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TECHNICAL CO-OPERATION: SPECIAL PROBLEMS OF THE STATISTICALLY LEAST DEVELOPED COUNTRIES

Special problems of the statistically least developed countries

Report of the Secretary-General

SUMMARY

The present report, prepared at the request of the Statistical Commission at its twenty-second session, contains a review of the special problems of statistical development in the statistically least developed countries. Such problems include, inter alia: (a) organizational problems, including staff shortages and a lack of statistical planning and co-ordination; (b) high costs of data collection and a dearth of adequate reliable statistics; (c) delays in data processing; and (d) inadequacy of statistical training and of analysis and utilization of data. (See paras. 12-28.)

As a background to this review, the report also contains a brief summary of the main aspects of statistical development in the statistically developed countries (paras. 5-11). Included in the report is information on the present activities in technical co-operation in statistics that serve to alleviate the problems mentioned above; in addition, consideration is given to the emerging needs and priorities for which further efforts should be made at both the national and international levels to promote the overall development of effective national statistical services in the statistically least developed countries (paras. 29-37). Points for discussion by the Commission are included (para. 38).

* E/CN.3/1985/1.

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INTRODUCTION

1. At its twenty-second session, the Statistical Commission requested the Secretary-General to submit several reports on technical co-operation in statistics, including one in which consideration should be given, inter alia, to the priority needs of least developed countries. 1/ Subsequently, the Commission's Working Group on International Statistical Programmes and Co-ordination, at its tenth session, decided that the Secretary-General should submit to the Commission four reports on technical co-operation, one of which would deal with the special problems of the statistically least developed countries. 2/ Accordingly, the present report deals with the special problems, including the priorities of the statistically least developed among the developing countries. The other three reports which are also of direct relevance to the present topic, deal with statistical training, data processing and other aspects of technical co-operation (E/CN.3/1985/13), the National Household Survey Capability Programme (E/CN.3/1985/14) and the Living Standards Measurement Study (E/CN.3/1985/15).

2. The present report has been prepared on the basis of information received from the regional commissions and the experience of the statistical experts who have worked in the statistically least developed countries. Owing to a lack of time and of resources, no information was obtained directly from those countries or from other interested international organizations. Nevertheless, it is hoped that the most common of the special problems of the statistically least developed countries are brought forth. Some of the special problems discussed exist also in developing countries other than the statistically least developed. However, the nature and extent of these problems are considered to differ to a significant degree between the statistically least developed and the other developing countries. Furthermore, the differential aspects and acuteness of such problems, in toto or severally, may serve to distinguish the statistically least developed from among the developing countries.

3. Also deserving of attention are the special problems faced in the statistically least developed countries with regard to specific subject-matter, namely, income statistics, international trade statistics, labour force statistics, vital statistics and statistics on human settlements; such subject-specific problems are not, however, fully dealt with in the present report.

4. Before proceeding further, a brief overview of the main aspects of statistical development will be provided to place the special problems of the statistically least developed countries in proper perspective. This overview will also be helpful in considering the priorities of statistical work by both national statistical offices and other governmental bodies, as well as by international organizations. The overview does not, however, cover all aspects governing statistical development but only those considered important from the viewpoint of the statistically least developed countries.

I. MAIN ASPECTS OF STATISTICAL DEVELOPMENT

5. Over the past three decades, great change in the statistical field has steadily taken place in a number of countries. As a result, today, these countries, mostly developed countries and a few developing countries, have well developed statistical organizations that continuously provide quality data to assist Government and the private sector in formulating sound policies and to advance public knowledge of current issues. The development of sophisticated statistical organizations and services has involved devoting sustained attention to numerous activities, for example, those related to the development of a data-collection capability, the organization of statistical services, the promotion of public confidence, the establishment of infrastructure and facilities for data processing, the dissemination of statistics, and research, analysis and utilization of data. ^{3/} Some important activities are briefly touched upon here as a means of providing a background to the ensuing discussion of the special problems confronted in the statistically least developed countries in the development of their statistical systems.

6. Decades ago, progress was equated with the growth of income and, accordingly, statistical development was thought of mainly as the development of economic statistics - national income statistics, in particular. More recently, development has been recognized as a more complex phenomenon than that of merely raising income; increasing attention is being paid to the social dimensions of development (i.e., income distribution, poverty, employment, education, housing and environment). Thus, a modern statistical organization strives to furnish sound information on a wide spectrum of factors that affect the living conditions of the country's people.

7. Initially, development was accompanied by a high degree of centralization of statistical activities. Where that was not possible because of the system of government, a central co-ordinating body was assigned responsibility for, inter alia, the integration and co-ordination of the statistical work carried out by various governmental departments, such as in the fields of agriculture, industry, labour, education, health and housing. A related feature of development has been the increased recognition that no single source can meet all statistical needs and, therefore, the practice of utilizing census, survey and administrative records in efforts to establish an efficient statistical service became common practice.

8. A second aspect of development has included the enhancement of what is known as "external capability", that is, the creation and maintenance of good rapport with the individuals, establishments, enterprises, municipalities, governmental departments and others that supply the basic data. Needless to say, the production of good statistics is ultimately dependent upon the co-operation and goodwill of respondents and how they perceive the role of statistics and statistical services. Various steps have been taken by statistical organizations to foster such co-operation, including the convening of inter-departmental committees and users' conferences in order to exchange views on the programmes of economic and social statistics and their usefulness to the public, as well as the private, sector. Also of vital importance to the improvement of external capability has been the timely and wide dissemination of statistics to all interested users.

9. A third aspect of development has been the strengthening of the internal capability of statistical organizations, which has included putting together a group of devoted and experienced inter-disciplinary staff of statisticians, economists, demographers, sociologists, cartographers, computer scientists and so on, assigning infrastructure and field staff to carry out regular surveys, and establishing facilities for the processing, storage, retrieval and publication of data. Such strengthening has also included undertaking statistical analysis and research, providing training, convening workshops etc., which contribute in several ways to the progress of the statistical system, in particular, to the improvement of the quality of data and their utilization for a variety of specific purposes and for the general advancement of public knowledge.

10. Because of the limited resources generally available to statistical organizations, the long period required to produce new data and to refine existing statistical series and the need to ensure timeliness, a fourth aspect of statistical development has involved overall planning. Such planning has been accompanied by the establishment of priorities in the statistical field. In addition, there has been increased international co-operation and exchange of national experience, contributing to the wider international use of statistics, the anticipation of emerging statistical needs in specific subject areas and the transfer of "know-how" related to methodology, data processing and the like.

11. Against the backdrop of these developmental aspects, the special problems of the statistically least developed countries are discussed below under the following headings: (a) problems of organization; (b) problems of data collection and processing; (c) inadequacy of statistical training and of analysis and utilization of data; and (d) needs and priorities in technical co-operation for the statistical development of the statistically least developed countries. It should be emphasized that development in the past was by no means easy for the statistically developed countries and will not be easy for the statistically least developed countries, particularly in view of the numerous special problems discussed below. However, the task could be made less onerous and time-consuming by careful planning, taking into account past experience, and by making concerted national, as well as international, efforts. These efforts should differ from country to country, since they must take into account population size, geography, stage of economic and social development and other factors.

II. ORGANIZATIONAL PROBLEMS IN THE STATISTICALLY LEAST DEVELOPED COUNTRIES

12. In several of the statistically least developed countries, only the stage of formulating legislation for data collection has been reached. In others, statistical offices have been established as part of the Ministry of Planning or as a separate department; however, viable organizations do not yet exist and a number of obstacles are being confronted in reaching that goal.

A. Staff shortage and turnover

13. An acute shortage of trained personnel has inhibited the growth of statistical services in the statistically least developed countries. The problem continues to be that statistical jobs are less attractive for a variety of reasons and are not considered to provide much opportunity for career advancement when compared to other services within the public sector. Given the general shortage of qualified personnel in these countries, able persons tend to move to more prestigious offices within the Government or to the private sector or, in some cases, to foreign countries and to international agencies. Staff losses at the senior level create management weaknesses that discourage Governments from taking a greater interest in statistical development.

14. The number of staff in the statistical offices in the smaller, statistically least developed countries has been and will continue to be small. In fact, some national statistical offices have less than 10 staff members. Consequently, it has become the responsibility of these few statistical personnel to perform all of the duties expected of a statistical office. Invariably, each staff member must necessarily be involved in and conversant with various fields of statistics. Under these circumstances, the scope for specialization or analysis is limited. Moreover, such staff can rarely be spared to attend statistical training courses for an extended period. In a sense, this situation, coupled with a high turnover of staff, poses perhaps the most serious problem in the development of statistical services, especially in the smaller, statistically least developed countries with limited resources.

B. Lack of overall planning and co-ordination

15. Two kinds of problems are frequently mentioned that point to an urgent need for statistical planning and co-ordination. First, in some instances, statistical activities have been confined to the immediate requirements of planning, especially in instances in which the statistical office is part of the Ministry of Planning, thus leading to the neglect of systematic, overall statistical development and to deficiencies in, for example, agricultural statistics, labour statistics, transport and communication statistics, industrial statistics and social statistics. Secondly, where the statistical office has been a separate agency, the powerful planning and other administrative departments have tended to collect, on an ad hoc basis, data to meet their immediate requirements. A consequence of this practice has been a duplication of effort that can be ill afforded by these countries and a high turnover of staff. In addition, the resulting data have not very often conformed to a set of standard concepts, definitions and classifications, which weakens the quality of the data and restricts their usefulness to the few specific purposes initially set out by the concerned department.

16. In this situation, one priority for the statistically least developed countries that have not already done so would be to set up a national statistical council consisting of representatives of various governmental departments, as well as non-governmental users of statistics, which would establish statistical policy and priorities, co-ordinate statistical programmes and develop a coherent

statistical plan that takes into account the needs of Government, industry, business and other users. This council, as pointed out in paragraph 34 below, could also be useful for the effective co-ordination of bilateral and multilateral assistance for statistical development and the enhancement of the external capability discussed above (see para. 8).

III. PROBLEMS IN THE COLLECTION AND PROCESSING OF DATA

17. The key to statistical development, whether the statistical organization is centralized or decentralized, is the collection of reliable information and its timely release for use. As is well known, the principal sources of information are censuses, surveys and administrative records. In the 1980 census decade, 189 countries or areas of the world carried out a population census and, in the conducting of these censuses, several issues emerged that are relevant to the further improvement of this source, particularly in the statistically least developed and developing countries. These issues are discussed in detail in the report of the Secretary-General on the World Population and Housing Census Programme, 1985-1994 (E/CN.3/1985/12). Likewise, several countries are participating in the National Household Survey Capability Programme designed to strengthen the statistical capacity of the statistically least developed and developing countries. Special problems relating to the development of a survey capability are discussed elsewhere, ^{4/} including in the report of the World Bank on the Living Standards Measurement Study (E/CN.3/1985/14) submitted to the Commission at its present session. Therefore, the special problems that are of most critical concern to the statistically least developed countries in the collection and processing of data are only briefly discussed below.

A. Limited capacity for and high cost of data collection

18. The lack of statistical capacity in the statistically least developed countries must be remedied systematically. Serious problems reported with respect to the collection of information by statistical organizations include: (a) the high field costs; (b) the lack of experienced and permanent field staff; and (c) the absence of staff specialized in particular subject areas (see para. 14 above). Also, since most field workers must be hired on an ad hoc basis, for instance, when a census or survey is to be carried out, it frequently happens that they are not adequately trained and, therefore, data collection is adversely affected and data are incomplete.

19. In view of the constraints mentioned above, there has been a hesitation in the statistically least developed countries to undertake any development programmes for the improvement of statistics or to commit substantial domestic resources to such programmes, even when foreign assistance has been offered to meet the major part of the requirements. As a result, the statistical offices can provide only limited information on a few subjects.

B. Deficiencies in statistical programmes and in the data collected

20. As a consequence of the problems mentioned thus far, there have been both quantitative as well as qualitative deficiencies in the data collected. Quantitatively, there has been a paucity of the basic data needed for economic analysis and for the preparation of indicators and national accounts. For example, statistics of commercial and industrial establishments, wages and salaries have not generally been available on a continuous basis. Therefore, national account estimates have often been made on the basis of personal judgement and subjective parameters. Similarly, it has been impossible to derive current estimates for a number of important items, such as births, deaths, employment, unemployment, wages, prices and the cost of living. Further, owing to the small size of the sample taken, estimates at the regional level have not been available. The timeliness of publication constitutes another serious problem in the statistically least developed countries. Although in recent years there have been some improvements in this respect, the publication of data has always been delayed.

21. Owing to the difficult field conditions, the illiteracy of the respondents and a lack of statistical awareness, the quality of data collected in the field is often poor. For example, data on income or on household expenditure have been highly inaccurate. There have been instances in a number of countries of inaccurate recording of, for example, industry, educational level and occupation owing to difficulties in the translation, interpretation and implementation of internationally recommended concepts and classifications.

22. In a number of countries, civil registration and other administrative recording systems exist but are incomplete in many respects. Moreover, establishment records which form a vital source of economic statistics are inadequate or non-existent in a number of the statistically least developed countries. There is an urgent need for improving the existing systems in order to produce the reliable data vitally needed for the formulation of policies and programmes regarding population, health and other important areas. In particular, in some countries a kind of population register is maintained for the purposes of issuing personal identity cards or residence and work permits for aliens but the potentiality of these administrative sources of information has not been exploited for statistical purposes because of the high cost of carrying out surveys.

C. Delays and bottle-necks in data processing

23. Even when data collection is successfully carried out many statistical offices have encountered a series of problems and delays in data processing. One major problem adversely affecting data processing capability has been insufficient computer capacity. In some cases, the equipment has been old and not adequate to meet the present work-loads of the statistical office; in other cases, there has been either no equipment or equipment that is shared on an unsatisfactory basis. There is, therefore, a need to update existing equipment or acquire new equipment in order to meet the increased data-processing requirements resulting from the expansion of the work of the statistical office and that of other departments, which often takes precedence. There have also been delays caused by an absence of required software, proper maintenance and other such factors.

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24. However, the most serious problem has been a general shortage of trained data-processing personnel, as well as a high turnover of staff in the computer field. A high turnover of staff is inevitable because after acquiring sufficient experience by working in statistical offices, computer personnel can obtain much higher pay in the private sector. Under such circumstances, a continuous search is required in order to recruit an adequate number of qualified computer personnel and it is necessary to provide on-the-job training or training in appropriate institutions. This search is sometimes ineffective because of the unavailability of academically qualified persons who are willing to work for low salaries in Government.

IV. INADEQUACY OF STATISTICAL TRAINING AND OF ANALYSIS AND UTILIZATION OF DATA

A. Problems in statistical training

25. A critical problem impeding statistical development in the statistically least developed countries has been the shortage of resources, particularly of trained personnel. The rising demand for qualified personnel and the turnover of staff are inevitable and will not cease in the near future. Therefore, in the years ahead, the problem will be, inter alia, that of ensuring an adequate number of personnel by providing education and training.

26. In a few countries, there are no university-level institutions for the training of professional statisticians. It is also not feasible to establish institutions or university programmes leading to professional degrees and diplomas in statistics, particularly in small countries. Under these circumstances, there is an urgent need to introduce courses on statistics into the disciplines of arts, science and social sciences in order to increase the number of persons exposed to this subject area. It would also be desirable to introduce an awareness of statistics and computers into the school syllabus. In some countries, a statistical training centre is attached to the statistical department or office in order to provide in-service training to employees. There is a need to establish such centres where they do not exist and periodically to upgrade or revise the training courses offered in the existing centres. In the statistically least developed countries, increasing advantage should be taken of the facilities of existing regional institutions as a means of meeting staff requirements.

B. Limited analysis and application of data

27. While the problems of the statistically least developed countries are caused, to a certain extent, by the inadequacy of the data available, an equally critical problem is the insufficient in-depth analysis and use of collected data for development purposes. In the absence of demonstrated applications of data, the work of statistical offices attracts less attention and is assigned low priority at the time of budgetary resource allocation by Governments. Understandably, in the work of the statistical office, priority is assigned to the collection and publication of data. However, as a result in countries with limited resources and

few qualified personnel, little analysis of data is done. At least in the early stages, the statistical office must build a capability to carry out analysis in order to help users to properly interpret the data. Often, users of statistics are not sensitive to the nature and complexities of concepts and of data collection and, therefore, before they can formulate effective policies and development programmes, some evaluation and analysis of the collected data must be done since they contribute directly to the understanding of problems and to an examination of their causes.

28. In addition, in conjunction with the publication of statistics, there is a critical need, to promote the utilization of collected data. This need is particularly acute in the early stages of statistical development. The users, unaware of the activities of the statistical office and of the data available, particularly unpublished data, sometimes carry out their own data-gathering operations which place duplicative and unnecessary burdens on the respondents and are often more expensive. This problem leads to a diversion of resources and underscores the need for continuous dialogue and consultation with all users, besides the governmental departments, in order to ensure that the statistical services are an effective and useful tool in rapidly improving the social and economic conditions of people.

V. TECHNICAL CO-OPERATION: NEEDS AND PRIORITIES

29. In the light of the special problems of the statistically least developed countries mentioned thus far, the role of technical co-operation in ameliorating the situation and further advancing their statistical development can hardly be overstated. However, there is an important and urgent need for individual countries or groups of countries to review their needs in-depth and to assess relative priorities with the objective of attaining an efficient and effective national statistical service. Before so doing, it would be useful to summarize some of the present technical co-operation activities and their impact on, as well as the problems encountered in their effective implementation in, the statistically least developed countries. More information on these activities is contained in the report of the Secretary-General on technical co-operation in statistics rendered by the organs and organizations of United Nations system, other international organizations and countries (E/CN.3/1985/13) which is also before the Commission at its present session.

A. Present technical co-operation activities in statistics

30. With regard to the most common and critical problem of staff shortages, it has been pointed out above (para. 14) that the staff could not be spared, in particular by the statistical offices in small countries, to attend for an extended period the statistical courses offered by regional training institutions, universities and other such institutions. An additional problem encountered is that the qualifications required for entry into statistical institutes often cannot be met by candidates, in particular by those from the smaller countries. These problems are not peculiar to the statistical field and, therefore, some ways should be found

to overcome the present situation in the short term. For example, in the countries concerned, statistical training may be provided not in the traditional way but in the form of in-service training.

31. Further, in many countries, the staff are not able to specialize by subject-matter, which impedes statistical development and leadership ability. In this regard, the services of interregional and regional advisers in statistics, as well as the workshops and seminars organized by the Department of Technical Co-operation for Development of the United Nations Secretariat, the regional commissions and other organizations have been found to be very useful. Mention should also be made of the emerging role of technical co-operation among developing countries and in particular, of the training project initiated recently in this regard by the Department of Technical Co-operation for Development as a means of training middle-level statisticians from the developing countries. For more information, see section IV of the above-mentioned report of the Secretary-General (E/CN.3/1985/13).

32. In respect of internal capability, one of the special problems encountered has been that surveys have been frequently undertaken on an ad hoc basis to meet specific needs or, more particularly, in response to funds being made available by external funding agencies. Such surveys covered important subjects including births and deaths, family budgets, labour force and migration, however, if they were not undertaken on a regular basis or under the auspices of the statistical office the result was a loss of technical know-how and expertise when the surveys were concluded. In this context, the National Household Survey Capability Programme (NHSCP) which is being implemented in a number of countries will help, inter alia, to consolidate the limited resources and to build an integrated data-gathering capability in the statistically least developed countries. More information on NHSCP is contained in the report of the Secretary-General (E/CN.3/1985/14) which is before the Commission at its present session.

33. In progress are other technical co-operation activities which concern specific subjects, notably population censuses, that are not dealt with in the present report. Information on census activities is continued in the report of the Secretary-General on technical co-operation in statistics (E/CN.3/1985/13) and in section I of the 1985-1994 report of the Secretary-General on the World Population and Housing Census Programme (E/CN.3/1985/12). Nevertheless, it may be pointed out that a lack of statistical co-ordination at the national level, an inadequacy of counterpart staff and other such problems have been frequently encountered in carrying out these activities. However, a recent trend towards according relatively low priority to population censuses and other programmes of data collection may seriously affect the statistically least developed countries, in particular those in which only one census has been taken and for which additional help will be required in connection with the maintenance and improvement of the newly acquired census and related capability.

B. Further needs and priorities

34. In addition to the above-mentioned activities, most of which should be further strengthened taking into careful consideration the specific needs and conditions of each statistically least developed country, some new or high priority needs for the promotion of the more rapid development of national statistical services have been identified. Of first and foremost priority is a conscious and concerted effort by Government to create and develop a statistical organization, in its modern sense, and its accordance of high priority to the adequate collection of data and their application in the formulation of policies, plans and programmes. With recognition of this need supported, where necessary, by the adoption of appropriate legislation (i.e., census acts, statistics acts and other such provisions), the development of statistics will be ensured; without it, statistical development will be hard to achieve, even if many of the present special problems are quickly remedied. Related to the first priority is the establishment of a central machinery responsible for the formulation of statistical policy and for co-ordination, as well as liaison, with international agencies in the area of statistics for the effective channelling of development assistance and, more importantly, the avoidance of duplication.

35. The second priority need, beyond the training of statisticians, is the development of computer personnel in sufficient numbers that would more than offset their loss to the private sector, as well as to the "brain-drain" which is especially serious when experienced by the smaller countries. Regional and other statistical institutions can contribute effectively towards this end by modifying their syllabuses, and by providing courses designed to meet the critical needs of the statistically least developed countries. These courses can be offered, given the constraints pointed out in paragraph 14 above, at the national level. Moreover, the advantages offered by mini-computer and micro-computer facilities, because of their affordable cost and value to the smaller countries, should be fully taken into account in improving data-processing capabilities. Increased use of software should also be recommended as a high priority goal in these countries in order to ensure the timely processing and dissemination of data. Finally, the creation of an appropriate incentive programme, including special allowances, would help to attract and retain the staff.

36. The third priority need is the development of an internal capacity for analysis and for provision of advice on the scope and usefulness of data to other governmental departments and to private users. There are two kinds of problems in this regard: first, owing to a paucity of researchers, analyses are carried out by international experts who are not always familiar with local conditions and second, sophisticated techniques are often applied to the rather weak and inadequate data collected in the statistically least developed countries. The latter gives a false sense of complacency concerning the strength and quality of the data and the level of sophistication of the existing statistical system. Efforts should be made to ameliorate this situation and possibly to resolve the problem by establishing collaborative arrangements with national universities or other research institutions for regularly conducting in-depth analyses and studies of important issues. Such arrangements will also contribute significantly to on-the-job training of statistical staff and render their work challenging and interesting.

37. In this connection, it has been indicated that international statistical recommendations tend to stop short at the stage of processing and tabulation of data and do not, barring a few subject areas, give enough guidance as regards their analysis and application. Furthermore, it has been pointed out that international standards in statistics usually reflect how problems are perceived in developed countries, where statistical systems are the most highly sophisticated.

VI. POINTS FOR DISCUSSION

38. The Commission may wish to:

(a) Review the special problems of the statistically least developed countries and the impact of such problems on their statistical development;

(b) Discuss ways and means of ameliorating the present difficulties and recommend follow-up action in this regard at the national and international levels.

Notes

1/ Official Records of the Economic and Social Council, 1983, Supplement No. 2 (E/1983/12 and Corr.1), para. 104 (a).

2/ E/CN.3/1985/17, para. 22.

3/ See Handbook of Statistical Organization, vol. I, A Study on the Organization of National Statistical Services and Related Management Issues (United Nations publication, Sales No. E.79.XVII.17); and The Organization of National Statistical Services: A Review of Major Issues (United Nations publication, Sales No. E.77.XVII.5).

4/ See, for example, Handbook of Household Surveys (Revised Edition), (United Nations publication, Sales No. E.83.XVII.13); and Multi-purpose Household Surveys in Developing Countries (Paris, Organisation for Economic Co-operation and Development, Development Centre, 1977).
