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TECHNICAL CO-OPERATION

Progress report on training in statistics

Report of the Secretary-General

SUMMARY

At its twenty-first session, the Statistical Commission requested the Secretary-General to submit to it at its twenty-second session a review of training activities, which should be comprehensive in country coverage and should lay special emphasis on topics discussed by the Commission at its twenty-first session. The present report is submitted to the Commission for information, in the response to that request.

The report contains a discussion of some issues arising in the training of statistical personnel (paras. 3-31), and a review of the statistical training activities carried out under the aegis of the regional commissions (paras. 32-42), by the specialized agencies (paras. 43-53), by the European Economic Community (paras. 54-55) and by countries (paras. 56-97).

* E/CN.3/1983/1.

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INTRODUCTION

1. At its twenty-first session, the Statistical Commission "(a) endorsed documents E/CN.3/554 and Add.1 on the review of training of statistical personnel as a useful account of major training activities in the world; (b) requested the Secretary-General to submit to the Commission at its twenty-second session a review of training activities, which should be comprehensive in country coverage and should lay special emphasis on topics discussed by the Commission at its twenty-first session". 1/

2. The present report contains a discussion of a number of issues arising in the training of statistical personnel in developing countries, as well as an account of the major training activities undertaken in the world, including those of the regional and national training centres, and training activities organized by the specialized agencies and the European Economic Community.

I. ISSUES ARISING IN THE TRAINING OF STATISTICAL PERSONNEL

Technical co-operation among developing countries

3. The United Nations regional commissions and the specialized agencies are making every attempt to include statistical training activities as part of their general effort to promote actively technical co-operation among developing countries. Technical co-operation among developing countries is achieved through activities such as the exchange among developing countries of statistical publications, especially those of a technical or methodological nature, and the organization of country courses, observational training and international statistical meetings and conferences in developing countries. The regional commissions and the specialized agencies have encouraged technical co-operation among developing countries wherever possible and have noticed a greater awareness of its possibilities among countries during the past few years as traditional sources of external funding have become less certain.

Training needs for the National Household Survey Capability Programme

4. As the National Household Survey Capability Programme (NHSCP) gains momentum over the next two or three years, it is expected that a corresponding reorientation will take place in the training courses offered in the developing regions. At present, the Statistical Institute for Asia and the Pacific (SIAP) is seeking financial assistance in order to hold joint courses on household surveys with the Economic and Social Commission for Asia and the Pacific (ESCAP), as part of NHSCP. In addition, a project with some components of technical co-operation among developing countries is about to be implemented in India; the project will include a large element of regional training for NHSCP. Later in 1982, it is expected that a meeting will be convened by the South Pacific Commission (SPC) to discuss the involvement of South Pacific countries in NHSCP. The SIAP courses on sampling, statistical methods and statistical operations appear to meet admirably the needs of NHSCP. The following types of training are considered essential in co-ordinating the African Household Survey Capability Programme (AHSCP) and the

Statistical Training Programme for Africa (STPA): (a) refresher courses on household surveys for statisticians; (b) workshop sessions on household survey organization and methodology for professional statisticians; (c) courses for computer programmers; and (d) more advanced training for systems analysts. Training courses organized by the Food and Agriculture Organization of the United Nations (FAO) generally cover the needs identified in NHSCP, such as statistics of food consumption and nutrition, agricultural population and employment and the agricultural statistics collected through households. As far as health statistics are concerned, NHSCP is still in an early stage of development in most countries and has not yet had any significant impact on the training of statistical personnel in the area of health.

Practical needs in the programmes of training institutes

5. The practical orientation of training programmes is emphasized by all of the regional commissions and the specialized agencies as well as by the national, subregional and regional training institutions. To the extent that the concern is to train statisticians for national statistical offices, training programmes have an overwhelming practical orientation.

6. A problem in a number of statistically least developed countries is that of finding candidates who meet the admission requirements of the training centres. It is desirable to maintain standards, but a too rigid adherence to high academic entry requirements may adversely affect countries that are in great need of statistical personnel. There is a need, therefore, for some flexibility in the selection of candidates from such countries. In this connexion, it is interesting to note that some of the STPA centres have lower academic entry requirements but a longer duration of study.

7. In some training centres, the view is taken that the problem of heterogeneity in the qualifications of trainees appears to be insoluble. Consequently, the work expected of highly qualified trainees from the more developed countries must necessarily be different from that expected of those from small, less developed countries, particularly those of the Pacific. To the extent possible, attempts are made to take account of the differences in background and expectations by the use of make-up and optional courses and assignments.

Country courses as a vehicle for professional training

8. In recent years, there has been considerable discussion concerning the degree to which regional training centres should give greater emphasis to country courses as a vehicle for professional training of a practical nature, the appropriate distribution of course content between regional and national training centres and the extent to which certain national centres should be expanded to serve a subregion.

9. Developing countries have, for many years, attached considerable importance to country courses as a means of training. Certainly, the cost to the regional training centres is much less and the impact for the particular country holding the course is much greater. The actual number of country courses that can be provided depends on the available staff of the centre and the specific requests from the

countries of the region. It is believed that many country courses provided by the regional centres so far have not duplicated to any significant extent the training provided by or available from national institutions.

10. It is felt that regional training centres should serve higher-level statistical personnel who are responsible for the planning, organization and implementation of statistical programmes, while courses organized at the national level should be for the field and office staff responsible for collecting and processing data under the guidance of supervisors, who presumably have received training at regional centres. Country courses have the advantage of being more practical and job-oriented, since national training centres are run mostly by national statistical offices.

Training middle-level personnel

11. The view generally held by the regional commissions and the specialized agencies is that there is a need for closer co-operation between the regional training centres and the national training centres that cater exclusively to their own nationals. It is also felt that the training of middle-level statistical personnel should be the responsibility of the national centres. The regional training centres could render assistance to the national centres by training national trainers and by providing lecturers, advice on course contents, equipment demonstrations and background technical documents.

12. A major activity of SIAP, through its general course, is the training of middle-level personnel. To some extent, this also applies to country courses. STPA encourages closer co-operation between the regional and national training centres, not only among the 12 participating centres but also between the centres at different levels. In the region of the Economic Commission for Western Asia, the training of middle-level statistical personnel is carried out by national institutions. Nevertheless, close co-operation exists between the national and regional training centres in respect of the distribution of activities.

Training of systems analysts and programmers

13. In most developing countries, computers are now used to process statistical data. Many of the installations are recent, with the result that the training of systems analysts, programmers, operators, technicians and, in particular, statisticians who must adapt to the new processing environments has become a top priority. Even in the smallest, statistically least developed countries, recent developments in micro-processing have encouraged national statistical offices to purchase computers. The scarcity of skilled and experienced computing staff is recognized throughout the developing world.

14. Since there are bound to be differentials in the growth of computer facilities in the developing countries of a region, another direction in which effort could usefully be made is in the creation of facilities for training programmers at the subregional level, possibly through technical co-operation arrangements with the subregional centres located wherever computer facilities are available.

15. The problem of training systems analysts is much more complex. At present, most training is provided by computer manufacturers in their parent offices and in their branches. A homogeneous regional training programme is difficult to envisage.

16. Some international organizations hold the view that the training of systems analysts and programmers should be more related to, or even integrated with, the training of statisticians in the regional as well as national statistical training centres. To this end, regional training facilities should be increased.

Training of trainers

17. It appears that the training of trainers has a considerable multiplier effect and, therefore, offers some solution to the massive training needs which exist. In practice, one needs to train selected personnel first, in the skills of teaching and second, in the subject matter. The availability of suitable persons is limited and the extent of the training required is quite vast. In some fields, it is clearly neither justified nor possible. For example, it would not be possible to train a person with no knowledge of the field to be a teacher of national accounts. This would apply to many other highly technical fields where relatively few trained personnel are required and the technical aspects of the subject are highly complex and only acquired through immersion in the subject on a day-to-day basis. On the other hand, some fields that require a large number of personnel (such as statistical methods, statistical operations, office procedures etc.) lend themselves admirably to the training of trainers. In these cases, the selected trainers should be suitable for the training function and also have sufficient experience in statistics to be able to master readily the subject matter. The training of trainers helps make regional centres cost-effective, since the trainees may later serve as teachers in country courses or in national training centres.

Desirability of regional training centres undertaking research projects

18. At a number of regional training centres, it is felt that one means by which their faculty members can keep abreast of developments in their fields and establish or maintain their position in the academic world is to engage in research. On the other hand, unless a regional institution has a sufficiently large number of staff, it is virtually impossible to devote any time to research. This activity is desirable if treated as part of the training; it should not be an activity undertaken by the faculty alone.

19. Training programmes need to be expanded to include enough research so that well-motivated graduates are provided with the necessary balanced training in the theory and practice of statistics for tackling independently the problems of economic and social statistics in their countries. Regional training centres could also serve as places where countries might commission the specific research for which there are no national facilities. Training centres may also assist national statistical offices with their various technical problems.

Guide-lines for the academic and training needs of statisticians

20. It may be possible to draw up guide-lines covering the academic and training needs of statisticians at different levels. If this were well done, it would be of

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considerable use to national statistical offices and also to training institutions. To do so, however, requires some measure of agreement as to the functions of statisticians at different levels. In the statistical offices of most developing countries, while vague job descriptions exist for most jobs, there are virtually no descriptions of the kinds of activities and responsibilities carried out by incumbents of posts. Unless job descriptions exist, it is almost impossible to establish the academic and training needs of various posts. This work has been done in relation to professional statistical posts in the United States civil service and it could be used as a model. On the basis of such standards, training guide-lines could be developed by statistical training experts and practitioners working in collaboration with experts in curriculum development and training methodology.

21. It may be desirable to draw up guide-lines, especially at the subprofessional level, where more standardization of courses and syllabuses is practicable. This will facilitate the exchange of students among different training centres. It will also offer an opportunity to the training staff of the various centres to exchange experience with a view to establishing a core of syllabuses to be adopted by each country.

22. In the view of some specialized agencies and regional commissions, broad guide-lines are greatly needed; they should be based on the actual needs for statistical knowledge and skills defined for each subject and level. Some guide-lines are first elaborated at a regional level, adapted by other regions and then disseminated globally to all countries. The guide-lines should be flexible so as not to discourage national administrations because of a lack of trained personnel or because of administrative or organizational constraints, such as national salary scales.

Training institutions in universities

23. Universities may provide an adequate environment and infrastructure for international training institutions. The latter should, however, be independent and, to some extent, have their own staff in order to pursue their training goals. The location of regional training centres in universities has the immediate benefit of providing a large faculty, a library and other facilities. However, there are disadvantages where university regulations limit the admission of certain students and where universities tend to give too academic a bias to the courses. Precautions need to be taken to ensure a healthy blend of both academic and applied orientation. The advantages are that some exceptionally intelligent trainees at the centres may eventually enrol for a degree at the university, which is more sought after than a diploma.

Evaluation of training programmes

24. In the view of SIAP, the evaluation of training programmes is extremely difficult, if not impossible. SIAP sent a questionnaire to former fellows, requesting them to assess their progress and the impact that SIAP training has had on their work. The questionnaire also contained a section requesting the fellow's supervisor to confirm or deny the fellow's assessment.

25. Perhaps one indication of the success of some training programmes is the effective participation of past fellows in regional professional meetings as members of national delegations. In recent years, many former fellows of various centres have been promoted to senior posts in their countries.

National contributions to training centres

26. Programmes conducted by a number of regional centres are influenced to a substantial degree and in several ways by the wishes of the member countries of the regional commissions and the specialized agencies. Both user and host countries provide fellowships and funds which cover part of the running costs of the training institutions; in a number of cases, host countries provide the facilities and take care of the administrative and organizational aspects. They are also represented on the advisory boards of statistical training centres. Specialists from national statistical offices participate in meetings of directors of the training centres in order to develop curricula oriented towards practical work and to exchange views and experience on teaching problems.

Co-ordinating role of the regional commissions and the specialized agencies with respect to training programmes

27. The co-ordinating role of most of the regional commissions and the specialized agencies is strong in respect of regional and subregional statistical training programmes, since their statistical conferences review the work of the training centres. The co-ordination of national programmes is naturally weaker, although regional training centres conduct a large number of country courses and the regional commissions and the specialized agencies actively encourage technical co-operation arrangements among developing countries.

28. The co-ordinating activities carried out by staff at the headquarters of the regional commissions and the specialized agencies include: (a) the dissemination of information on statistical training activities; (b) the development of teaching programmes along practical lines while maintaining the quality of training; (c) the organization of meetings of directors of training centres to discuss problems of common interest; (d) the conduct of surveys of training centres and of statistical organization and staffing in regions; (e) the provision of assistance in the quest for financial resources; (f) the provision of course material; (g) the provision of fellowships; (h) the development of in-service training for middle-level personnel; (i) the organization of workshops and seminars; and (j) the provision of lecturers and equipment for demonstration purposes.

Other assistance provided to training facilities

29. Since the United Nations Development Programme (UNDP) no longer provides financial assistance, the institutional costs of SIAP are now met by the Government of Japan, which is the major donor, by financial contributions from member countries of the region, by substantial aid from the Government of the Netherlands (which provides a full-time lecturer and fellowship funds each year) and by the provision of experts from time to time by other Governments (for example, the United Kingdom of Great Britain and Northern Ireland, Australia, India).

30. The following are willing to support the development and expansion of individual training centres within STPA: the European Economic Community (EEC), the Commonwealth Secretariat, through its Fund for Technical Co-operation (CFTC), the Overseas Development Administration (ODA), of the United Kingdom, the Institut national de la statistique et des études économiques (INSEE) in France, the Government of the Federal Republic of Germany, the United States Agency for International Development and the Government of Sweden.

Post-graduate programmes at regional training institutes

31. While maintaining and expanding facilities outside the developing regions, there is also a need to encourage the provision of post-graduate training in developing countries. The development of specialized courses will greatly reduce the dependence on centres outside the developing regions. The needs of the region are taken into account when regional training institutes consider their curricula. For more efficiency, the fields of specialization should be distributed among the centres. The availability of post-graduate programmes at regional training institutes would make possible the training of a greater number of practising statisticians whom the national statistical offices are reluctant to send for training outside the developing regions. Post-graduate programmes at regional institutes are desirable for short-term training in specialized applied fields, depending, of course, on the capability and availability of staff. If such courses are made available in each developing region, this will reduce costs (travel expenses and other), and facilitate the orientation of training towards regional or local problems and needs.

II. STATISTICAL TRAINING ACTIVITIES CARRIED OUT UNDER THE AEGIS OF THE REGIONAL COMMISSIONS

A. Economic and Social Commission for Asia and the Pacific

32. As the Statistical Institute for Asia and the Pacific (SIAP) is the recognized statistical training arm of the ESCAP secretariat, the Statistics Division rarely conducts training activities. It does, however, regularly supply lecturers for courses organized by SIAP or by other institutions operating in the region, particularly the South Pacific Commission (SPC). The only recent statistical training activity that ESCAP has undertaken was the Industrial Census Training Workshop, held at Suzhou, China, from 16 November to 11 December 1981. The Workshop was funded by UNDP and was organized as a regional activity supporting the 1983 World Programme of Industrial Statistics.

33. SIAP was established to improve the statistical services, on which Governments of developing countries of the ESCAP region rely, for the planning and assessment of economic and social development. Its task is to train statisticians in applied statistical methods. The Institute was inaugurated in June 1970, when its first ten-month general course started. With the termination of the first phase of the project in September 1975, SIAP entered a second five-year phase. It is now in a third five-year phase.

34. The core of the training programmes in the second phase was a six-month general course in statistics given every year to about 30 fellows, who were selected mainly from among government statisticians of developing member countries of ESCAP and who were awarded fellowships by the Government of Japan. A few additional fellowships were awarded from other sources. The Institute also conducts annually two advanced courses or seminars of four to eight weeks' duration in specialized fields of statistics for statisticians who are nominated by countries and awarded fellowships by the Institute using bilateral financing. Further, the Institute holds country or subregional courses for a country or group of countries requesting them; this enables training to be imparted to some 15-25 fellows at one time.

35. The International Statistical Education Centre (ISEC) was opened at Calcutta in 1950, and was initially operated jointly by the International Statistical Institute and the Indian Statistical Institute, under the auspices of UNESCO and the Government of India. The main purpose of the Centre is to provide courses in theoretical and applied statistics at various levels to selected participants from countries in Asia and from the Commonwealth countries in Africa.

B. Economic Commission for Latin America

36. The centro Interamericano de Enseñanza de Estadística (Inter-American Statistical Training Centre) (CIENES) was established at Santiago, Chile, in 1962, on the basis of an agreement between the Government of Chile and the Organization of American States (OAS). It is supported by the General Secretariat of OAS, the Inter-American Statistical Institute, the Government of Chile and the University of Chile. Its objective is to impart statistical training to technical personnel from member States of OAS, including those engaged in teaching and scientific research.

37. The training activities developed by CIENES are directed towards three types of institutions: the national statistical services, which produce primary statistics; the planning offices, central banks and ministries of economic and social affairs, which produce primary statistics and/or analyse derived statistics; and the universities and other institutions of research engaged in teaching and statistical consulting. CIENES organizes training activities at the inter-American, subregional and national levels.

C. Economic Commission for Africa

38. The activities of the Statistical Training Programme for Africa (STPA) are carried out primarily through participating centres. The activities include, inter alia, the dissemination of information on training activities, the co-ordination of financial resources and collaboration in the development of training programmes.

39. The centres participating in STP activities are as follows:

(a) French-speaking centres. The Institut national de statistique et d'économie appliquée (INSEA), Rabat, Morocco, offers five training programmes in

statistics, applied economics and data processing. The Ecole de Statistique d'Abidjan (ESA), Ivory Coast, offers a training programme at three levels. The Centre européen de formation des statisticiens-économistes des pays en voie de développement (CESD), Paris, gives three years of training to top-level personnel from developing countries who will be called upon in their countries to prepare, manage and use statistical information in making economic and social decisions concerning the nation or concerning business firms. The institut de statistique, de planification et d'économie appliquée (ISPEA), Yaoundé, United Republic of Cameroon, mainly offers training at the three levels needed by government statistical services. The Institut Africain et Mauricien de statistique et d'économie appliquée (IAMSEA), Kigali, Rwanda, was established in November 1976 on the transfer to Kigali of a training division from CESD. The Institut des techniques de planification et d'économie appliquée (ITPEA), Algiers, aims at training in four years economic analysts and ingénieurs d'application de la statistique;

(b) English-speaking centres. The Institute of Statistics and Applied Economics (ISAE), Makerere University, Kampala, Uganda, introduced in 1975 an advanced three-year course leading to a Bachelor of Statistics degree; the Institute organizes a nine-month post-graduate professional programme leading to a Diploma in Statistics for the re-training and training of officials in the region. The Department of Statistics at the University of Ibadan, Nigeria, runs three training programmes to serve all the countries in the region. The Department of Statistics at the University of Botswana provides training leading to a diploma and a higher-level degree in addition to a certificate course; there is a Statistical Training Centre at the University of Swaziland, which offers certificate-level courses only. The Department of Statistics at the National University of Lesotho provides training leading to the certificate level. Operating under the University of Ghana are both the Institute of Statistics, Social and Economic Research (ISSER) and the Department of Statistics; ISSER absorbed a UNDP-funded centre which had provided training for intermediate-level personnel. The Institute, now funded by the Government of Ghana, provides training for intermediate-level statistical personnel.

D. Economic Commission for Western Asia

40. The Arab Institute for Training and Research in Statistics was established at Baghdad in 1976 by the Governments of Iraq and 14 other Arab countries with the co-operation of the United Nations; FAO and UNESCO have been associated with the Institute from its inception. It is financially supported by UNDP and the participating countries.

41. The long-term objectives of the Institute are to improve the quality and increase the number of statisticians available to central and sectoral statistical offices and statistical units and those available to conduct censuses and surveys in the member countries, and to assist countries in developing and strengthening their national statistical organizations and training centres and all other statistical activities. Its immediate objectives are to provide training in various statistical fields for senior staff and their assistants as well as

technical officers who will, in turn, train large numbers of staff in their own countries. The Institute pays special attention to those countries whose statistical services are at the initial stage of development.

42. In 1981, ECWA participated in a number of training activities in the region. It provided lecturers for two short courses organized at Amman by the Institute. In 1983, ECWA is planning to organize a workshop in connexion with the 1983 World Programme of Industrial Statistics.

III. STATISTICAL TRAINING ACTIVITIES ORGANIZED BY THE SPECIALIZED AGENCIES

A. Food and Agriculture Organization of the United Nations

43. The lack of trained statistical personnel has been one of the major reasons for the non-participation by many countries in the decennial World Census of Agriculture; it has always been a major reason why previous censuses of agriculture were not carried out properly by many countries. Starting in the 1978-1979 biennium, the Statistics Division organized national demonstration centres for the 1980 World Census of Agriculture in developing regions of the world in order to provide training and demonstration of the various census operations for local census personnel. The global organization and conduct of national demonstration centres is the responsibility of the Statistics Division, in close collaboration with the statistical staff of the FAO regional offices and the country FAO/UNDP agricultural statisticians. National institutions are contracted to organize national demonstration centres at the initiative of and financed by the Government of the host country. Classroom lectures are limited to the concepts, definitions and methodology necessary for the participants to appreciate census methodology, the importance of field work and practical procedures designed to improve the quality of census results.

44. In recent years, FAO participated in a number of training programmes in statistics organized by international, regional and national statistical institutes.

B. United Nations Educational, Scientific and Cultural Organization

45. In 1980 and 1981, UNESCO continued to support, with the financial assistance of UNDP, the Department of Statistics at the University of Botswana and Swaziland through the provision of services of a professor/head of the Department of Statistics. UNESCO also provided the Central Bureau of Statistics in Ghana with the services of an expert in statistical education, financed by UNDP and executed by the Department of Technical Co-operation for Development of the United Nations Secretariat.

46. In 1981, UNESCO launched a new project, financed under its regular budget, comprising the organization of two annual one-week national training seminars in developing countries for the purpose of strengthening their national capabilities in education statistics. As a follow-up to the recommendation concerning the

international standardization of statistics on science and technology, four-week regional training seminars on the implementation of statistical standards and methods of data collection were organized in 1980 and 1981; the training seminars were financed from the regular budget. One-week seminars for the application of UNESCO norms in statistics of culture and communication were also organized in 1980 and 1981; a regional seminar was held at Dakar and a national seminar was held in the Philippines. Both seminars were financed from the regular budget.

C. International Civil Aviation Organization

47. ICAO training activities consist of short courses, informal workshops and guidance material. Their primary purpose is to strengthen the capability of countries to respond to the requirements of ICAO aviation statistics and to benefit from the resulting statistics.

48. From time to time, air transport specialists attached to the six ICAO regional offices conduct short courses at the request of individual countries or groups of countries. The courses are aimed at providing training in the collection and organization of civil aviation data and include a detailed examination of ICAO statistical reporting requirements and the procedures for complying with them. Informal workshops on aviation statistics are conducted in different regions of the world in order to provide an opportunity for those working in civil aviation statistics, including airline and airport personnel, to participate. The workshops normally last about one week and are conducted by statistical experts from ICAO headquarters.

D. World Health Organization

49. Training in the management of health statistical services has been given high priority by WHO, which is expected to provide guidance regarding teaching approaches and learning materials and to organize or participate directly in training activities for national workers and teachers.

50. The training of teachers of health statistics and related subjects has become an urgent concern in the WHO programme of statistics education and training. Training was continued with a series of workshops in various regions for teachers of health statistics, epidemiology and health-records systems. Several handbooks were prepared, for example, a guide for teachers that provides a systematic approach to the teaching of health statistics to medical undergraduates. As recommended by the interregional conference on teaching of statistics to medical undergraduates, held at Karachi in 1978, a standard teaching programme was worked out covering the essential minimum number of subjects. A similar programme was initiated for teaching statistics to postgraduate medical students.

51. In order to facilitate the implementation of the Ninth Revision of the International Classification of Diseases, training courses continued to be organized for the reorientation of trained coders, in collaboration with the WHO Centres for the Classification of Diseases.

E. International Monetary Fund

52. The International Monetary Fund has offered training courses to officials of member countries since 1950. The IMF Institute, located in the headquarters building at Washington, DC, was formally established in 1964; since that time, it has conducted more than 118 courses which were attended by some 2,787 participants from 135 member countries for periods varying from 4 to 24 weeks.

53. The courses deal with monetary, fiscal, balance-of-payments and government finance statistics; the teaching material is essentially drawn from the operational experience of IMF. Two of the courses (balance-of-payments methodology and government finance statistics) are designed primarily for national compilers of statistics; other courses include some elements of training in the methodology and compilation of economic statistics.

IV. STATISTICAL TRAINING ACTIVITIES ORGANIZED BY THE EUROPEAN ECONOMIC COMMUNITY

54. The Statistical Office of the European Communities (EUROSTAT) participates in the training of statisticians by receiving fellows from member countries and from developing countries, organizing introductory courses for officials from member countries, providing teachers to the Munich Centre for Advanced Training in Applied Statistics for Developing Countries (see paras. 66-69 below) or to the Centre européen de formation des statisticiens-économistes des pays en voie de développement (CESD) (see para. 59 below) and organizing seminars for developing countries, especially for the African, Caribbean and Pacific (ACP) countries.

55. Within the framework of the International Comparison Project (ICP), EUROSTAT organized seminars devoted to the preparation and analysis of ICP at Yaoundé in December 1980 and in Luxembourg in January 1982. A seminar is planned for early 1983 for the presentation and analysis of ICP results for African countries. In collaboration with the Directorates General of External Relations and Development of EEC, EUROSTAT participated in 1982 in the organization of a training seminar devoted to external trade for statisticians of the Andean Pact countries.

V. STATISTICAL TRAINING ACTIVITIES CARRIED OUT BY COUNTRIES

A. Czechoslovakia

56. Technical assistance provided during 1976-1981 state statistical organs including research institutes, was directed essentially at the training of statisticians from Cuba and Mongolia. It is expected that in 1982 technical assistance in training will be extended to Viet Nam.

57. Three Czechoslovak experts were sent to Cuba and six to Mongolia. In Cuba, guidance was given on a course on statistics of prices, finance and balance sheets and assistance was provided in the design and development of a programme of systems of statistics. Between 1978 and 1981, 10 statisticians from Cuba and 4 from

Mongolia received training of from one to two months' duration at statistical agencies in Czechoslovakia. In addition, encouragement was given in the past several years to the participation of statistical experts from Algeria, Cuba, the Libyan Arab Jamahiriya, Mauritius and Mexico in seminars on the Integrated Statistical Information System (ISIS); the seminars were organized by the Computing Research Centre, Bratislava, a regional project of the Economic Commission for Europe.

B. France

58. The training of statisticians from developing countries has always been considered as an essential aspect of French co-operation with developing countries. The activities are undertaken by different administrative organs, each having its own specific role. Organs whose main function is to make financial contributions in different forms, such as grants, fellowships etc., are the Ministry of External Relations and the Ministry of Co-operation and Development. Administrative organs such as the Institut nationale de la statistique et des études économiques (National Institute of Statistics and Economic Studies) (INSEE) and the Ministry of Economy and Finance participate mainly by providing technical support for the training activities. In addition, French universities and institutes offer higher levels of training to students from developing countries.

1. Basic training

(a) France

59. The objective of the Ecole nationale de la statistique et de l'administration économique (National School of Statistics and Economic Administration) (ENSAE) is to train higher cadres who will serve the administration, the public and the private sectors as specialists in statistics and economics. The Centre européen de formation des statisticiens-économistes des pays en voie de développement (European Centre for Training of Statisticians-Economists from Developing Countries) (CESD), was created in October 1962. It is located in the ENSAE building; ENSAE also meets a large part of CESD equipment and training needs. CESD currently provides training for ingénieurs statisticiens économistes who have joined senior cadres in the public and private sectors of African States. The three-year training at CESD has some areas in common with that at ENSAE (mathematics, theoretical statistics, theoretical economics and computer programming). Created in 1957, the Centre d'études des programmes économiques (CEPE) is an organization attached to the Ministry of Economy and Finance. It enjoys the support of INSEE, which provides funding and teachers. Students are trained in quantitative economic analysis in a one-year period.

(b) In developing countries

60. A number of training centres in Africa supported by French technical co-operation are described in paragraph 39 (a) above. Since there is an insufficient number of teachers at the schools, considerable technical co-operation

is required. Persons rendering technical assistance are often former students of ENSAE who either give technical assistance in lieu of national service or under teaching contracts.

2. Refresher courses

(a) In France

61. The technical assistance provided by INSEE takes several forms. Within the framework of the programme of co-operation with various statistical offices in developing countries, INSEE has received fellows for several weeks to several months in its various technical divisions. Since 1979, CESD and ENSAE, with the support of the Ministry of Co-operation and Development, have organized jointly a refresher course of eight weeks' duration on statistical data processing for statisticians from developing countries. INSEE also participates actively in the Centre de perfectionnement économique et financier (Centre for Economic and Financial Improvement) (CEPEF) by providing numerous teachers. CEPEF is a training organization created on the initiative of the Directorate of Forecasting of the Ministry of Economy and of INSEE; assistance is provided by the Ministry of External Relations, the Ministry of Co-operation and Development, the International Institute of Public Administration (Prime Minister's Office) and the Planning Commission.

(b) In other parts of Europe

62. CESD co-ordinates the refresher courses organized in Europe. Every two years, it organizes a meeting of the United Kingdom Overseas Development Administration, the Institute of Social Studies (The Hague), the Munich Centre for Advanced Training in Applied Statistics for Developing Countries, CEPEF and CESD in order to ensure that the English and French refresher courses to be held in subsequent years will be complementary rather than competitive. Representatives of the Economic Commission for Africa and of the International Statistical Institute attend these meetings.

63. In order to improve the training of statisticians in developing countries, France is currently placing emphasis on three objectives: (a) the development of co-ordination among aid organizations and among training centres; (b) the improvement of the quality of training by adapting it more to users' needs through the organization of meetings between users and trainers and through supporting the experience obtained by certain schools (for example, by means of field surveys); (c) the development of permanent training activities and, in particular, the training of senior and middle-level personnel in their relevant functions.

C. German Democratic Republic

64. Training courses are conducted in the educational and training institutions in the German Democratic Republic as well as in other countries. For example, the following courses were carried out in 1980 and 1981: (a) a course on general

economic statistics was held in Cuba, with the participation of four experts from the German Democratic Republic for a period of four months; (b) courses were organized for Cuban statisticians in building and investment statistics, labour-force statistics, electronic data processing and data bank systems; over a period of eight months, five courses were held in the German Democratic Republic for 72 participants; (c) a course on industrial statistics for 10 staff members of the Central Statistical Organization of Iraq was held for a period of six weeks at a training centre in the German Democratic Republic.

65. In 1979, 125 students from developing countries studied problems of accountancy and statistics at institutes in the German Democratic Republic; in 1980, 173 students participated. During 1979-1981, six university lecturers worked at universities in Algeria, Angola, Mozambique and the United Republic of Tanzania.

D. Germany, Federal Republic of

66. The Munich Centre for Advanced Training in Applied Statistics for Developing Countries was established in 1972 by the Government of the Federal Republic of Germany, the Commission of the European Communities and CESD. The Centre is managed by the Carl Duisberg-Gesellschaft e.V., a private non-profit organization which has long-standing experience in providing professional training to foreign specialists and managers.

67. The purpose of the Munich Centre is to train statisticians from developing countries in order to meet the increasing demand for scientifically founded and at the same time practice-oriented training. The courses are designed for post-graduate students who hold a university diploma or an equivalent degree in statistics and who are expected to have some years of experience in practical statistical work in the statistical office or another government agency of their country.

68. Lectures at the Munich Centre are given almost exclusively by guest lecturers who are specialists from statistical offices, research institutes and universities in various countries and international organizations. Each course includes a two-week study tour of the statistical offices of the Federal Republic of Germany and EEC; this gives the participants an opportunity to acquaint themselves with the work of these organizations and to establish contacts for further co-operation. Courses are given alternately in French and English.

69. The Munich Centre offers two courses of four months' duration, held annually at Munich for statisticians who have completed their university studies and have had some practical experience; the programme is changed from year to year. Seminars of three weeks' duration are held at Munich on specialized topics, and four- to five-week courses are organized in developing countries.

E. Hungary

70. The training of statisticians in the techniques of electronic data processing has acquired special significance in recent years. Comprehensive, post-graduate

training in computing was started in the Hungarian Central Statistical Organization in 1971.

71. Technical assistance offered by Hungary to developing countries in the field of training and education consists of the exchange of experts and of special training courses in Hungary and abroad. The Hungarian Central Statistical Organization and the Cuban Comité Estatal de Estadísticas have concluded an agreement, within the framework of a UNDP project, to assist Cuba with the development of household statistics.

72. The International Computer Education and Information Centre, UNDP-assisted project in national computer education, organized the first training course in English in 1974. Trainees were mainly from the statistical offices, computing centres or other government offices of developing countries in Asia, Africa and Latin America. The courses organized since then have been attended by more than 1,600 participants from 50 countries. The courses are currently organized jointly with the Control Data Institution and are attended by persons from developing countries, principally Arab countries. On the basis of an agreement concluded between Cuba and the Centre, one-month training courses were organized at Havana for Cuban specialists in computer and programming methodology and a training lecturers' course was organized at Budapest.

F. India

73. Since education provided at universities is basically of an academic nature and does not fully qualify a person to perform statistical tasks in a government agency, a programme for professional statisticians of central/State Governments was started by the Central Statistical Organisation in 1954, on the recommendation of the Conference of Central and State Statisticians. This was followed in 1955 by the establishment of a course for intermediate-level staff. In 1960, the Central Statistical Organization started programmes for Bachelor of Statistics and Master of Statistics students of the Indian Statistical Institute, Calcutta, and also for the trainees of the International Statistical Education Centre. Training programmes for officers of the Indian Statistical Service have been conducted by the Central Statistical Organization since 1968.

74. In keeping with the federal structure of India, data on most subjects are generated at the State level and co-ordinated at the national. Hence, the majority of statistical staff (about 26,000) are employed in the States. The strategy all along has been to build up State training facilities for intermediate- and primary-level staff.

75. The National Sample Survey Organization (NSSO) collects data through country-wide sample surveys on diverse aspects of the economy. The organization employs a field staff of about 5,000. In 1976, five zonal training centres were set up within NSSO for the purpose of providing the field staff at various levels with training in theory, practice and field management, with special reference to the work programme of NSSO.

76. Regular training programmes are arranged by the Computer Centre, Department of Statistics. The course for programmers extends over 12 weeks and is comprehensive enough to give trainees a good grounding in the fundamentals of electronic data processing and a working knowledge of an assembly language, compiler languages, systems analysis and design.

77. The Indian Statistical Institute and over 50 universities offer post-graduate courses in statistics up to the Ph.D. level. There is a well-organized research and training school at the Institute which conducts programmes for the Bachelor and Master of Statistics and special courses in statistical methodology and applications.

G. Japan

78. The major part of Japan's technical co-operation with developing countries in the area of training consists of the assistance provided to the Statistical Institute for Asia and the Pacific (see paras. 32-34 above). The assistance provided includes contributions in cash and in kind and fellowships for participants from developing countries in the general course and in the automatic data processing course for statisticians.

79. In addition to co-operation with SIAP, training courses on agricultural statistics and training seminars on labour statistics are also organized. The training courses on agricultural statistics were established in 1967 for national statistical officers in the ESCAP region, as part of the technical co-operation programme of the Ministry of Agriculture, Forestry and Fisheries. The training seminars on labour statistics have been held annually since 1979 for national statistical officers in the ESCAP region. The seminars are organized by the Japan International Co-operation Agency in collaboration with the Ministry of Labour.

H. Netherlands

80. The Institute of Social Studies was established at The Hague in 1952. It was founded by the 10 universities in the Netherlands and is financially supported by the Government. The Institute works in close collaboration with the Central Bureau of Statistics of the Netherlands and the Central Statistical Office of the United Kingdom of Great Britain and Northern Ireland.

81. The objective of the Institute is to contribute to national and international efforts aimed at understanding and solving problems of economic and social development. In 1962, eight-month courses in statistics and national accounting were started. This programme was replaced by a six-month diploma programme in development planning and national accounting aimed at bringing together planners and statisticians with sufficient background to participate in an intensive programme of technical work. The purpose of the course is to provide economic planners with a greater understanding of the problems of data collection and the limitations in using data and also to ensure that statisticians appreciate the uses to which planners intend to put the data. A diploma programme in development

planning techniques was instituted in the academic year 1980-1981 and is being repeated in 1981/82. The programme is intended primarily for macro-economic planners, micro-economic planners and statisticians. In addition to the diploma programmes, a programme is offered leading to a Master's degree in development studies.

I. Spain

82. In 1978, the Instituto Nacional de Estadística, in collaboration with the Ministry of Foreign Affairs, started a programme of technical co-operation for the Latin American and Caribbean countries.

83. Since 1979, a course on sampling with applications to households has been held in Madrid. The course, of three weeks' duration, is intended for officials of statistical offices of countries in Latin America and the Caribbean and for statisticians from central banks of the countries which carry out household sample surveys. An introductory two-week course on national accounts was established in 1980 under the same programme of technical co-operation and along similar lines.

J. Union of Soviet Socialist Republics

84. The Soviet Union has been rendering assistance to developing countries in the training of national specialists since the late 1950s. Each year, an average of 1,000 persons from developing countries are admitted to high- and middle-level specialized training institutions specializing in economics and statistics. On completing a five-year course of training in statistics, specialists graduate with the qualification of an economist in the generalization and statistical analysis of economic indicators.

85. In the past decade, more than 500 statisticians from Mongolia have been trained by the Central Statistical Board in statistics of industry and agriculture, trade and capital construction, transport, input-output tables and economic statistics, and in the use and servicing of computers. Each year, two- and three-month courses are carried out by the Central Statistical Board with a view to enhancing the qualifications of personnel from a number of countries in economics, statistics and business accounting. From 1978 to 1981, 224 trainees from Cuba and 85 from Viet Nam took part in the courses. In subsequent years, the following training is proposed: in 1982, 50 specialists; in 1983, 45 specialists; in 1984-1985, 90 management personnel of statistical agencies and specialists from Cuba, Mongolia and Viet Nam.

86. It is intended to give assistance to the Central Statistical Board of Mongolia in the organization of a training centre and of the base for the centralized servicing and repair of computers.

87. In past years, over 200 students from developing countries in Asia, Africa and Latin America completed on-the-job training at the Moscow Economic Statistical Institute. In the next few months, it is expected that some management staff from

the Central Statistics Office of Afghanistan will visit the Central Statistical Board of the USSR in order to acquaint themselves with the organization of the system of government statistics and to study a number of demographic questions.

88. From 1962 to 1981, 14 international seminars were organized and conducted at the Central Statistical Board for specialists from developing countries. Over 300 trainees from 54 developing countries in Asia, Africa and Latin America participated in the seminars.

K. United Kingdom of Great Britain and Northern Ireland

89. The Overseas Development Administration (ODA) provides statistical training through two main programmes. First, there is a programme of support for statistical training institutions in developing countries. Secondly, there are technical assistance fellowships through which students from developing countries may attend courses in the United Kingdom (or, exceptionally, in a third country).

90. The provision of training in statistics at the under-graduate level is now generally considered to be the responsibility of individual developing countries. Assistance is given by the United Kingdom in the form of long-term provision of lecturers at training institutions and also through short-term visits of experts to help in setting up or developing specific courses or areas of instruction. Assistance may be provided to the academic or the government professional training sector. Another avenue of support for training in statistics at the under-graduate and lower professional levels is through the United Nations regional commissions, such as ESCAP and ECA (see paras. 32-34 and 39 (b) above for information on SIAP and STPA).

91. In the past few years, the Statistics Division of ODA has played an active role in encouraging United Kingdom universities to run special short courses in statistics. The main objective is the practical training of statisticians, or the extension of the knowledge of both producers and users of statistics.

L. United States of America

92. The International Statistical Programs Center (ISPC) of the Bureau of the Census has been conducting formal statistical training programmes at Washington, DC since 1946. The objective has been to teach the essential concepts of official statistics, how to produce and use them and how to improve the statistical system. Over the years, as the needs of statistical programmes in developing countries have changed, both the programme content and the methods of instruction have been modified. Courses in survey design and evaluation techniques, systems analysis and data management and control of non-sampling errors have been introduced gradually as the use of these more sophisticated techniques has been found to be increasingly appropriate in the national statistical systems to which the participants return after training.

93. The present curriculum covers a broad spectrum of activities associated with the collection, processing and analysis of data in the census and current survey programmes in developing countries. An integrated one-year curriculum has been developed in each of six regular specializations: sampling and statistical methods, agricultural statistics, demographic statistics, economic statistics, computer data systems and survey methods. While courses in the participant's specialization comprise most of his or her programme, all participants are required to take some core courses.

94. In addition to the above ISPC offers special-purpose certificate training programmes which vary in length from three months to one year. ISPC also arranges special workshop programmes, both at Washington and overseas, on topics such as the planning and implementation of a household survey programme, population census methods and mapping. The content of the training and workshop programmes incorporates United Nations principles and recommendations and is designed to support statistical programmes of the United Nations and the specialized agencies, such as the National Household Survey Capability Programme, the 1980 World Census of Agriculture, the 1983 World Programme of Industrial Statistics and the Living Standards Measurement Study.

95. International statistical programmes at the Bureau of the Census are conducted in close co-operation with four other statistical agencies at Washington - the Statistical Reporting Service (SRS) in the Department of Agriculture, the National Center for Health Statistics (NCHS) in the Department of Health and Human Services, the Bureau of Economic Analysis (BEA), which, like the Bureau of the Census, is in the Department of Commerce, and the Bureau of Labor Statistics (BLS) in the Department of Labor. Under inter-agency agreements between the Bureau of the Census and SRS and NCHS, respectively, training in agricultural survey methods and in civil registration and vital statistics is conducted as part of ISPC training programmes in agricultural and demographic statistics. The two other major statistical agencies, BEA and BLS, also offer international training programmes. While there are no formal links between these programmes and ISPC, there is considerable informal co-operation, including the exchange of participants and instructors.

96. Since 1947, BEA has been conducting training programmes for economists and statisticians throughout the world in co-operation with the Agency for International Development and its predecessors. Training at introductory and advanced levels is provided in an 11-month training programme, which is divided into a series of seven major units and several seminars in complementary subjects. In the first three units of the programme, the conceptual framework and methodology of national income and product accounting is emphasized. In the other units, attention is focused on input-output, real product, economic and social indicators and capital finance and balance-sheet accounting.

97. For more than 30 years, BLS has provided training in labour statistics at its training facility at Washington, DC. The current BLS programme features a series of seminars, each six to eight weeks in length. The seminars, which bring together statisticians, economists and analysts from developing countries all over the world, are designed to strengthen capabilities in collecting and analysing

human-resources data and related economic and social statistics, and in applying the results to policy formulation, especially for the development of human resources. One seminar on prices, income distribution and poverty and another on analysis of labour statistics are offered annually. The topics of other seminars vary from year to year. In addition, BLS conducts seminars overseas on request. Such seminars may be held for either an individual country or a region; they range from two to four weeks in duration.

Note

1/ Official Records of the Economic and Social Council, 1981, Supplement No.2 (E/1981/12), para. 158.
