Session 2:
Lessons Learned from the Country Implementations of the UN FDES

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Outline

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UN-FDES

- **Combination of the stress-response and media approaches.**

- **Designed to be sufficiently flexible to accommodate particular environmental concerns in countries & still providing a basis for international comparison.**

- **Consists of 6 components of the environment (flora, fauna, atmosphere, water, land/soil and human settlements; and 4 information categories (activities, impacts, responses and stocks).**

Structure of the UN-FDES

Components of the environment	Information categories			
	Social and economic activities, natural events	Environmental impacts of activities/events	Responses to environmental impacts	Inventories, stocks and background conditions
1. Flora				
2. Fauna				
3. Atmosphere				
4. Water (a) Freshwater (b) Marine water				
5. Land/soil (a) surface (b) sub-surface				
6. Human settlements				

Examples of countries where the UN-FDES was applied

- **Asian Development Bank RETA project (1995) -** *Bangladesh, India, Indonesia, Malaysia, Nepal, Pakistan, Philippines,* **Samoa, Sri Lanka, Vanuatu and Vietnam**

- **Asian Development Bank RETA project (2000) - Kazakhstan, Kyrgyz Republic, Mongolia, Tajikistan and Uzbekistan**

- **Armenia,** *Australia, Botswana, Côte d'Ivoire, Mauritius, Mexico* **and Zambia**

Asian Development Bank (ADB) (1)

- **Prior to 1995 environment statistics were lacking in many of ADB's developing member countries. There was lack of coordination, not well developed data collection methods, lack of conceptual framework for env. stats. and lack of technical and human resources.**

- **Objectives of RETA 1995 were for countries to:**
  - **set up organizational linkages among different units involved in the collection of environment-related statistics;**
  - **establish their own country-specific Framework for the Development of Environment Statistics (FDES);**
  - **publish a compendium of environment statistics, based on the country-specific FDES, by organizing the environment data that are already available from existing sources.**

- **Activities of RETA included training workshops and country visits.**

Asian Development Bank (ADB) (2)

- **Main Results of RETA project:**
  - All countries produced country-specific FDES and presented their environmental activities according to the 6 components and 4 information categories, although some countries could not include all information categories due to lack of required data.
  - All countries produced compendia of env. statistics. Some countries organized the data in the compendia along the lines of their country-specific FDES, some adopted the media approach, while others adopted the pressure-state-response (PSR) approach.
- **The countries applied the UN-FDES in their countries because of its simplicity, flexibility and adaptability.**
- **RETA (2000) was similarly applied in the 5 Central Asian countries.**

Australia

- Applied the UN-FDES in their Compendium of Environment Statistics.

- Some activities were not adequately covered by the UN-FDES e.g. the issue of presenting changes made by people in response to environmental changes.

- One problem was that a particular set of data could be relevant to a number of different cells in the component/category matrix.

- Adapted the UN-FDES to make the presentation of data more logical as follows: within each component of the environment they discussed stocks first, then activities, then impacts, and finally responses. They also combined flora and fauna into one component due to the lack of data and also because many of the activities that impact these components are the same.

Bangladesh

- **Produced a B-FDES as part of the ADB Project.**
- **Data requirements for policy purpose and env. management were considered in the list of issues identified in the National Environmental Management Action Plan and modifications to the statistical topics were made in accordance with the country's needs.**
- **The UN-FDES provided a detailed list of statistical topics which served as a useful guide.**
- **In the B-FDES (1998) they combined flora and fauna since there were many common information categories. Then they organized the meta-data into 5 environmental components and within each one, according to the 4 information categories.**
- **Organized their Compendium (1997) according to the 5 environmental components but within each component they did not follow the 4 information categories but used a different structure.**

India

- **Produced a FDES as part of the ADB Project.**
- **Produced a Compendium (since 1997) according to 5 environmental components (combined flora and fauna into biodiversity) but within each component they did not follow the 4 information categories but used a different structure.**
- **From 2002 the Compendium has contained the list of environmental indicators that was approved by the UN Statistical Commission in 1995 for international compilation by UNSD.**

Indonesia

- **Started compiling env. stats. in 1982 and published stats. annually since. Until 1993 the structure of the compendia was mainly according to dev. sectors (geography, climate, etc.).**

- **Produced an IFDES as part of the ADB Project (~1995) which was formed by combing the principles of env. management in their Acts, and the procedures to categorize the information based on UN-FDES. Environment under these Acts was divided into 3 components, Social, Natural and Man-made Env. The IFDES was classified into these 3 components.**

- **Env. variables of each component were classified based on the information categories adapted from the UN-FDES. In the IFDES only 3 information categories were used as under the 3 components classification (Social, Natural and Man-made Env.), the 4th information category, stocks, was not relevant.**

- **Produced a compendium (1996) according to the UN-FDES 4 information categories. Within each inf. category they did not follow the 6 env. components but used a different structure.**

Malaysia

- Produced a FDES (1998) as part of the ADB Project.
- Found that the UN-FDES was:
  - a useful guide in preparing the Malaysian FDES as it integrated multifarious socioeconomic information with multifaceted environmental parameters.
  - a useful planning tool as it addressed two major concerns faced by countries – depletion of natural resources and degradation of environmental quality.
- Produced a Compendium (since 1998) organized according to 4 environmental components – air, water, land, human settlements (flora & fauna incorporated into land/terrestrial environment). Within each component they followed the PSR but modified it by putting 'state' first, then 'pressure' and finally 'response'. Within each component they added a section on background conditions before the SPR categories.

Nepal

- **Produced a FDES-NEP (1997) as part of the ADB Project.**
- **They followed the UN-FDES as far as possible depending on the data producing capability and data availability.**
- **Critical data requirements for the next 5-10 years for policy purposes and env. management were considered.**
- **The flexibility of the FDES-NEP permitted modifications in the statistical topics during data collection according to the country's needs, nature and availability of data, statistical capabilities and priority assessment.**
- **Additional indicators/variables were introduced to make their FDES more meaningful and useful for Nepal.**
- **In the FDES-NEP they combined flora and fauna. Then they organized the meta-data into 5 environmental components and within each one, according to the 4 information categories.**

Pakistan

- **Developed a FDES-PAK as part of the ADB Project.**

- **Produced a Compendium (1998) based on the guidelines of UN FDES.**

- **Organized their Compendium according to the 4 information categories, but within each information category they did not follow the 6 environmental components but used a different structure.**

Philippines

- **Produced a PFDES as part of the ADB Project.**
- **PFDES related 7 components of the environment (they added Mineral and Energy Resources) to the four information categories of the UN-FDES.**
- **Combined the PFDES and their Compendium into one publication and presented their data according to the 7 environmental components and within each component they organized their data according to the 4 information categories.**

Botswana (1)

- **The CSO applied the UN-FDES in Botswana. They particularly appreciated the following:**

  - For each topic and associated information categories, the UN-FDES gives a list of variables and an indication of possible classifications and measurement units.

  - The UN-FDES separates the two dimensions of the "state" information category – stocks and impacts – separately, thereby enabling the collection of information that is available – most usually "stocks" – as a starting point because this is the basic type of statistics that can be most easily found in most developing countries.

  - The UN-FDES is essential for progress in NRA - even in the presence of the SEEA. While implementing the FDES it was important to take into account the data needs of the SEEA. Where gaps related to data needs of the SEEA exist, the FDES should be broadened to fill such gaps.

Botswana (2)

- **The presentation of basic facts that enables initiation of work on ES and its flexibility. Variables can be easily substituted for one another because reasons for their inclusion under assigned topics are provided hence making it possible to substitute an appropriate one if in the social or economic settings in which the ES are being compiled are different.**

- **The summary FDES table (Table 2) on Page 5 of *Concepts and Methods of Environment Statistics: Statistics of the Natural Environment* was particularly helpful and was used as the starting point for each topic that was handled for the first time.**

Cote d'Ivoire

- **The INS implemented the FDES-CI as part of a pilot project on environment statistics (1996).**

- **Two publications resulted from the application of the FDES-CI, a report on the situation and a compendium (2006).**

- **When developing the variables used in the FDES-CI the list of environmental indicators adopted by the UN Statistical Commission (1995), as well as the list of indicators of sustainable development approved by the CSD (1996), were also consulted. In addition to the identification of the variables, the FDES-CI was also used to assess the data requirements, and identify the data sources and availability.**

Mauritius

- **Applied the UN-FDES to organized their environment statistics.**

- **A digest (compendium) on environment statistics is published annually. It is divided into 6 chapters, namely: Flora, Fauna, Atmosphere, Water, Land and Human Settlements (the environmental components of the UN-FDES) but within each component they have not followed the 4 information categories but have used their own structure.**

Mexico

- In the 1990s INEGI adopted the UN-FDES to organize env. statistics and indicators.
- After joining OECD in 1995 INEGI adapted their framework to incorporate the PSR approach.
- Preserved the use of the UN-FDES with minor modifications in the media dimension for most of its data compilation work.
- The incorporation of the ecosystem dimension into the revised UN-FDES is without doubt the principal task forward.

Examples of lessons learned

- The UN-FDES provides a detailed list of statistical topics which serves as a useful guide for the identification of relevant statistics and variables.
- The UN-FDES is extremely useful in assisting countries in developing national sets of environmental statistics and indicators.
- The flexibility of the UN-FDES permits modifications in the environmental components, information categories and statistical topics.
- Even if countries use the UN-FDES as the overall approach for the dev. of env. statistics, aspects of other frameworks such as the PSR, can be integrated into, for example, data dissemination through a Compendium.
- Differences between developed and developing countries are so diverse that different topics covered in the UN-FDES are in some places not sufficiently broad to provide for environmental information needs on the topics for most of the countries in sub-Saharan Africa. E.g. topics suggested for consideration: the land resource and forestry. (Botswana)
- There are several gaps in the UN-FDES that need to be considered during its revision, e.g. wildlife, biodiversity, wetlands and ozone (Botswana).

Some conclusions

- **All the countries that have used the UN-FDES confirmed its effectiveness in the development of env. statistics. E.g.:**
  - In Botswana the UN-FDES was very useful in the establishing environment statistics and the revised FDES will continue to be an excellent guidance and tool for countries embarking on environment statistics programmes.
  - In Cote d'Ivoire the UN-FDES proved to be extremely helpful in the establishment of institutions for the coordination and collection of relevant information and in the effective participation of stakeholders, as well as in establishing basic env. statistics and would be recommended for other countries in the ECOWAS region.
  - Staff of the Zambia Env. Agency and NSO were trained at the CSO in Botswana in the compilation of ES using the UN-FDES. They confirmed the effectiveness of the UN-FDES and on return to Zambia produced ES reports.
- **ADB RETA (2000) was applied in 5 Central Asian countries.**
- **The UN-FDES will need to be modified over time to reflect the increasing and changing demands of environment statistics.**