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Meeting of West African Statisticians
Niamey, 19-23 October 1964

Conference of African Planners
First session
Dakar, 16-27 November 1964

DEVELOPMENT OF STATISTICAL TRAINING

(Note by the ECA secretariat)

1. Although statistical development has made good progress in Africa during the last few years, the provision of adequate numbers of trained staff at all levels remains one of the principal problems. For this reason, training must continue to be one of the main concerns at meetings of statisticians throughout the region.

2. The following notes give a brief review of some aspects of existing training arrangements and suggest a few questions which appear to merit thought at the present time. The objects in raising these questions at the meeting of West African Statisticians are to promote exchange of views between the countries and to obtain some guidance from the discussion on how ECA statistical training activities should be developed in the future. It is appreciated, however, that delegates may wish to introduce alternative or additional topics.

3. Training of professional statisticians is carried out by means of university and similar courses. Such facilities are becoming increasingly available in Africa and it is not necessary to discuss them in this note. There are, however, two points in connexion with professional training which should be mentioned. Firstly, it is necessary to make provision for people in junior posts to work their way up to professional level,

in order to avoid wastage of capable manpower. This question is referred to again below. Secondly, there is the need for postgraduate training of some professional staff. Such training should preferably be undertaken after the acquisition of a reasonable amount of practical experience and the award of scholarships for this purpose should be dependent on the working performance of the individuals concerned.

4. For non-professional staff, training has to be considered in several stages, but it should be noted that the objective is to devise an arrangement whereby these various stages form parts of an integrated programme which can meet the needs of staff at all non-professional levels.

5. At the lowest level, various types of in-service training can be used to promote the general efficiency of clerical staff, to give them some idea of civil service organization and procedures and the general principles underlying statistical methodology, as well as to make good educational deficiencies. The last named is particularly important in the case of primary school recruits who have had much of their education in a local language which is not the working language of the civil service. The general induction courses provided by many governments for new recruits are of obvious value, but it is clear that training has to continue systematically within the various departments to which these recruits are allocated. Some statistical organizations have favoured the use of training officers, usually provided through technical assistance, but, at this level, there are considerable advantages in "on-the-job" training by the professional staff of the office in respect of their own subjects.

6. The next stage is the training of clerical level staff for junior executive posts and, for this purpose, the "middle level" international statistical centres have proved both popular and effective. Three such centres have been in operation since 1961, sponsored jointly by the United Nations and African governments. It is expected that at least one more will be established in the near future. These centres provide nine month full-time courses in statistical methodology and related subjects and

attach considerable importance to practical exercises. In addition, a number of very effective national training schemes have been established, some providing full-time and some part-time courses and, of the latter, one accepts foreign students.

7. Initially, there was some doubt about the desirability of establishing middle level centres offering full-time courses because of the difficulty in releasing staff for long periods of training and the feeling that, at this level, practical working experience might be more effective than formal training. The results achieved by the centres have, however, shown that such an outlook was much too limited. The scheme was introduced in the first place as an emergency measure to help in remedying the acute shortage of executive staff which was seriously hampering the development of nearly all statistical offices and, in this, the arrangement has proved reasonably effective. It has also been found that many of the students passing through the centres are capable of absorbing a considerable amount of technical training and can be expected to make considerable progress in the future, provided their training can be continued. The second justification for the training centres is, therefore, that they have provided a means of making more effective long term use of available manpower than would have been possible through normal practical initiation in working procedures. A third point is, of course, that, in an understaffed statistical office, training activities tend to be somewhat neglected and the use of separate institutions for this purpose does ensure that the work is pursued consistently.

8. The middle level centres co-sponsored by the United Nations were established under five year agreements which expire in 1966. During 1965 it will therefore be necessary to reach decisions on the desirability and methods of continuing their functions beyond 1966.

9. The third principal stage which has to be considered is the more advanced training of non-professional staff beyond the "middle" level. For French speaking countries an international centre already exists, which provides two year courses leading to the "attaché" level. Students

who are successful in these courses have the further possibility of proceeding to "administrateur" courses in Paris or elsewhere. There is therefore continuity in the training arrangements for French speaking countries, which can enable staff to work their way from clerical to professional level. In English speaking countries at the present time, the only possibility is for a middle level trainee to take the RSA examination of the London Institute of Statisticians and then to work his way through the higher examinations of the Institute. This is not entirely unsatisfactory because a number of African countries are utilizing these examinations for appointment and promotion purposes, but it is clearly necessary that proper facilities should be developed within the region. The Third Conference of African Statisticians recommended that this should be done and the alternatives being studied are a separate institute on the same lines as that provided for French speaking countries, or the use of existing university facilities. As a number of universities are already providing statistics courses (usually in conjunction with economics) and have expressed their willingness to accept the middle level type of student on a diploma basis, it would seem that the second of the two alternatives will probably prove the most satisfactory.

10. In addition to the regular training arrangements noted above, countries are beginning to make use of ad hoc courses at all levels to meet special requirements and to promote general interest and efficiency. With these should be coupled various international co-operative activities, including study tours, seminars and short training courses.

11. It is clearly necessary that all statistical training should be properly co-ordinated and the most effective method of achieving this at both the national and regional levels is through a statistical manpower budget. The budget should show the staff position and number of persons under training at each level in the current year, together with estimated staff and training requirements for future years, taking due account of wastage. The Third Conference of African Statisticians requested ECA to assemble the basic material for this purpose and the questionnaires will be available at the West African meeting for comments.

12. In connexion with the above notes there are a number of points on which discussion might be useful. These are:

- (a) In-service training at the lower levels. The question is whether this should be rather specific "on-the-job" training, or whether it should be of a more formal nature. The main factor in this connexion seems to be the extent to which basic educational deficiencies have to be made good before clerical staff are really in a position to achieve a thorough understanding of simple operations. From the longer term point of view, there is the point that junior clerks have to be given the opportunity of progressing to higher levels, which suggests that their training should not be too specific and that they should be enabled to qualify for the middle level courses referred to in paragraph 5. In this connexion it should be noted that the Third Conference of African Statisticians indicated definitely that all training below the middle level should be carried out on a national basis.
- (b) In three academic sessions, the international middle level centres operating in West Africa have dealt with about 230 students. Directors of centres and country delegates may wish to comment on the success of the results. The principal point of interest in this connexion is the work performed by the trainees before embarking on the courses and their post-ings and capabilities on completion. It would also be useful to have an assessment of the adequacy of the facilities provided by the international centres in relation to the requirements of the statistical offices and the number of properly qualified candidates available.
- (c) With reference to paragraph 8 above, it would be of considerable assistance to have preliminary views on the future of the middle level centres co-sponsored by the United Nations and African governments.

(d) Further training requirements in respect of the more successful middle level students and other persons in a similar position. This question relates specifically to staff who are not qualified for normal university entrance. Firstly, it is necessary to form an idea of how many persons might be involved. The second question relates to the type of training which would be the most suitable. Such persons could proceed direct to a course of the diploma or attaché type, which would normally be of two years' duration. Alternatively, an intermediate shorter course might be desirable. There is also the further question of what arrangements might be made for English speaking diploma students to reach full professional level. As indicated in paragraph above, this question does not arise in the case of French speaking students and, in any case, very small numbers of persons would be involved.

(e) Further training of professional statisticians. This is perhaps not such a fruitful topic for discussion at the meeting, since arrangements would depend on requirements in individual cases. However, there are the questions of how much of this training should be directed towards statistical methodology and how much should be devoted to broader subjects, largely connected with development planning. It might also be possible to examine the desirability of sending officers for more formal training at universities and other centres, as compared with sending them to acquire experience in foreign institutions specializing in the fields concerned.

(f) Ad hoc training courses of a general nature. A number of countries have carried out ad hoc training at various levels, usually relating to questions of statistical methodology. The difficulty arises in assembling widely scattered staff at a convenient time and this means that courses have to be of short duration. It would be of interest to have views on the most suitable arrangements under these circumstances.

- (g) Ad hoc courses of a specialized nature. This training has so far been carried out mainly on an international basis, e.g. agricultural statistics, Bingerville, 1957, population census techniques, Accra, 1961, household surveys, Libreville, 1961. Similar arrangements will probably need to be used in connexion with the 1970 world population census programme and it would be useful to have opinions concerning other fields in which the method might be effective.
- (h) Specialized courses of a more regular nature. Some specialized training has already been carried out in the middle level centres, mainly in the fields of agricultural and health statistics. Such arrangements depend on the requirements of the groups of countries using the centres, but the question arises as to how much of the existing limited capacity of the centres can be devoted for this purpose.
- (i) Survey of statistical manpower in Africa. At the Third Conference of African Statisticians it was made clear that details of statistical manpower were important not only to the countries themselves in their development efforts, but also to multilateral and bilateral agencies providing assistance in respect of training and specific subjects. Delegates may wish to comment on the adequacy of the questionnaires prepared for this purpose and on the desirability of continuing such enquiries in the future.
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ANNEX I

ECA INQUIRY INTO STATISTICAL OFFICE STAFFING IN AFRICA

Proposals for Questionnaires

At the Third Conference of African Statisticians (Addis Ababa, October 1963), the Executive Secretary of the Economic Commission for Africa drew particular attention to the facilities made available in the region for the training of statisticians and underlined their inadequacy in relations of future requirements. He estimated that, by 1970, African countries would require a minimum of 2,000 additional middle-level and 750 professional statisticians to staff their statistical offices adequately. These figures were based on twenty replies to a questionnaire, drawn up in 1963 and sent to all African Statistical Offices, requesting estimates of the requirements for professional and middle-level statistical personnel during the period 1964-70. To make this increase possible substantial expansion of training facilities and a general improvement in the status of statisticians would be required.

The Conference thus requested the Secretariat to produce a detailed table showing staff requirements, officers in post and trainees to enable training facilities provided by all agencies to be properly adapted to requirements.

To simplify and standardize the answers received on this topic two sets of questionnaires have been prepared. The replies to the questionnaires will serve to establish the requested summary table.

Annex III consists of four questionnaires which are considered a minimum to supply the basic information. They are:

Table I: Present Establishment and Staff and Requirements by 1970

Table II: Current Training Programme

Table III: Regular Statistical Programme Planned for 1965-70

Table IV: Ad hoc Inquiries Planned for 1965-70.

Annex IV contains the following seven questionnaires, which, if properly completed, would supply very detailed information as to present staffing position and future requirements.

Table I: Senior Staff; Establishment, Present Position, Terminations

Table II: Junior Staff: Establishment, Present Position, Promotions, Terminations

Table III: Recruitment by years (Regular Programme) by level, but not by type of inquiry

Table IV: Recruitment by years (ad hoc Inquiries) by Senior and Junior Groups and Type of Inquiry

Table V: Current Training Programme

Table VI: Future Requirements for Trainees

Table VII: Regular Statistical Programme Planned for 1965-70.

Delegates to this Conference are asked to study both sets and give their opinion as to their preference. Any suggestions which you may make will be greatly appreciated.

Once a decision has been taken as to which set is to be completed, questionnaires will be sent to all Statistical Offices. As it is not possible for the ECA Secretariat to make contact with other government agencies who have or intend to have statistical units, heads of statistical offices who are completing the questionnaires will be requested to obtain the necessary information.

ANNEX II

NOTES ON COMPLETION OF THE QUESTIONNAIRES

1. For the sake of comparability, it has been decided to request information on establishment and staff in post for the year 1964 and future needs for the period 1965 to 1970. While complete and correct figures can be given for 1964, it would be appreciated if Statistical Offices could give good estimates on their future requirements. Such estimates may be subject to revision at a later date.
2. The differences in nomenclature used in classifying training courses and government posts between English and French speaking countries led to some difficulty throughout the discussions at the Third Conference of African Statisticians. The Conference therefore established a small committee to clarify this question. The classification of personnel used in the attached questionnaires is based on the decisions of that committee, which were submitted to the Conference. Details of the classification are given in pages 2 and 3 of this Annex.
3. As estimates of requirements are assessed in the light of a country's statistical programme, the tables referring to regular programme and ad hoc inquiries should be completed with as much detail as possible.
4. Footnotes may be utilized in order to complete information.
5. Please indicate date of completion of questionnaires.

PERSONNEL IN STATISTICS DEPARTMENTS
PERSONNEL DES SERVICES DE STATISTIQUE

Classification by level of qualification

Classification d'après le niveau de qualifications

I. Professional Statisticians

- (a) Senior Statisticians
- (b) Statisticians

Notes

- (a) Entrance by promotion from (b)

- (b) Entrance requires a University Honours degree or University post-graduate diploma with adequate statistics, or an equivalent qualification in statistics (e.g. Associateship at Honours level of the Institute of Statisticians in the U.K.). Where the degree course covers only elementary statistics, entry would normally be to II (a) below. Post-graduate qualifications in statistics may qualify the candidate for experience credit or enhanced entry point in Statisticians' scale, including promotion to (a)

I. Personnel de conception

- (a) Ingénieurs statisticiens-économistes
- (b) Ingénieurs des travaux statistiques

Notes

- (a) Niveau exigé pour se présenter au concours d'entrée: 2 à 4 ans d'études universitaires en mathématiques ou en sciences économiques. Entrée sur titres avec licence en sciences économiques ou licence en mathématiques. Trois années d'études avec examens à la fin de chaque année, la troisième année étant une année de spécialisation par exemple: économétrie, sondage, planification.... Diplôme "d'Ingénieur statisticien économiste" correspondant aux diplômes universitaires d'études supérieures (doctorat).
- (b) Diplôme exigé: deuxième partie du baccalauréat en mathématiques élémentaires plus un concours d'entrée. Deux années d'études avec examen à la fin de chaque année. Diplôme d'ingénieur des travaux statistiques correspondant administrativement dans le cadre technique de la fonction publique au niveau d'une licence universitaire.

II. Executive class

- (a) Higher Statistical Officers and Statistical Officers (or equivalent grades in other countries).
- (b) Assistant Statistical Officers (or equivalent grade in other countries).

Notes

- (a) Entry is by promotion from (b), or requires a University Pass Degree with statistics or equivalent qualification (e.g. Associateship at Pass level of the Institute of Statisticians in the UK). Higher posts by promotion only.
- (b) Entry requires G.C.E. at A level or equivalent (e.g. Intermediate Examination of the Institute of Statisticians in the UK). In some countries these grades are linked to somewhat lower qualifications as required by the general grading structure of the local civil services.

III. Clerical class

- (a) Clerical Officers:
Supervisors
- (b) Clerical Assistants:
 - (i) Enumerators
 - (ii) Computers
 - (iii) Machine operators

Note

Entry requires the G.C.E. at O level.

II. Personnel d'exécution

- (a) Adjoints techniques
- (b) Agents techniques

Notes

- (a) Niveau du baccalauréat première partie avec concours. Une année d'études. Diplôme d'adjoint technique de la statistique.
- (b) Brevet élémentaire exige plus un concours d'entrée. Une année d'études. Diplôme d'agent technique de la statistique.

III. Commis statisticiens

- (a) Commis adjoints:
Controlleurs
- (b) Commis agents
 - (i) Enquêteurs
 - (ii) Calculateurs
 - (iii) Opérateurs

Note

Niveau de recrutement: école primaire.

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INQUIRY INTO STATISTICAL OFFICE STAFFING IN AFRICA

E.C.A. 1964

COUNTRY

TABLE I

Present Establishment and Staff and Requirements by 1970

Grade	POSTS				Estimated number required by 1970
	Establishment 1964	Filled at date of completion of questionnaire		Others ^{2/}	
		Nationals	Expatriates		
<u>Professional Statisticians</u> a) Senior Statisticians b) Statisticians <u>Executive Class</u> ^{1/} a) Higher Stat. Officers & Stat. Officers b) Assistant Stat. Officers <u>Clerical class</u> ^{1/} a) Clerical officers b) Clerical assistants					

1/ Including Officers in corresponding grades in data processing units, field organisation, etc.

2/ Including Technical Assistance Experts.

STATISTICAL OFFICE STAFFING IN AFRICA
E.C.A. 1964
Annex III

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TABLE II

Current Training Programme

[illegible]

Note : Professional : (a) : Senior Statisticians
(b) : Statisticians
Executive : (a) : Higher Statistical Officers and Statistical Officers
(b) : Assistant Statistical Officers

TABLE III

Regular Statistical Programme Planned for 1965 - 1970

	1965	1966	1967	1968	1969	1970
<u>General economic and financial statistics</u>						
National accounts						
Capital formation						
Public finance						
Balance of payments						
Money and banking						
Insurance and real estate						
Financial flows and balances						
<u>Population and social statistics</u>						
Population						
Employment						
Education						
Housing						
Health						
Other						
<u>Production, distribution, Consumption and services</u>						
Mining and quarrying						
Manufacturing, electricity & construction						
Commercial agriculture, forestry and fishing						
Transport and communications						
Distribution and services						
External trade						
Wholesale and retail prices						
Household statistics						

Note : method of completion is by inserting an X in the appropriate spaces.

C O U N T R Y

TABLE IV

AD Hoc Inquiries planned for 1965 - 70

Type of Inquiry	Year					
	1965	1966	1967	1968	1969	1970
Population Census						
Agricultural Census						
Industrial Census						
Others ^{1/}						

1/ Please specify.

Present establishment and staff - Senior and Middle Level Statistician, Administrative Officers, Clerical Officers,

[illegible]

C O U N T R Y

OFFICE STAFFING IN AFRICA

Field Supervisors and Machine Operators. Regular Programme; Including "Experts", if remaining 6 months and over

15 16 17			18	19	20	21
If expecting further training			Type of appointment (permanent: 1 temporary contract: 2 multilateral: 4 bilateral: 5 other: 6)	If temporary contract, or other non-permanent, date of termination	If permanent	
Field of study (e.g. general statistics, agricultural statistics, demography, etc.)	Place	Expected date of departure (month and year)			Possibility of leaving the service Yes/no	If yes, expected date Year and month

[illegible]

Regular Programme

[illegible]

Ad Hoc Inquiries

[illegible]

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TABLE IV

Post Establishment up to 1970 by type of InquiryAd Hoc Inquiries only

Type of Inquiry	Year	Number of recruits			
		Senior		Junior	
		Office	Field	Office	Field
Population Census	1965				
	1966				
	1967				
	1968				
	1969				
	1970				
Agricultural Census	1965				
	1966				
	1967				
	1968				
	1969				
	1970				
Industrial Census	1965				
	1966				
	1967				
	1968				
	1969				
	1970				
Others ^{a/}					

^{a/} Please specify.

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TABLE III

Regular Programme

Part 1: Recruitment to 1970

Grade	Number to be recruited each year						Total 1965-1970
	1965	1966	1967	1968	1969	1970	
<u>Professional Statisticians</u>							
(a) Senior Statisticians							
(b) Statisticians							
<u>Executive class</u>							
(a) Higher Stat. Officers & Stat. Officers							
(b) Assistant Stat. Officers							
<u>Clerical class</u>							
(a) Clerical Officers							
(b) Clerical Assistants							

Part 2: Supplementary information for persons you hope to recruit

Name	Post	Age	Academic qualifications	Technical Ass'ce or Government employee	Probable date of recruitment

C O U N T R Y

TABLE V

Current Training Programme

a/ Please indicate name of centre.

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TABLE VI

Future Requirements for Trainees
 (exclude those already in training)

Grade	1965	1966	1967	1968	1969	1970
<u>Professional Statisticians</u>						
(a) Senior Statisticians						
(b) Statisticians						
<u>Executive class</u>						
(a) Higher Stat. Officers & Stat. Officers						
(b) Assistant Stat. Officers						

C O U N T R Y

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TABLE VII

Regular Statistical Programme Planned for 1965 - 1970

	1965	1966	1967	1968	1969	1970
<u>General economic and financial statistics</u>						
National accounts						
Capital formation						
Public finance						
Balance of payments						
Money and banking						
Insurance and real estate						
Financial flows and balances						
<u>Population and social statistics</u>						
Population						
Employment						
Education						
Housing						
Health						
Other						
<u>Production, distribution, consumption and services</u>						
Mining and quarrying						
Manufacturing, electricity and construction						
Commercial agriculture, forestry and fishing						
Transport and communications						
Distribution and services						
External trade						
Wholesale and retail prices						
Household statistics						

Note: Method of completion is by inserting an X in the appropriate spaces.