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CONFERENCE OF EUROPEAN STATISTICIANS**

Twenty-fifth session of the Working Party
on Electronic Data Processing
(Geneva, 18-21 February 1997)

REPORT

Introduction

1. The twenty-fifth session of the Working Party on Electronic Data Processing was held in Geneva from 18 to 21 February 1997. It was attended by participants from Austria, Canada, Finland, Germany, Hungary, Italy, Ireland, Latvia, the Netherlands, Norway, Poland, Slovakia, Slovenia, Spain, Sweden, Switzerland, The former Yugoslav Republic of Macedonia, United Kingdom and United States. The session was attended by a representative of the European Union (Eurostat). The following international organizations and specialized agencies were represented: Organization for Economic Cooperation and Development (OECD), United Nations Population Fund (UNFPA), United Nations International Computing Centre (UN/ICC) and United Nations Statistical Division (UNSD).

2. The opening address was delivered by Mr. T. Griffin, the Director of the UN/ECE Statistical Division.

3. The provisional agenda was adopted.

4. The following substantive topics were discussed at the meeting:

- (a) Impact of new technologies on statistical data processing;
- (b) Use of efficient methods in collection and processing operations;
- (c) New methods in the dissemination of statistical information;
- (d) Assessment of other activities related to statistical information technology.

5. Mr. Mel Turner (Canada) was elected chair and Mr. Kees Metz (the Netherlands) and Mr. Lars Rauch (Sweden) were elected vice-chairs. Ms. Eszter Kertesz (Hungary) was elected rapporteur.

Future work

6. The Working Party was informed of the outcome of the review of the ECE which the Geneva-based ECE Permanent Missions carried out during the past eighteen months. They noted that the Plan of Action that emanated from the review process, among other things, calls upon all Principal Subsidiary Bodies of the ECE to review the status of their subsidiary bodies with a view of transforming the current working parties to ad hoc groups of experts, where feasible. The Working Party noted that in accordance with this decision of the Commission, the Bureau of the Conference of European Statisticians has agreed to recommend to the Conference that it convert its two existing Working Parties into Ad Hoc Expert Groups, subject to the understanding that they would continue to perform the same types of useful functions that they have performed for the Conference until now. In accordance with this decision of the Bureau, the Bureau will recommend that in the future the Working Party on EDP be called the Ad Hoc Expert Group on the Management of Statistical Information Technology.

7. The Working Party recommended that a meeting of the Ad Hoc Expert Group on the Management of Statistical Information Technology be held in 1999. It recommended therefore that the following text be included in the 1998/99 programme of work of the Conference:

2.1. Management of information technology infrastructure

Activities of the ECE

Meeting of the Ad Hoc Expert Group on the Management of Statistical Information Technology (1998/99) to consider:

- (i) The impact of Internet on the statistical production and dissemination process;
- (ii) Economic issues associated with the implementation of modern information technology and management of human resources as driving forces to improve timeliness and quality of statistical data;
- (iii) Integration of statistical activities on the national and international level, including data modelling strategies and standards needed for statistical data integration;
- (iv) The technologies and methods in the implementation of the 2000 round of Censuses.

8. The Working Party emphasized the importance of the problems associated with data confidentiality under the conditions of networking and distributed processing. Common opinion was expressed that international cooperation is needed in order to find solutions to those problems.

9. Statistics Netherlands made a proposal to organize Work Sessions on Data Disclosure Control under the umbrella of the Conference of the European Statisticians. There was general agreement that those activities should be organized in close cooperation with Eurostat. The Working Party recommended to organize the first Joint ECE/Eurostat meeting on Statistical Disclosure Control in November 1997. The agenda and all activities should be prepared by the ECE Secretariat in collaboration with Statistics Netherlands and Eurostat during March 1997.

Main conclusions reached on substantive topics of the agenda

10. The summary of the main conclusions reached by the participants at the Working Party on substantive topics of the agenda is reproduced in the Annex.

ANNEX
Conclusions reached at the Working Party
on the substantive items of the agenda.

A. Impact of new technologies on statistical data processing

Documentation: Reports submitted by Canada, Latvia, Czech Republic, United States, Russian Federation, Poland, Lithuania, Slovenia, Sweden, OECD and UN/ICC. An additional paper was made available during the meeting by The former Yugoslav Republic of Macedonia.

1. The documents under this topic revealed that in order to profit from what information technology (IT) can provide, a statistical agency must be clear about its program objectives and the methods by which it will manage those objectives. Constant attention should be paid to the information content in terms of extent, quality and timeliness. This is primarily driven by client requirements, including those governmental clients that provide the bulk of program funding.

2. The participants pointed out that in the conditions of a rapid technological development the IT management has to set its priorities. Within this context the first requirement for national statistical offices is an effective human resource management. This has wide implications for the organization of work in statistical agencies, recruitment and continuous training, and updating of substantive IT skills for all staff.

3. At the same time, new technologies must be developed to promote data interchange standards and statistical methods standards. This is being achieved through broader data sharing within national statistical offices and with users, wider access to and greater integration and consistency in metadata and metainformation, and much more rapid compilation and dissemination of statistical data.

4. Many participants emphasized that in such conditions management must maintain (i) much larger complexity of equipment inventories, with much greater mobility of staff, equipment and organizational movements; and (ii) much larger and more flexible network and communications architectures and physical infrastructure. Rapidly increasing decentralized "soft" or "hidden" costs in IT applications require management to address much more systematically the need for full cost product accounting and cost control and change management as a basis for real performance achievement.

5. The discussion revealed that management must also take responsibility for problems of its own making. The current attention of many statistical agencies is on continuity problems associated with the end of the millenium (year 2000) which has become critical in many statistical offices. The managerial aspects concerning this issue and also those regarding the introduction of the "Euro" currency should be taken into consideration when planning the development in statistical agencies for the next few years

(e.g. the migration to a new environment which is able to handle a 4-digit year at the same time avoiding discontinuation of time-series and maintaining the registers).

6. The Working Party noted that as communication between National Statistical Offices and International Organizations has increased at many levels, the need for coordination and quality control for inter-agency contacts has become more explicit. The increased use of on-line and automated communication allows less ad hoc and qualitative input from statisticians. EDI can reduce data errors through less human intervention but requires greater attention to standard, coordinated coding systems and procedures.

7. It was pointed out that the IT management should encourage strategic attention being paid to activities that reinforce the effective use of IT. This includes the adoption of standard frameworks and common approaches to information management. Basic IT standards should be based on definitions of functional requirements not on specific hardware or software products or vendors. Functional specifications should emphasize interface capabilities, including Internet support.

8. Some Statistical Offices reported their experiences with implementation of dual networks for security reasons. It was pointed out that very often the internal and external networks are kept separately in order to ensure data security and confidentiality.

B. Use of efficient methods in collection and processing operations

Documentation: Reports submitted by Germany, Croatia, the Netherlands (2) and United States (3). An additional paper was made available during the meeting by Spain.

9. Several presentations concentrated on the different technological solutions for efficient data collection. Some countries demonstrated the efficient use of the OCR technology for this purpose. The Working Party noted that this is an efficient way to enter and process huge amounts of statistical data (e.g. population census data, foreign trade statistics surveys).

10. Many statistical offices reported about the use of electronic data interchange as a technology for statistical data collection. The advantages of EDI are used to lower the administrative burden for the data provider and also to maximize the service towards users of statistical information in general. National statistical offices consider EDI a priority policy issue in for the near future.

11. Automated data collection seems to be an important issue in many statistical agencies. The discussion revealed that organizational consequences should be taken into account, because the statistical process

must be revised, and the organization must undergo changes in order to adapt to the process of automated data collection. It will also require the harmonization of statistical concepts, book-keeping practices etc.

12. The discussion also showed that the Internet can play an important role in statistical data collection in the future. It was pointed out that for this reason it is necessary to establish metadata standards. It was also mentioned that Internet can be used for getting necessary feedback for data maintenance.

13. The Working Party discussed the activities going on in the framework of the Work Sessions on Statistical Data Editing. Many countries appreciated the preparation of the "Statistical Data Editing Methods and Techniques" volumes 1 and 2. There was a general understanding that the work on this kind of value-added methodological materials should continue. Based on discussions with experts, a recommendation was made to work on the preparation of a methodological material concentrating on the evaluation of the data editing process, including cost-benefit aspects.

14. The Working Party appreciated the work that has been done to date by the Work Sessions on Statistical Data Editing, for it is a unique group working on this issue and the exchange of experiences through the Work Sessions is valuable.

15. Participants mentioned some topics that could be of future interest for the Work Sessions on Data Editing, such as graphical editing, the integration of this with automated editing and computer-assisted editing, combined editing of qualitative and numerical data and the use of neural networks. It was recommended to extend the scope of the Work Sessions on Data Editing, in order to cover also the data collection and data quality issues.

C. New methods in the dissemination of statistical information

Documentation: Reports submitted by Canada, Germany, the Netherlands, Norway, Slovakia, Eurostat and UN/ECE Secretariat.

16. The Statistical Offices demonstrated different technological solutions for statistical data dissemination. Common opinion was expressed that one of the most important requirements for data dissemination is the availability of good metadata. For the purposes of clarity, it would be desirable to distinguish between the notions of "metadata" which is intended for an automated process and "meta information" which is intended for human interpretation.

17. Many presentations concentrated on the use of Internet for data dissemination purposes. General agreement was that there is a need for minimum standards for metadata to be put on Internet. These minimum standards should concern the metadata needed for searching statistical data

on Internet, and metadata needed for the interpretation and the assessment of the quality of data. The advantages of using Internet for data dissemination purposes are the increased timeliness, cheap access, reaching wider audience with more data. Some disadvantages were also mentioned, such as the huge amount of information which results in difficulties to find the required data and to access it easily. It was mentioned, however, that communication costs should also be considered.

18. A new technical solution using satellites was demonstrated which guarantees the simultaneous dissemination of market-sensitive economic data to all news media. It was also mentioned that the development of on-line databases that can be accessed by outside users can also be important for this purpose. It was reported that the required hardware and software solutions are already available in many countries.

19. Statistical offices demonstrated an approach called data warehousing. This lies in collecting data from all different data sources in a standardized common database. The aim is to replicate shared data sources in order to combine data from different topics. This requires both - the integration in technical sense and harmonization of statistical concepts. Such a system can be implemented only if adequate metadata is available.

20. Some countries mentioned that marketing of statistical products and pricing policies are additional problems that should be solved to guarantee an efficient dissemination of statistical information. It was pointed out, however, that besides the pricing policies the quality and content of statistical products should be highlighted.

21. Eurostat gave an overview of the progress made in "Statistics, Telematic Networks and EDI" work programme. In this respect, special attention was paid to metadata, particularly to the European Reference Environment, and to standardized EDI messages (EDIFACT and SGML) for transmission of statistical information. Participants also noted progress made by Eurostat in the framework of IDA project, such as DSIS and SERT.

22. Eurostat's approach concentrates on the implementation of individual EDIFACT messages in concrete applications (e.g. STADIUM, CHRONOS, PRODCOM, etc.) and encouraging software houses to bring commercial products to the market. In spite of that, several participants expressed their concerns about the lack of software tools (EDIFACT translators) facilitating the use of standard messages in practice.

23. It was also emphasized that active development work by National Statistical Offices is a necessary precondition for implementation of EDIFACT messages to fulfill the requirements of providing data for international organizations. Some examples of tailor-made EDIFACT translators were mentioned, such as the translator for the Finnish Unified File System and Swedish PC-AXIS. At present none of the international organizations is able to provide a full-scale software solution.

24. The ECE Secretariat presented a prototype of a generic tool, called EDISTAT. The function of this tool is to construct and translate GESMES messages. EDISTAT is aimed at supporting the implementation of the GESMES standard for EDI collection of statistical data in transition countries.

D. Other business

25. The participants suggested disseminating the documents for the next meeting in electronic form as well (e.g. through the WWW site, Internet list-server, and by e-mail).

26. The Secretariat informed the Working Party about preparations for the discussion about the managerial considerations of information technology at the forthcoming plenary session of the Conference of European Statisticians.

E. Adoption of the report

27. The Working Party adopted the report at its closing session.