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ENVIRONMENT STATISTICS

Progress report on environment statistics

Report of the Secretary-General

SUMMARY

The present report, submitted to the Commission for information, contains a description of progress in environment statistics since the twenty-first session of the Statistical Commission. It contains an outline of the current work of the Statistical Office on methodology, exchange of information, and implementation and training. The report contains a discussion of the role of the Statistical Office in promoting co-ordination in the programme of environment statistics. There is also an outline of the proposed future steps in the programme of work.

* E/CN.3/1983/1.

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INTRODUCTION

1. At its twenty-first session, the Statistical Commission considered a progress report on environment statistics (E/CN.3/553). The Commission noted with satisfaction the progress that had been achieved, especially on the development of an over-all structure or framework for the organization of environment statistics and the completion of the survey of country practices and plans, thanked the United Nations Environment Programme (UNEP) for providing the necessary initial funding for the project and strongly urged it to continue its financial support in consideration of the high priority of the project. 1/ The Commission requested that the programme of work of the Statistical Office should have the following three major activities or functions:

(a) Methodology. The Statistical Office should continue work on an over-all framework for environment statistics and develop statistics on specific areas of environmental concern through guide-lines on concepts, definitions, classifications and methods of data collection;

(b) Exchange of information. The Statistical Office should keep the directory of environment statistics up to date;

(c) Implementation and training. The Statistical Office should review methodologies and recommendations through regional workshops and national pilot studies and develop a series of training programmes and study tours on environment statistics for national statisticians. 2/

2. The present report contains a review of the work completed and in progress and an outline of some proposed future steps with respect to the environment statistics programme. The particular attention of the Commission is drawn to the publication of the Survey of Environment Statistics: Frameworks, Approaches and Statistical Publications, 3/ the proposed draft framework for the development and organization of environment statistics and the completion of the national pilot studies. The future phases of the programme on environment statistics are elaborated, taking into account the reduction of resources available to the project (see para. 26, below).

I. WORK COMPLETED AND IN PROGRESS

A. Methodology

3. The Survey of Environment Statistics: Frameworks, Approaches and Statistical Publications was published in English only owing to financial constraints. The publication includes a description of the major efforts made by national and

1/ Official Records of the Economic and Social Council, 1981, Supplement No. 2 (E/1981/12), para. 148 (a) and (b).

2/ Ibid., para. 143.

3/ United Nations publication, Sales No. E.82.XVII.4.

international agencies to develop frameworks, related models and approaches, as well as to prepare statistical compendiums of environment statistics. Environmental concerns, data needs and plans for establishing environment statistics in developing countries, as discussed in regional workshops and pilot studies, are also reviewed.

4. The following four prototype models of the development, organization and presentation of environment statistics have been identified in the Survey:

(a) The media approach, which considers the description of the state of environmental components (the media), that is, air, land/soil, water and the man-made environment, as the primary task of environment statistics;

(b) The stress-response approach, which attempts to assess environmental change (response) brought about by human activities exerting stress on the environment;

(c) The ecological approach, which is closely related to the stress-response approach but is focused on ecosystems;

(d) The resource-accounting approach, which is designed to assess stocks and flows of selected natural resources.

Applied statistical systems or frameworks usually represent combinations of two or more of the above prototype approaches.

5. A draft study, entitled "Towards co-ordination of environment data: a draft conceptual framework for the development and organization of environment statistics", was prepared and discussed by a number of experts and at workshops and seminars. It has also been tested in pilot country studies. These efforts confirmed both the need for and feasibility of a general conceptual framework which would facilitate the systematic development and publication of environment statistics at the national and international levels. The keynote of the comments received was that the structure of the framework should be simplified and made adaptable to the differing environmental conditions and priorities in countries. Accordingly, as requested by the Statistical Commission, the study has been considerably revised.

6. The draft proposal for a framework for environment statistics relates environmental problems and concerns, as identified in the surveys, workshops and pilot projects of the Statistical Office, to major categories of environmental information. The categories are based on the sequence of human intervention in and impact on the environment and are similar to categories in the stress-response approach. Besides being a tool for identifying data needs and corresponding statistical parameters, the framework should also be useful as a starting point in the development of statistical definitions, classifications and tabulations. It is planned to address these latter questions in statistical guide-lines in areas of specific environmental concern as part of the steps to be taken in the programme. The draft framework for environment statistics will be reviewed by an expert group during 1982. The revised framework and the report of the expert group will be made available to the members of the Commission during the twenty-second session.

7. Work on specific areas of environment statistics was delayed owing to the priority given to the statistical framework that is to provide the basis for the development of sectoral guide-lines. Of the five technical reports that had been prepared to stimulate discussions at the regional workshops, two, on human settlements and on air pollution, were revised. The material in the technical reports will be incorporated in the statistical guide-lines to be developed in the future steps in the programme of work.

8. An important by-product of the activities of the Statistical Office in the area of environment has been the stimulus to work in related fields. In housing and human settlements, the Compendium of Housing Statistics is being replaced by the Compendium of Human Settlements Statistics and is being considerably expanded in an effort to reflect environmental and related concerns to a greater extent. The first issue of the new publication is to be completed in 1983. It will include basic data for settlement policies and strategies on population and its social and economic characteristics, urban land use, housing, infrastructure, health and pollution.

B. Exchange of information

9. An initial assessment of national practices in environment statistics was submitted to the Statistical Commission in 1979 (see document E/CN.3/521). This preliminary inquiry revealed that national practices differ widely in scope and content. Thus, rather than preparing a descriptive report on the practices, the Statistical Office has established a directory of the different agencies, their activities, mandates and statistical publications. The directory of environment statistics provides a reference tool for the assessment of environment statistics and indicates the links between such statistics and their sources and users. Sections of the directory were sent to countries for review and updating, and the directory is being revised accordingly. An "abstract" (reduced) version of the directory has been prepared and is expected to be published by UNEP in its reference series.

C. Implementation and training

10. A number of regional workshops were held and pilot country projects were carried out during the past two years. The purpose of the workshops was to bring together users and producers of environment statistics in order to identify major environmental concerns in the regions, specify national needs for environment statistics, identify data gaps, discuss the structure and organization of environment statistics and lay the foundation of a continuous programme for countries to develop their statistics, focusing directly on primary national concerns rather than following models in industrialized countries.

11. A regional workshop covering the Pacific region was held at Honolulu, Hawaii, from 20 to 24 October 1980. It was sponsored by the Environment and Policy Institute and attended by country experts and representatives of the East-West Environment and Policy Institute of the University of Hawaii and the UNEP regional office for Asia and the Pacific. Another regional workshop, held at Pattaya, Thailand, from 10 to 16 February 1981, was attended by country experts and representatives of ESCAP, FAO and WHO. The Regional Workshop on Environmental and

Natural Resource Statistics (Africa) was held at Nairobi, Kenya, from 25 to 29 January 1982. It was organized by Data for Development and sponsored by the Canadian International Development Agency and the Commonwealth Fund for Technical Cooperation.

12. Much like the workshops held at Port-of-Spain, Trinidad and Tobago, and Santiago, Chile, in 1980, the three workshops seemed to confirm a similarity in the perception of the scope of environment statistics between developing and industrialized countries, the latter judged by their compendiums of environment statistics. The major environmental concerns identified in the workshops were water supply, sanitation and water pollution; land use, erosion, soil degradation, desertification, energy and mineral resources; air pollution in cities and changes in microclimates; marine ecosystems, bioproductive systems, aquaculture, deforestation, wildlife and renewable energy resources; urbanization, infrastructure, marginal urban and rural settlements, noise, waste disposal, cultural heritage and tourism; and natural disasters.
13. The above topics reflected priority concerns in developing regions. Of course, priorities for specific concerns differed widely within and between regions. Moreover, a few issues, such as desertification, soil degradation and natural disasters, seemed to be given higher priority in developing than in industrialized countries. Common to all workshops was the realization that great amounts of environment statistics and indicators are compiled by different national agencies. Typically, these data showed a considerable overlap with traditional socio-economic statistics, and co-ordination of the various data collection activities was generally advocated.
14. The Honolulu workshop suggested that, after revision and publication of the draft conceptual framework, the preparation of practical manuals, guide-lines and classifications should be undertaken by the Statistical Office. Subsequently, pilot studies and/or technical co-operation projects should be carried out to test these materials and to initiate national activities. The Pattaya workshop stressed the role of the Statistical Office in co-ordinating statistical development activities with all agencies, in close collaboration with the regional commissions. The latter should act as a clearing house for the exchange of information on environment statistics in the region. The Santiago workshop considered the provision of statistical support for the incorporation of the environmental dimension in development management as the major task of environment statistics. The Nairobi workshop advocated the expansion of the traditional role of central statistical offices to include environment and natural resources statistics in their activities.
15. The general conclusions of the regional workshops were largely confirmed by the three pilot projects carried out by the Statistical Office. The projects were designed to assess environmental concerns, data availability and priority data needs within a draft statistical framework, and to test the draft framework as to its capability of organizing the compilation and dissemination of priority data.
16. In 1980, the Central Bureau of Statistics of Kenya set up an environment statistics section in order to implement the pilot project on environment statistics sponsored by the Statistical Office and to establish such statistics in the country. The project was designed to carry out the following three major activities:

(a) The development of a comprehensive framework of environment statistics in Kenya, using and testing the first draft of a framework developed by the Statistical Office;

(b) The application and testing of the technical reports of the Statistical Office as guide-lines for data collection and classification in three selected areas of environmental concern in Kenya;

(c) The updating and completion of information for the directory of environment statistics.

17. Using the proposed framework as a format for analysis and presentation of information, the Bureau assessed the nature, quality, coverage, sources and collection methods of existing data, and determined the relevance of environment statistics for environmental policy. In the process, the major environmental concerns and data gaps in the country were identified. It became evident that major data requirements existed in the areas of water supply, water pollution and its effects on human health, land use, soil degradation and desertification processes, deforestation, impacts of droughts and floods, and marginal settlements. The framework proved to be a valuable tool in assessing data availability and needs in Kenya, although full implementation of the framework could not be achieved in the short period allocated to the project. Another major finding of the project was the large number of organizations, ministries, departments and institutions concerned with the environment and the general lack of co-ordination in their planning processes and policies.

18. As part of the complementary programme of the Statistical Office and the Economic Commission for Latin America (ECLA) on environment statistics for development, a pilot project was initiated in 1981 in the Dominican Republic. An important outcome was the elaboration of a methodological framework from which statistical information of high priority for development planning in Latin American countries could be derived. Such a framework was considered to consist of the existing national environmental policies, national sectoral and regional development strategies, plans, programmes and projects established for the policies and strategies, and national problems and/or critical areas on which environmental assessment, planning and projects should be focused. Some revision of the nomenclature used in the framework might result from a planned test of the draft framework for environment statistics proposed by the Statistical Office. The purpose of the test was to study the compatibility of the framework of the Statistical Office with the planning framework of the Dominican Republic.

19. The major objective of the Pacific islands pilot project was to study, adapt and apply the draft framework proposed by the Statistical Office to the environmental situation and data needs of the Pacific islands. The first phase of the project consisted of generating a list of environmental problems in the Pacific in the framework format. In the second phase, a field test was undertaken in Fiji. A survey of information sources and of data useful for environmental analysis in selected government offices of Fiji was carried out. Reference material on existing data was compiled in a computerized data base in the framework format and evaluated in a way similar to the Kenyan pilot project approach. Through this process, major data requirements were identified in the areas of water quality, soil erosion and the impact of pesticide use and solid waste discharge.

20. The draft framework for environment statistics was found to be an effective conceptual tool in guiding the organization of environment statistics in the setting of the Pacific islands. The framework was considered to provide an opportunity to integrate information derived from economic, environment and social data bases and from the description of natural resources, activities, environmental impacts and policy responses. Additional work is needed to complete the data collection, describe more fully the existing environment data base and improve the management of environment data in Fiji. For this purpose, follow-up activities are envisaged for Fiji including, inter alia, the development of an interministerial environment data and information system.

II. ROLE OF THE STATISTICAL OFFICE IN PROMOTING THE CO-ORDINATION OF ACTIVITIES IN ENVIRONMENT STATISTICS

21. The Statistical Commission, at its twenty-first session, recommended that the role of the Statistical Office as a general co-ordinator should be strengthened. ^{4/} Within the United Nations system, detailed discussions of work programmes and plans in environment statistics have been conducted in order to avoid duplication of efforts and to develop joint programmes in this field.

22. The complementary program on environment statistics in effect between the Statistical Office and ECLA was revised in June 1980, following the Workshop on Environment Statistics held at Santiago and taking into account the transformation of the ECLA Environment Co-ordination Unit into the Development and Environment Unit. The over-all aim of the programme is the development of environment statistics for economic and social development in Latin America as a complementary activity between the global project on environment statistics of the Statistical Office and ECLA activities concerning the integration of the environment dimension in development studies and planning. The two workshops conducted in the ECLA region, at Port-of-Spain and Santiago, proved to be a successful means of including the concerns and priorities in the region in the global work programme of the Statistical Office, and of co-ordinating the respective activities. On behalf of the Statistical Office, ECLA conducted the pilot study to test concepts, methodologies and guide-lines for environment statistics in the Dominican Republic (see para. 18 above).

23. A complementary programme on environment statistics has also been established with ESCAP. It is focused on the development of statistics in the ESCAP region, with particular regard paid to alternative (environmentally sound) styles of development. The activities of ECWA and ECA in relation to environment statistics have not changed significantly since the twenty-first session of the Statistical Commission. Following the Regional Workshop on Environmental and Natural Resource Statistics (Africa), ECA has considered the possibility of establishing a programme in this field.

^{4/} Official Records of the Economic and Social Council, 1981, Supplement No. 2 (E/1981/12), para. 148 (g).

24. The development of environment statistics has been given high priority by ECE, with some programmes being sponsored jointly by the Conference of European Statisticians and the Senior Advisers to ECE Governments on Environmental Problems. The principal areas of activity are the development of statistics and classifications of land use and water quality and use. Close co-ordination has been achieved in respect of these activities. The reports on frameworks prepared by the Statistical Office, have been discussed at ECE meetings. Substantial effort has been invested in adapting the work developed by the Conference of European Statisticians to the wider needs of the global project of the Statistical Office.

25. With regard to the co-ordination of the work of the specialized agencies, no significant changes have occurred since the twenty-first session of the Commission. The Statistical Office has attempted to ensure that work under way in any agency or region should be as widely applicable as possible to other agencies and regions. Representatives of the specialized agencies have participated in the regional workshops on environment statistics, at which their programmes and plans were discussed.

III. FUTURE STEPS TO BE TAKEN IN THE PROGRAMME OF WORK

26. Funding support for the short-term and long-term programme of work on environment statistics of the Statistical Office has changed considerably since the twenty-first session of the Statistical Commission. The current activities on environment statistics have been undertaken with UNEP financial support which, however, might be reduced or discontinued in 1982. A drastic reduction of financial support would seriously affect the continuity of the activities already initiated, especially the practical application of the methodological tools developed so far. In this case, it would not be possible to test the suitability and feasibility of the various elements of the programme in the regions, to organize pilot country studies and to develop a series of training programmes for national statisticians.

27. In the light of the high priority attached to the programme on environment statistics by the Statistical Commission at its twenty-first session, the Statistical Office attempted to compensate for the anticipated loss or reduction of financial support by redeploying existing regular budgetary resources. This action has resulted in maintaining staff resources close to their former level; however, resources for equipment, consultants, meetings and travel have been reduced.

28. Under these circumstances, the Statistical Office will focus largely on the development of international guide-lines on concepts, classifications, tabulations and methods of data collection for core areas of environmental concern, based on a general framework for environment statistics. It is imperative, however, that the methodological tools should be reviewed, tested and applied, especially at the national and regional levels. In a comprehensive evaluation of the joint United Nations/UNEP programme, initiated by UNEP, the regional component was considered to be one of the most relevant and significant parts of the future environment statistics programme, since it is geared towards national statistical offices, especially those of developing countries. Further guidance on the methodological work of the Statistical Office and its future work is expected from an expert group meeting, to be organized by the Statistical Office in 1982 (see para. 6 above).

29. Largely as a result of resource considerations, work on the directory of environment statistics in 1982/83 will be limited to meeting information requests and assessing the use of and need for updating the directory. Judging from the positive response made so far, it may well be that the assessment will indicate the need for a comprehensive update and/or revision of the directory.

30. The short-term programme of work is not expected to include any activities for promoting international data collection and dissemination. However, this aspect of the development of environment statistics will become increasingly important as the work on international methodological guide-lines progresses. It is therefore envisaged that exploration of the feasibility of data collection as a joint effort of the Statistical Office, the regional commissions and interested specialized agencies will begin in 1984.

31. A revised United Nations/UNEP project reflecting the above activities is at present under consideration. It calls for further support from UNEP to enable the Statistical Office to test the suitability and feasibility of the various elements of the programme in the regions, to organize pilot country studies and to develop a series of training programmes for national statisticians. Without further support for the implementation of a joint programme for the development of environment statistics and related data, the momentum built up for environment statistics, especially with regard to the establishment of such statistics at the national level, would be seriously impaired.
