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The Criteria to Use When Determining the Core Set of Environment Statistics

**Khamis Raddad
Ministry of Economy, United Arab Emirates**

A - Main characters of the core set of environment statistics:

In order to allow users to better interpret the environment data and to maximize utility of the available data, the high quality of data is required, so the validation of data prior to provide it to the different users is essential.

1- Relevance

The relevance of environment statistics reflects the degree to which it meets the real needs of users.

The relevance of data is depending on the choice of variables, statistical population, definition, classification, and statistical aggregates. It is standard practice to report about these facts, so the main challenge to the data producers is to meet the demand of different data users, and satisfying them within limited resources.

To achieve this objective it is essential to have a close cooperation between data producers and data users.

Assessing relevance is a subjective matter dependent upon the varying needs of users. So the user satisfactions surveys will help in maximize the utility of data and meet the most important needs of different users within a given resource constraints. The other alternative is measured through feedback from the most important users, so the relevant data that provides information to a level appropriate for making decisions on national policies, strategies and legislation.

2- Measurable and statistically sound

To insure the comparability of environment data among different domains it should be quantitative data, and can be measured using same tools and same standards in different countries. So the environment statistical variables suppose to be measured regularly and consistently over time to enable accurate reporting of trends, and it should be derived from high-quality data using same standards and same methodology.

The environment data and indicators should be meaning full and scientifically accepted, it should express the facts relate to the main concern of the society. The coherence of environment statistical data is important. The use of standard concepts, classifications and target

populations promotes coherence, as does the use of common methodology across surveys.

3- Simple and easily understood

To insure the use of environment data by a wide range of members of the community it should be simple without missing the scientific facts, and easy to understood by a broad audience, and it should be easy to interpret, so it represents clearly an improvement or deterioration in what is being measured.

The interpretability of statistical information reflects the availability of the supplementary information, and metadata necessary to interpret and utilize it appropriately.

The supplementary information normally covers the underlying concepts, variables and classifications used the methodology of data collection and processing, and indications of the accuracy of the statistical information.

4- Cost effective

It is the relationship between monetary inputs and the desired outcome, so the efficient way is to make a balance between costs and benefits of environment data.

Due to the nature of the environment surveys it is considered as one of the most expensive surveys, so it is worth to reduce the cost of data collection and data processing by different ways like make use of existing data and information from other sources (like administration records) where it is possible.

To satisfy the managers of statistical offices to conduct environment statistics, the cost of data Collection and processing should be reasonable compare with other statistical topics, so the expensive studies and complex studies should be postpone.

On the other hand the cost of acquiring data by users should be reasonable and not considered as a constrain of using the data.

5- Internationally comparable

The environment data should be consistent with international standards to enable comparison of the data with other countries, the development of international harmonization of environment data is important to apply analysis of environment data and to enable aggregate of data from country level to regional level.

6- The Timelines

It is defined as a Speed of dissemination of the data - i.e., the lapse of time between the end of a reference period (or a reference date) and dissemination of the data. (Source OECD).

The timeliness refers to the delay between the reference point (or the end of the reference period) to which the information pertains, and the date on which the information becomes available (stat Canada).

The timeliness mainly depends on the institutional arrangements, it is important to make comparison of data for the same reference period.

The reduction of the period between data collection and data dissemination is required, so to maximize use of the environment data it should be up to date.

7- Other quality characteristics like consistency, accessibility, and reliability

- Reliability:

This aspect concerns in the first place the agreement between data and reality. One of the main components used to measure the reliability is uncertainty which is come from various sources of uncertainty mainly it refers to non-sampling errors, so the reliability is very difficult to quantify, as this would require a common measure of uncertainty.

- Accuracy

This is probably the most complicated quality component to assess. Many sub-components have to be addressed and the evaluation of the various types of error often requires a lot of human and financial resources.

It includes both sampling and non sampling errors, with respect to non-sampling errors the wide range of errors included like the measurement errors in some situations it is more significant than sampling errors, the

non-response is the most commonly addressed sub-component. Other non-sampling errors like coverage error, process error, and model error.

- Consistency:

It refers to logical and numerical coherence (OECD).

- Coherence :

Coherence of statistics is their adequacy to be reliably combined in different ways and for various uses.

- Accessibility:

It defined as the ease and the conditions with which statistical information can be obtained, so the accessibility refers to the availability of statistical information to the users. It includes the ease with which the existence of information can be ascertained, as well as the suitability of the form or medium through which the information can be accessed.

This category is purely user-related forms of dissemination; presentation; documentation.

The documentation of the methodology refers to information about the data collection process and assessments of the quality of the output are also essential.

b- Dimensions of the core set of environment statistics:

1- Geographic dimensions

- GIS as a tool for environment statistics.
 - The data disseminations with geographic sites and other means like maps to clarify the data.
 - the map contains different layers and each layer connect with attribute data.

2 - Economic dimension

- Use of economic tools in environment statistics like estimation of opportunity costs and shadow prices of the depletion of resources.
- Use of economic modules to drive the technical coefficients of environment aspects.

3 - Subject matter

Statistician concerned with processing, analysis or dissemination of data within a particular subject area

4 - National and international priority

The environment statistics take into consideration the national priority, so the data should meet the national requirements to protect and improve the environment situation.

The responsibility of main data users with coordination of NSO is to address the topics to be included (as a country priority) prior to prepare the plane for environment statistics.

The international priority should be taken into consideration because all countries share one world and we need to look for environment problems globally.

5 - Topics should be comprehensive and cover both sustainable and performance issues:

The data should cover the all geographical areas; all target population, and the time series without gaps.

Also the data should cover all interested topics, so it supposed to cover assessment statistics (pressure, state, impact, response) and the performance topics like policies.

c- Related with other issues

1 - Integrated with other topics

- The environment statistics is integrated with most of statistical topics, and it will be difficult to generate environment statistics when

the other integrated data is not available like the air emission and fuel consumption, so it is worth to integrate the environment statistics with other statistics.

- Due to the impact of interaction between environment and other activities, the synergy of environment statistics with other related statistics like transportation, energy, agriculture and manufacturing statistics is essential.

2 - Ecosystem approach

Ecosystem" means a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit".

The ecosystem approach deal with the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way. (Source: <http://www.cbd.int/ecosystem/>)

3 - Closely align with international best practice and international Conventions

The environment statistics should apply the 10 Fundamental Principles of Official Statistics approved by UN (at its eighth session, held at Addis Ababa in March 1994).

The environment statistics should take into consideration the international convention and its requirements.

4 - Economic-environmental accounting approach.

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