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ECONOMIC COMMISSION FOR AFRICA
Meeting of Directors of Middle Level
Statistical Training Centres
Addis Ababa, 16-20 April 1965

INTERNATIONAL STATISTICAL TRAINING CENTRE - YAOUNDE^{1/}

Since the meeting of Directors of Training Centres in 1963, the Yaounde Centre has applied the resolutions applicable to its level:

- a) The level of the assistant statistical officer competition was raised - the 1964 entrance competition was more difficult in mathematics; a copy of the examination paper is attached;
- b) As a result the mathematics courses were of a higher level.

However, there is a disadvantage, for countries with short periods of schooling (Chad, Niger, Mali and CAR) have difficulties in sending suitable candidates. No Trainee from the Republic of Chad is attending the Centre for 1964-65, although two entrance competitions were held.

As a result, a preparatory course was organized by the head of the statistics office, for one Cameroonian trainee, who held an EEC fellowship. For next year it is contemplated that the Centre will organize a correspondence course.

The work of the ISTC

Entrance competitions. Although the level of the examination was raised, the number of candidates increased distinctly each year. Not all the suitable candidates could be admitted to the Centre; it was often difficult to choose the candidates by reason of the small difference in marks. The number of candidates in the competitions is annexed.

^{1/} Note prepared for the ECA Secretariat by Mr. André Serré, Director of Studies.

For the four sessions, the number of trainees per country was as follows:

Dahomey	1	Republic of the Congo	16
Togo	11	Gabon	9
Niger	1	Rwanda	2
Mali	3	Cameroun East	30
Chad	3	West	5
Central African Republic	8	Total	107 trainees
Democratic Republic of the Congo	13		

For the first three sessions, 60 trainees out of 71 obtained the assistant statistical officer's diploma, i.e, 84,5 per cent.

The results may be tabulated as follows:

Session	Number admitted by competition	Number passing out at the end of the course
1961 - 1962	20	18
1962 - 1963	20	16
1963 - 1964	31	26
TOTAL	71	60

Organization of the 1964-65 Session

The course for statistical officers corresponding to the courses of the Achimota Centre was not organized owing to lack of teachers.

95 candidates sat the entrance competition.

7 candidates were accepted.

The course for assistant statistical officers is diversified during the last term. The various specialities are as follows:

1. General statistics:

(a) Current Statistics: The practical course will comprise one month's training in the Cameroonian statistical service under the guidance of Mr. Nguegang. The students will pass through the various sections dealing with general statistics. At the request of their Governments, they may specialize in a certain branch (foreign trade, prices, etc.).

(b) Surveys: As several surveys are under way in Cameroon, some students will participate in them, either as **enumerators** or supervisors

- demographic survey at Foumban
- survey of urban family budgets at Yaounde
- survey of family budgets in a rural area (cocoa growing area)
- road-side survey near Yaounde on goods (incoming and outgoing).

2. Agricultural statistics: A survey in Bamileke country is being carried out under the direction of the agricultural statistics service; the students will be able to participate in it under the guidance of Mr. M. Marticou and Mr. Krasovec, an FAO expert.

3. Health statistics: This course will be directed by Dr. Biraud of WHO, who will be assisted by Dr. Torfs of WHO at Yaounde.

4. Miscellaneous statistics: Four students are intended to help with educational statistics. A survey of the Yaounde school population will be made at all schools and scholastic establishments. Mr. Maes or Mr. Proust, UNESCO experts, will be able to help in this work.

A trainee from Cameroon will be assigned to civil aviation in collaboration with ICAO; it will be possible to hold the course at the civil aviation headquarters.

1965-1966 session

Fourteen French-speaking African countries (Senegal, Mali, Upper Volta, Niger, Togo, Dahomey, CAR, Chad, Congo-Brazza, Gabon, Congo-Leo, Rwanda, Burundi and Cameroon) have already asked for places for the courses for assistant statistical officers and statistical officers.

A meeting of the expanded advisory board of the ISTC is to be held on 1st April to study action to be taken on this subject.

- a) Course for assistant statistical officers: the programme will remain unchanged and the specialities will be the same as before;
- b) Course for statistical officers: the statistical officers complete the hierarchy, coming between the assistant statistical officers and the statisticians or "attachés".

The statistical officers may be heads of sections in the statistics service. It will be their duty to supervise and carry out simple analytical work and compilation, for example, drafting statistical year-books.

They may be seconded to the various ministerial departments or to the administrative sub-divisions to direct the statistical branch units.

Training must therefore be specialized. The development of statistical information is connected to the development of administrative organization.

It would be a useless luxury to establish a costly apparatus working in the void of an indifferent administration.

It is not enough to create posts and to provide personnel to fill them; when they leave training centres assistant statistical officers must be briefed, guided and supervised by statistical officers.

The statistical infrastructure must be developed progressively, stimulated by demand and not imposed on a hostile administration.

The first three lots of assistant statistical officers trained have fulfilled this role, for the various administrations are making increasing demands. For the 1964-1965 session, the various ministerial departments of the Republic of Cameroon asked for 27 assistant statistical officers; we were able to train only 13.

Recruitment of statistical officers

Recruiting will be made in two different ways:

- a direct competitive examination reserved for students who have passed second part of the Baccalauréat (University entrance standard);

- a professional competition reserved for holders of the assistant statistical officer's diploma of the Yaounde or Abidjan Centres. The list of candidates permitted to sit for the entrance competition shall be drawn up by the chief of the statistics service of the country in question.

Seven countries allow assistant statistical officers to enter after one year of service, others after two and even three years.

Programme of courses:

Taking into account direct and professional recruiting, the course lasting two years will be diversified; for candidates who pass the professional competition, additional mathematics will be necessary, while for candidates who pass the direct competition, the courses in statistical method will be more important.

The second year of study will be reserved for specialization and a practical course.

Future of the Centre

Cameroon wishes the Centre to continue after the end of the agreement with the United Nations. The 1 April meeting of the advisory board is to give an opinion on this subject.

A study of needs for statistical personnel was made by Mr. Ficatier of NISES, Mr. Le Hegarat of CESD and Mr. Reynier of EEC. They estimated middle-level needs for 1965-1970 at

155 statistical officers

700 assistant statistical officers

These estimates are not exaggerated, for Cameroon has requested 50 assistant officers in 5 years, i.e. 10 per year; this year we are training 13 for that country.

COUNTRY	Entrance competition 1962 Session			Entrance competition 1962 Session			Entrance competition 1963 Session			Entrance competition 1964 Session		
	No. of candi- dates	No. of passes	No. of places granted	No. of candi- dates	No. of passes	No. of places granted	No. of candi- dates	No. of passes	No. of places granted	No. of candi- dates	No. of passes	No. of places granted
Cameroon	35	7	5	22	8	6	93	30	11	422	90	13
Congo-Brazza.	20	4	4	9	1	1	101	9	9	90	3	2
Congo-Leo.	15	4	4	21	6	6	10	4	4	75	4	4
Central African Republic	35	3	3	1	-	-	6	1	1	27	9	4
Chad	1	1	1	10	2	1	9	1	1	17	1	-
Gabon	20	2	2	9	3	2	9	3	3	14	3	2
Dahomey	1	1	1	-	-	-	-	-	-	-	-	-
Niger	-	-	-	4	1	1	6	-	-	6	1	-
Togo	-	-	-	45	10	2	75	25	2	90	24	7
Mali	-	-	-	1	1	1	-	-	-	39	8	2
Rwanda	-	-	-	-	-	-	-	-	-	10	3	2
TOTAL	127	22	20	122	32	20	309	73	31	786	146	36

Two candidates refused their fellowships in 1964: one from Chad and one from Niger.

The number of places granted is a function of the number of posts requested by the different States.

All candidates who obtain the diploma are integrated into the civil service in their countries.

ANNEX I

DIRECT COMPETITIVE EXAMINATION FOR ADMISSION
TO THE ASSISTANT STATISTICAL OFFICER'S COURSE

Mathematics Paper

Time : 3 hours

1. A person has a sum of money which he shares between three heirs in the proportion 7:6:5. In a second will he alters these provisions and shares the money in the proportions 6:5:4.

Which of the heirs gains? Which one loses?

One of the heirs received 12,000 francs more under the second will than under the first. What is the value of the legacy and what are the amounts of the three shares?

2. Consider the two numbers:

$$a = \sqrt{3 + 2\sqrt{2}} \quad + \quad \sqrt{3 - 2\sqrt{2}}$$

$$\text{and } b = \sqrt{3 + 2\sqrt{2}} \quad - \quad \sqrt{3 - 2\sqrt{2}}$$

Calculate a^2 and b^2 and deduce a more simple expression of the value of a and b .

3. Peter says to Simon: I am twice as old as you were when I was as old as you are; when you are as old as I am, the sum of our ages will be 63 years. What are their ages?

4. Reduce the following inequality to its lowest terms:

$$\frac{5 + 2x}{3 - 2x} < \frac{2 + 5x}{3 - 5x}$$

5. Solve the following by means of graphs:

$$y - x + 1 = 0$$

$$y - 2x + 4 = 0$$

- 2) Verify by calculation the results obtained by means of the graphs
- 3) Determine the value of b so that the equation $y = 3x + b$ represents a straight line passing through M , the point of intersection of the other two straight lines.
- 4) A parallel to the straight line $y - 2x + 4 = 0$ is drawn through a point $N (x = -1, y = 1)$

State the equation for this parallel.

ANNEX II

DRAFT SYLLABUS FOR THE STATISTICAL OFFICERS' SECTION

The meeting of the West African statisticians at Niamey and that of the statisticians of the Equatorial Customs Union at Fort Lamy requested that, if possible, the courses for statistical officers should be spread out over two sessions.

It therefore seems necessary to return to the formula proposed previously.

Two entrance competitions:

- Direct;
- Professional.

1. Direct competition entrants

First session: (January to June) = Training in statistics;

Second session: (October to June) = Additional mathematics, additional statistics - specialization - three-month practical course.

2. Professional competition entrants

First session: 1 April to 30 June: Additional mathematics (to reach the level of the first).

Second session: (October to June) : Additional mathematics and statistical methods - specialization - three-month course.

The second session will be common to the two sections.

SYLLABUS

Mathematics:

First year (professional): revision of the assistant statistical officers' course

- Exponents;
- Quadratic equations with one unknown, existence, sign and calculation of roots;

- Symmetrical functions of roots;
- Signs of the trinomial, existence of roots;
- Graphic representation of the function $y = ax^2 + bx + c$; $y = \frac{a}{x}$
- Study of limits;
- Quadratic inequalities;
- Relative and absolute errors, calculation of the error of a sum, of a difference, of a product, of a quotient;
- Arithmetical and geometrical progressions;
- Logarithms to base 10;
- Extension of the notion of the area of a circle, of a sector;
- Trigonometric circles of two half-lines;
- Definition of sine, cosine, tangent and cotangent;
- Circular functions: $\sin x$, $\cos x$, $\tan x$ and $\cot x$;
- Equation $\sin x = a$, $\cos x = a$, $\tan x = a$.
- Transformation of the rational function $\frac{ax + b}{cx + d}$ leading to the form

$$\frac{a}{c} + \frac{k}{x-h}$$

- Function $y = \frac{ax + b}{cx + d}$ of the existent variable x , direction of the variation, study when x tends towards infinity or towards $(-\frac{d}{c})$;
- Derivative of a function for a given value - derived function;
- Derivative of a current function, of a sum of derivable functions, of a product and quotient of two derivable, primitive functions;
- Graphic interpretation of the derivative of a function the curve of which is related to a Cartesian co-ordinate, the equation of the tangent to a point on this curve, the derivative of a polynomial;
- Enunciation but not demonstration of the theorem from which it is possible to deduce the direction of variation of a function over a given interval of the derivative;
- Applications of the functions $y = ax^2 + bx + c$; $y = \frac{ax + b}{cx + d}$
- Exponential, inverse and logarithmic function;

$$y = x^3 + px + q \text{ \& } y = ax^4 + bx^2 + c$$

Statistical method:

First year: (Direct competition): Elementary statistical method for assistant statistical officers

Second year: (All trainees)

Additional Statistics:

- Indices;
- Characteristics and indices of scatter of a series, in particular standard deviation = properties;
- Elementary probability - definitions - axioms;
- Random variable = mathematical probability;
- Normal distribution = utilization of the normal distribution table;
- Linear adjustment = least-squares method - elementary correlation;
- Corresponding practical work (4 hours per week);

Applied statistics: (4 hours per week)

- Additional instruction in various types of statistics and, above all, practical exercise in the drafting of year-books, bulletins etc;
- Each type of statistics will be rapidly revised.

The following will be dealt with during the six-month course;

- 1) Geography and climatology
- 2) Population statistics and social statistics
- 3) Statistics of agricultural production or marketing
- 4) Statistics of industrial production and transport
- 5) Financial statistics
- 6) Foreign trade statistics.

In each section the definitions, sources and value of the information extracted will be studied.

Practical work will be carried out in connexion with the subject of each section.

Business accounting

A course in accounting will be given to enable the trainees to study company balance sheets and to give them precise definitions.

Filing and documentation: (20 hours)

- Filing records
- Reading documents - summary and analysis of interesting articles.

Printing

- Various methods of printing

Duplicating

- Various machines
- Correcting stencils
- Introductory practical course on the two main duplicating machines:
 - Gestetner and
 - Rex-Rotary

Printing work

- Visit to the national printing press
- Correcting printers' proofs
- Checking errors

Mechanical data processing

- Course on the machines
- Checking the quality of the work

English

Additional instruction to enable students to understand statistical publications in English.

Practical three-month course

The trainees will be given a chapter of a year-book to draft.

They will have to contact the Ministry concerned to collect the figures, set up the tables and corresponding graphs.

Organization of work

- Checking personnel output
- Administration.