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ECONOMIC COMMISSION FOR AFRICA
Joint Meeting of ECA and OAU
on Telecommunications in Africa
Addis Ababa, 7 - 12 March 1966

REPORT OF THE JOINT MEETING OF ECA AND OAU
ON TELECOMMUNICATIONS IN AFRICA

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Origin

1. The Meeting on Telecommunications in Africa, sponsored jointly by the Economic Commission for Africa and the Organization for African Unity under their respective resolutions [148 (VII) and TRC/RES/117], met in Addis Ababa from 7 to 12 March 1966.

Purpose

2. The purpose of the joint meeting was threefold:

(i) to review the existing or planned national networks from the viewpoint of potential needs rather than past traffic flows.

(ii) to determine a realistic programme covering the following phases:

(a) the completion of the pre-investment work already begun and its follow-up with a physical survey which would produce plans and specifications of the equipment required, together with cost estimates. The survey would in addition include investigation of any special problems of operational and tariff matters;

(b) the setting out of a training programme which would ensure the success of the operation of the network, through paying particular attention to the training of personnel for all aspects of the planning, administration, installation, maintenance, and operation of the network. The programme would encompass the setting up of national schools for advanced and specialized training and provide for the training of instructors for these schools.

(iii) to initiate negotiations for financing the scheme through the African Development Bank.

Organization and Attendance

3. The meeting was attended by delegates from the following 34 members and associate member States: Algeria, Burundi, Cameroon, Central African Republic, Chad, the Republic of Congo, the Democratic Republic of Congo, Dahomey, Ethiopia, Equatorial Guinea, France, Gabon, Ghana, Ivory Coast, Kenya, Liberia, Madagascar, Malawi, Mauritius, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Somalia, Spain, Sudan, Togo, Tunisia, Uganda, United Arab Republic, United Kingdom, Upper Volta and Zambia. The International Telecommunications Union (ITU) was represented by a delegation of four, led by the Deputy Secretary-General. Observers from the East African Common Services Organization (EACSO) also attended the meeting. A list of participants is attached. (Annex 1).

4. At the first plenary session the following officers were elected (Agenda Item 2):

Mr. B. Admassie (Ethiopia) as Chairman;

Mr. A. Amrani (Algeria) and Mr. G.C. Okoli (Nigeria) as First and Second Vice-Chairman respectively; and

Mr. C.S. Davies (Sierra Leone) and Mr. L. Dia (Senegal) as Rapporteurs.

5. A Drafting Committee of five, comprising the following was elected:

Mr. P.T. Debrah (Ghana),

Mr. H. Ben Cheikh (Tunisia),

Mr. Mzengou (Central African Republic),

and the two rapporteurs. The Committee elected as its Chairman. H. Ben Cheikh.

6. Following the adoption of the Agenda, (Annex II), the meeting decided to establish two Committees, which would meet simultaneously and deal with certain items on the Agenda. Items 5, 6 and 8 of the Agenda were allocated to Committee No.1; and, Item 7 to Committee No.2.

Item 4 of the agenda was reserved for discussion in the plenary session, together with the reports of the two committees.

Opening Ceremony

7. Mr. G.L. Pognon, Assistant Secretary-General of the OAU, opened the meeting on 7 March 1966, with a welcome to the delegates on behalf of the Organization of African Unity and the Economic Commission for Africa. The Head of the Ethiopian delegation read a message from His Imperial Majesty Haile Selassie I, Emperor of Ethiopia (Annex III); and welcomed the delegates (Annex IV). Mr. G.E.A. Lardner, a member of the secretariat, read a statement on behalf of the Executive Secretary (Annex V). Mr. M. Milli, Deputy Secretary-General (ITU) also addressed the meeting (Annex VI). The meeting then reassembled in its first plenary session to proceed with the election of officers and discuss the organization of its work.

Agenda Item 4

General Review of Activities in the field of
Telecommunications

8. In reviewing the work of the OAU Transport and Communication Commission, Mr. Pognon reminded delegates of the plans drawn up, at the Cairo Meeting in 1964, and the decisions and recommendations adopted. The programme adopted at that meeting had not been implemented because only a few countries were prepared to place experts at the disposal of the OAU secretariat, and even when job descriptions were sent to countries no experts were forthcoming. The OAU would take advantage of any offer that may still be made by member States; and take note of the projects that were required, and of the stage reached in the implementation of the proposals adopted at the Cairo Meeting.

9. The ECA secretariat then put two points before the meeting for study:

- (i) Method of procedure for implementation of the Rome and Dakar Plans; and,
- (ii) Sources of financing.

It was suggested that, on the question of financing, the approach should be not in the form of a request for aid, but more as an offer of countries opportunities to the advanced countries, for profitable business relations. Unquestionably the need for developing telecommunications in Africa was urgent, and the primary purpose of the meeting should be to devise the ways and means.

10. Some delegates complained that circulars sent to member States, presumably through government channels, often reached PTT Administrations after a long delay, whilst other circulars were never received. It was recognized that the problem experienced by the ECA and the OAU would be obviated if each government would empower the secretariat to transmit copies of documents on technical issues direct to their PTT Administration.

11. It was pointed out that response to requests by African countries for bilateral aid was not always encouraging and, in that in some cases, surveys made by ITU experts of country requirements were never followed up. For this reason member countries were not always to blame for the lack of sustained progress in the establishment (development) of telecommunications.

12. It was noted that if each country would report the causes of deadlock to the ECA an endeavour could be made to remedy the situation.

13. In reviewing the factors which had impeded progress in the improvement of the internal (domestic) links of member States, the following were noted to be the most common:

- (1) Lack of experts to undertake studies;
- (2) Lack of personnel;
- (3) Lack of finance.

14. The rôle of ITU in training personnel was recognized but the problem of securing finance for development remained.

15. The Deputy Secretary-General (ITU) outlined the kind of assistance that the ITU is competent to give. This includes study groups, experts, fellowships, missions and training. He said that ITU could not help with the question of financing. ITU was ready to help in other areas required for the realization of studies, experts, training, etc. He said that since the Montreux Conference, ITU had been empowered to have experts at Headquarters to deal promptly with all questions outside financing.

16. The ECA representative stated that while the secretariat lacked funds for providing direct assistance in establishing network, it could be the intermediary in making financial arrangements with bilateral agencies to facilitate the implementation of projects. For example, the United States of America, had indicated willingness to extend specific kinds of assistance on request. It remained for member countries to determine their requirements.

17. The Assistant Secretary-General (OAU) thought that the OAU and ECA could help, provided member countries presented their plans properly. The African Development Bank had declared its intention to commence its operation by investing in Telecommunications Projects. The OAU had developed very good relations with the African Development Bank and advantage could be taken of this relationship if member countries produced interesting plans.

18. The delegates expressed interest in the offer of assistance by the USA. It was felt that this source of help could be tapped, even at this stage, for the solution of such problems as lack of technical experts, training, etc. The USA could perhaps provide experts, on a short-term basis as an interim measure. In addition, training which was very necessary for developing administration could also be solved in this way on a short-term basis. It was reported that some schools had been established in some French-speaking countries in Africa, and a technical educational institute was now required in one of the English-speaking countries in West Africa, located in Nigeria or Sierra Leone or Liberia or Gambia.

19. The lack of expert information services on the Continent and the dependency upon non-African agencies for information about Africa was stressed, and the inadequacy of telecommunication facilities was stated to be hampering the work of collecting information. ITU/ECA and OAU were exhorted to co-ordinate their efforts to enable member countries to realize the objectives of the Plans.

Report of Committee No.1 to the Plenary Session

20. Committee No.1 had been appointed to deal with the following items on the agenda:

- (a) Item 5: Pan-African Network Plan proposals.
- (b) Item 6: Implementation of the Pan-African Network.
- (c) Item 8: Financing.

21. The Committee met from 8 to 11 March 1966 under the chairmanship of Mr. G.C. Okoli (Nigeria), the second vice-president. The Committee had before it documents E/CN.14/TEL/2 - OAU/TEL/2 and E/CN.14/TEL/5 - OAU/TEL/5. It was assisted by two working groups which studied and made recommendations on specific questions relating to Pan-African telecommunications network and to financing.

22. The Committee first of all, reviewed its terms of reference and agreed to group together in sequence the main proposals contained in documents E/CN.14/TEL/2 and TEL/5 so as to facilitate discussion. The conclusions reached by the Committee are set out below.

National networks and links with neighbouring countries

23. The Committee referred to the Plan Committee Meeting and agreed that it is the responsibility of individual countries to implement the projects recommended in this plan.

Resolution No.1 which is attached to this report was adopted.

Pan-African Network

24. It was agreed that the establishment of an efficient and modern pan-African telecommunication network was very necessary; however, a realistic plan could not emerge until each country had completed the questionnaire which is being issued by the ITU in connexion with the forthcoming meeting of the Plan Committee for Africa.

Inter-Continental Network

25. In view of the urgency and the greater importance attached by African countries to a pan-African network it was agreed not to give

further consideration to this question until the African regional project has been implemented.

Pre-Investment Survey

26. The Committee took cognisance of the fact that the planning of telecommunications projects should consist of the following three phases:

- (a) Pre-planning phase;
- (b) The establishment of the plan; and
- (c) The pre-investment phase.

27. In considering these phases the Committee stressed in respect of (a) and (b) the need for completing without delay the questionnaire being issued by the ITU, and invited the Plan Committee for Africa to formulate the plan before the end of 1966.

28. In respect of (c) it was agreed in the interests of efficiency and economy that the survey should be undertaken on a national basis by the staff of the different African countries concerned in a given project.

Financing

29. The Committee reviewed the range of proposals which required capital investment and agreed to separate the problem into the following two categories:

- (a) Projects in connexion with national networks; and
- (b) Circuits between neighbouring countries.

30. With regard to category (a), it was recommended that the countries concerned should, as far as possible, make financial provision from their own resources. However, countries experiencing difficulties may refer their problems to the ECA or ITU for assistance.

31. The Committee recognized that projects falling in category (b) were long-term projects and included pre-investment studies which would involve an excessive financial outlay necessitating an application

for aid from international financing agencies. The Committee invited the ECA, in collaboration with the OAU and ITU, to endeavour to sponsor applications submitted by African member countries in this respect.

Tariff Structure

32. The Committee took note of a paper on the subject submitted by the delegate of Nigeria and observing that no action had been taken to date in pursuance of resolution No.106 (VI) of the Commission and of the Resolution adopted by the OAU Commission on Transport and Communications at Cairo in 1964 resolved to call on the ECA and OAU to request the Director of CCITT to establish an ad hoc working group for the study of tariffs in Africa and to convene a meeting of the group as soon as possible.

ECA Questionnaire

33. This matter came up for discussion after the Committee had exhausted the time allocated to it for its work and it was not possible to give it full consideration. The Committee agreed to report the position to the next Plenary Session with a recommendation that the ECA secretariat might be requested to reproduce the questions in the form of a document and circulate to member administrations for proper treatment.

34. The report of Committee No.1 was presented to the Plenary Session held on 12 March 1966. The meeting noted the report and after some discussion adopted the following resolutions:

Resolution No.1

National Networks and Circuits to Neighbouring Countries

The ECA/OAU Joint Meeting on Telecommunications in Africa,

Decides that the development of national telecommunications networks and of connexions with neighbouring countries, which are of great importance for the African network, lies within the competence of the Governments concerned,

Recommends that in order to establish these networks, they may request the aid of certain friendly countries through bilateral agreements or, should the necessity arise, that of the ITU or the ECA.

Resolution No.2

Interim Implementation of the African Network

The ECA/OAU Joint Meeting on Telecommunications in Africa,

Having noted that the Dakar and Rome Plans are out of date,

That some African States do not appear in these two plans,

That some African States have set up circuits which do not appear in these plans,

Recommends that member States of OAU, until the Pan-African telecommunications network is established before the end of 1966, should continue to set up links in accordance with the criteria they have used up till now.

Resolution No.3

Pre-Investment Study of the Pan-African Network

The ECA/CAU Joint Meeting on Telecommunications in Africa,

Noting the unanimous support expressed for the establishment of an efficient and modern Pan-African telecommunications network,

Conscious of

The need for a well co-ordinated plan based on actual field survey and 'on-site' investigation in the countries concerned,

The need for a pre-investment survey in order to obtain an accurate financial and technical assessment to undertake in a realistic and business-like manner a gigantic project of the type envisaged,

The acute shortage in Africa of experienced technical and administrative personnel needed to organize, supervise and execute in a proper and orderly manner this survey,

The need for active participation by African countries and the stimulus they must provide if the programme is to succeed,

Recognizing

That the planning of telecommunications projects consists of three phases as follows:

- (a) the pre-planning phase;
- (b) the establishment of the plan; and
- (c) the pre-investment phase,

That excessive delay in implementing the Pan-African telecommunications plan may hamper the economic growth of Africa in other fields and leave the continent far behind in the establishment of the plan for a global interconnexion system,

1. Calls upon member States to undertake as much as possible the pre-planning survey in their territories by the end of September 1966

in accordance with the questionnaire submitted by CCITT secretariat. In the event that the necessary experts are not available in a member-country to conduct the pre-planning survey a request should be made by that country for the necessary assistance from the ITU or ECA,

2. Invites the ITU African Committee to prepare a plan for the Pan-African network at a meeting to be held before the end of 1966,

3. Reaffirms that the pre-investment phase will require the services of experts in the field of telecommunications for the description of projects, the determinations of standards and the preparation of specifications which will be submitted to contractors,

4. Proposes that in the interests of efficiency and economy the experts in question should, as far as possible, be drawn from the staffs of the different African countries concerned in a given project,

5. Urges

(a) ECA/ITU to combine their efforts in order to make available the services of experts for those countries which may request them,

(b) OAU and ECA to ensure the satisfactory execution of these studies, to follow closely the implementation of the project and to provide immediate and efficient assistance to those countries which have difficulties in implementing any project,

(c) The countries concerned to do their best to set up the Pan-African network in the best possible technical and economic conditions with the least delay in accordance with the aspirations of the African countries.

Resolution No.4

Financing

The ECA/OAU Joint Meeting on Telecommunications in Africa,

Considering

That the Pan-African telecommunications and national networks comprising all aspects of provision of equipment, as well as their operation, are absolute requisites to the economic, social and political development of Africa,

That a two stage development scheme is envisaged, namely a short-term plan and a long-term programme both of which require pre-investment surveys,

That the financing of these schemes involves very heavy financial commitments,

Noting that the necessary funds may be obtained through any of the following sources:

- (a) United Nations Development Programme.
- (b) African Development Bank,
- (c) The International Bank for Reconstruction and Development and the International Development Association.
- (d) Bilateral donors.
- (e) ECA as intermediary to any of the above development programmes.
- (f) ITU as intermediary to the United Nations Development Programme for the provision of experts.
- (g) Any other financing organization.

Recommends

1. That each member State continue to finance the improvement and the extension of its national network and the network with neighbouring countries,

in accordance with the questionnaire submitted by CCITT secretariat. In the event that the necessary experts are not available in a member-country to conduct the pre-planning survey a request should be made by that country for the necessary assistance from the ITU or ECA,

2. Invites the ITU African Committee to prepare a plan for the Pan-African network at a meeting to be held before the end of 1966,

3. Reaffirms that the pre-investment phase will require the services of experts in the field of telecommunications for the description of projects, the determinations of standards and the preparation of specifications which will be submitted to contractors,

4. Proposes that in the interests of efficiency and economy the experts in question should, as far as possible, be drawn from the staffs of the different African countries concerned in a given project,

5. Urges

(a) ECA/ITU to combine their efforts in order to make available the services of experts for those countries which may request them,

(b) OAU and ECA to ensure the satisfactory execution of these studies, to follow closely the implementation of the project and to provide immediate and efficient assistance to those countries which have difficulties in implementing any project,

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- (d) Bilateral donors.
- (e) ECA as intermediary to any of the above development programmes.
- (f) ITU as intermediary to the United Nations Development Programme for the provision of experts.
- (g) Any other financing organization.

Recommends

1. That each member State continue to finance the improvement and the extension of its national network and the network with neighbouring countries,

2. That ECA in collaboration with the OAU and ITU each in its own way endeavour to give assistance to African countries in the form of aid to acquire the necessary funds to carry out their projects,

3. That ECA in close co-operation with OAU continue to explore areas of financing possibilities,

Requests the Administrative Secretary-General of OAU and the Executive Secretary of ECA to exert all effort necessary for the implementation of these recommendations.

Resolution No.5

Tariff Structure

The ECA/OAU Joint Meeting on Telecommunications in Africa,

Noting that the question of tariffs in Africa which is still pending is a difficult and complex one,

That relatively detailed studies should be undertaken with a view to the harmonization of tariffs structure,

The existence within CCITT of a study committee dealing with tariffs and costs,

Having taken note of the document submitted by the delegation of Nigeria, of resolution 106(VI) adopted by the Economic Commission for Africa at its sixth session in February 1964; and, of the resolution adopted by the OAU Transport and Communications Commission in Cairo in October 1964,

Requests its Chairman, in consultation with the secretariats of both ECA and OAU, and in accordance with the ITU Convention, to request the Director of CCITT to establish an ad hoc working group which should be convened as soon as possible to study the question of tariffs in Africa.

Report of Committee No.2 to the Plenary Session

35. Committee No.2 had been appointed to deal with Item 7 of the agenda: Training Programme. The Committee had before it the following documents:

E/CN.14/TEL/1-OAU/TEL/1; E/CN.14/TEL/3-OAU/TEL/3;

E/CN.14/TEL/4-OAU/TEL/4; and the Questionnaire on Education and Training.

Six meetings were held from 8 to 11 March, under the chairmanship of Mr. Amrani (Algeria) first Vice-President of the Conference.

36. The Committee reviewed the conditions under which the shortage of qualified personnel in the various administrations may be alleviated, and noted

- (a) that no training project could possibly be successful without the support of member Governments, which in turn should be convinced of the urgency of this task;
- (b) that Africa must be provided, in the shortest possible time, with a sufficient number of telecommunications instructors so that the various administrations could dispense with the services of expatriate personnel which proved costly in the long run;
- (c) that administrations should exercise caution in drawing up a training programme, as experience showed that certain centres had to be closed down for lack of trainees.

37. The Committee considered that training should be envisaged at five different levels:

- (i) Engineers: Engineers should have received a complete academic training. Upon completion of their university studies, they should specialize in, and familiarize themselves with, the practices of their own administrations.

In most cases, this personnel was now trained abroad.

- (ii) Highly qualified technicians. This category included inspectors and supervisors.

There was a great need for this type of personnel in African administrations. Highly qualified technicians should be sought among candidates who had completed their secondary education.

This personnel should as far as possible, be trained within the region in national or multinational training centres.

- (iii) Operational and installation personnel. At this level, the administrations could justify the establishment of their own training centres, as experience showed that the best possible training was that provided by the administration in charge of personnel. The training of this staff, recruited at the twelfth grade certificate level, must be based on practical work, i.e. they should be taught to use the same equipment they would find upon completion of training.

- (iv) The fourth group included qualified workers, mechanics, fitters, electricians, etc., who would receive a practical training provided by qualified personnel. They should have completed their primary schooling.

- (v) For the fifth group, which included semi-qualified workers, in-service technical training would have to be provided.

38. The Committee noted that (a) the competent authorities should be notified if difficulties arose in finding trainees of the required level; (b) an attractive salary scale should be established, as recruiting problems were generally due to the fact that salaries were lower than those offered by private enterprises; and (c) a publicity campaign should be directed at informing the people accurately of the importance of telecommunications in Africa.

39. The Committee felt it desirable that trainees in each category should have the minimum required level of education. In certain cases, additional instruction in mathematics and physics should be provided.

40. As far as the training of inspectors and supervisors was concerned, the Committee noted that as it was not possible for certain countries to provide such training locally, there was need for establishing multinational training centres. Geographical contiguity by itself was not a sufficient criterion in deciding the location of such centres, but greater weight should be attached to similarity of needs of countries and the possibilities of countries using identical equipment.

41. Since a few training centres already existed in Africa, the Committee suggested that a joint survey mission of ITU, ECA and OAU experts should make recommendations as to which centres should be selected to be developed as multinational centres.

42. The Committee adopted the questionnaire prepared to assess as accurately as possible the personnel requirements in Africa and it recommended completion by member States. It was further recommended that the questionnaire should be filled in a number of copies equal to the number of categories of personnel and transmitted to the ECA/ITU secretariat not later than 30 June 1966.

43. Having examined documents E/CN.14/TEL/1-OAU/TEL/1, E/CN.14/TEL/3-OAU/TEL/3, and E/CN.14/TEL/4-OAU/TEL/4, the Committee agreed to recommend three resolutions to the plenary session:

- (i) on training of telecommunications personnel in general;
- (ii) on training in management techniques for the African personnel of telecommunications services; and,
- (iii) on the training of instructors in the field of telecommunications.

44. The report of Committee No.2 was presented to the plenary session held on 12 March 1966. The meeting took note of the report and adopted the following resolutions:

Resolution No.6

Training of Telecommunications Personnel

The ECA/OAU/ Joint Meeting on Telecommunications in Africa,

Considering that the establishment of a Pan-African telecommunications network is dependent on the training of competent staff in all fields,

Considering that the shortage of qualified technicians constitutes a restrictive factor in the development of the telecommunications in Africa,

Recommends:

1. That the ECA/ITU Joint Mission undertakes as a matter of urgency a survey of African needs in the field of professional training, on the basis of the replies to the questionnaire attached to this resolution, and present recommendations accordingly;

2. That certain existing training centres be selected by a team of experts appointed jointly by ECA, OAU and ITU with a view to developing them as multinational centres providing higher education at the engineer and technical inspector levels;

3. That all African Governments be requested to establish as soon as possible a training centre for telecommunications at the supervising and operational levels, in countries where such centres do not already exist;

Invites ECA, OAU and ITU to assess and seek the resources needed for the development of education and training in the field of telecommunications in Africa and especially for the rapid implementation of the three recommendations made above.

Questionnaire to be completed by each Administration and returned to
the Executive Secretary of ECA (for the attention of the Joint ECA/ITU
Mission, P.O. Box 3001, Addis Ababa by June 1966)

Part 1 (All Administrations)

- (1) How many employees do you have in each staff category used in your Administration?
- (2) What are your estimated staff requirements for each category:-
 - (a) 1971?
 - (b) 1976?
- (3) Is there a university-level school of engineering in your country?
 - (a) If yes: How many electrical engineers are expected to graduate from this school during each of the next 3 years? How many of them do you expect to recruit for your service? Do they receive practical training after leaving the university? Where? For how long?
 - (b) If no: Where do your engineers receive their university education?
How many of them do you recruit each year?
Do you have a scholarship system for these student engineers?
Do they receive practical training after leaving the university? Where? For how long?

Part 2 (Administrations with one or more vocational training centres in existence at present)

- (4) Where is (are) your vocational training centre(s) located?
- (5) For each of the categories listed in your answer to question (1) above, please give the following details:
 - (a) Annual intake of your training system.
 - (b) Qualifications required for entry to the courses.

- (c) Duration of courses.
- (i) formal training at the centre.
 - (ii) practical training.
- (d) Are you able to offer other administrations the opportunity of sending students to these courses?
- If yes, how many per year?
- (e) Do these courses fulfil your requirements regarding:
- (i) quality?
 - (ii) quantity?
- (f) If not, what are the short-comings encountered?
- (g) Do you have any difficulties in finding sufficient students in this category? If yes, why? give a list of them.
- (6) Do you have any difficulties in making enough instructors available? If yes, for which courses? Why? What are you doing at present to solve this problem?
- (7) Does your country need foreign assistance to develop your system of vocational training? If yes, specify your needs.

Part 3 (Administrations without any vocational training centre at present and those where the existing training centre does not provide training for all categories of personnel required).

- (8) For each of the categories listed in your reply to question (1) above for which no training system exists in your country please give the following details:
- (a) Where do your personnel receive their training?
 - (b) How many are being trained at present?
 - (c) Do you intend to set up a local training centre for this category?
 - (d) If yes,

(i) When?

(ii) Specify the foreign assistance that you will require. If not, why?

(e) Do you have any difficulties in recruiting sufficient staff in this category? If yes, why?

Part 4

(9) Other information concerning staff education and training in the field of telecommunications.

Resolution No.7

Training in Management Techniques of the African Personnel of
Telecommunications Services

The ECA/OAU Joint Meeting on Telecommunications in Africa,

Having examined document E/CN.14/TEL/3/-OAU/TEL/3,

Considering that there is an imperative and urgent need to train the African senior personnel of telecommunications in management techniques,

Recommends:

1. That such training be offered under the best possible conditions through courses or seminars;
2. That such courses and seminars should, preferably, be held in Africa;
3. That their duration be limited to short periods, since the duties of the participants would not allow them to leave their posts for long periods,

Invites ECA, OAU and ITU to co-operate in formulating permanent programmes on subjects such as those proposed in document E/CN.14/TEL/3-OAU/TEL/3, according to the recommendations made above.

Resolution No.8

Training of Instructors in the Field of Telecommunications

The ECA/OAU Joint Meeting on Telecommunications in Africa,

Having carefully examined document E/CN.14/TEL/4-OAU/TEL/4 dated 14 January 1966,

Recognizing the constant concern of the authors of this project to promote the training of telecommunications personnel, pays tribute to the efforts made by them to prepare the details and quantitative studies they kindly submitted to the Meeting,

Considering

- (a) That the training of telecommunications instructors in the Turin complex does not seem to be satisfactory since this centre also aims at providing other types of training (trade-unionists, economists, business managers, etc.),
- (b) That French-and English-speaking fellowship-trainees would have difficulty in adjusting themselves to this environment without a knowledge of the local language and that this would result in considerable waste of time,
- (c) That the proposed syllabus could equally well be implemented in some African countries,
- (d) That the proposed investment (US \$7,600,000) could with profit be allocated to African training centres which will accept instructor-trainees,

1. Recommends to the African governments that they should encourage the best candidates to become instructors by offering the necessary inducement,

2. Invites

- (a) ECA and ITU to entrust the Joint Mission with the task of making a detailed study of African needs for instructors;

- (b) ECA, OAU and ITU to entrust the experts appointed to select multinational training centres with the task of deciding which of these centres are suitable for training telecommunications instructors at the level of the syllabus proposed by these experts;

3. Further invites these organizations

- (a) To take all necessary steps to obtain the financial resources required to supplement the existing equipment in the countries selected for these purposes and to grant fellowships to the instructor-trainees;
- (b) To provide these centres with the number of teachers necessary for their normal operation.

ANNEX I

LISTE DES PARTICIPANTS

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MEMBRES/MEMBERS

ALGERIE/ALGERIA

Mr. Abdelmalik AMRANI, Directeur général PTT,
Alger

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Ministère des Télécommunications, Bujumbura

Mr. Antoine KADENDE, Directeur des Télécommunica-
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CONGO-LEOPOLDVILLE

Mr. Charles KIBONCE, Directeur des Télécommunica-
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Mr. GARCIE, Chef de Cabinet PTT

Mr. Ferdinand N'Kashama, Chef de Bureau,
Secrétaire du Secrétariat Général des PTT

COTE D'IVOIRE

IVORY COAST

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Mr. SAKANOKO, Chef d'Exploitation

DAHOMY

Mr. T. BOURAIMA, Chef du Service des Télécom-
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Imperial Board of Telecommunications of
Ethiopia

Mr. Desta NEGASH, Deputy General Manager,
Imperial Board of Telecommunications of
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Mr. Adolphe NDIAYE, Directeur des Postes
et Télécommunications

Mr. François AUDIBERT, Chef du Service des
Télécommunications

GHANA

Mr. Peter Tetteh DEBRAH, Asst. Engineer-in Chief

Mr. Peter W. BAWUAH, Asst. Engineer-in-Chief

HAUTE-VOLTA
UPPER VOLTA

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Mr. Percy Roy ATKINSON, Chief Services Controller, P&T.

Mr. John BERRY, Chief Engineer, External Telecomm.

LIBERIA

Mr. Taylor Emery MAJOR, Commissioner of Communications

MALAWI

H.E. Mr. B.W. KATENGA, Ambassador of Malawi, Addis Ababa

Mr. Alah Thomas WHITEHEAD, Telecommunications Officer

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Mr. Barmou BATOURE, Chef Exploitation Télécommunications

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UNITED ARAB REPUBLIC

Mr. ABOU BAKR EL SADICK EID, Asst. Director General, UAR Telecommunications Authority

REPUBLIQUE CENTRAFRICAINE
CENTRAL AFRICAN REPUBLIC

Mr. NZENGOU, Directeur des PTT

REPUBLIQUE MALAGASY
MALAGASY REPUBLIC

Mr. RAJAONINA, Directeur Général des Télécommunications

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TCHAD/CHAD	Mr. Jean-Baptiste LAOKOLE, Directeur adjoint PTT
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Mr. Jaime SABAU BERGAMIN, Ingénieur, Bata, Rio Muni

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Mr. Krishna Swami PYNDIAH, Training Officer

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Mr. Barrington Charles HILL, Senior Executive Engineer, British Post Office

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Mr. BESSEYRE, Senior Counselor, CCITT (ITU)

Mr. Lloyd William MASON, Chief, Special Fund Division, Technical Co-operation Department, ITU

Mr. GABRIEL-TEDROS, ITU Chief of Mission (Congo), Léopoldville.

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ORGANISATIONS INTER-GOUVERNEMENTALES - INTER-GOVERNMENTAL ORGANIZATIONS

East African Common
Services Organization
(EACSO)

Mr. Percy Roy ATKINSON, Chief Services
Controller, East African Posts and Telecom-
munications Administration

Mr. John BERRY, East African External
Telecommunications Co. Ltd.

ANNEX II

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1. Opening Addresses
2. Election of Officers
3. Adoption of the Agenda and Organization of Meeting
4. General Review of activities in the Field of
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7. Associated Training Programme
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9. Adoption of Final Report and Recommendations

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ANNEX IV

MESSAGE OF HIS IMPERIAL MAJESTY HAILE SELASSIE I OF ETHIOPIA
TO THE JOINT ECA/OAU MEETING ON TELECOMMUNICATIONS IN AFRICA

"The expansion and improvement of the intra-African telecommunications network is one of the basic necessities to attain our goal of African unity. If we consider the present state of African telecommunications, we note that when any African country communicates with another African country by telephone or telegraph it must often be made through transit centres situated outside Africa. These circuits are consequently expensive and often technically unusable and certainly not rapid. If this situation is not rectified in the near future the development of Africa in all fields will be seriously handicapped.

Rapid communications between African countries is one of the most important tools by which we can promote development in Africa. It is to be remembered that We have discussed this problem several times but the anticipated progress of intra-African communications has not been achieved.

It is believed that you are here today to discuss collectively the Dakar African Telecommunications Plan of 1962, and the World Telecommunications Plan of Rome of 1963 and the methods by which the implementation of these plans can be achieved.

To fulfil these Plans immediately on a continental basis would inevitably call for very heavy investment. It will thus probably be necessary to implement them step by step in accordance with our economic capabilities.

We therefore hope that you will make a serious effort to carry out your task and reach a successful solution and that this Conference will mark a milestone in the development of African telecommunications".

ANNEX V

STATEMENT MADE

BY ATO BETRU ADMASSIE, LEADER OF
THE ETHIOPIAN DELEGATION

As a representative of the country, Ethiopia, more correctly the country you have chosen to hold your meeting, I consider it a personal honour and privilege to be here to welcome you delegates to Addis Ababa to participate in the Joint Meeting of ECA and OAU on Telecommunications in Africa. Since the establishment of ECA in Addis Ababa and the birth of OAU, many meetings, which are not only of particular importance to Africa, but also to the world, have taken place in Addis Ababa. But in the field of telecommunications, this present meeting is the first to be held here and also the first telecommunications meeting sponsored jointly by ECA and OAU, with high-level representatives from International bodies, such as International Telecommunications Union.

In the past there have been many meetings under the auspices of the ITU in connexion with telecommunications in Africa, special mention may be made of the Telecommunications Plan - Sub-Committee meeting for Africa held in Dakar in January 1962, and the Plan Committee for the World held in Rome in November 1963. As far as Africa is concerned both the Dakar Plan and the Rome Plan dealt with the plan of intra-African networks. As a whole, these plans are quite modest. However, modest as the plans may be, their implementation has been difficult, if not impossible for many reasons which I need not enumerate.

So far the plans worked out are for intra-African networks, but of what use is the intra-African network if the national networks are not sufficiently developed? While the international telecommunications network is a joint effort among the nations of Africa and the national networks are the responsibility of the individual nations concerned, the interdependence of the two networks should not be overlooked in telecommunications planning and implementation.

For developing nations as well as developed nations, the importance of telecommunications cannot be over-emphasized. Without reliable and rapid telecommunications systems, political, social and economic progress will not be easy, and may even be impossible.

Telecommunication in Africa today is in its infancy; on the national level, the telephone density is among the lowest in the world; and on the international level communication between two neighbouring African countries is conducted via European countries as transiting centres. These, coupled with the shortage of qualified telecommunications engineers and personnel and the unavailability of sufficient development funds, are the problems that are facing us today. It is sincerely hoped that the present meeting could contribute to the solution of one of these problems.

Once again, in welcoming you to Addis Ababa for this meeting, I wish you success in overcoming some of the problems of African telecommunications.

ANNEX VI

STATEMENT MADE BY MR.G.E.A. LARDNER

ON BEHALF OF THE EXECUTIVE SECRETARY OF ECA
TO THE JOINT ECA/OAU/ MEETING
ON TELECOMMUNICATIONS IN AFRICA

It is with great pleasure that I welcome you to this meeting on behalf of the Executive Secretary, Mr. Robert Gardiner. Mr. Gardiner wishes me to express his profound regret that he is not here himself to take part in our deliberations on a subject to which the Economic Commission for Africa and the Organization of African Unity attach very great importance today.

The Dakar Plan was conceived in January 1962; that is four years ago. In Rome, at the end of 1963, efforts were made to bring the Dakar Plan up-to-date and to incorporate it in a World Plan. It was then expected that the Rome Plan would take some five years (1963 - 1968) to reach maturity. Over two of these five years have passed since the Rome meeting and it is clear that unless some purposeful steps are taken this year the African Telecommunications Plan will remain, particularly in regard to inter-country linkages, on paper.

It is necessary to place this problem in its true context. In 1962 we had not yet become fully alive to the menacing problem of population growth, declining export prices and foreign exchange reserves, in relation to economic development. A large number of African countries were intensely preoccupied with the problem of how to repair the rapidly collapsing system of trade with the advanced countries which had apparently been enough to sustain them under colonial regimes.

Today we believe that an important part of the answer lies in the accelerated growth and structural change of the African economies. With a few exceptions, this is impossible on any basis other than close economic co-operation between African countries. The Economic Commission for Africa has thus concentrated attention on this problem

but we fully recognize the unreality of designing an intra-continental economic system without paying attention to the crucial role of transport and telecommunications, manpower, education and training, science and technology and so on.

In this respect the Commission is in a somewhat anomalous position. In a sense it is entrusted, to a far greater extent than any other member organization of the United Nations family, with responsibility for advancing the economic and social development of the African people. It cannot, therefore, go to its constituency - the member States of Africa - and plead that it failed to persuade this or that other member of the United Nations family to take steps that are essential for Africa's rapid development. To do so would open up dissension within the United Nations family. If the ECA, in recognition of the fact that other United Nations agencies have world-wide responsibilities and naturally cannot take care of the ills of the African region to the extent required for rapid development, proposes to take the initiative it is confronted, in private, by precisely the problem it sought to avoid by refraining from a public plea.

One of the basic causes of this problem is, I suspect, the view commonly held even today that economic development can somehow be realistically discussed, planned and brought about by extraordinary persons described as "economists" or "economic development planners", independently of science and technology in general, of a complex of supporting institutions, and of a wide range of research, teaching production and managerial skills in the community.

When one really looks at the facts nothing is so absurd. Unfortunately this belief seems unconsciously to have determined the formal definition of relations between regional commissions and the technical organs of the United Nations. There is therefore imposed on technical organs and regional commissions a grave burden of ensuring that the patient does not die while the doctors disagree.

This is not a point we can afford, today, to dismiss casually or with pleasant expressions of mutual goodwill or even admiration. Within the past six months there have been a surprising number of changes of governments in Africa in a manner which outside observers are beginning to consider evidence of instability. It would take us too far to analyse the causes of this development but it seems to me, speaking personally, that they all stem mainly from the failure of development. Contented populations do not, arbitrarily, get rid of their governments.

If therefore we in the ECA, the OAU, the ITU and other agencies entrusted with, or interested in the progress of Africa do not take steps to advance real development rapidly, there is the even greater danger that instability may become endemic in Africa, i.e. may become a habit of mind. Once that occurs we are in for real trouble over many years to come.

I cannot conceive of anyone, whether African or not, who can, or ought to, contemplate this possibility with calm. In effect, therefore, this meeting is not so much about telecommunications in its limited technical and financial sense but about one of the major contributory factors in avoiding the danger to which I have referred. We are not now living in 1962 or 1963 but in a troubled 1966.

What do we expect from this meeting? I should say, firstly, evidence from governments of what they have done and of what needs to be done. Secondly, an estimate of what help individual governments need in order to present, in November, realistic proposals for the revision of the African Telecommunications Plan. Thirdly, agreement on the operational steps which need to be taken after the meeting in November in order to get the African Plan moving quickly. There are, of course, several important subjects on the Agenda which we must deal with in a constructive and progressive manner. No substantial expansion of telecommunications in Africa can, for example, be sustained without imaginative and effective measures for building up African personnel in every aspect of the subject.

I have used the term realistic. Some definition is necessary. First, no reasonable person should expect at this stage that African countries can provide accurate forecasts of traffic on criteria familiar in advanced countries. Here we must proceed partly on the basis of irreducible needs, which, no matter what, must be met if the whole of Africa is not to become a cauldron within a few years. The Economic Commission for Africa and the Organization of African Unity are, I think, agreed that to meet Africa's development problems calls for far-reaching, even dramatic, measures affecting agriculture, industry, education, science and technology, transport, telecommunications, institutional services and so on. The alternative is not an even-paced sensible rate of progress but more likely chaos. In effect, there is a compulsion to African development today which did not exist so clearly ten years ago. The large programmes in all those fields in which the ECA collectively and severally is engaged must therefore count heavily in making quantitative or qualitative judgements about needs in telecommunications. Moreover, there are few who will refuse to recognize that, in telecommunications as in transport, the supply frequently generates the demand. Indeed it very often cannot be anything else. The term "realistic" thus covers, for us, far more than engineering measurements or financial calculations. This does not mean that we should tolerate wild and extravagant propositions - it means only that we must to a considerable extent depend in the early years on such sound data as we may be fortunate to obtain and, beyond this, work on courageous and intelligent guesses. The African region is not going to wait for perfection or statistical exactitude. If, indeed, we as technologists and economists press these criteria too hard we shall in time force African Governments to apply political solutions to technological and economic problems. I am sure none of us here wish to see this.

I have spoken at length not so much to press upon you arguments with which you are no doubt very familiar, but even more to draw the attention of those countries and institutions outside Africa which entertain goodwill towards us, to the perils to which they expose us

by insisting on criteria which realism tells us would be more applicable to Africa in 1984 than in 1966.

There are however duties imposed on us as well. There is always a danger in these matters of cutting one's nose to spite one's face. If we in Africa who know the problems and dangers before us indulge in petty struggles over the location of a working party or a relay station we must not be surprised that those who would help us are dismayed and those who are sceptical laugh at us. The ordinary people of this region look to their leaders whether in science or technology, business or politics for more than indulgence in rivalries, and deserve to be represented to the rest of the world with greater dignity than has sometimes been the case in the past.

Although this meeting was jointly called by the ECA and the OAU, we are both conscious of the initial role which the African Development Bank and the ITU must play. The presence of the ITU here today led by no less a person than the Deputy Secretary-General is particularly welcome. I believe that the size and composition of the Union's delegation is evidence that the Union means business. This is a challenge to us in the ECA and the OAU and even more so to the representative experts of the African States. I am sure that although the Governor of the African Development Bank is not here today with us he will be keenly following the course of this meeting.

I should like to end by stating my conviction that time is the scarcest commodity in Africa today.

ANNEX VII

STATEMENT BY MR. MOHAMED MILI,
DEPUTY SECRETARY-GENERAL OF THE ITU

Mr. Chairman,

Gentlemen,

In the first place, allow me to address my warm thanks to Mr. Gardiner, Executive Secretary of the ECA, for the kind letter which he sent on 14 January to the Secretary-General of the ITU, inviting the International Telecommunication Union to take part in the work of your Conference. This invitation has been accepted with interest and the delegation representing the ITU will consist of the Deputy Secretary-General, Mr. Besseyre (Head of the Plan Department of the CCITT), Mr. Mason of the Department of Technical Co-operation, and Mr. Tedros, Head of the ITU Mission at Leopoldville.

This large delegation is proof - if it were necessary - of the interest shown by the ITU in your Conference and in a general way in the problems concerning new and developing countries, particularly African countries.

The Plenipotentiary Conference devoted a large part of its work at Montreux to problems of technical co-operation, and to that end it adopted eight resolutions which accurately define the role to be played by the ITU in this field.

If we add certain relevant paragraphs of the Convention itself, such as numbers 188, 189 and 199, you can appreciate the important place given by the Plenipotentiary Conference to problems that are of special interest to new and developing countries.

I hasten to add that this technical co-operation role assigned to the ITU by the Plenipotentiary Conference is not a new one, and this important problem had already been dealt with in the Geneva Convention.

Nor should we forget that the ITU celebrated its centenary in 1965 with the motto:

"A hundred years of international co-operation".

This problem of technical co-operation is so important for the Union that I shall take the liberty, if you will allow me, of stealing a few moments of your valuable time to survey the various means which the ITU places at the disposal of new and developing countries with a view to playing its full role in this field.

You may be aware that the International Telecommunication Union comprises the following four permanent organs:

General Secretariat,

International Frequency Registration Board (IFRB)

CCITT

CCIR

Each of these organs has a role to play in technical preparation and it plays it to the fullest possible extent.

I. The International Consultative Committees

In fact, the International Consultative Committees (CCITT and CCIR) have constantly played an active role in technical co-operation since their creation. The recommendations issued by them provide information and advice for new and developing countries that can be applied to their international telecommunication services and are also of great value for their inland services.

Since 1959, the International Telecommunication Convention has clearly defined the task of the Consultative Committees in technical co-operation in the following paragraphs:

No. 188:

"In the performance of its duties, each Consultative Committee shall pay due attention to the study of questions and to the formulation of recommendations directly connected with the establishment, development and improvement of telecommunications in new or developing countries in both the regional and international fields".

No. 189:

"At the request of the countries concerned, each Consultative Committee may also study and offer advice concerning their national telecommunication problems".

And the Montreux Conference turned a de facto situation into an official one by including the following paragraph in the Convention:

No. 199:

"There shall be a World Plan Committee, and such Regional Plan Committees as may be jointly approved by the Plenary Assemblies of the International Consultative Committees. These Plan Committees shall develop a General Plan for the international telecommunication network to help in planning international telecommunication services. They shall refer to the International Consultative Committee questions the study of which is of particular interest to new or developing countries and which are within the terms of reference of those Consultative Committees".

How have the CCIs put into effect these provisions of the Convention? To answer this question, let us examine the decisions taken by their last Plenary Assemblies.

II. Decisions by the IIIrd Plenary Assembly of the CCITT

As far as the CCITT is concerned, the IIIrd Plenary Assembly (Geneva 1964) decided (subject to the approval of the ITU Administrative Council if necessary):

1. that after each of their meetings, the Study Groups should draw up a summary of the results obtained and a survey of future prospects, both of which should be published in the ITU Journal;
2. to publish extracts of the chief recommendations in as clear and practical a form as possible;
3. to promote, through special working parties, the study of general subjects of national interest, with the aim of publishing technical information manuals;

4. to speed up the handling of certain simple questions by instructing the Chairman of the Study Group or Working Party concerned to supply a provisional reply to such questions immediately, pending the results of a more thorough study if required;
5. to encourage the Study Groups to submit the specifications they are required to draw up in a form which will help more effectively in the preparation of books of specifications and, in the absence of this solution, to bring requesting countries in touch with Administrations which agree to send them their own specifications;
6. to set up an information centre at the ITU to give information upon request, about articles in reviews, books, ITU publications, CCI documents and, subject to agreement of the Administration concerned, documents established by the latter for their own use;
7. to disseminate on a wide scale certain technical communications submitted to the Plan Committee, the Plan Sub-committees or to certain seminars organized by the ITU.

III. Special Autonomous Working Parties of the CCITT

A large part of this technical co-operation programme is now in progress:

1. 29 studies for new or developing countries, requested by the Plan Committees, are now under way.
2. Summary Reports of the results of each Study Group meeting are prepared and published in the ITU Journal.
3. Extracts from the Recommendations relative to transmission have been published.
4. Finally, the following five Special Autonomous Working Parties have been set up to draft technical information manuals:

- (a) Special Autonomous Working Party 1 on National Automatic networks;
- (b) Special Autonomous Working Party 2 on Local Networks;
- (c) Special Autonomous Working Party 3 on Economic and Technical Comparison between Transmission Systems (Joint CCITT/CCIR Working Party);
- (d) Special Autonomous Working Party 4 on Primary Power Sources (Joint CCITT/CCIR Working Party);
- (e) Special Autonomous Working Party 5 on Economic Conditions and Telecommunication Development.

These Special Working Parties have all been set up and have started work. Working Party 3 has just held its first meeting at Rabat under the Chairmanship of our good friend Ben Abdallah of Morocco. It deals with a question that is very important for African countries, i.e. the technical and economic comparisons of transmission systems.

We wish it all the success it deserves and are sure in advance that the manual it is to prepare will be ready in time for the next Plenary Assembly of the CCITT which is due to be held in Argentina in 1968.

The First Special Autonomous Working Party, set up at New Dehli in 1960, has already published a Manual on National Automatic Networks which was a great success at the IIIrd Plenary Assembly (Geneva) in 1964.

IV. Decisions by the Xth Plenary Assembly of the CCIR

For its part, the last Plenary Assembly of the CCIR, held in 1963, likewise considered technical co-operation problems. To that end, it unanimously adopted a Resolution which lays down the methods whereby new and developing countries may play a more active part in the work of the CCIR.

This Resolution advises the various countries:

1. to play a more active part in the work of the CCIR Study Groups and
2. to forward any questions they would like to have studied by the various CCIR Study Groups, in accordance with 180 of the Convention, to the Director of the CCIR as soon as possible.

The same Resolution requests the CCIR:

1. to give active consideration to the study of questions raised by new countries by setting up, if necessary, Special Working Parties or Sub-Groups in the existing Study Groups;
2. to invite the Chairman to send a general review of the problems they have already studied and those still requiring study to the CCITT Secretariat within two months after the closure of the Plenary Assembly. These general reviews are to be published in each volume of the CCIR documents at the head of the chapter relating to the Study Group concerned, and are to present the work done by that Study Group;
3. to prepare and publish in as clear and practical a manner as possible, extracts from existing Reports and Recommendations that are obviously of interest to new and developing countries.

It also requested the Specialized Secretariat of the CCIR to advise and assist the Administrations of new and developing countries in radio matters, e.g. by assembling more propagation data applicable in tropical regions.

V. CCIR Study Groups

Side by side with this activity directed towards technical co-operation with the new and developing countries, a considerable amount of international technical co-operation is effected by the special technical Study Groups of the CCIR and the CCITT.

Some of the CCIR Study Groups deal with data concerning all radio services. This applies for example to the subject of emission, in which context the CCIR deals in particular with questions of stability and spurious emissions on which a more efficient use of the radio frequency spectrum depends. As regards reception, the CCIR has followed a new course by beginning to draw up tables of characteristics of so-called "typical" receivers which will constitute a useful basis of comparison for many users. A great deal has been done with regard to propagation, but there is still much to do, especially in the tropical regions where it appears that many modes of propagation, characteristics of these regions call for further study, as and when new series of field measurements can be effected.

In addition to these Study Groups of the CCIR which deal with general radio questions, others confine their attention more specifically to particular services; fixed HF services, mobile services (maritime service for example), satellite communications, radio relay links. Mention may be made of the special interest of the CCIR in telegraph systems with a small number of channels, low-capacity radio systems, and tropospheric scatter which enable a smaller number of channels to be routed than with line-of-sight systems but provide much longer ranges. For these different reasons, the last-mentioned systems have numerous application in Africa.

Three CCIR Study Groups deal with broadcasting and television, one of them being more specifically entrusted with tropical broadcasting. This last Study Group prepared standards fairly recently for low-cost receivers intended above all for countries where the density of receivers is particularly low at present.

Finally, the work of the CCIR Study Groups has been widely used in the form of technical bases for many meetings, such as:

- the African VHF/UHF Broadcasting Conference (Geneva, 1963);
- the preparatory meeting of experts for the African LF/MF Broadcasting Conference (Geneva, 1964);

- the meetings of the Panel of Experts set up to study measures to be taken with a view to reducing congestion in the frequency bands between 4 and 27.5 Mc/s. At the request of this Panel the CCIR Secretariat has undertaken to publish a Handbook on Antennae.

As far as the CCITT is concerned, various Study Groups are engaged in standardization of operating rules for telephony and telegraphy in their various forms (station-to-station service, telex service, gentex service, message retransmission service, facsimile telegraphy). These Study Groups make costing studies of the various services to deduce the general tariff principles to be proposed to Administrations.

Other CCITT Study Groups specialized in transmission questions lay down the conditions to be respected in individual networks to permit world-wide telegraph and telephone services. The relevant recommendations are applicable to national networks. There is also a voice-ear measurement laboratory which carries out calibration tests of telephone sets on behalf of Administrations.

With the development of automatic (or semi-automatic) switching in telephony and telegraphy, national networks have become sub-divisions of a worldwide network. The signalling systems prepared by the CCITT for international switching are of great value for national networks.

The maintenance of international circuits has led to another task for the CCITT: the preparation of precise instructions, and it has also drawn up directives (which are obviously applicable to national networks) relative to the protection of lines against corrosion and the harmful effects of electricity lines.

VI. The IFRB

The third permanent organ of the Union is the IFRB (International Frequency Registration Board). It deals essentially with radio frequency usage.

One of its chief tasks relates to the technical preparation of Radio Conferences, particularly those convened to draw up frequency assignment plans.

Thus, in 1963 the IFRB submitted propagation curves theoretical channel distribution networks to the African Broadcasting Conference, which enabled the Planning Committee to proceed rapidly with the assignment of frequencies to African frequency-modulation and television stations in such a way as to provide the maximum number of channels.

The IFRB also did some preparatory technical work for the meeting of experts held in January 1964 to draw up the technical data required by the African LF/MF Broadcasting Conference.

The Board likewise prepared a draft plan and draft regional agreement concerning frequency usage in the African Broadcasting area. Both drafts will be submitted to the next conference, which is to be held in Geneva in September.

It should also be mentioned that one of the basic tasks of the IFRB is the technical examination of frequency assignments. In this context, the Board can furnish special assistance to Administrations which need advice or even practical assistance in the choice and management of the frequencies they require.

Thus, 22 Administrations of African countries have requested the assistance of the IFRB over the last three years to solve 33 cases of harmful interference.

Similarly, the Board carried out about 15 studies, at the request of certain African Administrations, to choose the frequencies necessary for the establishment of new connexions.

The same is true of the preparation of certain tentative high-frequency broadcasting schedules.

VII. The Plan Committee

Finally, the Joint CCITT/CCIR Plan Committee (World Committee and Regional Committees), serve as very valuable guides in helping the countries concerned to draw up their development projects for international connexions and even for their national connexions, by specifying the traffic statistics to be established by comparing predictions for each country, by calculating the number of circuits required to satisfy these predictions, and by determining the composition, size and nature of international routes.

The Plan Committee for Africa has already played an outstanding role by drawing up for the first time a general inter-connexion plan for the African telecommunication network which is usually known as the Dakar Plan. It is preparing to meet shortly here at Addis Ababa to bring the plan up to date so that it may meet more accurately the new requirements and realities of Africa.

Priority must be given to the preparation of this new plan since all action to be taken with a view to equipping Africa with a modern telecommunication network will depend on it.

The Plan Committee for Africa, under the enlightened guidance of its Chairman - our friend Mr. Okoli of Nigeria - and its Vice-Chairman - our friend Léon Dia of Senegal - will tackle this work next September. The present meeting could usefully serve as a sort of preparatory meeting for that important conference.

There would be many advantages to be gained, especially since Mr. Besseyre, Head of the Plan Department of the CCITT is here with us. The advice which he will be happy to give to any of you will permit a more co-ordinated preparation of the next meeting of the Plan Committee.

VIII. Joint ITU/ECA Special Mission

This Mission was organized chiefly to study all the possibilities and all the methods suitable to promote the African telecommunication networks.

It is with this aim in view that the ITU co-operates closely with the ECA, the Union dealing with technical problems, while the ECA tackles the economic problems - such as securing the necessary funds.

In this respect, I have pleasure in announcing that two qualified experts have already been chosen by the ITU for posts now vacant and that these two experts will be arriving in Addis Ababa very soon. Precise instructions will be given to them to this effect.

IX. Technical Assistance Programmes

The technical assistance supplied by the ITU to new and developing countries, forming part of the United Nations Technical Co-operation activities, is increasing from year to year.

This assistance takes three different forms:

- (a) the sending of qualified experts to advise the governments concerned in specific branches of telecommunications;
- (b) the granting of fellowships to technicians from new and developing countries to enable them to study or attend training courses in countries that are technically more advanced;
- (c) the setting up of vocational training institutes covering a group of countries or a region, and the supply of limited quantities of demonstration and vocational training equipment.

To this end, several programmes have been established by the United Nations and we shall now make a brief review of them, with special reference to what is being done in Africa.

The regional experts of the joint ECA/ITU Mission who were sent to Addis Ababa in August 1963 had already undertaken certain work in Accra.

The most important work accomplished by these regional experts was the following:

1. Technical and administrative advice to a large number of African countries following visits to those countries.
2. Standard surveys of the telecommunication networks of the Ivory Coast, Senegal and Liberia.
3. Publication of some thirty brochures containing statistics on the telecommunication networks of many African countries.
4. Participation in the meeting of the World Plan Committee (Rome, 1963) in order to assist African delegations in the preparation of their documents.
5. Attempts to carry out various projects for the development of African telecommunication networks and the training of technicians and teachers.
6. Preparation of a pilot project to establish links between Addis Ababa and Abidjan.

This project is proceeding satisfactorily and is expected to be completed in the near future.

7. Participation in technical discussions to organize bilateral assistance by the Netherlands for a group of African countries.
8. Attempt to set up a common equipment fund

This attempt proved unsuccessful because some donor countries preferred individual co-operation with certain African Administrations with a view to furnishing them with one or more telecommunication terminal installations.

1. The EPTA

The most important of these programmes is the Expanded Programme of Technical Assistance.

The total credit allocated under this programme for telecommunications increased from 350,000 dollars in 1959 to 1,487,447 dollars in 1965, representing an increase of about 430 per cent.

Thus, the over-all cost of assistance supplied to 33 African countries for the period 1963/64 reached 876,400 dollars, which may be broken down as follows:

- (a) 57 experts who accomplished a total of 401 months of service;
- (b) 88 fellowships awarded to African technicians who spent 814 months being trained in more developed countries;
- (c) 74,621 dollars in demonstration equipment.

The programme for the 1965/1966 period is now being put into effect and the over-all estimates show an increase of 63 per cent compared with the previous period.

By the end of 1965, 30 African countries had received assistance for an over-all value of 476,353 dollars, which may be broken down as follows:

- (a) 33 experts sent to Africa;
- (b) 44 fellowships awarded to African technicians;
- (c) 11,284 dollars in equipment supplied.

2. Funds-in-Trust Assistance Programme

It often happens that the funds allocated by the United Nations under the EPTA are insufficient. The countries concerned are then led to cover part of the technical assistance costs themselves and in such cases, the ITU supplies experts in conditions corresponding exactly to those of the EPTA. This programme is known as the Funds-in-Trust Assistance Programme.

For the period 1965/1966, one country (Libya) requested that 4 experts (whose presence was the equivalent of 48 months of service) be sent under this programme.

3. The OPEX Programme (Operational and Executive Personnel)

This type of assistance is furnished by the United Nations under a special programme for the recruitment of operational and executive personnel.

For the period 1963/1964, three African countries obtained the assistance of six experts (making a total of 46 months of service) under this programme. For the period 1965/1966, four countries (Libya, Ghana, Nigeria and Sierra Leone) received 7 experts, whose service will total 90 months.

4. United Nations Special Fund

The three programmes just described usually cover short-term projects. They have proved to be insufficient or incomplete because most of the new and developing countries have prepared important plans for the modernization or expansion of their telecommunication networks.

To meet the increased need for qualified technicians to bring these plans into effect and operate them, long-term vocational training programmes have been introduced. For this purpose, specialized centres or regional institutes have been set up, thanks to the United Nations Special Fund.

Projects of this type generally extend over a period of five years, the necessary credits being allocated by the United Nations, while the ITU supplies the international experts to train the first technicians and the national instructors who will be called upon to replace them.

At present, the Union is in charge of the execution of 13 vocational training projects under the Special Fund, involving a total amount of 13,358,700 dollars (the value of the assistance supplied by the United Nations).

These 13 projects are distributed as follows:

Continent	Number of Projects	Value in \$
Africa	5	5,055,000
Latin America	2	2,330,400
Asia	6	5,973,300
	13	13,358,700

The assistance supplied under these projects consists of:

- (a) the provision of experts, of whom there are 37 for the five African projects;
- (b) fellowships covering a total period of 624 months for the African continent;
- (c) Laboratory equipment whose value will reach 1,000,000 dollars.

The setting up of institutes for the long-term training of telecommunication technicians is a very important task in which the ITU is actively engaged.

The 5 projects now under way in Africa are located in the following countries:

Algeria	Ghana	Sudan
Congo	Madagascar	

But before leaving the subject of the experts attached to the different programmes (EPTA, SF, etc.), it should be pointed out that in 1965 their number rose to 158, distributed as follows:

Continent	Number of Experts			
	EPTA	FS	Misc.	Total
Africa	31	23	3	57
Latin America	15	16	4	35
Asia	21	40	5	66
	67	79	12	158

5. Pilot Project Abidjan - Addis Ababa

Another Special Fund Project relates to the setting up of direct telephone and telegraph connexions between Addis Ababa and Abidjan, to create an East-West axis through the African continent. This project constitutes an excellent example of co-operation between two countries,

the Special Fund and the ITU. Total funds made available by the United Nations for this project amount to 812,100 dollars.

6. Emergency Aid to the Congo - Leopoldville

An ITU Mission is now in the Congo to advise the government on telecommunication problems and also to see to the installation, maintenance and operation of an important quantity of equipment.

This mission comprises 34 experts, of whom 24 are already at work.

In addition, permanent vocational training courses have been organized, thanks to the recruitment of three experts for that purpose who took up their duties on 1 January 1966. This last programme is financed by the United Nations Special Fund.

X. Seminars

Despite the considerable assistance furnished by the ITU under the various United Nations programmes, the demand is so great that there is always a gap between the resources available and the requirements to be met.

To supplement the assistance supplied, thanks to the funds made available by the United Nations, the ITU has launched its own programme of "Technical Assistance in Kind".

Thus, seminars have been organized on the occasion of the meetings of the Plan Committees. Very interesting lectures have been delivered at these seminars and have been published in the three languages: English, French and Spanish.

For its part, the IFRB organized seminars on frequency management and usage of the radio spectrum in 1963 and 1964. These seminars were attended by 109 technicians, of whom 30 were from African countries.

The next seminar will be held in Geneva next September and in view of the questions to be dealt with, I am sure that many African technicians will take part in it.

Under this programme, the more developed countries have been asked to organize seminars, in co-operation with the ITU on subjects affecting the various branches of telecommunications.

In 1962, a seminar was organized in Paris by the French Administration for French-speaking countries of Africa. The subject dealt with was "General organization Principles for National Telecommunication Networks in Tropical Countries". The seminar was attended by 19 technicians from 17 countries.

Another seminar dealing with "Various uses of telecommunication channels" was organized in the Federal Republic of Germany by the Administration of that country. It was attended by 21 technicians from 14 African countries.

Furthermore, several seminars, dealing in particular with "Satellite Telecommunication" have already been held or planned under the ITU programme of seminars.

Finally, it is pleasant to note that the Montreux Plenipotentiary Conference recognized the importance of such seminars; this is stressed in its Resolution No.34, whereby it instructs the Secretary-General of the ITU to encourage developed countries to organize such seminars and co-ordinate their efforts in this field.

XI. Conclusion

In conclusion, allow me to stress once more the importance attached by the ITU to technical assistance problems.

Throughout this brief survey I have attempted to indicate all the possibilities offered by our Union to new and developing countries, and in particular, to African countries, to help them to develop their telecommunication networks in the best possible conditions.

As I have explained, the four permanent organs of the Union:

General Secretariat

CCITT

CCIR

IFRB

have already directed their activities towards international co-operation, thus brilliantly justifying their world-wide vocation.

Moreover, the technical co-operation services will be strengthened, in accordance with the directives issued by the Montreux Plenipotentiary Conference, by the recruitment of new experts whose special task it will be to supply information and advice rapidly to new and developing countries (Resolution No.29).

You may therefore rest assured that the International Telecommunication Union, faithful to its hundred years of tradition, will do everything in its power - as far as its resources will allow - to strengthen and develop international co-operation among all its members.

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