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STATISTICAL TRAINING PROGRAMME FOR AFRICA (STPA)

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STATISTICAL TRAINING PROGRAMME FOR AFRICA (STPA)

I. HISTORICAL BACKGROUND

1. The Statistical Training Programme for Africa (STPA) represents the latest development in African efforts to provide opportunities for the training of adequate numbers of staff required to produce the statistics needed for economic and social development.
2. In 1961 the second session of the Conference of African Statisticians initiated an intensive training programme to overcome staff shortages in statistical offices of the region. Emphasis was initially placed on middle-level training, with more gradual development of professional facilities.
3. Four middle-level centres began operations in 1961, in Abidjan and Yaoundé for French-speaking trainees, and in Accra and Addis Ababa for the English-speaking. At the same time a project was begun in Rabat at the professional level, in the French language. The French language group was provided with additional professional facilities in Paris by the European Economic Community (EEC) in 1962, while an additional middle-level centre was established for the English-language group in Dar es Salaam in 1965. In 1967 the middle-level centre in Abidjan introduced professional training and it was not until 1967 that regional facilities at professional level became available for the English-speaking group in Kampala. In 1976 the middle-level centre in Yaoundé also introduced professional training and the "ingénieur des travaux statistiques" division in Paris was transferred to Kigali for the benefit of the French language group. It should be noted that training at the professional level for the English language group is also available in university degree courses in Ibadan, Legon, Gaborone and Maseru.
4. All except the centres in Abidjan and Kigali were set up with support from UNDP, which has since phased out its assistance but for the centres in Yaoundé and Kampala. UNDP/UNESCO had until recently been assisting one of the original middle-level training centres and helped to develop new facilities in Southern Africa (University of Botswana and Swaziland and National University of Lesotho).
5. French and UK bilateral assistance, as well as the European Economic Community, have also supported the various centres through provision, of teaching staff and short-term lecturers, salary supplements for teachers, and fellowships. The European Economic Community increased its participation in 1973 by establishing in Munich an advanced centre for specialized courses in cooperation with the Government of the Federal Republic of Germany. Specialized courses are also being planned by the United Kingdom and France.
6. The adoption of new world and African development strategies and the establishment of a new international economic order have made it imperative for countries to have increased numbers and more highly qualified staff capable of producing a broader range and even more detailed statistics than in the past. Although the training programme initiated in the 1960's largely fulfilled its original targets, the staff position in many African statistical offices has remained unsatisfactory for a variety of reasons. These include (a) loss of trained personnel to other government

departments, private sectors and to more developed countries, (b) under-utilization of existing facilities due to lack of information on courses offered, admission requirements, and financial resources, (c) tendency for many training courses and especially those offered in universities to be overly academic.

7. Accordingly, at its ninth session held in Lomé in October 1975, the Conference of African Statisticians once again expressed its concern about the problems of meeting the statistical needs of Africa. It urged the establishment of a long-term programme for the training of professional statisticians and an examination of all financing possibilities in order to ensure continuity. It supported the suggestion that a Working Group be organized and consultants be engaged to visit countries and training centres and other relevant organizations with the purpose of reporting on statistical needs, and in particular on:

- (a) improvement of existing training centres, including suggestions for the most effective use of present regional and national facilities as well as the practical reorientation of training courses;
- (b) reducing losses in trained staff from national statistical offices;
- (c) financial resource requirements;
- (d) coordination of statistical training activities within and outside the region; and
- (e) any other relevant matter relating to statistical training in Africa.

8. The Working Group met in Munich in August 1977 to consider the consultants' report, and based on its recommendations the tenth session of the Conference of African Statisticians adopted the present Statistical Training Programme for Africa (STPA).

II. PURPOSE

9. The essential objective of the STPA is to ensure that the region has a permanent supply of trained staff for the statistical and other services of governments as well as for the private sectors. To meet this objective STPA is conceived as a ten-year programme aiming to make Africa self-sufficient by

- (a) increasing the number of statistical personnel and
- (b) improving and maintaining the quality of statistical personnel in service. For this purpose it is necessary to establish a basis for existing training institutions to operate in a coordinated manner with a view to improving their efficiency and developing their courses along more practical lines.
- (c) ensuring that the centres participating in the programme become self-supporting.

10. As it is expected that self-sufficiency in meeting requirements will be attained only at the end of the ten-year programme, it is intended that during the period of the programme advantage will also be taken of facilities outside the region.

11. Types of training to be covered by STPA are the following:

A. Professional training

Training at this level is understood to mean basic general training at the undergraduate level and is to receive the highest priority.

B. Specialized and post-graduate training

An expansion of facilities for post-graduate training is to be encouraged to reduce dependence on facilities and personnel from outside the region.

Specialization is to be made available, among others, in the following areas:

- 1) National accounts
- 2) Agricultural statistics
- 3) Sample surveys (households, establishments etc.)
- 4) Demographic statistics
- 5) Manpower and labour statistics
- 6) Electronic data processing

Short-term courses and seminars for practicing statisticians may be hosted by centres in the region or offered by external sources.

C. Sub-professional training (middle level)

Training at this level should normally be carried at the national level and as more qualified professional staff become available, this should form an integral part of the programme of national statistical offices. However, it is expected that existing regional facilities will continue to function and, where necessary, be expanded.

III. BROAD OUTLINE OF WORK PROGRAMME AND COORDINATION

12. During the ten-year period of its existence STPA will provide a framework for coordinating the development, improvement and expansion where required of statistical training facilities in Africa. It will include in its programme:

(1) Dissemination of information on training activities

Regular and timely dissemination of information on training facilities, both inside and outside the region, including details of course content, admission requirements, financial arrangements, etc. is expected to result in better utilization of existing centres. Improved and coordinated information on all STPA centres should also have a significant influence on financial prospects for the overall programme.

(2) Maintenance of equivalence of curricula and qualifications

The French-speaking centres (including Rabat) have already reached a high level of equivalence and qualifications, being modelled after the "Centre européen de formation des statisticiens-économistes des pays en voie de développement" (CESD) in Paris. Entrance requirements for this group have also been standardized, and are based on competitive examination.

The English-speaking countries are evolving from the traditional English university type of mainly theoretical training to a more practically oriented type, and a study is needed of entrance requirements, syllabi etc. with a view to standardizing requirements and curricula.

(3) Development of curricula

Review and reorientation of curricula is necessary to meet requirements for more practical training, including supplementing general courses with training in specialized areas to be defined by needs of user countries. Special attention should be given to providing sufficient training on EDP techniques to enable statisticians not only to communicate intelligently with computer personnel and to appreciate their operations but also to participate actively in EDP work.

(4) Development expansion of professional training projects, including post-graduate training

Identification of special needs will be a first step in the development of new facilities which may be required, or expansion of existing ones.

(5) Specialized training

The STPA centres are to be encouraged to make available facilities for specialisation. Courses offered by specialized training centres outside the region (e.g. the Munich Centre for Advanced Training in Applied Statistics) are to be considered as part of the STPA.

(6) Development on training courses at middle level

For those countries wishing to establish in-service training courses at middle level within their central statistical offices, assistance may be provided in the form of lecturers, course material etc. In a few cases the existing regional facilities for training at this level need to be expanded.

(7) Organization of short-term courses and seminars for practicing statisticians

Centres offering specialized training are to be encouraged to organise or host such courses and seminars within the framework of the STPA.

Collaboration of relevant specialized agencies is to be obtained in subject fields within their areas of competence.

(8) Training of teaching staff

A plan for the training of teaching staff needs to be worked out by the various centres in order to replace progressively external assistance personnel.

(9) Teaching of statistics at secondary or high school level

Formulation of appropriate curricula is needed to promote teaching at this level in African countries. This has already been introduced in the educational systems of some West African countries (in cooperation with UNESCO).

(10) Review and evaluation of STPA

Since STPA is envisaged as a programme of ten years' duration, it is intended that a review should be made at regular intervals in order to evaluate progress and determine future needs and priorities.

(11) Coordination

To ensure effective coordination of the activities indicated above, ECA should assist in arranging:

- (a) Informal consultations with Governments, UNDP and other potential donors for an indication of their possible contribution to the programme;
- (b) A meeting of donors to be convened as soon as practicable, provided a sharing of programme costs can be worked out informally;
- (c) Meetings of directors of training centres both inside and outside the region to be convened for discussions on development of curricula, equivalence of curricula and qualifications and the need for specialized courses. It is expected that meetings of the directors of the centres would be convened every two years.
- (d) Dissemination to countries of information on training facilities of the STPA;
- (e) Annual surveys of activities of centres comprising STPA, to include information on numbers of students, curricula review, financing and any associated problems;
- (f) Assistance in the formulation of projects and in obtaining lecturers or course material for countries wishing to establish in-service training programmes at middle level;
- (g) Assistance in the search for financial resources.

IV. BROAD MAGNITUDE OF REQUIREMENTS

13. An effort has now been made to consolidate all the information available on existing staff and future requirements, and on this basis to suggest possibilities for meeting these requirements during the period of the programme.

14. The magnitude of statistical training requirements is indicated in Tables 1-4 annexed to this document. The tables are intended as a consolidation and interpretation of the material provided by the training consultants and the conclusions of the 1977 Working Group. There are no doubt inaccuracies in the current data and forecasts, but the tables probably give a reasonably comprehensive and realistic account of the overall situation. They have been presented in country/centre detail to enable the directors of statistical services and training centres to review and improve the figures. The details are also necessary as a starting point for the negotiation of individual projects and for the development of a regional plan of action.

15. Before summarising the conclusions on requirements, attention must be drawn to data sources and reliability. The figures on current statistical staff in Table 1 come mainly from the recent CESD and ECA surveys, supplemented from the Directory of African Statisticians, previous surveys and estimates as necessary. All tables cover 48 countries; six countries have been excluded for practical or political reasons.
16. Information on staff in central statistical offices is probably reliable apart from difficulties arising from definitions. For example a few countries may have included data processing personnel and other specialists among the professionals. Also, middle level staff are intended to include only those with a precise statistical qualification but some of the figures may include clerks, enumerators etc. The latter are normally provided with the necessary expertise through on-the-job training.
17. The main deficiency probably lies in the data concerning statisticians in other parts of government and in the private sector. Few countries gave an adequate response in their survey returns and many of the figures have been compiled from the Directory and estimates. In general they are probably low but are sufficient to show that at least half of the Africans with professional statistical qualifications and one-third of the middle level personnel are employed in places other than the central statistical service.
18. The above consideration is important because the Working Group concluded that STPA should meet total national requirements for statistical personnel rather than just those of the statistical services.
19. Data on requirements for professional statisticians in countries south of the Sahara were obtained in the ECA and CESD surveys. The ECA survey also included estimates of English-speaking middle level requirements south of the Sahara.
20. The consultants provided their own broad estimates of professional requirements in North Africa and of French-speaking middle level needs south of the Sahara. They gave no indication of how many middle level staff will be needed in North Africa and rough estimates have been inserted in order to make the tables comprehensive.
21. Based on information presently available, professionals in post in 1977 number 1,482, whereas an addition of 5,045 new people will need to be trained by the end of the decade; similarly, middle-level staff now in post number 2,979 and the training needs are estimated at 6,482 new people. The figures bear out the conclusion of the Working Group that the main emphasis in the programme should be on professional training.
22. Tables 2 and 3 show the extent to which African statistical requirements can be met by the STPA centres and are based on a careful review of the information available from statistical services, training centres and other sources. Account has been taken to the extent possible of preferences in the distribution of trainees from the various countries to the centres.
23. In the absence of detailed breakdowns from English-speaking countries on requirements for degree and post-graduate training, it is understood that some post-graduate training is included in the figures for centres relating to this group. On the other hand, availability of data for the French-speaking countries has made it possible to provide separate figures for ITS and ISE requirements. It should be noted that a new course at ISE level is clearly needed in the light of the requirements data; it will presumably be attached to one of the existing French-speaking centres.

24. In addition, there is special provision for the Portuguese-speaking countries recommended by the Working Group.
25. It should be noted that the 515 professional statisticians to be produced from "Other Training" sources would come partly from university facilities not included in the regional statistical programme and partly from overseas training.
26. The first two sections of Table 4 summarize the current and projected situations of individual STPA centres with respect to teaching staff and trainees.
27. Data on teaching staff in Table 4 come mainly from the material supplied by individual centres and are supplemented by estimates. A few of the centres may have given inflated figures for future staffing and no revision has been attempted.
28. The data on trainees in Table 4 need a more careful explanation. Tables 1-3 deal with the training programme in terms of the current situation and aggregated requirements over the next ten years. Table 4 on the other hand is concerned with the position in an average year of the ten-year programme period. The general concept leading to the presentation of average annual data in this table is that all centres must aim at a steady and continuing output; all years should within reasonable limits be average years.
29. In Table 4 the ten-year aggregates of Tables 1-3 showing the output of successful trainees have been converted to annual averages of the numbers of trainees that have to be accommodated at individual centres. Essential considerations in making this conversion are the duration of courses and wastage rates. Details of the calculation cannot be presented in this document and the data will need to be improved when the activities of individual STPA centres are examined.
30. It should be noted that Table 4 provides separate data for the centres at Gaborone and Maseru whereas they are considered together in the earlier tables. The Working Group made no definite recommendation on the division of activities between these two centres and the position will be discussed in the proposals relating to individual projects.
31. The overall position is summarised in the following supplementary table which is based on extracts from Tables 2-4 in the annex.
32. For the next ten years - and probably permanently - the STPA centres will need to increase their output by about half. The most significant part of the required expansion is in the professional courses of the English language group but there are also other notable requirements such as provision for the newly independent Portuguese-speaking countries and an increase in capacity for ISE training.
33. To meet the output requirements it will be necessary to increase the number of persons currently under training by about 60 per cent. However the estimates suggest that requirements for international and bilateral fellowships will increase by only about 50 per cent.

Development of STPA centres 1/

	New activities				Existing centres								Total					
	Special provision for Portuguese speaking countries		New ISE course	Mid level Kigali	French-speaking		English-speaking		Total		Total		Prof.	Mid.	Total			
	Prof.	Mid.			Prof.	Mid.	Prof.	Mid.	Prof.	Mid.	Prof.	Mid.				Prof.	Mid.	Total
<u>annual output</u>																		
Current rate	-	-	-	-	159	122	281	121	78	199	280	200	480					
Required 1978-87	13	22	35	20	215	138	353	205	134	339	420	274	692					
Percentage increase	-	-	-	-	35	13	26	69	72	70	50	36	44					64
<u>Average annual number under training</u>																		
Current	-	-	-	-	589	194	783	452	97	549	1,041	291	1,332					
Required 1978-87	70	38	108	70	820	240	1,060	705	175	880	1,525	415	1,940					1,332
Percentage increase	-	-	-	-	39	24	35	56	80	60	47	43	46					64
External fellowships 1978-87	70	38	108	60	422	110	532	325	101	426	747	211	958					1,176
Percentage of total fellowships	100	100	100	86	51	46	50	46	56	48	43	44	49					54
<u>Teaching staff</u>																		
Currently available	-	-	-	-	55				42			97						
Required 1978-87	8			4	83				81			164						180
Percentage increase	-	-	-	-	51				93			69						86
External provision: current	-	-	-	-	34				10			44						44
1978-87	8			3	23				21			44						59
Percentage increase	-	-	-	-	-32				110			-						34

1/ The table excludes 515 professional and 3,169 middle level statisticians not expected to be trained at the STPA centres.

34. In handling the larger numbers of trainees the directors of centres estimate that they will need to increase their teaching staffs by more than 80 per cent. The desire to increase teaching staff a little more than the number of trainees reflects an awareness of the need to improve teaching quality and to develop research activities, and possibly also to provide service courses for other departments of universities. Overall it leads to only a modest increase of just over 30 per cent in the number of teaching staff to be supplied under external assistance arrangements. Nevertheless there is a large difference between the two main language groups. The number of English-speaking lecturers from external sources should double while there will be a small decrease for the French language group, largely because external assistance is being phased out from Algeria, and local training staff are now becoming available for Rabat.

35. Table 4 also includes comprehensive budget estimates for the STPA centres but these will be discussed only in the sixth section of the document. The immediate requirement is to summarise the activities of individual centres and indicate the specific changes needed in fulfilling the overall training requirements identified above.

V. CONTRIBUTIONS OF CENTRES TO MEET REQUIREMENTS

36. Participation in STPA by individual centres should in no way be regarded as fixed or formal. The existing list of members is based on ability to provide international services and willingness to participate. It has to be borne in mind that membership may change, or more probably increase, but this does not significantly affect the overall programme objectives and requirements.

37. The STPA has as its foundation a group of existing training centres which have been developed over the years, but which have in varying degrees encountered problems inhibiting their operations and thus their contribution to the flow of trained statisticians in the numbers and quality required by the region. The problems include (a) development of appropriate curricula (b) staffing; (c) intake of foreign students; (d) financing. It is hoped, by finding solutions to these problems and by coordinating the efforts of the centres, that STPA will be able to achieve its objective of meeting the region's requirements for qualified statisticians.

38. In the figures presented in Tables 2 and 3 on requirements for professional and middle level training, indication has already been given of possible distribution of future trainees among the various centres. Brief descriptions are now given of the individual training centres and include information on type of training, duration of courses and output, special problems, and expected contribution to the programme. Comprehensive budget estimates for the individual STPA centres are included in Table 4.

39. University of Botswana and Swaziland (UBS), Gaborone, and National University of Lesotho (NUL), Maseru

Courses offered by the Departments of Statistics:	Length of course (years)	Current annual output (successful trainees)
1. Degree programme	4	10
2. Diploma programme	2	5
3. Certificate programme	1	6

40. Dating from August 1973 when the combined UBLS statistical project began receiving assistance from UNDP/UNESCO, there has been an output of 14 from the degree programme, and 44 from the diploma and certificate programmes. Since 1976 when UBLS was dissolved separate programmes are being offered by UBS and NUL, and UNDP/UNESCO assistance has been phased out.

41. Because training arrangements are currently affected by political changes, the suggestion of the consultants that UBS concentrate on diploma and certificate level training and that NUL concentrate on the degree programme only is not likely to be accepted at the present time. A viable arrangement thus needs to be worked out, bearing in mind the small number of trainees involved.

42. The programmes have suffered continuously from staff shortages, and the situation has worsened now that the two universities have separate programmes. For this reason, it is important that plans be made for advanced training of teaching staff.

43. It is estimated that the annual number of trainees at the centres for the degree programme should be increased from 12 to 35 at NUL and from 6 to 40 at UBS, and that the middle level programmes operate at only slightly increased level (from 10 to 12 for NUL and 10 to 18 for UBS).

44. East African Statistical Training Centre (EASTC), Dar es Salaam

Courses offered	Length of course (years)	Current annual output (successful trainees)
1. Intermediate level	1	12
2. Middle level	1	20

45. During the period 1961-77 the centre had an output of 306 from the two programmes. The centre began with UNDP assistance but sponsorship later passed to the East African Community. The present situation may necessitate negotiation of a new arrangement.

46. It is estimated that the annual number of trainees at the centre should be increased from 38 to 100 to meet the growing demands of the East African countries.

47. Institute of Statistical, Social and Economic Research (ISSER), and Mathematics Department, both of University of Ghana, Legon

Courses offered:	Length of course (years)	Current annual output (successful trainees)
1. B.Sc.	3	38
2. M.Sc.	2	2
3. Graduate Diploma	1	5
4. Higher Certificate (Diploma)	1	15
5. Certificate	1	20

48. During the period 1962-77 output was 113 for the professional level and 345 for the middle level.

49. Begun in 1961 as a UNDP sponsored centre for middle level training, it was later absorbed by ISSER which was established in 1962 and is nationally sponsored and provides statistical training for a combined Certificate and Higher Certificate course leading to the Diploma in Statistics. In 1973, the Mathematics Department, with the cooperation of ISSER, started offering courses leading to the B.Sc., the Graduate Diploma and the M.Sc. in Statistics. The programmes are practically oriented with a compulsory practical attachment during the long vacation after the second year of the degree programme.

50. While open to nationals of other countries, programmes have been followed mainly by Ghanaians, and it would appear that admission requirements are difficult for foreign applicants to satisfy. Another problem relates to the scarcity of qualified teaching staff and the duplication of teaching in various departments.

51. Although ISSER itself has only limited prospects for output at the professional level, with some coordination of its services and those of the Mathematics Department, the University of Ghana could be expected to make a very useful contribution to overall regional requirements. Assuming these problems can be resolved, it is proposed that provision be made for 215 trainees per year as against 179 in 1977 for the professional programmes, and from 39 to 45 for middle level. A programme for the advanced training of teaching staff should also be initiated.

52. A special project may be necessary to enable the University of Ghana to meet the requirements of the proposed expansion.

53. Department of Statistics, University of Ibadan

Courses offered:	Length of course (years)	Current annual output (successful trainees)
1. Postgraduate diploma	1	6
2. Professional diploma	2	12
3. B.Sc. Statistics	3	20

54. Output at Ibadan during the period 1966-1977 amounted to 127 at the professional level.

55. The Department of Statistics developed from a UNDP-sponsored training centre offering diploma courses. Now fully sponsored by the Nigerian Government, it has been offering from 1973 a B.Sc. in Statistics in addition to the professional diploma, which corresponds to degree level but practically oriented. The University is making efforts to develop a post-graduate programme and to organize short-term courses and seminars.

56. To cope with requirements of Nigeria alone, this facility will need to expand, and other facilities need to be used in the country or abroad. It is suggested that it also accept trainees from other countries, and make provision for a total of 220 trainees annually, as against 106 in 1977.

57. Institute of Statistics and Applied Economics (ISAE), Kampala

Courses offered:	Length of course (years)	Current annual output (successful trainees)
1. B.A., B.Sc. Statistics, mathematics and economics	3	17
2. B. Statistics	3	25
3. M.Sc. Statistics	1	5

58. Output at the Institute during the period 1966-77 amounted to 215 at professional level.

59. The Institute was established at Makerere University as a national project under UNDP sponsorship, offering also regional services. Efforts to regionalize the project have not materialized to date. As a national project it continues to be financed from the UNDP country programme for Uganda (at least until June 1978) and from the national budget.

60. The Institute has maintained a consistently good training performance and the B. Stat programme instituted in 1975 is considered most appropriate for government statistical service. An M.Sc. course was also begun in January 1973. Expansion of its activities to include trainees from East as well as West and North Africa would appear appropriate, but there are a number of problems in bringing the Institute up to the capacity required. This will need investigation and possible revision of present project arrangements. Assuming these problems are resolved, it is estimated that capacity could be increased from the 1977 level of 139 to 195 trainees per year.

61. Institut africain et mauricien de statistique et d'économie appliquée (IAMSEA), Kigali

Course offered:	Length of course (years)	Current annual output (successful trainees)
1. Ingénieur des travaux statistiques (ITS)	3	20

62. Since the Institute was set up only in November 1976, the output of 20 successful trainees represents completion of just the first year of the three-year ITS course.

63. Major support for the project comes from the French Government, through the "Fonds d'aide et de Coopération" (FAC), in particular for teachers and fellowships, and from the European Development Fund (EDF), for fellowships; additional requests have been made to EDF for teachers and financing of new premises. The Official College of Kigali is temporarily at the disposal of the Institute until the building of its own premises has been completed.

64. The Institute was established on the basis of a resolution of the OCAM Council of Ministers relating to the transfer of the ITS course from CESD, Paris, to Kigali, and caters primarily to OCAM member countries. The ISE division is still operating from Paris, however, and the prevailing view is that sufficient experience is required in running the ITS course before giving consideration to instituting the ISE course. It is proposed that capacity for the ITS course should be increased from 55 in 1977 to 75 trainees per year.

65. Meantime, in view of the requirements for middle level training and the preference of the French language group in utilizing regional facilities, it is proposed that such a course be added to the programme of the Institute, and that provision be made for a total of 70 trainees per year at this level.

66. Institut de statistique, de planification et d'économie appliquée (ISPEA), Yaoundé

Courses offered	Length of course (years)	Current annual output (successful trainees)
1. Ingénieur des travaux statistiques (ITS)	3	15
2. Adjoint technique	2	35
3. Agent technique	1	25

67. ISPEA was established in 1976 on the foundations of the "Institut de Formation statistique" (IFS), which was a UNDP-sponsored regional project offering training at the middle level. Output of the combined institute during the period 1961-77 amounted to 708 at the middle level; the output of 15 successful trainees from ISPEA since its establishment represents completion of just the first year of the three-year ITS course.

68. While UNDP-support of the project phased out in mid-1977, it is understood that the Government is requesting continued assistance now that the ITS course has been instituted. Meantime, the French Government and European Economic Community have been providing assistance in the form of teaching staff and fellowships, and assistance has been given by EEC in the past in financing construction.

69. In addition to the courses indicated, the Institute is also planning a course in agricultural statistics for which assistance has been provided by FAO.

70. While in 1976/77 Cameroon had the largest number of students, overall they constituted about half of the total number of students trained. Scarcity of fellowships for trainees from other countries accounts for the decrease of this group in recent years. It is now proposed that ISPEA resume catering to other French-speaking countries, and that provision for the ITS course be increased from 54 in 1977 to 105 trainees per year, and that the present level of 99/100 trainees per year be maintained for the middle level.

71. Ecole de Statistique d'Abidjan (ESA)

Courses offered	Annual intake capacity	Length of course (years)	Current annual output (successful trainees)
1. Ingénieur des travaux statistiques (ITS)	20	3 + prep yr.	10
2. Adjoint technique	15	2	12
3. Agent technique	20	1	15

72. During the period 1961-77 the EST had an output of 352 at the middle level and 341 at the professional level.

73. ESA was established in 1961 by the Government of the Ivory Coast to meet its own requirements as well as those of other French-speaking countries. It has over the years received assistance from the French Government as well as the European Economic Community. Limited support has also been provided by United Nations in the form of fellowships financed from individual country programmes.

74. Full-time teaching staff at ESA, apart from the Director, come from bilateral sources, with nationals teaching only on a part-time basis. A plan for recruitment and training of national teaching staff should therefore be initiated as soon as possible. This is all the more important as ESA is planning to institute courses in data processing and demography, for which it is requesting external assistance. Meantime, ESA currently has spare capacity which could be utilized to help meet requirements of other countries at both middle and professional levels, and it is suggested that the number of trainees be increased for the professional course from 35 to 75 per year, and for the middle level from 38 to 50 trainees.

75. Institut national de statistique et d'économie appliquée (INSEA), Rabat

Courses offered	Length of course (years)	Current annual output (successful trainees)
1. Ingénieur statisticien-économiste (ISE)	2	15
2. Ingénieur d'application de la statistique	3	35
3. Adjoint technique	2	35

76. During the period 1961-77 INSEA had an output of 282 at the middle level and 369 at the professional level.

77. INSEA was established in 1961 by the Government of Morocco with assistance from ECA and UNDP. UN assistance was phased out in 1972 and the Government has since taken over complete sponsorship. Some assistance in the form of teaching staff is still received from France (FAC) and Canada (CIDA).

78. The ISE course was instituted in October 1974 and is also open to economists and mathematicians. Plans are under way to provide specialized training; possible areas under consideration include sampling, operations research, data analysis and demography.

79. INSEA intends to maintain a French-speaking section at the Institute as long as required, but is gradually instituting courses in the Arabic language.

80. The Institute appears to be in a good position to assist North African and other countries in meeting their requirements, especially at the professional level, and it is therefore suggested that capacity be increased for the professional course from 166 to 260 trainees each year, and for the middle level from 57 to 90 trainees.

81. Institut des techniques de planification et d'economie appliquée (ITPEA), Algiers

Course offered	Length of course (years)	Current Annual output (successful trainees)
Ingénieur d'application de la statistique (IAS)	4	55

82. Output at the Institute since it was established in 1970 amounted to 119 at professional level.

83. The Institute is one of several other institutes of technology intended to fill the gap in qualified staff in Algeria and is placed under the trusteeship of the Secretariat of State responsible for Planning. It trains economic analysts as well as "Ingenieurs d'application de la statistique", the specialization taking place in the third year; the fourth year is devoted to practical work. Admission in the first year is granted on the basis of competitive examination, though some students can be admitted directly in the third year after examination of their academic qualifications.

84. While catering mainly to Algerians, places are available each year for foreign students, and it is proposed that additional places be made available to that group. It is understood that this would be possible if capacity is increased from 225 to 250 trainees per year.

85. Centre européen de formation des statisticiens-économistes des pays en voie de développement (CESD)

Course offered	Length of course (years)	Current Annual output (successful trainees)
Ingénieur statisticien-économiste (ISE)	3	15

86. CESD has been included in the STPA group of centres in view of the contribution to the training of African statisticians at the professional level, and plans for its eventual transfer to a location in Africa. Up until November 1976 when it was transferred to Kigali, the ITS course was also offered at CESD. During the period 1962-1977 total output at both levels amounted to 341.

87. Until the ISE course is transferred to Africa, it is assumed that it will be continued at current levels, about 55 trainees per year.

Summary of specific requirements

88. The following specific requirements should receive special attention in the Statistical Training Programme for Africa (STPA):

- (a) The newly independent Portuguese-speaking countries require substantial help and a special provision is probably needed because of their specific problems
- (b) A new course is needed at the "ingénieur statisticien-economiste" level by the French-language group to complement the current operations at CESD, Paris and the Rabat Centre. Possible hosts for the new course would be the Abidjan and Yaoundé centre.
- (c) The new French-speaking centre in Kigali should introduce a middle-level course as soon as possible.
- (d) The Kampala Institute is the most difficult project in the programme. This Institute must be developed on an effective regional basis if English-speaking professional requirements are to be met.
- (e) Nigeria, the largest country of the region, has significant requirements, but the estimates are not yet very accurate. The country can afford to pay for its own training but will need expert assistance. It should also envisage an interchange of students with other African countries to avoid isolation.
- (f) Expansion of the facilities at the University of Ghana is envisaged as an important means of overcoming the shortfall in professional training for the English-language group. If the Ghanaian authorities agree with the idea, a new project will need to be negotiated.
- (g) The English-speaking Centre of Dar-es-Salaam (EASTC) which is offering intermediate and middle level courses should increase its capacity as soon as possible in order to meet increasing demands in the East African sub-region.

Training Centres outside Africa

89. The Centre for Advanced Training in Applied Statistics, Munich, while not strictly speaking included in the STPA group of centres, is expected to make an important contribution to the programme's requirements for more specialized training. It is hoped that following past practice two four-month courses and one seminar will be given each year covering special areas of statistics, the courses to be offered alternately in English and French. The cost of these courses is not taken into account for the purposes of the programme.

90. Indications are that France and the United Kingdom are also planning to offer short-term courses in specialized areas.

VI. SUMMARY OF PROGRAMME COST

91. In order to establish a basis for estimating the cost of STPA, directors of training centres were requested to provide data to ECA on current as well as estimated annual costs for the period 1978-87. The latter information was provided in the form

of budget items indicated in the consultants' report, but data on some of these items and on current costs were found to lack comparability.

92. Table 4 summarizes for each centre numbers of teaching staff and trainees in 1977, followed by annual averages required for the programme period, and finally average annual costs by specified items of expenditure. Costs for each centre are distributed between government and external sources. The latter comprises existing bilateral and multilateral funding as well as projected additional requirements.

93. The budget data in Table 4 are presented in more detail than is justified by their accuracy. As before, the reason is to facilitate corrections and provide a basis for programme development. In their present form the figures have to be used with some care and it is first necessary to explain the basis for costing. In general the budget data relate to the average annual costs during the programme period. The reasons why Table 4 differs in outlook from the three preceding tables have already been explained.

94. Local teaching staff have been costed at actual rates and most centres provided the necessary information. For external assistance teaching staff the UNDP pro forma figure of US \$50,000 per annum has been used.

95. No useful information was provided on fellowship costs and the estimates have therefore incorporated UNDP pro forma figures. For non-local trainees US \$450 a month has been used, and the costs for local trainees have been arbitrarily estimated at half the rate for non-locals. Those fellowships intended for training outside Africa (CESD and advanced training of teaching staff) have been costed at the UNDP pro forma rate of \$750 per month prevailing for the continent of Europe. In all cases fellowships have been calculated for nine months of training each year.

96. In view of the need for the participating centres to become self-supporting, provision has been made in Table 4 for the training of teaching staff for those centres requiring strengthening. The fellowships for this training have also been costed at the UNDP proforma rate of \$750 per month for nine months per year. It should be noted that some of the teachers included in the governmental contribution are already intended to replace external assistance personnel when they will acquire the necessary experience. Also, the annual average numbers of teaching staff need to be interpreted carefully as they do not indicate how the external assistance will be phased out within the ten-year programme.

97. The fellowship costs seem high in relation to those normally expected under African conditions even when inflation is taken into account. It should also be noted that UNDP rates include an allowance for tuition fees without indicating the amount. As staff and other costs are shown separately there is therefore an element of double-counting in the budget data. The point will be discussed again in relation to financing of the programme.

98. Very little information was provided on the construction of premises and the information has been entered separately at the end of the budget data to give a rough indication of where building requirements exist.

99. Other budget items are relatively small and the figures are those provided by centres plus a number of estimates. It is appreciated that the use of annual averages may not be very realistic in respect of equipment and some other items but data presentation has to be kept as simple as possible at the present stage.

100. Costed as described above, the average annual expenditure on the programme would be US \$13.7 million excluding construction. The figures suggest that around US \$8 million of this amount could usefully be contributed by international and bilateral donors.

101. Due to the poor quality of data received, it has not been possible to compile a set of current cost estimates for comparative purposes. However, on the basis of increases of 86 per cent in teaching staff, 60 per cent in number of trainees and 75 per cent for administrative and other costs, 1977 expenditures by host governments and donors together would probably be about US \$8 million based on costing arrangements described above. For the reasons already given, the cost figures are probably high but not very much higher than should be envisaged in the present inflationary situation. The point to be borne in mind is that an expensive and effective statistical training programme already exists; the problem is simply to increase it to a level where it can meet all demands for personnel with statistical training.

102. The outlays on statistical training envisaged in Table 4 would appear to bring Africa to the point where it can become self-sufficient in the output of professional staff within the next ten years. During the same period the region also has to become self-sufficient in producing middle level staff through in-service training programmes as well as existing regional facilities. There is no suggestion that Africa should adopt an isolationist policy in training its statisticians; Africa will continue to need overseas facilities for training many of its personnel and it is important to develop a reciprocal interchange of students.

103. Cost components not dealt with in the present document relate to the supporting facilities required from ECA, UN Headquarters and the co-ordination of regional activities, e.g. meetings of directors of statistical centres.

VII. FINANCING OF THE PROJECT

104. With the exception of the special provision for the Portuguese-language group and proposals for an additional ISE course and a middle-level course at Kigali, training programmes are already operational at established centres, and host governments are contributing in whole or in part to current costs, with help in some cases from bilateral and multilateral sources.

105. It is hoped that African Governments will express their willingness to participate in the financing of the programme, as recommended by the tenth session of the Conference of African Statisticians. The additional financial burdens imposed by the programme relate in the main to teacher and fellowship costs to cover the proposed increase in numbers of trainees, though proportional increases in administrative and other costs will also occur. This suggests that a share of the additional costs arising from increase in number of trainees can logically be contributed by governments wishing to use the facilities of the centres for their nationals. As indicated earlier, UNDP pro forma rates for fellowships are understood to include an allowance for tuition in addition to travel and personal and living allowances for the trainees. As tuitions normally contribute towards teachers' salaries and other running expenses of training institutions, the tuition portion of fellowships could therefore be considered as a net contribution to the running of the centres. It should be noted that the fellowship

costs may also be financed by external sources such as the indicative planning figure (IPF) of the United Nations Development Programme (UNDP) and the multiannual programme of the European Development Fund (EDF).

106. It is also hoped that host Governments of the STPA centres will express their readiness to absorb additional running costs of their institutions.

107. In light of new demands being made on the centres it is expected that external aid already being contributed from bilateral and multilateral sources will be continued at somewhat increased levels, and that new potential donors will be identified.

108. For those portions of programme costs not otherwise covered, separate projects of assistance will need to be prepared for consideration by potential donors in the overall context of the STPA. Financing to support the central coordinating role of ECA will also need to be considered as a separate project.

ABBREVIATIONS

CESD:	Centre européen de formation des statisticiens-économistes des pays en voie de développement, Paris
CSO:	Central Statistical Office
EASTIC:	East African Statistical Training Centre, Dar-es-Salaam
ESA:	Ecole de statistique d'Abidjan
IAMSEA:	Institut africain et mauricien de statistique et d'économie appliquée, Kigali
INSEA:	Institut national de statistique et d'économie appliquée, Rabat
ISAE:	Institute of Statistics and Applied Economics, Kampala
ISPFA:	Institut de statistique, de planification et d'économie appliquée, Yaounde
ITPEA:	Institut des techniques de planification et d'économie appliquée, Algiers
ITS:	Ingénieur des travaux statistiques
NUL:	National University of Lesotho, Maseru
UBS:	University of Botswana and Swaziland, Gaborone