

ACC SUB-COMMITTEE ON STATISTICAL ACTIVITIES
Twenty-fifth session
Vienna, 10-14 June 1991

SA/1991/6
June 1991

PUBLICATION AND DISSEMINATION POLICY
INCLUDING CO-ORDINATION OF STATISTICAL DATA BASES

Report of the Technical Working Group on Statistical Data Bases
Eighth Meeting, Geneva, 27-29 May 1991

I. INTRODUCTION

1. The eighth meeting of the Technical Working Group on Statistical Data Bases was attended by representatives of the United Nations Statistical Office (UNSO), Economic Commission for Europe (ECE), Statistical Office of the European Communities (EUROSTAT), Economic Commission for Africa (ECA), United Nations Conference on Trade and Development (UNCTAD), Economic and Social Commission for Asia and the Pacific (ESCAP), United Nations Educational, Scientific and Cultural Organization (UNESCO), General Agreement on Tariffs and Trade (GATT), Customs Co-operation Council (CCC), Advisory Committee for the Co-operation of Information Systems (ACCIS), Inter-American Development Bank (IDB), United Nations Centre for Human Settlements (UNCHS - HABITAT), United Nations Department of Technical Co-operation for Development (UN/DTCD), International Telecommunication Union (ITU), United Nations Industrial Development Organization (UNIDO), Food and Agriculture Organization (FAO), International Computing Centre (ICC), International Monetary Fund (IMF), World Health Organization (WHO), and the Organisation for Economic Co-operation and Development (OECD).

2. The agenda items were:

1. Current status of statistical data bases:
 - a) Data base management systems
 - b) Standards for user interfaces
 - c) On-line access
 - d) Inter-organizational statistical data base
 - e) Geographical information system
2. Standardization for data transfer:
 - a) Codes
 - b) Data models
 - c) Documentation
 - d) Transfer
 - e) UN/EDIFACT
3. Dissemination of statistical data:
 - a) Technical issues (CD-ROM, publishing techniques, etc.)
 - b) Policies and practices
4. Experiences in statistical data bases in developing countries

II. CURRENT STATUS OF STATISTICAL DATA BASES

A. Data base management systems*Commercial*

3. The meeting noted that all organizations are making progress in their endeavours to implement the use of commercially available data base management systems to develop and maintain their on-line data bases on mainframe mini and microcomputers. While some organizations are upgrading their present environment to meet their new objectives, some others have already made a choice of a new commercial DBMS and are in the process of migrating their data bases to those systems.
4. The situation seems different from last year's when the choice of DBMS was not clear for most of the organizations. Those organizations have now made a choice based upon their need and/or resources as well as their technical environment and have based their DBMS on the international Standard Query Language (SQL)
5. The Working Group concluded that since SQL had been the choice of most of the organizations, those organizations had, in effect, reached a certain level of standardization since now they all can communicate in the same fashion with whatever DBMS they have selected. In order to further that standardization, one would have to look towards tools such as CASE (Computer Aided Software Engineering).
6. The Representative of ECA announced that ECA had recently acquired over 370 PCs and the Statistics Division housing the Regional Statistical Data Base had been provided with around 30 of these microcomputers of varying capacity.
7. The Representative of FAO declared that his organization which already had DATACOM available, decided on the basis that this system was not suitable for statistical needs, to develop and complement the WAICENT system in an environment provided by DEC/VMS and decided to rely on INGRES DBMS version 6.3 with the recently released Knowledge Management System and Objective Management System to provide core functions and development tools.

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8. The Representative of UNSO announced that a study is being conducted in the Electronic Services Division in the United Nations Headquarters in New York to assess the feasibility to install DB2 on the mainframe computer. He added that if this materialized it could give his office a good opportunity to study the feasibility of transferring the UNSIS data base to DB2.
9. The Representative of ECE reported that the first PC version of AXIS (Auxiliary System for Interactive Statistics) announced at the previous session of the Technical Working Group has been completed by Statistics Sweden. This version is focussed mainly on the transfer and distribution of data.
10. The Representative of WHO announced that a variety of independent, specially programmed statistical data base applications had been collected together into the HST Information Centre to provide for a more unified access.
11. The Representative of UNCHS-Habitat reported that the Human Settlements Statistical Data Base (HSDB.stat) version 2.0 has been completed and is presently disseminated worldwide. UNCHS-Habitat has also launched a project on the establishment of a global data base in a large number of cities primarily in developing countries.
12. The Representative of UNESCO noted that, like FAO, they found DATACOM inadequate for statistical applications, and that they had decided to implement dBASE IV, version 1.1 (network) for statistical work on a LAN now being installed. He further noted that the use of SQL under dBase IV would facilitate a migration to a relational DBMS at a later date.
13. The ITU is evaluating four commercial SQL database systems (CADB, INGRES, ORACLE, SY BASE) for UNIX systems.
14. The Representative of ESCAP presented three types of statistical data bases developed in ESCAP using SQL under dBASE IV. He gave some examples of the data bases written in SQL and showed the utility of this approach.

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15. The Representative of CCC stated that his organization had acquired 5 PCs linked together in LAN for setting up a commodity data base based on the Harmonized Commodity Description and Coding System (HS).
16. The Representative of UNIDO reported that DB2 has been chosen for its mainframe DBMS. SQL compatibility with industry standards weighed in this decision. The migration of the statistical time series data base from ADABAS to DB2 is being implemented.
17. For technical assistance projects UNCTAD is relying to a great extent on the C-ISAM package from Relational Database System, Inc. This software is a library of C language functions and therefore can easily be added to applications written in C. Access time is impressive and the number of records that can be stored is practically unlimited. In addition it provides great portability to different hardware environments.

B. Standard for user interfaces

18. Several user interfaces have been mentioned by the participants for accessing statistical data. One participant remarked that the starting point to standardization must be an agreement on relevant definitions of basic terms related to the design of user interfaces.
19. During the discussions, the Representative of WHO declared that the "unspoken" standards relative to the programming of the special function keys of the microcomputers should be respected. One representative reported to him that such standards had been released and that this should provide not only an incentive to the programmers but a good tool to apply those standards. The Representative of UNESCO then declared that this issue did not exist in a MacIntosh environment. It was also pointed out that various windows environments (MOTIF, MS WINDOWS, etc.) will help standardize the user interface.

C. On-line access

20. The participants described their latest results in their attempt to open their data bases to outside users. The Representatives of ECE, UNCTAD, and UNCHS-Habitat talked respectively of their networks: ECE STATNET, ETS via ICC, and WANG VS. Some policy restrictions (or lack of guidelines) were mentioned as a deterrent to progress in that field.
21. One Representative remarked that on-line access to statistical data base may not provide the best way for data transfer and the Representative of FAO declared that he had "given up" trying to access outside on-line data base due to various types of difficulties encountered.
22. The ITU mentioned the Telecom Information Exchange Services (TIES) for making its statistical data bases available on-line to external users. The ITU would be willing to collaborate in making statistical data bases of other organizations available to TIES users. The ITU agreed to draft a document to be disseminated to interested organizations regarding modalities.

D. Inter-organizational statistical data base

23. The Representative of UNSO announced that the core statistics as proposed to the Working Group at the sixth meeting were almost completed. These core statistics contain all the data contained in the 13 editions of the World Statistics in Brief (Statistical Pocketbook). This data base contains about 146 basic statistical series for all the Member States of the United Nations.

24. The Representative of UNSO also indicated that the Inventory of Computerized Statistical Data Bases was included in the above-mentioned core statistics. He also added that this inter-organizational statistical data base used CLIPPER for the DBMS and TURBO C compiled modules as a bridge to LOTUS spreadsheets. The whole system can be sent on diskettes to developing countries to be used as a stand-alone system, and also has the capability to be accessed on-line through the LAN communication servers and AVD line linking the UNSO to the international organizations.

E. Geographical Information System (GIS)

25. The Representative of UNCHS-Habitat underlined the growing demand for GIS applications as part of the overall rising propensity to visual analysis. He reported that UNCHS has completed a project entitled Human Settlements Atlas which links HSDB.stat to the Maphinfo GIS software. The Representatives of ITU and WHO also indicated that their organizations had various applications for generation of data over maps.
26. Due to the importance and the specificity of that subject, the Working Group asked the Representative of WHO to prepare, in collaboration with other participants sharing the same expertise in that field (e.g. ITU, FAO, UNCHS, EUROSTAT), a paper to be presented at the next session of the Technical Working Group.

III. STANDARDIZATION FOR DATA TRANSFER

A. Codes

27. The meeting was informed that the UNSO was in the process of completing the second draft of the revision of the "Standard Country or Area Code for Statistical Use (ST/ESA/STAT/SER M 49/Rev.2) 1982" used in the whole or in part for the dissemination of statistics in machine-readable form. He also added that this publication will become from now on the by-product of a new data base created and maintained in UNSO.

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28. The importance of various codes (e.g. country, classification, units, etc.) for statistical data bases was raised. It was recognized that greater use and documentation of various codes would improve data transfer.

B. Data models

29. The Representative of the ECE reported that a new project, dealing with the design of a statistical meta-information system was included into the programme of work of the Conference of European Statisticians. The development in this field is closely co-ordinated with activities going on within UN/EDIFACT for statistics.
30. The ITU representative mentioned a paper the ITU had prepared which was circulated to the Working Group on the design of statistical data bases. The ITU representative indicated that as the ITU was about to embark on development of its statistical system based on this methodology it would appreciate any comments and feedback.

C. Documentation

31. The Working Group underlined the importance of the documentation for individual levels of the users of the Statistical Data Bases. It underlined mainly the importance of the models dealing with the international exchange of the statistical data.

D. Transfer

32. The Working Group recognized the importance of maintaining a two-way flow of statistical data between the international organizations and national sources.
33. Many participants reported on PC-based systems for transfer of data from international organizations to users. It was noted that such systems should be simple to use, should work on ordinary PCs, should permit data interrogation as well as printing and extraction of information.

E. UN/EDIFACT

34. The Representative of EUROSTAT described the organizational background of UN/EDIFACT and reported on the main objectives and applications of UN/EDIFACT for Statistics.
35. The Working Group considered with great interest the progress of UN/EDIFACT for Statistics and wishes to continue to be regularly informed of the future developments in that field. The Working Group encourages wider participation of international organizations in that future development. The Working Group also wishes to keep this item on the next agenda.

IV. DISSEMINATION OF STATISTICAL DATA

A. Technical Issues (CD-ROM, publishing technologies, etc.)

36. A presentation was made by the Representative of IMF of their prospective CD-ROM publication and a paper entitled Introduction of Statistical Publication: A Case History. The Working Group considered with great interest the progress accomplished in the field of CD-ROM applications. In comparison with the status reported last year it was now agreed that the CD-ROM user and author interfaces are satisfactory. The Working Group underlined the fact that CD-ROM provides the tools not only for data storage but also for accessing the data, extraction of data for further processing and dissemination of the data in a page image form. Some of the participants underlined the usefulness to keep the Working Group informed on new CD-ROM applications in statistics in the future.

B. Policies and practices

37. The Working Group noted that some organizations sell their data at cost; while others had some established prices for United Nations organizations. As for sales to specific user groups outside the United Nations system, some Representatives noted an absence of guidelines. UNCTAD indicated it is disseminating its data extensively through technical assistance projects.
38. The Representative of UNCHS-Habitat suggested that the Working Group initiate a proposal on the issue of copyrights on data and software, to be taken up by the ACC Sub-Committee on Statistical Activities at its next session.

V. EXPERIENCE IN STATISTICAL DATA BASES IN DEVELOPING COUNTRIES

39. The participants noted that over the years many diverse systems have been developed in the developing countries. It was felt that in many cases these efforts did not meet the expectations due to the lack of standards. It was agreed that the agencies should continue the co-ordination in order to support a modular development of national statistical data bases in developing countries. This would avoid duplication of efforts and facilitate development and maintenance of similar systems by the National Statistical Offices.

VI FUTURE WORK

40. The Working Group agreed to recommend to the next session in 1992 to consider the following topics:
1. Current status of statistical data bases:
 - a) Data base management systems
 - b) Standards for user interfaces
 - c) On-line access
 - d) Inter-organizational statistical data base
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2. Standardization for data transfer:
 - a) Codes
 - b) Data models
 - c) Documentation
 - d) Transfer
 - e) UN/EDIFACT
3. Policies, practices and new technology in dissemination of statistical data
4. Statistical data bases in developing countries

41. The Working Group recommended that the next meeting be organized either in Rome or Paris in 1992 depending on the availability of supporting resources.

Have a place to maximize attendance 29
in collaboration with other meetings
EDS, ISIS as in past

VII. OTHER QUESTIONS

42. The Working Group expressed its gratitude to the ECE secretariat for the excellent organization of this meeting.

VIII. ADOPTION OF THE REPORT

43. The Working Group adopted the present report at its last session on 29 May 1991.

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