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CO-ORDINATION AND INTEGRATION OF INTERNATIONAL
STATISTICAL PROGRAMMES

Evaluation of co-ordination in international
statistical programmes

Report of the Secretary-General

SUMMARY

The present report has been prepared in response to a request of the Statistical Commission at its twenty-first session and is a continuation of a series of reports evaluating co-ordination in selected areas of international statistical work. It contains a review of the co-ordinating activities of the international statistical organizations with respect to (a) data collection, (b) system design for machine-readable data bases, (c) the National Household Survey Capability Programme, and (d) standards. Points for discussion by the Commission are included.

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INTRODUCTION

1. The present report contains an evaluation of the co-ordination of work by the international statistical organizations with respect to (a) data collection, (b) system design for machine-readable data bases, (c) the National Household Survey Capability Programme and (d) standards.
2. The report has been prepared in response to a request of the Statistical Commission at its twenty-first session 1/ and is a continuation of a series of reports to the Commission evaluating co-ordination in selected areas of international statistical work (see E/CN.3/528 and E/CN.3/558).

I. DATA COLLECTION

A. Background

3. An earlier report on this matter was submitted to the Commission at its twentieth session (E/CN.3/528, paras. 22-60). The international statistical organizations have continued to co-operate with each other in collecting data from countries. The subject was reviewed by the Statistical Commission's Working Group on International Statistical Programmes and Co-ordination at its eighth and ninth sessions. The Working Group reported its findings to the Commission at its twenty-first session (E/CN.3/536, paras. 49-57) and at its present session (E/CN.3/1983/24, paras. 57-60).
4. The report to the Commission at its twentieth session described a comprehensive system that had been developed for the co-ordination of statistical questionnaires sent to countries with a view to avoiding duplicate requests to Governments (E/CN.3/528, para. 22). The system described (ibid., paras. 23-60) is still in place. Some improvements have been introduced, and a number of ad hoc measures envisaged several years ago have been taken. The present report updates the information previously submitted to the Commission and provides an element of evaluation.
5. A significant part of the system is the use of various questionnaires by several international organizations through the exchange of copies of the completed questionnaires or through the sharing of processed data in the form of computer printouts, tapes etc. Another part of the system is the monitoring and review of the issuance of new statistical questionnaires by international organizations. Copies of proposed questionnaires are distributed within the United Nations family of organizations for review and comment, especially as regards overlapping. A number of ad hoc steps to supplement the system have also been taken. The steps to avoid duplication were devised by the organizations working together in selected subject-matter areas and also by all the international organizations working together through the Sub-Committee on Statistical Activities of the Administrative Committee on Co-ordination (ACC), and under the guidance of the Statistical Commission and its Working Group on International Statistical Programmes and Co-ordination. Co-ordination has been facilitated by means of three tools: (a) an inventory of statistical data collection activities, (b) an inventory of data banks

of economic and social statistics and (c) a Directory of International Statistics. 2/

B. Inventory of statistical data collection activities

6. The inventory of statistical data collection activities serves as a major tool in consultations among the organizations for further refining, where possible, the co-ordination of questionnaires and the processing of data. Updated every two years, the list provides a basis for reviewing progress in this area. The last inventory was prepared in 1981 for review by the Commission's Working Group at its ninth session (E/CN.3/AC.1/R.17). The document summarized the principal changes that had occurred in international statistical data collection activities during the previous two years (additions and deletions) and gave a brief account of instances where statistics were collected from countries on magnetic tape. With reference to co-ordination, it described the exchange of completed questionnaires among the international organizations and the sharing of data otherwise than by the exchange of completed questionnaires. It also presented descriptions of each of the questionnaires and instances of statistics collection through magnetic tapes, information about dispatch and deadline dates and an indication of the addressees for each questionnaire. Expanded coverage was achieved by including information in the inventory from additional organizations, namely the World Bank, the World Intellectual Property Organization and the Economic Commission for Western Asia (ECWA).
7. The Working Group requested that the inventory should be circulated to all central statistical offices as a means of informing them of all the requests made to countries (E/CN.3/536, para. 53, and E/CN.3/1983/24, para. 59). The Working Group felt that the information would help in the co-ordination of responses at the national level and in a review of the information being requested (E/CN.3/1983/24, para. 59). The inventories were circulated, as requested, and their usefulness was confirmed by many central statistical offices.
8. The Working Group determined that the monitoring of new and discontinued questionnaires by means of the inventory was constructive (E/CN.3/536, para. 53). It recognized that significant work had been done to reduce the reporting burden on countries but stated that there was continuing concern in countries about the burden and, therefore, that all statistical inquiries to countries should be carefully evaluated. The Working Group felt that the situation should be improved during the 1980s through the use of improved technology at the national and international levels. The attention to be paid to this matter at future sessions of the Statistical Commission and of the Sub-Committee on Statistical Activities should help to introduce improvements (E/CN.3/1983/24, para. 58).
9. Co-ordination has been expanded to include not only the United Nations system, but also a number of agencies outside the system. The Working Group at its ninth session requested the United Nations Statistical Office to invite the latter organizations, especially the Organisation for Economic Co-operation and Development (OECD), the Statistical Office of the European Communities (EUROSTAT) and the Council for Mutual Economic Assistance (CMEA), to contribute to the next revision of the inventory (E/CN.3/1983/24, para. 60).

10. The report to the Commission at its twentieth session gave several examples of sharing of questionnaires and processed and raw data among the international organizations (E/CN.3/528, paras. 27-48). Some additional arrangements have been entered into and they are listed below: 3/

(a) The United Nations Statistical Office transmits twice a year to the Economic Commission for Latin America (ECLA) copies of completed questionnaires on indexes of industrial production. Copies of completed questionnaires concerning industrial commodity production are sent to the Economic Commission for Africa (ECA), ECLA, and the Economic and Social Commission for Asia and the Pacific (ESCAP). Copies of completed questionnaires for the United Nations Monthly Bulletin of Statistics are sent by ESCAP member countries directly to ESCAP.

(b) The International Monetary Fund (IMF) and OECD have established a joint quarterly reporting system for balance-of-payments data, which replaces both the previous annual reporting system and provisional quarterly questionnaires. The system involves OECD member countries, which complete a single questionnaire and send copies to both IMF and OECD. The IMF and the Arab Monetary Fund (AMF) have established a similar system for AMF member countries.

(c) The Economic Commission for Europe (ECE) and OECD issue and use joint questionnaires on the chemical industry.

(d) ESCAP provides copies of returns to the questionnaire for its Report on Sample Surveys in the ESCAP Region to the United Nations Statistical Office.

(e) The questionnaire of the Food and Agriculture Organization of the United Nations (FAO) for the FAO/WHO/Office international des épizooties (OIE) Animal Health Yearbook and the Questionnaire of the European Commission for the Control of Foot and Mouth Disease are used for the preparation of the Animal Health Yearbook, issued jointly by FAO, WHO and OIE. The FAO Forest Products Questionnaire is not issued to ECE countries, as FAO receives directly from ECE copies of the returns of a similar questionnaire sent by ECE to its member countries. The ECE countries send directly to FAO, and also to the Statistical Office of the European Communities (EUROSTAT), copies of four of the FAO fishery statistics questionnaires. Countries of the European Economic Community (EEC) also send to FAO copies of their returns to a questionnaire issued by EUROSTAT similar to the FAO Questionnaire "FISHSTAT FF".

(f) The United Nations Educational, Scientific and Cultural Organization (UNESCO) sends to OECD copies of returns from OECD countries to the questionnaires on education.

(g) The United Nations Statistical Office supplies tapes containing indexes of industrial production to the United Nations Industrial Development Organization (UNIDO). Selected data on indexes of industrial production for ESCAP countries are provided to ESCAP. Computer printouts developed from the annual National Accounts Questionnaire are sent to FAO and the regional commissions. Selected statistics from replies to the Construction Statistics Questionnaire are provided to ESCAP.

(h) The United Nations Conference on Trade and Development (UNCTAD) provides to the World Bank computer printouts of selected data on metals and minerals and trade indexes.

(i) UNIDO provides preliminary industrial data on computer tapes to ECA.

(j) FAO sends to ECE advance copies of tables showing production, trade and consumption of fertilizers for ECE countries. In addition, FAO provides computer tapes of data on its major annual publications and printouts of data on hides and skins and index numbers of agricultural production to the World Bank.

(k) UNESCO provides to the World Bank computer printouts of data on school enrolment.

(l) The International Civil Aviation Organization (ICAO) sends to the United Nations Statistical Office computer printouts and/or tables with updated information on civil aviation statistics for inclusion in the Monthly Bulletin of Statistics and the Statistical Yearbook.

(m) The World Health Organization (WHO) provides tearsheets of data on health statistics to the World Bank.

(n) The World Bank provides, on computer tapes, data from World Bank Atlas to UNCTAD, OECD and the Asian Development Bank (ADB); data from World Tables to UNCTAD and OECD; and basic debt data and information about terms to the United Nations, UNCTAD, the European Economic Community (EEC) and OECD.

(o) IMF provides, on computer tapes, data from International Financial Statistics (IFS) to FAO; from IFS and Balance of Payments Statistics to UNIDO; from those two data bases and Direction of Trade Statistics to EEC; and from those three data bases and Government Finance Statistics to the United Nations Statistical Office, ECE, ECLA and OECD. The World Bank obtains access to those files through the use of joint computer facilities. Similar computer tapes are provided to a number of other international organizations, including ADB, the Inter-American Development Bank, the Organization of American States and AMF. IMF also provides copies of questionnaires to OECD for use in connection with its Revenue Statistics publication.

11. Ad hoc steps that have supplemented the system included (a) inviting several countries to identify elements of duplication in the statistical questionnaires sent to them by international statistical agencies and (b) sending to the central statistical offices of about 30 countries, including those represented on the Statistical Commission, blank copies of all questionnaires sent to the various ministries of their countries by the United Nations Statistical Office, the International Labour Office (ILO), FAO, WHO and IMF, with a request that they should indicate how receiving questionnaires could assist them (for example, in assessing the possibility of duplication, reviewing the harmonization of the classifications used and improving the co-ordination of questionnaire-filling within the countries).

12. The first step (see para. 11 above) taken by the United Nations Statistical Office in response to a request of the Working Group (E/CN.3/502, para. 58) was to invite seven national statistical services to review the statistical questionnaires sent to them by international statistical agencies. Reviews were conducted by India, Japan, Mexico and Sweden. A number of actions were taken by the Statistical Office and the other international agencies in response to the comments by the countries concerned (E/CN.3/536, para. 54).

13. The second step produced a number of responses which confirmed that the receipt of the blank questionnaires had been useful for the purposes of informing the central statistical offices of the requests being made by the international organizations, assessing the existence of any duplication in requests and co-ordinating the completion of questionnaires within the country (see E/CN.3/536, para. 55).

C. Inventory of data banks of economic and social statistics

14. The inventory of data banks of economic and social statistics and its use in co-ordination was described in a document submitted to the Commission at its twentieth session (E/CN.3/528, paras. 54-57). The current inventory refers to data bases in existence on 1 January 1979.

D. Directory of International Statistics

15. The Directory and its role in co-ordination was described in E/CN.3/528, paras. 58-60. A revised and updated version of the Directory is in preparation, and volume 1 of the revision was issued in 1982. 4/

E. Evaluation of co-ordination

16. Much effort by the international organizations has gone into co-ordinating the gathering and sharing of data. The examples given in paragraphs 10-13 above show the results of those efforts since the twentieth session of the Commission. These are additional to the results achieved before 1979 and reported at the twentieth session.

17. The co-ordination of data collection among the international organizations includes co-ordination with the regional commissions. The particulars given above (para. 10) reflect the active participation of the regional commissions in the exchange and joint use of questionnaires and processed data. In addition, the regional commissions collect a limited amount of data which they provide to the Statistical Office, especially trade statistics.

18. The present monitoring is important in order to ensure that the gains already made are retained and that no unnecessary data collection is initiated. The monitoring activity requires modest resources from all the international organizations, but it is effective. The scope for realizing further gains in

reducing the burden on countries appears to be limited, given the mandates and responsibilities that each organization has received from its governing body. The resources needed for identifying any remaining duplication of reporting, evaluating its dimensions and finding solutions are estimated to be large. Also, some negative side effects would result from the elimination of some remaining duplication; for example, the statistics would be less timely if a data-sharing arrangement were adopted.

19. The international organizations continue to pay attention to the matter of data collection and the burden on countries and will use opportunities to improve the situation where possible. The next major step is likely to come, as the Working Group recognized (see para. 8 above), late in the 1980s as a consequence of the use of new and improved technology in data transmission and communication at the national and international levels.

II. SYSTEM DESIGN FOR MACHINE-READABLE DATA BASES

A. Developments at the national level

20. The development of statistical data bases and data-base management systems for statistical purposes extends back several decades. An early operational example was the Information System of the United States Bureau of Labor Statistics. This was largely a tape-oriented system handling statistical time series. Other offices developed similar systems, for example, the Time Series System of the Australian Bureau of Statistics (and later installed at ESCAP).

21. With the introduction of disk storage, the optimum techniques for the storage and retrieval of data changed to take advantage of direct access. What had existed before were largely file management systems. Data-base management systems, by contrast, use sophisticated pointers, indexes and directories to direct access storage devices. Early examples of successful operational systems created in-house were the ARKDABA system in Sweden and DORIS at the Computing Research Centre at Bratislava, Czechoslovakia. More recently, the GESBAD system was completed in Romania and the RAPID system by Statistics Canada; the latter has been installed in other national offices, for example, those of Spain and Sweden. Perhaps the most ambitious in-house system is LASD (Large-Scale Statistical Data System) of the Australian Bureau of Statistics. Several other offices have attempted to develop whole or partial systems on their own. Although the attempts met with varying degrees of success, few have survived the rapid evolution of the technological environment.

22. In addition to the in-house development of information systems, several offices have installed commercially available data-base management systems. For example, IMS (IBM), DMS-11 (Burroughs), Total, IDMS, Inquire, System 200 and Adabas have been installed at various national offices. Many of these are described in a series of reports submitted to the Working Party on Electronic Data Processing of the Conference of European Statisticians. 5/

B. Developments at the international level

23. Among the international agencies, the earliest in-house operational systems were probably the Data Fund system of IMF and CRONOS of the Statistical Office of the European Communities. These were initially tape-based systems handling time series. An example of a disk-based system is UNSIS (United Nations Statistical Information System) of the Statistical Office.

24. As with national offices, some of the international agencies also use commercial systems; for example, the OECD uses the Burroughs DMS-11 system and ECA uses the Hewlett-Packard IMAGE 3000. The latter is an interesting example of a data-base management system based on a small computer.

C. Results of co-ordination

25. In examining data-base systems, whether national or international, it is difficult to discern common elements. They vary in size from a few thousand to several million records; they differ also as to statistical content, level of aggregation, facilities included, whether or not they contain estimates and projections and so on. Most of all, they differ in technological strategies and file structures (for example, completely or partially converted files, CODASYL-type structures, relational data bases etc.). Since the technology in this field is advancing so rapidly, this kind of variation is not surprising.

26. The exchange of machine-readable data might perhaps be considered the forerunner of co-operation in data-base development. Such exchanges occur among the international organizations (see para. 10 above and E/CN.3/AC.1/R.17, paras. 21-37) and between national statistical offices and international organizations. Certainly, compatibility of machine-readable data would be a prerequisite of such co-operation. Despite some improvements, there is still a considerable lack of standardization.

27. Lack of compatibility takes the time and considerable effort of staff employed, for example, in the collection and management of international trade statistics. A host of special routines have had to be worked out to deal with the various idiosyncracies of tapes generated by different countries. In fact, it can be said that, of tapes provided directly by States, no two are the same. Differences exist in physical recording modes (owing to different hardware), logical structures, formats, codes and classifications.

28. Among groups of countries, there have been moves to develop common file formats in order to facilitate the exchange of data on networks. Of particular interest are the recent plans to connect national statistical offices and the Statistical Office of the European Communities (EUROSTAT) to the EURONET communications network. It is proposed that a working group within EUROSTAT should consider the matter. 6/

29. At the international level, the situation is somewhat better after years of co-operative effort. However, there remains a degree of incompatibility which

leads to the need for re-coding. For example, the international organizations do not have a standard country code.

30. Beyond the simple exchange of machine-readable data, attempts at co-operation in the design of data-base management systems have not been very successful. The best forms of co-operation so far have been the several cases where systems developed by one office have been installed and used in another. Various members of the Conference of European Statisticians have taken the lead in this respect.

31. On the international level, during the late 1970s, there were attempts by IMF and the United Nations Statistical Office to co-operate on the joint design and development of a data-base management system. However, the attempts went no further than agreement on interface record formats and codes. At the sixteenth session of the ACC Sub-Committee on Statistical Activities, held at Vienna, 3-7 May 1982, a technical working group on statistical data bases was formed to undertake the preliminary co-operative activities.

32. Most recently, a very promising co-operative activity began. Under the joint auspices of ECE and the United Nations Development Programme (UNDP), a co-operative Statistical Computing Project (SCP) was started, with the design of data-base management systems a significant aspect. ^{7/} Fifteen countries are participating in SCP, which has four main areas: table generation, data editing, meta-information systems and data-base management systems. The United Nations Statistical Office will keep abreast of the progress of the Project.

33. In general, most of the developments mentioned above, with the exception of the ECE/UNDP Project, have occurred in individual offices, with little prior participation by other offices. However, some offices have managed to install systems created by others. This is evidence that the needs are not very different. In the long term, co-operation and co-ordination could result in increased efficiency. The first steps will be the exchange of experience, adoption of common standards and delineation of common design criteria.

III. NATIONAL HOUSEHOLD SURVEY CAPABILITY PROGRAMME ^{8/}

A. General

34. The National Household Survey Capability Programme (NHSCP) was launched with the principal objective of building up the capabilities of participating countries to carry out co-ordinated household surveys and to generate a continuous flow of integrated statistics required for national development plans, policies and programmes. The Programme emphasizes a systematic approach to the production and analysis of statistical data, continuity in survey operations and integration of information from different surveys, as well as from censuses and administration records. The NHSCP thus serves as a major vehicle for better co-ordination of statistical activities. The Programme was, in fact, a response to a growing dissatisfaction of the developing countries with earlier ad hoc surveys which were not only expensive but of limited use, owing to marked disparities and deficiencies in coverage and design and survey procedures and because they lacked the means to establish linkages between the results of one survey and another. By seeking to

establish a permanent national survey apparatus and developing skills and common instruments, NHSCP provides the means for better co-ordination of survey activities and for making them more responsive to the needs of the participating countries for statistical data.

35. The NHSCP is a major technical co-operation effort of the entire United Nations system. The Programme is co-sponsored and supported by the United Nations, UNDP, the World Bank, the United Nations Children's Fund and the United Nations Fund for Population Activities (UNFPA), and it is carried out with the active participation of the regional commissions and interested specialized agencies, especially ILO, FAO, WHO and UNESCO. The Programme pools and co-ordinates the financial resources and technical skills of a number of national donors, international agencies and other organizations interested in promoting more efficient and effective data systems in the developing countries.

36. Since the establishment of the Programme over two years ago, 35 developing countries have formulated NHSCP project proposals, of which 24 have been approved by the Governments concerned and submitted to interested donor agencies for the provision of external resources. Survey activities are under way in six countries for which funding is either secured or well in sight, while preparatory work will commence in several others where external assistance requirements have been met in part. With the progressive implementation of the Programme in a number of countries, the experience to date in co-ordinating statistical activities is reviewed below.

B. Co-ordination at the country level

37. As already noted, NHSCP concentrates its efforts on building up enduring national infrastructure and skills in order to provide countries with a continuing flow of integrated statistics. All the proposals formulated by countries so far envisage the development of common instruments - a sampling frame, trained staff, a permanent field force, data processing facilities and analytical skills - which can be utilized by all the agencies concerned to generate the variety of data needed in a cost-effective way. In a majority of the countries, development of the survey machinery implies, in large part, the more efficient deployment of what already exists and strengthening it as necessary by additional resources. The survey programmes proposed by countries cover a wide range of topics, including household income and expenditure, employment and labour force, agriculture and food production, household economic activity, housing and other amenities, demographic characteristics, education, health, nutrition and other aspects of social conditions. The survey design ensures the generation of interconnected data on a recurrent basis concerning the various demographic, social and economic phenomena. Integration is secured through the use of common samples of households and common sets of core items repeated in successive rounds of surveys, as well as through compatible concepts, definitions and methods of data collection and tabulation.

38. The choice of subjects for surveys, their sequence and the frequency of different kinds of surveys have been determined in each country, after detailed consultations between the national statistical office and the major data users, and the Programme lays emphasis on the closest collaboration between the national

producers and users of statistics at all stages of survey activity. All the countries joining the Programme have either set up or plan to set up high-level committees of producers and users of statistics to oversee the survey activities and to ensure full co-ordination.

39. A number of countries have viewed NHSCP not merely as an instrument for initiating new survey activity, but as a means of co-ordinating several continuing activities. For example, in Malawi, Sri Lanka and Yemen, the household survey programme forms an integral and important component of the overall statistical development programmes covering censuses, establishment surveys and other means of data collection and analysis. A number of countries (Ethiopia, Kenya, Lesotho, Malawi and Mali) propose to integrate the annual crop surveys of area and production with the household survey programme and thereby extend the scope of data collection by means of modest additions to the existing resources. All countries plan to establish up-to-date sampling frames with supporting cartographic work and well-equipped data processing facilities with adequate software capabilities, which will not only serve the purposes of the survey programme but also those of other statistical activities. Here again, the main emphasis is on pooling all available resources and upgrading the facilities in order to meet the total needs of data collection and analysis.

40. In short, NHSCP has provided an excellent opportunity to the participating countries to make a thorough appraisal of their current statistical activities in relation to their data needs and to formulate, with the assistance of the United Nations system, an efficient and cost-effective programme of integrated data collection, analysis and use through the optimum utilization of national resources. Through NHSCP, countries have a framework for close collaboration between producers and users of statistics so that the surveys can respond to the individual national needs and priorities.

C. Co-ordination at the international level

41. At the international level, NHSCP has been able to work out institutional arrangements and procedures in order to ensure full co-ordination of the activities of the United Nations agencies in household surveys and to take maximum advantage of the existing resources of United Nations Headquarters, the regional commissions and the specialized agencies. The institutional arrangements include the establishment of a small Central Co-ordinating Unit (CCU) in the United Nations Statistical Office, the placement of household survey experts in the statistical divisions of the regional commissions (ESCAP, ECLA, ECA and ECWA), arrangements for participation of the specialized agencies in the development of NHSCP projects and the establishment of formal and informal mechanisms for consultation with a number of United Nations entities, including the Department of Technical Co-operation for Development, UNDP, UNFPA and UNICEF, as well as with the World Bank.

42. The NHSCP is cost-effective at the international level as it draws on, and renders more effective, the resources at United Nations Headquarters and the regional commissions. CCU receives considerable substantive support from the United Nations Statistical Office. The Programme is promoted, managed and

co-ordinated by the Department of Technical Co-operation for Development through CCU, whose budget is provided by UNDP, UNFPA and UNICEF. Similarly, the regional advisory services are rendered more effective by being placed in the statistical divisions of the regional commissions, which play a prominent part in the development and execution of the Programme in their respective regions. The regional advisory services are funded mainly by UNDP, UNFPA and ILO, with some bilateral contributions. ILO made available four advisory posts as an integral part of the NHSCP regional advisory teams, one each in ESCAP, ECLA, ECA and ECWA. FAO modified the functions of its regional advisers so as to enable them to assist as much as possible in project formulation and implementation. It also assigned a household survey expert at its headquarters in Rome to work full time with CCU. FAO has supported the integration of agricultural surveys into NHSCP country survey programmes, and ILO, FAO and UNICEF have participated in a number of NHSCP joint project formulation missions. Various approaches to measuring health-related components in continuing survey programmes are being worked out jointly with WHO. UNESCO and UNIDO have likewise expressed strong interest in collaborating in their areas of specialization.

43. The NHSCP provides an effective means to co-ordinate and pool resources provided to countries by bilateral and multilateral donor agencies for survey activities in the pursuit of common objectives. Aside from the resulting economies, such co-operation and pooling of resources are particularly appropriate in statistical development, which not only benefits the recipient country but the entire donor community as well, by making available interrelated information about various aspects of the society. Donors are asked to finance the external component of survey programmes, which consists mainly of training, technical advice, equipment and some local costs. Arrangements have been made for regular communication with, and transmittal of project proposals and other materials to the donor agencies. The funding of external costs varies from country to country. In some countries, the entire external component of the project cost may be paid for by a single donor, but more often projects are likely to be financed by several donors. With the progressive implementation of country survey programmes, the arrangements for the delivery and monitoring of assistance from a number of donor agencies can be complex and need to be worked out in the light of experience on a case-by-case basis.

IV. STANDARDS

A. General

44. The present section concentrates on the co-ordination of work on standards in a number of fields which the Commission identified at its twenty-first session as being of special concern. ^{9/} They are (a) economic classifications (particularly the classification of activities and goods in production and international trade), and (b) standards in energy and environment, trade and the balance of payments and public sector and monetary statistics.

B. Economic classifications

45. The United Nations Statistical Office and other interested international organizations are engaged in a programme of work aimed at co-ordinating international economic classifications, particularly in the fields of activities and goods in production and international trade. The present subsection concentrates on the work on economic classifications, although the co-ordination of social and demographic classifications is also of overall concern.
46. At its twenty-first session, the Statistical Commission requested that a progress report on the harmonization of economic classifications should be submitted at the twenty-second session including (a) an outline of the status of the revision of the International Standard Industrial Classification of all Economic Activities (ISIC) and its co-ordination with the Standard International Trade Classification (SITC), and (b) the co-ordination of the United Nations classifications of activities and goods and those of other organizations. 10/ The report (E/CN.3/1983/15) has been submitted to the Commission at its present session.
47. The Commission also requested a draft of the third revision of SITC. 11/ The draft (E/CN.3/1983/12) has been submitted to the Commission at its present session.
48. The programme of work aimed at co-ordinating international economic classifications was approved by the Statistical Commission at its nineteenth session, 12/ and at its twentieth and twenty-first sessions the Commission strongly supported continuation of the work. 13/ In 1974, after general agreement in a number of international forums on the need for this work, the United Nations Statistical Office had convened an Expert Group on Harmonization of Statistical Classifications, which met at United Nations Headquarters. The Commission's action at its nineteenth session was based on the Group's report 14/ and on comments received from national statistical offices and international organizations within and outside the United Nations system.
49. The long-term objective of the work is the development of a combined trade/production goods classification and associated classifications for non-transportable goods and for services. An important purpose of the proposed trade/production classification is to reinforce the role of the national accounts and balances as an instrument for the co-ordination of economic statistics. These classifications would be directly linked to ISIC and, if possible, to other widely used activity classifications; they would define goods and services in so far as possible according to the three basic categories of economic use as specified in A System of National Accounts (SNA), 15/ namely, capital formation, intermediate consumption and household consumption. The trade/production classification was to use the detailed subheadings of the Harmonized Commodity Description and Coding System (HS) 16/ of the Customs Co-operation Council as building blocks. These classifications would then form an Integrated System of Classifications of Activities and Products (SINAP). In order that SINAP should be efficient, it was considered essential to adapt the underlying structures (particularly ISIC and HS). This would require changes in ISIC and the introduction of dissections in HS to reflect industrial origin.

50. The European Communities have indicated that they propose to co-ordinate the revision of their General Industrial Classification of Economic Activities within the European Communities (NACE) 17/ with the revision of ISIC. It is hoped that there can also be co-ordination with the revision of the Classification of the Branches of National Economy of the CMEA Member Countries (CBNE). 18/ If this co-ordination is achieved, it will relieve national statistical offices and international organizations of the problem of converting data from one to the other of these classifications.

51. The work has proceeded with the advice and guidance of a consultative panel which has met, with material assistance from the Statistical Office of the European Communities, on three occasions so far. A fourth session is proposed for 1983. It is known as the United Nations Statistical Office/Statistical Office of the European Communities Joint Working Group on World Level Classifications. Its members are experts from countries at various stages of economic development and with various types of economic systems, from all regions of the world, as well as experts from the regional commissions and international organizations. A consultant was employed to study means of introducing co-ordination between SITC, at an aggregated level, and the proposed revised ISIC and the proposed trade/production classification, and comments were obtained on this matter from the Expert Group Meeting on the Third Revision of the Standard International Trade Classification, which met at United Nations Headquarters in March 1982.

52. The technical aspects of what has been achieved and what is under consideration with a view to harmonization are explained in detail in the "Progress report on the harmonization of international economic classifications" (E/CN.3/1983/15), which has been submitted to the Commission at its present session. Some of the basic issues to be considered in connection with co-ordination are mentioned below.

53. As regards the harmonization of ISIC and NACE, while the principle appears to be broadly acceptable, the view has been expressed that the different treatment of activities concerned with energy-generating products presents problems for both compilers and users of statistics, and this matter will be examined carefully during the revision of those classifications. Another point receiving attention is that allowance should be made in ISIC for the special conditions in developing countries, especially the distinction to be drawn, within an industry, between establishments employing traditional methods and those employing modern methods.

54. As regards classifications of production and international trade, an issue is the level of SITC at which there could be harmonization with ISIC and the trade/production classification, in the light of the various user needs for international trade statistics and the need to provide for the future compilation of international trade statistics according to the trade/production classification.

55. The timing of changes is also a critical issue. The extent to which harmonization can be achieved in the third revision of SITC is limited by timing considerations, since the development of the SINAP elements relating to transportable goods will not have been completed and subjected to all the normal processes of agreement, culminating in approval by the Statistical Commission, in

time for use in finalizing SITC, Rev.3, which is scheduled to become effective on 1 January 1985. However, the view has been expressed that there could be a delay in the application of SITC, Rev.3, resulting from a delay until 1986 or 1987 in the application by countries of amendments to the Nomenclature for the Classification of Goods in Customs Tariffs (CCCN) 19/ and HS - to which SITC, Rev.3, is correlated - because of delays in obtaining parliamentary approval for customs tariff changes and in negotiating duty rates under the General Agreement on Tariffs and Trade (GATT). This lag could allow time for additional work on the revision of SITC to take account of further work on the development of SINAP, with the aim of having a further draft of SITC, Rev.3, available for consideration by the Commission at its twenty-third session, as well as a draft revised ISIC.

56. There is general agreement in the statistical community throughout the world on the desirability of co-ordinating classifications. It is also agreed that the benefits will be substantial if co-ordination can be achieved. So far, the work aimed at harmonizing international economic classifications, particularly for activities and goods, has involved costs relating to work done in the United Nations Statistical Office and the Statistical Office of the European Communities, and to the work of experts in the regional commissions, other international organizations and national statistical offices, as well as to the meetings of the Working Group on World Level Classifications, material assistance for which has been provided by the Statistical Office of the European Communities. Owing to limitations of resources, the work has not proceeded as fast as might be desired, but achievements, nevertheless, have been substantial: a sound foundation has been laid for the development of an integrated system of classifications of activities and products. Further work is needed, and it is expected that some of the results may be available for consideration by the Commission at its twenty-third session, particularly a draft revised ISIC taking account of harmonization requirements.

57. Throughout the work, there has been co-ordination with the regional commissions and interested international organizations. In particular, they have been kept informed of progress and have been invited to send experts to sessions of the Working Group on World Level Classifications and to participate in the work. The results of the work are, therefore, expected to meet the needs of the regional commissions and the international organizations as far as possible.

C. Energy and environment statistics

58. A report on concepts, methods and recommendations for energy statistics was revised to take into account the comments of an expert group which had met at United Nations Headquarters in 1978 and to incorporate recent information about renewable sources of energy, animal and human energy and energy balances for developing countries, which had been recommended at recent workshops on energy statistics organized by ESCAP. The report reviews national and international practices in the matter of energy statistics in the light of the significant shifts of emphasis from production to consumption since 1973.

59. To facilitate the harmonization of data collection and the dissemination of energy information, the Statistical Office participated in recent ESCAP workshops

on energy statistics, continued to hold consultations with the Statistical Division of ECE, maintained close co-operation with the United Nations Committee on Natural Resources and membership in the joint energy task force established in the Department of International Economic and Social Affairs in November 1979. The ESCAP workshops aimed to improve understanding with regard to the collection, reporting and interpretation of energy data of developing countries, as well as the statistical treatment of selected traditional and newer non-conventional forms of energy. Consultations with the Statistical Division of the ECE concerned the harmonization of the definitions and conventions used in overall energy balances. The Office co-operated with the secretariat of the United Nations Conference on New and Renewable Sources of Energy with respect to the possible development of new types of energy statistics. For further details, see E/CN.3/1983/11, which has been submitted to the Commission at its present session.

60. Work on the development of environment statistics has been carried out with the support of the United Nations Environment Programme and in consultation with the regional commissions, specialized agencies and other intergovernmental organizations.

61. Because statistics relating to the environment cover diverse sectors, a mechanism for the collection of environment statistics must integrate data from many disciplines and sources. Some statistics on the environment can be derived from statistics assembled for other purposes. Consequently, a co-ordinating framework has been set up within which existing statistical activities can be integrated into the global programme of the United Nations Statistical Office. The development of new types of statistics to fill the obvious lacunae in traditional statistics in relation to the environment has to be phased in with the current work of other organizations. The specialized agencies have their own mandates, and each agency can provide information about its particular environmental subject. The regional commissions have responsibilities of a regional nature. These circumstances and problems of co-ordination are taken into account in the implementation of the programme of work of the Statistical Office. The concern for co-ordination is reflected in a draft study entitled "Towards co-ordination of environmental data: a draft conceptual framework for the development and organization of environment statistics".

62. Other activities related to co-ordination are described below:

(a) In the area of methodology, a report 20/ providing a description of the major efforts of national and international agencies in constructing frameworks and related models and approaches was issued. Circulation of this information world-wide should promote a further exchange of information as a basis for co-ordination.

(b) To stimulate and guide discussions in regional workshops, five technical reports were drafted on human settlements, natural resources, land, energy and pollution. The reports, together with additional material compiled for each topic, will form the basis for international recommendations or guide-lines for the collection, tabulation and dissemination of priority series of environment statistics.

(c) A directory of environment statistics has been established to provide a reference tool for the assessment of environment statistics and to indicate any links between those statistics and their sources and users. The directory should enhance the exchange of information among national and international statistical agencies.

(d) In the interest of implementation and training, a number of regional workshops on statistics relating to the environment and natural resources have been held. The workshops, in which users and producers of environment statistics participated, stressed inter alia the need for methodological co-ordination and indicated how such co-ordination might be achieved.

(e) The Statistical Office has worked closely with ECE, ESCAP, ECLA, ECA, ECWA and the specialized agencies on the environment statistics, through the exchange of data, discussions at workshops and other meetings.

63. For further details of the above activities and other work in environment statistics, including work on standards, see E/CN.3/1983/19, which has been submitted to the Commission at its present session.

64. At this early stage of environment statistics, the development and co-ordination of standards are still preliminary. However, co-ordination in the development of standards is being given the highest priority and is an integral part of the method of work adopted. In the course of the work on environment and energy statistics, the draft technical report on energy which was prepared for use in the regional environment workshops will be finalized in close consultation with the staff dealing with international energy statistics in order to ensure co-ordination and consistency.

D. Trade and balance-of-payments statistics

65. In an effort to co-ordinate the recommendations on external transactions in the System of National Accounts (SNA) with the standards of the IMF Balance of Payments Manual (BPM), a report entitled "Review of the treatment of external transactions in the United Nations System of National Accounts" was prepared by a consultant to the United Nations Statistical Office. Part A contains a discussion of sources and methods and serves as a draft of a volume of the forthcoming Handbook of National Accounting. Part B contains a discussion of various problems that arise in co-ordination efforts designed to harmonize the national accounts and the balance of payments; it identifies sources of differences and presents alternatives for achieving greater harmony.

66. The report was considered briefly by the Expert Group Meeting on Future Directions for Work on the United Nations System of National Accounts, which met at United Nations Headquarters in 1980. The Statistical Commission, at its twenty-first session recommended that another expert group should consider the outstanding questions raised in Part B of the report. 21/ The IMF expressed full support for the objective of reconciliation and indicated that it had prepared a reconciliation of SNA and BPM with the advice of the Statistical Office.

67. The consultant's report was circulated to national statistical offices and international organizations for comment. Replies were received from 15 countries and international organizations, and they were summarized by the Statistical Office. The summary and alternative IMF recommendations for the reconciliation of SNA and BPM were submitted to the Expert Group Meeting on the Review and Development of the United Nations System of National Accounts (SNA), which met at United Nations Headquarters in March 1982. Issues concerning external transactions were also considered by the Working Party on National Accounts and Balances of the Conference of European Statisticians, which met at Geneva in June 1982. For the conclusions of the Expert Group and the Working Party, see E/CN.3/1983/5, which has been submitted to the Commission at its present session.

E. Public sector and monetary statistics

68. Efforts to co-ordinate work on public sector statistics have, in the past decade, concentrated on bringing together, as much as possible, the public sector statistics of the United Nations Statistical Office and the government finance statistics of IMF. Numerous efforts at both harmonization and reconciliation have served to identify areas in which there are similarities in conceptual approach and classification and other areas in which differences still remain. A good deal of work has been done in pinpointing both the similarities and the differences, and this has served an important purpose in co-ordinating the work on public sector statistics.

69. The distinction between harmonization and reconciliation is an important one to keep in mind in reviewing past efforts at co-ordination. Early efforts in co-ordinating the work on public sector statistics were aimed at achieving harmonization between the IMF Manual on Government Finance Statistics (GFS) and the public sector concepts and classifications in SNA. Harmonization, in this context, might be defined as an alignment of concepts and classifications in order to arrive at equivalent standards.

70. After repeated efforts at harmonization had failed, the emphasis in co-ordination shifted to reconciliation. The process of reconciliation leaves the concepts and classifications of GFS and SNA untouched but defines each system in terms of the other. The reconciliation efforts have proved to be more successful than the earlier attempts at harmonization.

71. The efforts towards reconciliation have led to the preparation of various bridge tables, setting forth specific reconciliation schemes. Bridge tables have been prepared by both IMF and the United Nations Statistical Office; they have been reviewed and modified by each organization in consultation with the other.

72. The present co-ordinating activity is closely bound up with the forthcoming publication of volume 4 (public sector statistics) of the Handbook of National Accounting and of a revised GFS. Each publication will include the latest version of a bridge table designed to link the two systems. An approximate bridge table for data reconciliation, designed to present IMF data in an approximate SNA format, will be published in the next issue of the United Nations Statistical Yearbook.

The Statistical Office plans to publish the first issue of a Yearbook of Government Sector Statistics in 1983.

73. Little progress has been made in the co-ordination of monetary statistics by the Statistical Office and IMF. Volume 5 of the Handbook of National Accounting is to incorporate methodological information on capital finance, flow of funds, changes in assets and liabilities, balance sheets and related areas. A preliminary draft has been prepared on the sources and methods available for compiling the SNA table on the general government capital finance account. Its coverage will be expanded in the future. IMF has completed draft guide-lines covering the monetary statistics published in its International Finance Statistics.

V. CONCLUSION

74. The progress made in the co-ordination of the various activities described in the present report is quite varied. The co-ordination of data collection has been receiving high priority for many years and the level of co-ordination is high, reflecting the stage of maturity of this activity in the international statistical system. The co-ordination of system design for machine-readable data bases is not far advanced. Organizations have largely chosen their own approaches to meet their own needs and reflecting the hardware at their disposal. Ad hoc arrangements and procedures are created for the now quite significant international exchange of data in machine-readable form. It is recognized that much effort should be made in this field and that significant benefits would accrue. Specific steps have recently been initiated through the ACC Sub-Committee on Statistical Activities. The NHSCP has been very effective in promoting the co-ordination of statistical activities at both the national and international levels. This is an excellent example of how effective co-ordination can be if it is given full attention at the beginning of a project and if it is a built-in element of the international working arrangements. The impact of NHSCP on promoting co-ordination at the national level through the initiation of integrated, co-ordinated data collection, analysis and use has been significant. The co-ordination of standards in the fields covered by the present report is lagging behind. However, the substantive work is proceeding in the international organizations where there is awareness of the differences that exist, and efforts are being made to resolve or bridge the differences.

VI. POINTS FOR DISCUSSION

75. The Commission may wish to:

(a) Comment on the approaches to co-ordination followed in the fields covered by the present report and on the results achieved; and

(b) Select additional areas for the evaluation of co-ordination activities by the Commission at its twenty-third session.

Notes

1/ Official Records of the Economic and Social Council, 1981, Supplement No. 2 (E/1981/12), paras. 212-213.

2/ United Nations publications, Sales Nos. E.75.XVII.11 and E.81.XVII.6.

3/ For further details, see E/CN.3/AC.1/R.17, paras. 7-41.

4/ United Nations publication, Sales No. E.81.XVII.6.

5/ "National reports on the use of generalized programs for statistical data processing" (CES/WP.9/176 and Addenda 1-8).

6/ See "Proposals from SOEC", submitted to the Working Group on Content and Dissemination of Statistical Data-banks, Luxembourg, 25-26 March 1982 (EUROSTAT/C4/7433/82-EN).

7/ "Progress report on the activities of the ECE/UNDP Statistical Computing Project in 1981", Conference of European Statisticians, thirtieth plenary session, 1982 (CES/470).

8/ For further details, see E/CN.3/1983/20, which has been submitted to the Commission at its present session.

9/ Official Records of the Economic and Social Council, 1981, Supplement No. 2 (E/1981/12), para. 209.

10/ Ibid., para. 271, item 7.

11/ Ibid., para. 41.

12/ Ibid., Sixty-second Session, Supplement No. 2 (E/5910), paras. 122-128.

13/ Ibid., 1979, Supplement No. 3 (E/1979/23), paras. 78-90; ibid., 1981, Supplement No. 2 (E/1981/12), paras. 78-93.

14/ "The harmonization of statistical classifications: report of a meeting of an expert group" (ST/ESA/STAT/78).

15/ United Nations publication, Sales No. E.69.XVII.3.

16/ For drafts, see documents prepared for the Harmonized System Committee of the Customs Co-operation Council.

17/ Statistical Office of the European Communities, Luxembourg, 1970.

18/ Council for Mutual Economic Assistance, Standing Commission on Statistics, Moscow, 1975.

19/ Customs Co-operation Council, Brussels, fifth edition, 1976.

20/ Survey of Environment Statistics: Frameworks, Approaches and Statistical Publications (United Nations publication, Sales No. E.82.XVII.4).

21/ Official Records of the Economic and Social Council, 1981, Supplement No. 2 (E/1981/12), paras. 50 and 52 (d).
