ESCAP Environment Data Inventory Template

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PURPOSE

National Statistical Offices (NSOs) are increasingly engaged in providing environment statistics for national planning and international benchmarking. While most economic and social statistics are collected by the NSOs themselves, environment statistics are largely collected by other organizations.

To ensure the timely and efficient production of reliable, high quality and objective environment information, statistical production processes[1] need to include these other organizations. Although the main objective of these other organizations is to support their policy and regulatory mandates, many are also producing "official statistics". The Fundamental Principles of Official Statistics[2] stress that "*the fundamental values and principles that govern statistical work have to be guaranteed by legal and institutional frameworks and be respected at all political levels and by all stakeholders in national statistical systems*".

For NSOs to develop their capacities to treat environment data, they need to understand the concepts, sources and methods used across many institutions and disciplines. Conducting an inventory of environment data will help identify key datasets, document their contents, concepts and methods, and set priorities for their integration into official statistical production processes. It will also provide insights into how these statistics could be harmonized to be used for integrated analysis, such as environmental-economic accounting[3] and SDG indicators.

The purpose of this document is to provide a template for systematically describing statistical activities related to the environment[4]. It does so by listing key elements to be described. It is intended to support inventorying environment statistics at the national and sub-national level.

Some statistical activities covered in a national inventory of environment statistics will have been documented elsewhere. This template is not intended to replace such documentation. It is intended to describe the metadata of key activities into one structured collection.

It simplifies the inventorying of the range of datasets and statistical activities (surveys, field monitoring, models, and maps) that are used in environment statistics. Publishing the results of such an inventory will improve the usefulness and increase the scrutiny of the statistical activities documented.

Coordinating such an inventory should not be burdensome. An inventory can be managed as a small survey. Managers of environment statistical activities are generally supportive of providing structured information about their products.

This is a prototype built on the template used for Statistics Canada's *Databases for Environmental Analysis*[5]. Users are welcome to test it and suggest improvements.

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[1] For an overview of the Generic Statistical Business Production Model, see: http://www1.unece.org/stat/platform/display/metis/The+Generic+Statistical+Business+Process+Model

[2] See http://unstats.un.org/unsd/dnss/gp/FP-NEW-e.pdf.

[3] See the System of Environmental-Economic Accounting: http://unstats.un.org/unsd/envaccounting/seea.asp.

[4] The Framework for the Development of Environment Statistics (FDES http://unstats.un.org/unsd/environment/fdes.htm) provides a description of the scope of environment statistics. This can be summarized as: Environment statistics provide information about environmental conditions, the quality and availability of natural resources, and the impacts of human activities and natural events. They also provide information about the social actions and economic measures that societies take to avoid, mitigate or adapt to these impacts. Also included are actions taken to restore and maintain the capacity of the environment to provide services that are essential for life and human well-being.

[5] Statistics Canada, 1998. Databases for Environmental Analysis: Federal, Provincial and Territorial Governments. 16-506-X. Ottawa: Government of Canada.

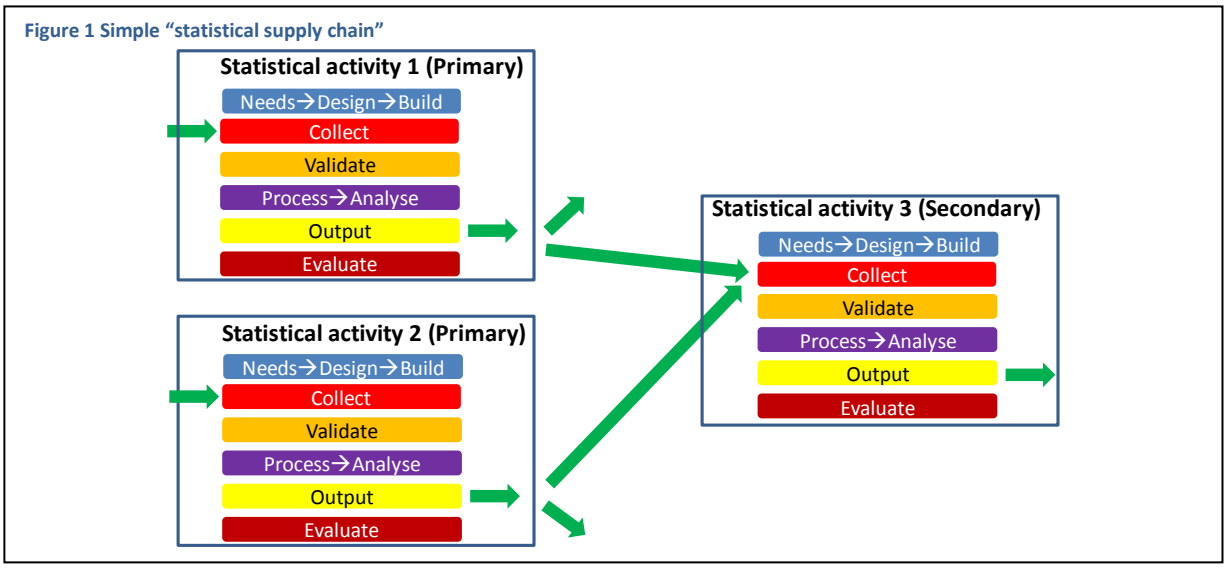
CONCEPTS

GRANULARITY

The most important decision in applying this template is the *level of granularity* of the activity to be described. For economic and social statistics, survey is a common unit of primary data collection (questions), analysis and output (variables). However, several surveys could be integrated into other products, such as an industry production account or an indicators database. Such integrated datasets could be further integrated into higher level analyses. For example, calculating GDP per capita requires inputs from statistical activities that collect population and economic data. These need to be harmonized and integrated before such a calculation can be made.

Rather than burdening the final producer of the GDP per capita dataset with documenting all its sources, it is better to think of a "statistical supply chain" (**Figure 1**). That is, a statistical activity has one set of inputs and one set of outputs. Documenting the details of the inputs should be the responsibility of the manager of the activity that created the inputs. This approach can be used to document statistical activities back to primary data collection.

Figure 1 Simple "statistical supply chain"



LEVEL OF SIGNIFICANCE

The second most important decision is the *level of significance* of the object to be described. The objective of such an inventory should be to document the most significant data sources. Significant statistical activities may be considered ones whose outputs:

- Contribute to the measurement of one of the domains of environment statistics,
- Are used (or could be used) for reporting or policy analysis,
- Are regular and ongoing (however documenting one-time, historical and discontinued activities should also be considered),
- Are national in scope (however, documenting sub-national datasets should also be considered), and
- Are considered an authoritative source of data on the topic.

These conditions are only indicative of the possible scope for an inventory of environment statistics. Countries conducting inventories should be guided as well by their priorities, capacities and contexts.

(COUNTRY) ENVIRONMENT DATA INVENTORY *(YEAR)*

1. DESCRIPTION

The purpose of this inventory is to document relevant environment statistical activities. A *statistical activity* is an original data collection or significant analytical activity (including compilation, modelling and accounting) that collects or transforms environment data. ***If you manage more than one statistical activity, please complete one form for each.***

1.1 Statistical activity name	
1.2 Responsible organization(s)	
1.3 Contact person(s)	
1.3.1 Name	
1.3.2 Position	
1.3.3 e-mail address	

1.4 Does existing metadata for this statistical activity already describe the contents, methods and means of access?

- ☐ Yes. → Please provide the source (Internet addresses, paper copies or electronic files) and return this template to *(inventory contact person)*

  1.4.1 Source of metadata: _____

  → ***Skip to end***

- ☐ No → ***Skip to 1.5***

1.5 Status

- ☐ In development/prototype
- ☐ Active
- ☐ Inactive
- ☐ Other, please specify: _____

1.6 Summary description (500 words or fewer). Please describe the ***nature and purpose*** of the activity. Use a separate page, if necessary:

1.7 Key words (5 phrases or fewer):

1.8 Authorization to publish:

- ☐ Yes, I authorize *(name of organization)* to publish these metadata
- ☐ No

2. SOURCES AND CONTENTS

2.1 Does this statistical activity collect primary data?

- ☐ Yes. → ***Skip to 2.2***
- ☐ No → ***Skip to 2.3***

2.2 Variables measured: Please describe the input variables for this statistical activity. If more than one variable is measured, please describe each on a separate page.

2.2.1 Name of variable	
2.2.2 Acquisition method (e.g., household or business survey, field observations, models, satellite)	
2.2.3 National or international classification(s) used	
2.2 4 Statistical unit of observation (e.g., person, household, business establishment, lake, park)	
2.2.5 Number of observations (number of statistical units)	
2.2.6 Sampling approach (selection of observations from population; stratified, random, selective)	
2.2.7 Units of measure (e.g., $, kg, m^2, ppm)	
2.2.8 Source of statistical standards (concepts, methods, classifications) used	

→ Skip to 3.1

2.3 Secondary data sources: Please describe the secondary data sources used as input to this statistical activity. If more than one data source is used, please describe each.

2.3.1 Name of data source	
2.3.2 Acquisition method (e.g., household or business survey, field observations, models, satellite)	
2.3.3 Variables used	

3. METHODS

Please describe the methods used to transform the input data and to assess its quality. If these are described in other documentation, please summarize.

3.1 Error detection approach (validation)	
3.2 Transformations applied (e.g., interpolation, reclassification, aggregation, estimation, modelling, statistical projection)	
3.3 Data accuracy assessment (sources and magnitude of errors)	

4. OUTPUTS

4.1 Output variables: *Please describe the output variables if they are new or substantially different from the input variables.*

4.1.1 Name of variable	
4.1.2 National or international classification(s) used	
4.1.3 Number of observations (number of statistical units)	
4.1.4 Units of measure (e.g., $, kg, m^2)	
4.1.5 Source of statistical standards (concepts, methods, classifications) used	

4.2 Geographic scope and scale

4.2.1 Geographic scope (coverage, such as national, selected provinces, cities, national parks, species range)	
4.2.2 Geographic scale (resolution, such as national, provincial, district, island, 250m^2, point data)	

4.3 Reference period, frequency and timeliness

4.3.1 Reference period: earliest (date)	
4.3.2 Reference period: latest (date)	
4.3.3 Frequency of output data (e.g., annual, monthly, daily)	
4.3.4 Timeliness (time between reference period and publication) (weeks, months, years)	

5. ACCESS

Please describe how to access the outputs of the statistical activity and sources of documentation.

5.1 Storage formats (e.g., Excel, SAS, ARC/GIS)	
5.2 Computer requirements (hardware, software)	
5.3 Dataset size (in GB or specify units)	
5.4 Access mechanisms (e.g., MOU, for purchase, online, upon request)	
5.5 Other restrictions and conditions (e.g., confidential, internal use only, tabulations upon request)	
5.6 Is the dataset downloadable? (Can the user download an entire dataset or only view selected variables at a time?)	
5.7 Price (if available for purchase)	
5.8 Internet address of metadata (detailed descriptive information). If metadata is not online, please attach paper or electronic documents.	
5.9 Internet address of dataset (if online)	
5.10 Other related documents (analytical outputs, user guides, training materials, quality assessments, scientific publications, news articles, etc.). Please provide Internet addresses, paper copies or electronic files.	
5.11 Language(s) of documents	

THANK YOU FOR YOUR PARTICIPATION

The information you have provided is valuable to improving environment statistics for *(country)*.

EVALUATION OF THE INVENTORY

We hope to improve the inventory in the future. Please tell us why any questions were difficult to understand or to answer.

If you have any suggestions for additional questions, please list them here.