ESA/STATISTICS/AC.228
EGM-FDES/1/26

DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS
STATISTICS DIVISION
UNITED NATIONS

Expert Group Meeting on the Revision of the Framework for the Development of Environment Statistics (FDES)
New York, 8-10 November 2010

The Framework for Developing Environment Statistics in Jamaica

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Introduction

In 1998, the Statistical Institute of Jamaica (STATIN) realised that there was a need for a comprehensive and co-ordinated body of statistical information on the environment which would serve to inform the development of policies and programmes for sustainable development.

Recognising this necessity for a regular collection of environment statistics, STATIN contacted the International Consulting Office (ICO) at Statistics Sweden and a pre-feasibility study funded by the Swedish International Development Agency (Sida) was carried out by ICO in November 1999. In 2000 STATIN, Statistics Sweden and Sida entered into a three-year agreement to produce a programme for developing environment statistics in Jamaica.

Governmental Responsibilities

Before the introduction of the institutionalised collection of environment statistics the ministry with responsibility for the environment had developed a general policy on the environment. The policy sought to meet objectives relating to

- responsible attitudes and behaviour in environmental respects
- the use of non-renewab1e resources in a sustainable way
- good air quality
- water management and water system integrity
- global environmental cooperation and security with special attention to the needs of developing countries
- enhancing the natural beauty of the island in natural areas, built-up areas, roadways, and open spaces on both public and private land
- protecting; and preserving the marine environment
- promoting appropriate environmentally-friendly technology
- promoting socio-economic and technical research relating to the use of natural resources
- promoting improved waste management
- developing renewable energy sources.

Under the environment ministry was the National Environment and Planning Agency (NEPA), previously known as the National Resources and Conservation Agency (NRCA), with responsibility for monitoring the environment. This agency produced reports such as the *Country Environmental Profile* (CEP) in 1987, the *State of the Environment Report* (SoE) in 1995

and 1997; and *Jamaica National Environmental Action Plan* (JaNEAP) first published in 1995 and regularly since then. These reports were intended to present a complete picture of the Jamaican environment: background (CEP), action plan (JaNEAP) and current snapshot (SoE).

Despite the publication of these documents there still was no regular and sustained collection of data relating to the environment.

The Project

In the first phase of the project, existing data sources were identified and the usability and quality of the data examined. In the second phase, a system for producing regular collection of environmental data was devised and organised. In a third phase, additional consultants from Statistics Sweden introduced the staff to the system for producing environmental accounts and environment protection expenditure. Local staff received on-the-job training, and participated in a visit to Statistics Sweden and a course in Uppsala, Sweden.

The Environment Statistics Unit of STATIN was created on 15 March 2000. Two officers in the unit worked with the consultant from Statistics Sweden who was on the first consultancy. This first consultancy was precipitated by the impending participation of two officers in a three-month course on Statistics for Environmental Policy in Munich, Germany in the following April.

The team carried out a pressure-state-response (PSR) analysis on environmental data to be collected or sought. As a complement to the PSR analyses, indicators proposed by the UN Commission for Sustainable Development were checked and a preliminary assessment of the availability of the data needed was carried out. An extensive list of data providers was also prepared along with the data that was available from them.

The main documents used by the officers for the first time in the initial stage of the consultancy were the UN *Framework for the Development of Environment*, *Concepts and Methods of Environment Statistics of the Natural Environment* and C*oncepts and Methods of Environment Statistics – Human Settlements Statistics*.

Pressure-State-Response Analysis

For the PSR, analysis sheets were prepared which listed variables such as required units and classifications (e.g. tonnes, by parish), possible data sources along with any relevant notes. In many instances, the data required were not available and proxy data were used instead.

An example of a PSR sheet for the collection of data on energy statistics is shown below.

Example of a PSR sheet

Statin 9/3/2000			
PSR: ENERGY			
For the analysis of energy, we used the energy balance (1996) for Jamaica appearing in the UN Energy Statistics 1998			
Variable	**Unit, Classification**	**Possible sources**	**Notes**
		Ministry of Mining and Energy	***Who supplies data to the UN statistics?***
Pressure			
Energy sources	TJ classification as in the UN statistics	Imports – STATIN trade data Production; electricity?, biomass?	
Energy converted	TJ	Refineries (PCJ) Electricity producers (JPS)	refining; production of electricity from oil products
Emissions during conversion	Tonnes by type (gases)	Use of models. Raw data about energy converted are needed	Check if CCC report has done this
Energy consumption	TJ by sector	UN data - from where? Survey of household energy cons. - Min. of Mining and Energy (to check)	Further breakdown (more than given in UN data) by economic activities will be useful
Emissions at energy consumption	Tonnes by type (gases)	Use of models. Raw data about energy consumption are needed	Check if CCC report has done this
State			
Air quality	see PSR-Air		
Oil spills	see PSR-Coastal		
Infrastructure for refineries, electricity production	see PSR-Settlements		
Response			
Introduction of unleaded gasoline, octane classes	litres sold by type	PCJ	time series, to show changes
			To check proposals, if any, in the CCC report
(more)			

The PSR covered the following areas:

- Agriculture
- Air pollution
- Coastal and marine resources
- Human settlements
- Land use
- Mining

- Energy
- Flora & fauna
- Forestry
- General responses
- Natural disasters
- Tourism
- Waste
- Water (watersheds, resources, pollution)

On resumption of the project in July 2000 and with an additional officer, activities included

- Meetings with NEPA and other environment data producers
- Research into policy documents from NEPA
- Identification of important data sets and environment issues
- Examination of existing data sources in order to identify those that relate directly to the environment
- Collection of some data
- Data sources within STATIN were checked and noted
- A decision was taken to publish a state of the environment report based on previous publications, but with more statistical data, charts and tables
- Research in publications from other countries as well as in manuals on environment statistics
- In August 2000 the manager of the unit attended the workshop on environment statistics put on by the UN and Caricom, in Belize
- The methodology and system for collecting data was developed, as well as a collection process for new data and computerisation of the data.

The Compendium – Environment Statistics and State of the Environment Report 2001

In deliberations on how the compendium would be constructed, an attempt was made to use the Agenda 21 structure but it was not very clear and the decision was taken to follow the format of the SoE 97, produced by NEPA, with the structure based on environmental issues.

The structure of the compendium was based on issues around which relevant datasets are collected. Each chapter began with an introduction, the issues and an analysis of the tables, maps and graphs.

Using existing data, a draft state of the environment report was completed and a one-day workshop held in March 2001 in order to obtain expert reactions and ideas for development. All agencies that supplied data were invited to the workshop along with representatives from interested organisations, most of which attended. As a result of this workshop, amendments, improvements and modifications were done to the draft document and relations with other interested government and non-government agencies were consolidated.

During the course of preparing the compendium, the officers were introduced to methodology sheets in order to maintain continuity and to standardise collection of data. Below is an example of a methodology sheet.

Example of a blank methodology sheet

Number 2001	
Title	
Type	(table/chart/map/text)
Source	(institution, name of publication)
Source, details	(name of contact person, tel. no., fax, e-mail; page number in publication, etc)
Methods for original data	(if known; may be reference to a published description)
Our modifications	
Additional information in text	(sources, as above, for any comments given in the text)
Chart method	(if applicable)
Quality aspects[1]	
Ideas for future use	
Notes	

Other Activities under the Project

Three officers of the environment statistics unit participated in a two-week study tour of Statistics Sweden in May 2001. The activities of Statistics Sweden's environment division were demonstrated and visits made to several other agencies. Some preparatory discussions were held with the consultant on natural resource accounting.

Educational material based on the 2001 report was prepared; contacts were made with the Ministry of Education to this end. Along with the educational material, a second publication, Jamaica's Environment in your Pocket 2002 was completed.

In April 2002 two members of the environment statistics unit attended a one-month course on *Economic Growth and the Environment* in Uppsala, Sweden.

A five-year developmental plan for environmental statistics was set up at the end of the project to ensure continuity of the programme.

Data Gaps

Numerous gaps in environmental data were observed and the following work was done in an effort to fill some of these gaps.

Environment Protection Expenditure ***(EPE) survey with the assistance of a consultant from Statistics Sweden. The data from this survey was included in the 2003 environment statistics report.***

The 2002 Jamaica Survey of Living Conditions (SLC) contained a module on the environment which included 52 questions on topics such as: conservation of water; recycling; use of toxic substances in the household; awareness of environmental concerns; use of firewood and charcoal; awareness of a national parks and involvement in environmental activity.

Environmental and Economic Accounting – as a first step towards the SEEA STATIN produced a report on resource accounting where mineral accounts were examined. This involved an examination of mineral resources, their extraction and uses.

Indicators of Sustainable Development – a working group identified critical priority environmental and socio-economic issues to be addressed using national policies, MDGs and the outcomes of the World Summit on Sustainable Development and Agenda 21 to narrow a list of general environmental sustainability issues but work on this area has stalled for several years.

In addition, the members of the team created data gaps sheets to assist in collecting additional datasets.

Conclusion

The overall objectives of the environment statistics project were to promote the development of statistics on the environment and make them accessible to the public; to promote policies for sustainable development and to promote the productive and sustainable use of resources.