing standards and norms -> successful national environmental governance. Requires institutional strength, as well as regulatory capabilities.
- ❖ A nation's participation in MEAs and global environmental conventions -> describing national participation in the global commitment to protect the environment.
- ❖ Information, education and perception elements -> make stakeholders aware of and be given incentives to comply with, norms and standards.
- ❖ Sector or industry-based voluntary agreements for environmental management and protection.

## Relevance:

- ❖ Provides a holistic view of a country's efforts towards sustaining and protecting the environment, policy makers, analysts and civil society require statistics on environmental governance and regulation at the national level.
- ❖ The magnitude of these activities can inform about the extent of institutional development, the availability of resources, and the existence and enforcement of regulating and market instruments whose primary purpose is to protect, regulate and manage the changing environment.



### Topic 6.2.1: Institutional strength

Includes:

- ❖ Statistics on environmental institutions and their resources organized according to the main environmental authority (name, budget and staff), and other relevant environmental bodies (names, budget and staff).

Scope:

- ❖ The information should be mainly descriptive, but can also include monetary statistics on budgets. It is usually compiled at the national level but should also cover sub-national authorities.

Institutional Partners:

- ❖ Environmental authority, other environmentally relevant authorities, and other institutions where environmental regulations are enforced (e.g., local governments or sectoral authorities).



## Sub-Component 6.2: Environmental Governance and Regulation

### Topic 6.2.2: Environmental regulation and instruments

Includes:

- ❖ Information on social responses aiming to regulate and establish acceptable limits for protecting the environment.
- ❖ Entails direct regulation and economic instruments.
  - Direct regulation includes environmental and related laws, standards, limits and their enforcement capacities. They can be measured through statistics about regulated pollutants, licensing systems, applications for licences, quotas for biological resource extraction, as well as budget and the number of staff dedicated to enforcement of environmental regulations.
  - Economic instruments may be exemplified by the existence and volume of green taxes, green subsidies, eco-labelling and certification, as well as emission permits.

Information: mainly descriptive, but may also include quantitative data on budgets or emission permits traded.

Institutional Partners:

- Environmental authority, internal revenue services, other relevant authorities, and other institutions where environmental regulations are enforced (e.g., local governments or sectoral authorities).



## Sub-Component 6.2: Environmental Governance and Regulation

### Topic 6.2.3: Participation in MEAs & environmental conventions

#### Content:

- ❖ This topic includes information on a country's participation in different MEAs and other global environmental conventions.
  - Such conventions include the Montreal and Kyoto protocols.

#### Scope:

- ❖ The information to be produced in this topic is mainly descriptive, however, comparable time series can also be derived from these statistics.

#### Institutional partners:

- ❖ The environmental authority, along with other possible institutions in charge of MEAs or environmental conventions.





# Sub-Component 6.3: Extreme Event Preparedness and Disaster Management

## Sub-Component 6.3

Extreme Event  
Preparedness  
and Disaster  
Management



### Topic 6.3.1:

Preparedness for natural  
extreme events and  
disasters

### Topic 6.3.2:

Preparedness for  
technological disasters



# Sub-Component 6.3: Extreme Event Preparedness and Disaster Management

## Content:

- ❖ Statistics describing extreme event preparedness and disaster management will be different in each country, depending on which type of extreme events and disasters usually occur or can potentially occur.
- ❖ Statistics detailing existence and strength of the disaster authority's facilities and infrastructure.
- ❖ Extreme event preparedness and disaster management expenditure: refers to any public or private expenditure whose primary purpose is to help inform, educate and protect the population from extreme events and disasters
  - Examples: The set up and maintenance of warning systems, monitoring stations and systems, signals, communication systems, emergency centres and shelters, etc.



## Sub-Component 6.3: Extreme Event Preparedness & Disaster Management

### Topic 6.3.1: Preparedness for natural extreme events and disasters

Includes:

- ❖ Statistics such as existence and description of national disaster plans; the type and number of shelters in place; the type and number of internationally certified emergency and recovery management specialists; the number of volunteers; the quantity of first aid, and emergency supplies and equipment that are stockpiled. The existence of early warning systems for all major hazards, as well as the expenditure on disaster prevention, preparedness, clean-up and rehabilitation.

Data sources:

- ❖ National and sub-national authorities responsible for disaster management and assistance, emergency management agencies and municipalities.
- ❖ Global and regional meteorological forecasting agencies can also provide useful data on the spatial scale and likelihood of a crisis.
- ❖ NSOs can provide population data.
- ❖ Authorities responsible for flood and drainage control can provide flood and drainage control information.
- ❖ Agro-meteorological collaboration: provide joint forecast information (agriculture ministries and meteorological agencies) to complement data from each of their domains.

## Sub-Component 6.3: Extreme Event Preparedness & Disaster Management

### Topic 6.3.2: Preparedness for technological disasters

- ❖ Preparedness for technological disasters can be quite different from that of natural extreme events and disasters.
- ❖ Technological disasters usually arise at an industrial location or on a mode of transportation where it is often the corporate sector which has a vested interest or legal obligation in contributing to preparedness and clean-up.

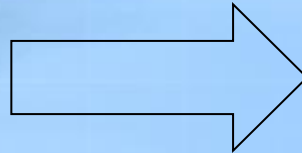
Includes:

- ❖ Information about emergency management plans, as well as the expenditure on disaster preparedness, clean-up and rehabilitation.
- ❖ Measures of corporate disaster preparedness vary according to size of enterprise, its location and historical profile for technological disasters.



# Sub-Component 6.4: Environmental Information & Awareness

**Sub-Component  
6.4  
Environmental  
Information &  
Awareness**



**Topic 6.4.1:**  
Environmental  
information

**Topic 6.4.2:**  
Environmental education

**Topic 6.4.3:**  
Environmental  
perception and  
awareness

**Topic 6.4.4:**  
Environmental  
engagement

# Sub-Component 6.4: Environmental Information & Awareness

## Content:

- ❖ Covers information about diverse processes that contribute to increasing social awareness of environmental issues, thereby promoting pro-environmental engagement and actions by the public and decision-makers at both local and national levels.

## Relevance:

- ❖ Statistics relevant for policy makers, analysts and civil society to understand information and education programmes in their country and refine policies and programmes:
  - i.e.: activities are increasing or decreasing over time? potentially determine impact of information and education on public perception, awareness of environmental issues, and social engagement in pro-environmental actions.
- ❖ Understanding env.perceptions of the public and key local constituencies can also be useful for policy makers when shaping local and national environmental policies and programmes.



## Sub-Component 6.4: Environmental Information & Awareness

### Topic 6.4.1: Environmental information

Content:

- ❖ National env. information systems (e.g. existence of publicly accessible systems and number of users)
- ❖ Env. statistics programmes within national statistical systems (e.g., description of programme, number and type of environment statistics products, interagency platforms or committees).

Env. information includes quantitative, qualitative or geographically referenced facts representing the state of the environment and its changes, as described in FDES

- Quantitative environmental information: generally produced as data, statistics and indicators. Disseminated through databases, spreadsheets, compendia and yearbook type products.
- Qualitative environmental information: consists of descriptions (e.g. textual, pictorial) of the environment or its constituent parts that cannot be adequately represented by accurate quantitative or geographically referenced descriptors.
- Geographically referenced environmental information provides facts on the environment and its components using digital maps, satellite imagery and other sources linked to a location or map feature.



## Sub-Component 6.4: Environmental Information & Awareness

### Topic 6.4.1: Environmental information

#### Relevance:

- ❖ The production and dissemination of environment statistics within national statistical systems enables the production of robust environmental and sustainable development indicators (SDIs) to substantiate reports on the changing environment, and to guide policy making.
- ❖ Determining which institution is responsible for producing which types of information can be helpful in identifying information gaps, areas of overlapping responsibility or efforts, and areas where efficiency gains can be achieved.

#### Institutional partners:

- ❖ The environmental authority and the NSO, and other institutions where databases containing environmental information and reports containing environmental statistics and indicators are produced.

Information: mainly descriptive but can also include quantitative data on budgets. It is usually compiled at the national level.





## Sub-Component 6.4: Environmental Information & Awareness

### Topic 6.4.2: Environmental education

Includes:

- ❖ Specific actions associated with environmental education and the results they achieve in terms of the number of people participating in these programmes.
- ❖ Can include allocation of resources for education, the number and description of the education programmes in schools, and the number of students pursuing environment-related higher education.

Institutional partners:

- ❖ The ministry of education, ministry of environment or equivalent institution, and the NSO, along with other institutions, such as universities and non-profit institutions, where curricula on environmental education are developed and delivered.

Information:

- ❖ Qualitative, can include monetary data (ie.resources spent)
- ❖ Compiled at the national and sub-national levels.
- ❖ Source type: mainly administrative records.



## Sub-Component 6.4: Environmental Information & Awareness

### Topic 6.4.3: Environmental perception and awareness

Includes:

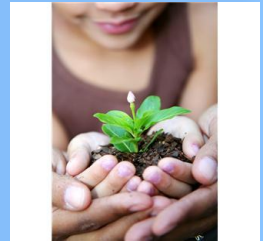
- ❖ General public or a specific group's perceptions and awareness of the environment through the measurement of knowledge, attitudes, values and actions.
- ❖ It also encompasses people's perceptions about governments' environmental policies aimed at addressing pressing environmental concerns.
  - Increasingly, countries and international polling companies have been surveying the public to measure such information across society.

Information: mainly qualitative, compiled at sub-national and national levels.

Data collection is through surveys designed for this purpose.

Relevance:

- ❖ Knowledge about environmental issues influences people's attitudes (predispositions for action/participation in pro-environmental activities).



Institutional Partners:

- ❖ The environmental authority, NSO, and other institutions where environmental perception surveys are carried out (e.g., by local governments or polling companies).



### Topic 6.4.4: Environmental engagement

- ❖ Environmental engagement involves the progression of transforming perception and attitudes into concrete, pro-environmental actions.
- ❖ Includes statistics on the existence of pro-environmental NGOs and their, human and financial resources, as well as on pro-environmental activities and the number of people participating in them.
- ❖ Data about environmental participation and actions are based on either administrative records or are obtained from surveys, and are usually produced at the sub-national level.





**Questions, comments for Component 6?**



# Thank you for your attention!

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

E-mail: [envstats@un.org](mailto:envstats@un.org)

website: <http://unstats.un.org/unsd/ENVIRONMENT/>

