Environment Statistics
Production Process

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Contents have been updated according to current developments in the revision process (August 2012)
Statistical processes: from raw data to statistics

- Statistical processing is needed to transform data and microdata into statistics and indicators, as well as other type of integrated results.

- These operations follow regular statistical standards and procedures that are implemented into the environment statistics domain, in a similar manner as in demographic, social and economic statistics.

- Environment specific sources require different processes of collecting and compiling data and metadata.

- Description of the statistics and indicators in metadata is important to enable comparability through time and register possible differences with international definitions and standards.

- The use of relevant and specific classifications (under development) is necessary in the domain of environment statistics.
Statistic production

Validation

Structure

Metadata (description)

Statistics (Compendia, databases)

Statistics selection & processing

Indicators

Data and microdata
Forest - example

Monitoring: observation of forest extent

Primary Sources
Satellite image
Remote Sensing
Line Ministry (Agriculture, Env)

Processing
NSO + line ministry
Transforms raw data into statistics
Forest Inventory Metadata

Dissemination
Statistic: forest extent (hectares)
Indicator: forest cover (%)
Processing

After collection, further processing of these data and microdata sets are required:

a) **Validation**, interacting with sources and experts

b) **Structuring**, to make sure that the sets of statistics are presented in an organized way using defined criteria

c) Thorough description of each statistic series, using metadata formats such as methodological sheets

d) **Tabulation** and construction of the disseminating tables and possible maps

e) **Dissemination**
Key concepts

- **Data**: Observations, measurements originated through a data collection process.

- **Statistics**: Statistics are sets of data that has been properly validated, structured and described according to statistical standards and procedures.

- **Indicator**: It is a selected, refined and meaningful statistic (or combination of statistics), that is communicated within a context for the final users.
The process of transforming selected data sets into statistics requires a careful integration of the following steps:

a) Careful definition of the types of magnitudes to be captured according to the information needs (type of magnitude, scale, coverage, time and space configuration, etc.).

b) The resulting key environment statistics need to be statistically feasible to be actually produced as statistical series within a country’s statistical system.

c) Assessment of data sources and the quality of potential and current data sets is key.

a) Collection of data according to standard statistical procedures, (i.e. Using Questionnaires or Compiling data from primary sources).
Developing indicators

To produce indicators, the procedure to be followed according to the information needs the following standard procedures:

a) Carefully determining which indicators best serve the information demands (policy, priorities)
b) Selecting the required statistics that are needed to calculate those indicators
c) Processing or combining the statistics to produce the indicators
d) Properly describing each indicator, producing metatada
e) Constructing the dissemination formats using graphs and possible maps
f) Dissemination

Starting from statistics, a careful selection process takes place to produce indicators, sometimes requiring the use and combination with additional statistics such as demographic, economic and social.

Environmental indicators can be produced either from statistics databases or compendia, and also using the information contained in available tables of the SEEA in the countries.