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Scientific Council for Africa South of the Sahara

**TWELFTH MEETING OF THE
SCIENTIFIC COUNCIL**

POINTE-NOIRE

1961

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COMMISSION DE COOPERATION TECHNIQUE EN AFRIQUE AU SUD DU SAHARA

Créée en janvier 1950, la Commission de Coopération Technique en Afrique au Sud du Sahara (CCTA) a fait l'objet d'une convention intergouvernementale signée à Londres le 18 janvier 1954. Elle se compose, à l'heure actuelle, des Gouvernements suivants : Afrique du Sud, Belgique, Cameroun, Congo (Brazzaville), Congo (Leopoldville), Côte d'Ivoire, Dahomey, Fédération de la Rhodésie et du Nyassaland, France, Gabon, Ghana, Guinée, Haute-Volta, Libéria, Madagascar, Mali, Mauritanie, Niger, Nigéria, Portugal, République Centre-Africaine, Royaume-Uni, Sénégal, Somalie, Tchad.

OBJECTIF

Assurer la coopération technique entre les territoires dont les Gouvernements Membres sont responsables en Afrique au Sud du Sahara.

20°

ATTRIBUTIONS

- 1) Traiter de tout sujet concernant la coopération technique entre les Gouvernements Membres et leurs territoires dans le cadre de la compétence territoriale de la CCTA.
- 2) Recommander aux Gouvernements Membres toutes mesures tendant à la mise en œuvre de cette coopération.
- 3) Convoquer les conférences techniques que les Gouvernements Membres ont décidé de tenir.
- 4) Contrôler du point de vue général et du point de vue financier l'activité des organismes placés sous son égide et présenter aux Gouvernements Membres toutes recommandations y afférentes.
- 5) Présenter des recommandations aux Gouvernements Membres en vue de la création de nouveaux organismes ou la révision des dispositions existantes pour la coopération technique, dans le cadre de la compétence territoriale de la CCTA.
- 6) Présenter des recommandations aux Gouvernements Membres en vue de formuler des demandes conjointes d'assistance technique aux Organisations internationales.
- 7) Présenter des avis sur toutes questions concernant la coopération technique que lui soumettront les Gouvernements Membres.
- 8) Administrer le Fonds Interafricain de la Recherche et la Fondation pour l'Assistance Mutuelle en Afrique au Sud du Sahara.

BUDGET

Alimenté par les contributions des Gouvernements Membres.

ORGANISATION

- 1) La CCTA se réunit au moins une fois chaque année. Ses recommandations et conclusions sont portées à la connaissance des Gouvernements Membres en vue de leur adoption à l'unanimité ainsi que de leur mise en œuvre dans les territoires intéressés.
- 2) Le Conseil Scientifique pour l'Afrique au Sud du Sahara (CSA), conseiller scientifique de la CCTA, a été créé en novembre 1950, comme suite à la Conférence Scientifique de Johannesburg (1949), en vue de favoriser l'application de la science à la solution des problèmes africaines. Il est composé de personnalités éminentes, choisies de telle sorte que les principales disciplines scientifiques importantes au stade actuel du développement de l'Afrique soient représentées. En tant que membres du Conseil ces personnalités n'agissent pas sur instructions de leurs Gouvernements respectifs mais sont responsables individuellement devant le Conseil.
- 3) Des Bureaux et Comités techniques traitent chacun un aspect particulier de la coopération régionale et interterritoriale en Afrique au Sud du Sahara.
- 4) Le Secrétariat de la CCTA et du CSA comprend deux sièges : l'un à Lagos, l'autre à Nairobi. Il est dirigé par un Secrétaire Général assisté de deux Secrétaires Généraux Adjointes et, à Nairobi, d'un Secrétaire Scientifique et d'un Secrétaire Scientifique Adjoint. Le Secrétaire de la FAMA est également adjoint au Secrétaire Général.

PUBLICATIONS

Des brochures traitant de problèmes scientifiques et techniques, dont les données sont habituellement rassemblées en Afrique par le CSA, sont publiées à Londres. Toute demande d'information devra être adressée au Bureau des Publications, Watergate House, York Buildings, Londres W.C. 2.

COMMISSION FOR TECHNICAL CO-OPERATION IN AFRICA SOUTH OF THE SAHARA

Established in January 1950, the Commission for Technical Co-operation in Africa South of the Sahara (CCTA) was the subject of an Intergovernmental Agreement signed in London on 18 January 1954. It consists now of the following Governments: Belgium, Cameroon, Central-African Republic, Chad, Congo (Brazzaville), Congo (Leopoldville), Dahomey, Federation of Rhodesia and Nyasaland, France, Gabon, Ghana, Guinea, Ivory Coast, Liberia, Madagascar, Mali, Mauritania, Niger, Nigeria, Portugal, Senegal, Somalia, South Africa, United Kingdom, Upper Volta.

OBJECT

To ensure technical co-operation between territories for which Member Governments are responsible in Africa South of the Sahara.

FUNCTIONS

- (1) To concern itself with all matters affecting technical co-operation between the Member Governments and their territories within the territorial scope of CCTA.
- (2) To recommend to Member Governments measures for achieving such co-operation.
- (3) To convene technical conferences as agreed by Member Governments.
- (4) To supervise, from the financial and general points of view, the work of the organisations placed under its aegis and make recommendations thereon to the Member Governments.
- (5) To make recommendations to the Member Governments for the setting up of new organisations or the revision of existing arrangements for securing technical co-operation within the territorial scope of CCTA.
- (6) To make recommendations to the Member Governments with a view to the formulation of joint requests for technical assistance from international organisations.
- (7) To advise Member Governments on any other subject in the field of technical co-operation which the Member Governments may bring to its notice.
- (8) To administer the Inter-African Research Fund and the Foundation for Mutual Assistance in Africa South of the Sahara.

FINANCE

Contributions from Member Governments.

ORGANISATION

- (1) CCTA meets at least once a year. Its recommendations and conclusions are submitted to Member Governments for unanimous approval and for implementation in the territories concerned.
- (2) The Scientific Council for Africa South of the Sahara (CSA) Scientific Adviser to CCTA, was established in November 1950 following the Johannesburg Scientific Conference (1949), to further the application of science to the solution of African problems. Its members are eminent scientists chosen in such a manner that the main scientific disciplines important at the present stage of the development of Africa shall be represented. As members of the Council they do not receive instructions from Governments but are responsible individually to the Council.
- (3) Technical Bureaux and Committees deal with specific aspects of regional and inter-territorial co-operation in Africa South of the Sahara.
- (4) The CCTA CSA Secretariat has two offices, one in Lagos and one in Nairobi. The Secretariat has at its head a Secretary-General, who is aided in his work by two Assistant Secretaries-General and, at Nairobi, by a Scientific Secretary and an Assistant Scientific Secretary. The Secretary-General is also assisted by the Secretary of FAMA.

PUBLICATIONS

Publications dealing with scientific and technical problems, the data for which are usually collected in Africa by CSA, are issued in London. Enquiries should be addressed to the Publications Bureau, Watergate House, York Buildings, London, W.C. 2.

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CSA

Scientific Council for Africa South of the Sahara

**TWELFTH MEETING OF THE
SCIENTIFIC COUNCIL**

POINTE-NOIRE

1961

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Africa South of the Sahara*

CCTA

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CONTENTS

	PAGE
I. REPORT OF THE SECRETARY-GENERAL	5
II. TWELFTH MEETING OF THE SCIENTIFIC COUNCIL	129
LIST OF PARTICIPANTS	131
RECOMMENDATIONS	133

REPORT OF THE SECRETARY-GENERAL
TO THE
TWELFTH MEETING OF THE SCIENTIFIC COUNCIL

INDEX

	PAGE
INTRODUCTION	9
PART ONE: GENERAL QUESTIONS	II
1. THE COUNCIL	II
Direct relations with countries and organisation concerned with African development	II
Working methods	13
Membership of the Council	14
Thirteenth Meeting	16
2. FAMA	16
Regular activities of the Foundation	16
Joint regional programmes	18
Development of bilateral assistance	21
3. THE COMMISSION	23
General trends	23
Permanent structure of the Commission	26
External relations	28
PART TWO: NATURAL RESOURCES	33
1. CONSERVATION OF NATURE	33
Symposium on the Conservation of Nature and Natural Resources	34
Training of specialist personnel	35
2. CLIMATOLOGY, METEOROLOGY, HYDROLOGY	36
Climatological Atlas (Joint Project 1)	36
Meteorology	36
Inter-African Hydrology Conference	37
Co-operation within a common river basin	39
3. GEOLOGY AND GEOPHYSICS	42
4. PEDOLOGY, SOIL CONSERVATION AND UTILISATION, PHYTOGEOGRAPHY	45
Pedological Map of Africa (Joint Project 11)	45
SPI—Symposium on Soils Classification (CCTA/FAO)—World soils map	45
BIS—Map of the dangers of erosion (Joint Project 20)	47
Regional activities	48
Phytogeographical atlas for Africa	49
5. PHYTOTECHNICS	49
Banana production	49
Coffee	50
Savannah zone cereals, other crops	51
Mechanisation of agriculture	52

	PAGE
6. PROTECTION OF AGRICULTURAL PRODUCTION.	53
Inter-African Phytosanitary Commission	53
Weed control	54
Aquatic plant pests (Joint Project 14)	55
Protection of stored food products	55
Quelea	56
7. INLAND FISHERIES AND HYDROBIOLOGY	57
Third Symposium : Major Lakes	57
Fourth Symposium : River Basins subject to Heavy Seasonal Flooding	57
Fifth Symposium : Pisciculture <i>or</i> River Basins subject to Heavy Seasonal Flooding	59
Co-ordinating committees for the major lakes	59
Inter-African Co-ordinator	60
8. OCEANOGRAPHY AND SEA FISHERIES	60
Inter-African co-operation	60
Symposium on Marine Biology and Sea Fisheries off the East Coast of Africa	62
Symposium on Thunnidae	62
Specialist Meeting on Co-ordination of Fisheries Research off the West Coast of Africa—Future meetings	63
Exploration of the Gulf of Guinea (Joint Project 19)	65
9. ANIMAL RESOURCES	67
Inter-African Bureau for Animal Health	67
Specialist meetings	68
Training courses	69
Eradication of rinderpest in the Chad/Niger area (Joint Project 15)	70
Joint action against bovine pleuropneumonia (Joint Project 16)	71
Tsetse campaign in South-East Africa (Joint Project 17)	72
Other regional projects in the field of animal diseases	74
 PART THREE : SOCIAL, ECONOMIC AND TECHNICAL	 75
1. HUMAN HEALTH	75
BPITT	75
Third Inter-African Conference on Medical Co-operation	76
Trypanosomiasis—ISCTR	77
Specialist meetings and training courses	77
Other WHO activities	80
Mapping of vectors of diseases (Joint Project 8)	81
Nutrition	81
Medicinal plants	83
2. SOCIAL SCIENCES	84
Study of Migrations in West Africa (Joint Project 3)	84
Urbanisation and urban development	86
Psychiatry	87
Libraries and documentation	88
Other activities in the field of social sciences	88

	PAGE
3. EDUCATION	90
Adaptation of education to African conditions	90
Psychotechnical selection tests (Joint Project 18)	91
Third Inter-African Conference on Education	92
Higher education	93
Teaching of a second European language	94
UNESCO activities in the field of education	95
4. RURAL WELFARE	96
Community development	97
Agricultural extension	99
Rural trades	100
Agricultural engineering	100
5. ECONOMICS AND STATISTICS	101
Nature of CCTA/CSA activities	101
Completed projects	102
Methodology of family budget surveys (Joint Project 9)	103
Case studies on economic development (Joint Project 12)	104
6. LABOUR	105
Research on absenteeism and labour turnover (Joint Project 5)	105
Sixth Inter-African Labour Conference	107
Inter-African Labour Institute (ILI)	107
Adaptation to African usage of the standard classification of occupations (CCTA/ILO Joint Project 10)	108
Unemployed youth	109
7. TECHNOLOGY	109
Housing	110
Public works	112
Other technological meetings	114
8. CARTOGRAPHY	116
APPENDIX I. Meetings held under CCTA/CSA/FAMA auspices from June 1960 to June 1961	119
APPENDIX II. Meetings to be held under CCTA/CSA/FAMA auspices in the second half of 1961, in 1962 and 1963	121
APPENDIX III. Meetings held by other organisations attended by representatives of CCTA/CSA, June 1960 to June 1961	124
APPENDIX IV. Publications issued June 1960 to June 1961 or to be issued shortly	126
APPENDIX V. List of Joint Projects	128

INTRODUCTION

A year ago the Council referred to the period of rapid and sometimes dramatic change through which Africa was passing. The past eighteen months have indeed been eventful. Seventeen countries have become independent in the area covered by the Commission. Each has been confronted with the fundamental problems of state-building which necessarily follow the achievement of independence. There is the problem of associating the population with the development of the new nation. There is the problem of the systems and structures inherited from the colonial power, which frequently need reorganising, whether because of a shortage of administrative and technical personnel or because in some cases they no longer correspond, in terms of cost and objectives, with the means and desires of the new States. The very basis of the economic life of the country is altered, sometimes profoundly disturbed. In short, the prospects of development of every kind are changed, often beyond recognition. And along with the introduction of new ideas and structures there are equally far-reaching changes in regard to individuals and the posts they occupy.

Technical and scientific work must be adapted to this new situation— an undertaking which is not without its difficulties. Members of the Council will therefore not be surprised to learn that the years 1960 and 1961 have been full of interest but not easy years for the Commission and for FAMA. In full cognisance of the difficulties, the Council at its Eleventh Meeting declared that “ never yet has technical and scientific co-operation between the various countries of Africa been so essential, as at a time when ever changing situations must be faced, when the best use must be made of human and material resources that have become scarcer and therefore more valuable, and training and development must be greatly accelerated. Neither has Africa ever known such an abundance of offers from countries or organisations whose generosity is sometimes accompanied by an inadequate knowledge of the particular conditions of the continent ; never has it therefore been so necessary to make available to all, apart from any political consideration, the scientific and technical experience accumulated in Africa ” (Rec. II).

Unremitting efforts of imagination and adaptation are needed in order to safeguard these fundamental principles. Accordingly the Council will devote part of its Twelfth Meeting, as it did last year, to a general discussion of current developments in Africa, the role of CSA, and the possibilities of co-operation, thus implementing Recommendation II (c) of the Eleventh Meeting.

It is right that Members of the Council should know, however, that their work is fully appreciated by those the Council aims to serve, namely,

the Members Governments of CCTA. A recommendation submitted to the Sixteenth Session by the delegates of the new States and adopted unanimously, paid tribute to " the effective co-operation of CSA which has helped to place CCTA in the forefront of theoretical and applied research in Africa " (Rec. VI). The Secretariat is glad to bring this tribute to the notice of the Council.

PART ONE

GENERAL QUESTIONS

1. THE COUNCIL

In his report to the Eleventh Meeting, the Secretary-General emphasised the essential role which the Council has to fulfil in the present phase of development. He underlined the prestige and independence deriving from its method of recruitment, and recalled that its vocation on the scientific and technical plane is a universal one. These principles were reaffirmed in the recommendations adopted at the close of the meeting in September 1960.

The Council further stated or defined certain new principles, and it is interesting a year later to consider how far these have been applied.

Direct relations with countries and organisations concerned with African development

In Recommendations II (a) and VII, the Eleventh Meeting declared that the Council was at the disposal of all countries and organisations working for the benefit of the governments of Africa, whether affiliated to CCTA or not. Various steps have been taken in fulfilment of these recommendations and there are noteworthy developments to report.

It is outside Africa that the best results have been obtained, and we shall start with the approaches made in regard to various bodies in America.

Immediately after the meeting in Cape Town, the Scientific Secretary forwarded to several American scientific and technical bodies interested in Africa a selection of the Eleventh Meeting's recommendations and a summary of the discussions of a small working group at Cape Town on the Report on Technological Development in Africa submitted by the National Academy of Sciences in Washington.

The Secretary-General in October 1960 entered into contact with government agencies and the National Academy of Sciences in Washington and with the big Foundations in New York ; as a result, he was convinced that the CSA mission would be well received and might have very favourable consequences.

This was the background to the visit to the United States of four members of CSA, Drs. van den Berghe, Lambo, Martin and Monod, together with the Scientific Secretary, from 1 to 13 May 1961. Detailed accounts of the visit have been circulated. The mission, supported by the Secretary-General and the Inter-African Co-ordinator for Oceanography and Sea Fisheries, had lengthy meetings with the National Academy of

Sciences and the National Sciences Foundation, and with numerous institutes, universities, technical departments and foundations. Each individual member of the mission also had conversations with the people concerned with his special subject.

During the preparations for this visit, it had become evident that our opposite numbers in America would like to have specific projects as a basis for discussion. The instructions of the Eleventh Meeting of the Council were therefore slightly modified and, instead of a general report on inter-African co-operation in the next few years, it appeared preferable to prepare a detailed memorandum on the joint projects presently envisaged by the Council. The Scientific Secretary was responsible for this important task, in which he received assistance from several Council Members, Directors of Bureaux, Correspondents and Inter-African Co-ordinators, to whom the success of the mission is largely due.

The members of the mission and the Scientific Secretary will give their comments at the Pointe-Noire Meeting. The Secretary-General, for his part, regards this first contact as having been valuable and fruitful. On the one hand, the specialist bodies, headed by the National Academy of Sciences, wish to be kept regularly informed through the medium of the Council and the organs of the Commission, on technical and scientific problems and on current programmes in Africa. They will on occasion be associated with meetings, sending representatives to attend and contributing written material.

On the other hand, several organisations have indicated their desire to consult the Council, or certain Members of the Council, or—on the Council's recommendation—other specialists, in order to obtain expert views on the value of projects drawn up in America for the benefit of Africa and information on suggestions which may be made in Africa itself and to which the Americans would like to contribute. If tomorrow a report had to be written, on the lines of the National Academy of Sciences report considered at Cape Town, the advice of experts recommended by CSA would certainly be sought.

Furthermore, certain American organisations contemplate seeking the advice of the Council as a whole on occasion, adopting for the purpose procedures which remain to be determined.

One particular aspect of this co-operation links up with a question which arose at the Eleventh Meeting. Among the experts now being sent to Africa, many have no experience of tropical countries, or at least of the conditions peculiar to Africa. In consequence the initial stages of their work in Africa are fraught with difficulties, indeed the value of their mission may even be impaired. In most cases, a short stay in a neighbouring country would suffice to make the expert familiar with African conditions before proceeding to the country where his duties are to be carried out. Suggestions will be invited from Members of the Council, when the time

comes, as to the centres in Africa where such experts might undergo this gradual acclimatisation. The CCTA Secretariat would then be responsible for the material arrangements.

Details gathered in the past eighteen months on relations with American organisations are of a preliminary nature only, consisting of correspondence, questions raised on divers subjects, invitations to various Council Members to visit the United States, and so on ; but they show that the voice of the Council has been heard and will not in future be ignored by American institutions desiring to assist Africa.

Part of the Secretariat's time has been taken up with the efforts of American scientific and technical organisations to develop closer contact, and it has proved impossible to follow the same procedure with all the other countries. Implementation of Recommendation II should follow the lines laid down in Recommendation VII. Perhaps the Council may care to issue more detailed directives to the Secretariat.

Already, however, the offer of the Council's services has evoked a response in various organisations and countries outside Africa. The European Economic Community (Brussels) arranged for a Member of CSA and two CCTA Directors to take part in a preliminary enquiry on soil conservation (see Part II, chapter 4). An international body, the International Conference on the Role of Science in the Advancement of new States, has intimated its wish to maintain close liaison with CSA ; the Chairman of the Council will deal with the matter at the meeting, with a view to instructions being given to the Secretariat. Similar approaches are likely in the future both from other international organisations and from national institutes and specialist bodies.

In Africa itself, an interesting proposal is the request by the Government in Leopoldville to the CCTA/CSA Secretariat to nominate a member to the council of the new INEAC. The work done by this famous agricultural research institute is renowned, and the Congolese authorities and the United Nations wish it to continue. Legislation and regulations have therefore been adopted defining the organisation of the Congolese institute which is to succeed the former INEAC. It will be under the technical and scientific supervision of a council, on which the CCTA/CSA representative will sit. The Secretariat would be glad to have the views of Members of CSA ; its own reaction is that it would like to meet the request and nominate a competent officer of CCTA, selected by CSA, for example the Director of BIS.

Working methods

The extension of CSA activities noted above adds considerably to the burden on its Members. Arrangements have, of course, been adopted by the Commission to compensate Council Members in part for the financial loss they incur when on mission. The problem of continuity in the Council's

work remains none the less, in the terms as stated by several Members over a period of years.

An exchange of views on the question will again take place at Pointe-Noire. It will take the matter further than did the earlier discussions, covering other aspects of the working methods of the Council and its Secretariat. The Scientific Secretary will be circulating a report prior to the Twelfth Meeting, giving the Secretariat's views on the chief problems calling for solution in order to ensure the complete effectiveness of the Council's action in Africa during 1962.

There will also be an opportunity for considering specific points. Last year Professor Millot submitted a memorandum on the organisation of CSA specialist meetings. Two principles emerged, of which formal note should be taken this year:

1. Members of the Council are invited to consider in advance what specialist meetings they would like to hold, so as to be in a position to make definite proposals at the CSA meeting as regards agenda and the specialists involved. This will avoid hasty improvisation, with possibly unfortunate results, during working sessions. The Secretariat begs respectfully to draw the attention of Council Members to this principle, which could be applied this year.

2. Each year the Council holds four meetings of specialists, inviting five specialists to each meeting. Professor Millot suggested that this need not be a hard and fast rule and that one or two more or less might be invited to attend any given meeting. This would present no difficulty for the Secretariat, provided the total number of specialists invited did not exceed twenty in any one year. The new rule could be applied in 1962.

Membership of the Council

(a) Members

The three-year term of four Members of the Council expires after the Twelfth Meeting, namely:

Professor Aubert,
Professor Fraga de Azevedo,
Mr. C. J. Martin,
Professor Monod.

In conformity with the procedure laid down by the Tenth Meeting, the two new Members chosen by the Council in 1960 were elected for one year only. They are:

Dr. Lambo,
Dr. Ratsimamanga.

Professor Millot, Chairman of CSA, who has now left Africa, has in accordance with the recommendations of the Tenth Meeting of CSA and

the Eighteenth Meeting of the Executive Committee, announced his intention of retiring.

Lastly, at its Eleventh Meeting the Council decided to leave open the seat vacated by Professor Lebrun, in order to be able to appoint a scientist familiar with the problems of the Congo basin in 1961.

The Council is free to increase its membership above sixteen and up to twenty. Once it has reached a decision in this respect, it should proceed to the election of the corresponding number of Members. The procedure approved at Kampala will then apply. This provides for a ballot by list with preferential vote. Members of the Council alone have the right to vote. Any Member absent from the Twelfth Meeting, if he wishes to vote, should either do so by correspondence or appoint another Member of the Council as his proxy in a letter sent in advance to the Secretariat. Furthermore, Members are reminded that new Members are appointed for a period of one year only but that re-election is for three years.

(b) Associate Members

Five Associate Members also reach the end of their three-year term, namely:

- Dr. Bernard (micrometeorology, climatology, physical hydrology),
- Dr. Boné (medicine, biochemistry),
- Dr. Clark (archaeology, prehistory),
- Dr. Mitchell (sociology, anthropology),
- Professor Trochain (botany, pedology).

In addition, Professor Williams having left Africa for New Zealand, he has in accordance with the rule referred to above, tendered his resignation.

It has been decided that, contrary to the rule for Members, each Associate Member should represent a discipline, chosen according to CCTA/CSA programmes. In this case, therefore, election is by uninominal ballot, those taking part in the vote being the same as above.

The elections to the Council will take place on the afternoon of 17 August. The subject appears as the last item on the agenda.

(c) Executive Committee

At its Eleventh Meeting the Council elected a new Executive Committee but specified that the appointment of the Chairman and the Vice-Chairman were for one year only, to allow of a review of the situation after a year in the light of new developments occurring in the interval between the Eleventh and Twelfth Meetings.

There is no need to restate here the functions of the Executive Committee. The Secretariat consults it on matters concerning the Council. It meets twenty-four hours before the annual Council meeting, and sits during the annual session of the Commission, its Members intervening on

various technical and scientific matters. The Commission recorded its thanks to the members of the Executive Committee for their contribution to the work of the Sixteenth Session in its Recommendation V.

Thirteenth Meeting

A decision will be required as to the place and date of the Council's Thirteenth Meeting. It will be remembered that the Eighth, Ninth, Tenth and Eleventh Meetings were held at Salisbury, Accra, Kampala and Cape Town respectively. Suggestions made at previous meetings were for the Council to meet at some not too distant date in Somalia or in a French-speaking town in West Africa.

As regards the date, if this can be settled a year ahead, it helps Members of the Council in arranging to be free during the relevant period.

2. THE FOUNDATION

Regular activities of FAMA

The Third Annual Report of the Foundation is, or will shortly be, in the hands of Members of the Council. This report gives an account of mutual assistance between Member Governments during 1960. Generally speaking, there has been a notable increase in the Foundation's activities, which increase, however, obviously could not be at the same pace as in 1959.

(a) The services of experts

The provision of experts under the FAMA scheme continues to follow the established lines. In accordance with the Council's recommendations, the choice of experts is preceded by technical consultations with CSA Members competent in the question or with the relevant bureaux or organs of the Commission. While certain long-term missions have been arranged or are planned, in most cases the missions have been of short duration and involved taking the advice of leading experts in their particular field with an intimate knowledge of African conditions. Chapter II of the FAMA Report deals with the most interesting of these missions. Altogether 84 experts were supplied under the FAMA procedure in 1960 as against 30 in 1959.

In this connection, it might be well if the Council would consider for a moment a problem which threatens to become very serious, namely, that of finding experts who have the necessary competence, qualifications and experience of African affairs. Already, certain technical aid projects are rendered extremely difficult by the virtual impossibility of obtaining such specialists. How then are qualified hydrologists to be recruited, or gifted pedologists with a knowledge of tropical countries? Contrary to the belief of most political leaders, progress in technical assistance is held up not by lack of finance but by an absolute shortage of experts. Faced with the dilemma of either delaying, possibly restricting, operations or sending

insufficiently trained persons, FAMA unhesitatingly chooses the former alternative ; but the problem remains, and calls for urgent solution.

The Secretariat for its part would be glad to see the supplying countries study the assistance problem as a whole and have two schedules prepared by a body such as OECD, setting out, under the respective disciplines, firstly the probable aid requirements for the next ten to fifteen years, and secondly the number of qualified experts and the training facilities available. The conclusion would then be self-evident, and these governments might perhaps agree to give the problem their attention.

(b) Fellowships

Fellowships have also been awarded under FAMA auspices, either to enable the holders to follow regular or special courses in other African countries and elsewhere, or to cover information missions and practical training on a short-term basis. The numbers benefiting from these activities of the Foundation totalled 116 in 1960, compared with 85 in 1959.

In the course of recent journeys undertaken by members of the Secretariat, one question has repeatedly arisen on the subject of scholarships. An essential form of assistance consists in helping under-developed countries to train their own executives. As far as higher education is concerned, many fellowships are provided by the industrialised countries. Training for middle-ranking personnel, on the other hand, is frequently more difficult to obtain. Normally it is organised on a national basis ; but there are small countries which do not possess the means to open schools for all the technical branches needed. In such cases the best solution is to send trainees or students to schools in neighbouring countries where the same language is spoken. For this, extensive finance must be available to facilitate the training of Africans in other African countries. It is possible to envisage a broad programme, similar to the OEEC programme of 1947 onwards, under the title of " Third-country programmes ". Scholarships would be granted by non-African countries to cover the expenses of Africans studying in nearby countries using the same language. There should also be adequate finance to subsidise those African institutions accepting students from neighbouring countries. Arrangements of the kind are already in operation, notably in the former West African federation, but means are needed to extend this form of activity. The Secretariat would be glad to learn the views of the Council.

(c) Training courses

One of the most interesting of FAMA's activities has been the organising of regional training courses. There is no call to restate here the advice given by CSA at previous meetings—it has been followed with satisfactory results, as will be noted at various stages in the present Report. Four training courses have been held in the past year, on medical uses of

radio-isotopes, rapid diagnosis of rinderpest, poultry production (destined for middle-grade technical officers), and community development. The aggregate number of those attending the courses was seventy. For the coming twelve months, four courses are again planned, of which one is being sponsored jointly with FAO and WHO.

(d) Administration of FAMA

The Foundation remains extremely flexible as regards administration—one could hardly imagine a smaller secretariat than FAMA's, consisting of the Secretary and one bilingual assistant. The Secretariat, it is true, has the support of all other CCTA organs and bases its work on the Commission's achievements over the past eleven years. Nevertheless, it has been decided to double the number of FAMA's senior staff by giving Mr. Ensor an Assistant Secretary as from 1 July 1961. It has also been decided to continue the Central Fund so as to facilitate provision for incidental expenditure not covered by bilateral arrangements.

Contact has been maintained between the FAMA Secretariat and technical departments and agencies of Member Governments in the course of journeys made by Mr. Ensor and other members of the CCTA/CSA Secretariat. There have been exchanges of views with the principal international organisations concerned with technical aid: the United Nations in New York, EEC in Brussels, OEEC in Paris, the Council of Europe in Strasbourg, ICA in Washington, and so on. The Secretary-General also attended a meeting last October of the Development Assistance Group of OEEC (DAG), a body formed of ten highly industrialised countries with a view to co-operation in promoting financial aid.

Joint regional programmes

FAMA's operations are normally based on bilateral aid, that is, the aid given by a donor country to a receiving country. The Foundation provides a channel and a secretariat, but the bilateral principle is maintained. True, two or more bilateral transactions may be combined to make possible an operation of a more complex nature, as in the case of the mission which is due to leave for Guinea in the coming dry season. This will consist of experts of various nationalities, supplied under the heading of bilateral assistance by several countries and forming a single whole under a FAMA joint action project. The same applies to regional training courses, where a number of bilateral technical assistance operations are combined and the benefits are then spread over several countries.

(a) General principle

At its Eleventh Meeting, the Council was informed of the intention of Member Governments to apply this joint project procedure to the full.

Without going into all the details set out in the Report to the Eleventh Meeting (Introduction, chapter 2), the method may be summarised here. The Commission's role in the preparation and implementation of a joint project is as follows :

1. to help the appropriate technical services of Member Governments to draw up a common programme, in detail, with a timetable and joint budget for the proposed work ;

2. to obtain from sources outside Africa the technical and financial assistance needed.

Projects of this kind are of undoubted technical interest, enabling such items to be covered as know no frontiers—a river, a species of fish, a natural resource. They make it possible to handle economically problems which it would be too costly to solve on a national scale ; to this category belong the regional training centres referred to elsewhere. Moreover, they have a certain political significance, in that they afford an opportunity for neighbouring countries to work together and establish links, no less firm for being fine, transcending frontiers often artificially created.

Numerous projects of this nature have been drawn up during the year. In dealing with them throughout the present Report, it will be demonstrated that here we have one of the most valuable of the Commission's activities ; it may soon become the chief part of the work of CCTA. The report of the Council mission to the United States covered no less than thirty projects, clearly indicating the vast extent of this field of action and the importance of the developments which may be expected.

(b) Regional training centres

Some of the regional projects adopted or under study are of a quite specific character. These are the regional training centres. In certain disciplines, while it is unreasonable to send people for training outside Africa, the limited numbers to be trained in each country do not justify the establishment of national centres, at least for the time being. This is particularly true in regard to middle-ranking technical personnel. In such cases a regional centre for neighbouring countries using a common language may be recommended.

Here the role of the CCTA/CSA Secretariat, as noted above, consists in seeing that a plan common to the countries concerned is adopted, obtaining finance and finding the experts required. But the Secretariat believes there should be a time limit to its action and that, before establishing a centre and seeking external aid, it is necessary to make sure that the countries concerned will be in a position to meet the regular expenses of the centre after a few years (three to five years), even though some of them individually may have to receive bilateral assistance for the purpose.

The first centre to be agreed in principle by the Foundation affords a good example. This is a centre for English-speaking laboratory technologists

from Central and East Africa, who are at present trained outside Africa. It would be a very good thing to give them the requisite two or three years of study in Africa, in conditions approaching those in which they will subsequently be working. Since the need in each country is too limited for national centres to be set up, it is suggested that a centre should be opened in East Africa (possibly at Dar es Salaam) for training English-speaking students from the five or six countries within the region. Installation expenses, along with running costs for about three years, would be met out of assistance funds.

There is a similar project for the French-speaking countries of central Africa though on a more modest scale, aiming at providing training for laboratory technicians in six to eight months.

(c) Assistance for projects ; administrative aspects

The desire has been expressed in certain quarters to carry the joint action procedure still further. Why, it is asked, should we not plan vast regional development schemes, covering more particularly the construction of major works of common interest ? The obvious example that comes to mind is that of a river basin. In fact, the idea is not always easy to express in concrete terms ; a closer study of the problems is apt to reveal that few river basin works are of international concern. But supposing that it were possible (the Senegal basin might be a case in point) the method does have its attractions. Nevertheless, it will be necessary to proceed with caution, first making all the prior investigations needed and carefully avoiding subjects which could give rise to political disagreements.

Certain of these projects are on such a scale as to render the problem of finance particularly important and here a new element has arisen since last year. The Commission discussed the question at Lagos. " It is only by combining all forms of assistance that there can be any hope of meeting the immense needs that are apparent in Africa ", it declared in Recommendation VI of the Third Meeting of FAMA. A specific recommendation also adopted reads : " The governments of Africa attach great importance to regional projects covering a group of countries. The Foundation considers that the combination of multilateral and bilateral technical assistance should render possible the implementation of such projects. The Mekong Valley development, in Asia, illustrates the advantages of such a combined effort. The Member Governments are convinced that this constitutes a particularly valuable and fruitful form of work for the Commission and FAMA, and provides an immense field for co-operation between the assistance of the United Nations and their specialised bodies on the one hand, and that which may be obtained, with the help of FAMA, from various countries and organisations on the other " (Rec. VIII).

Administrative arrangements will, of course, have to be made. The Foundation decided, in particular, that an autonomous administrative unit

should be set up within the Commission for each of these regional projects. This unit will receive the funds originating outside the Commission. Control will thus be simplified and it will be possible to adapt the procedure to each individual case; the complete independence of CCTA itself will also be safeguarded, the Commission's expenditure and management remaining exclusively a matter for the Members.

Development of bilateral assistance

While the flow of offers of aid to Africa is increasing on all sides, the use to which these offers are put remains limited. The difficulties frequently encountered by the new donors in developing their assistance programmes stem from a sometimes serious lack of information on the needs of African countries, on projects already in hand, and on technical conditions obtaining in Africa. There is also a risk of confusion unless some degree of co-ordination exists. The possibility of co-ordination between the donors appears to be ruled out. And psychologically, the new countries are hesitant about entering this field unless specifically invited to do so by the African States themselves, now responsible for their own future.

As regards the African States, too, the situation has changed in recent years and more especially during the last few months. The achievement of independence has created new problems, causing the new States to turn, to a greater extent than hitherto, towards sources of technical aid other than the former administering power. As a rule the latter retains a special position, but assistance from elsewhere is welcome and affords a valuable, indeed essential, addition both from the political and from the psychological angle. This opinion has frequently been expressed to members of the CCTA/CSA Secretariat by several African governments in recent months.

Again, it is necessary that the recipients should be informed as to the scope of bilateral assistance and enabled to take a broad view of the problem as a whole, so as to permit of some degree of co-ordination, by them and under their sole responsibility. And finally, the suspicions sometimes attaching to bilateral technical aid must be set at rest, direct negotiations between donors and recipients being mingled with broader discussion.

It was with these considerations in mind that the CCTA/CSA Secretariat proposed to Member Governments the adoption of new procedures permitting of closer liaison between donor and receiving countries, on the model of the Colombo Plan in southern Asia. In consequence of these proposals, Member Governments agreed to hold an Extraordinary Meeting of FAMA at Lagos on 2 and 4 February, to which were invited countries and organisations providing bilateral aid to Asia or desirous of so doing. Apart from the delegations of the twenty-four member countries of the Commission, observers were present from eleven other countries and eight international organisations.

The debate was extremely interesting and, although the Secretariat proposals were substantially modified, conclusions of major importance were reached.

In the first place, contrary to the experience of a few years ago, emphasis was laid by the new States on bilateral aid. These States would, of course, like to see a big extension in multilateral aid, and first and foremost in United Nations assistance. But they realise, too, that bilateral aid is essential to them, that it offers the great advantages of flexibility and adaptability to local circumstances, that it is easy to operate and affords relative continuity. In short, not only was there no protest on the part of the countries concerned, against the continuance of bilateral aid, but they declared unanimously that "new sources of bilateral technical assistance should be sought from all organisations concerned with the development of Africa, in order to add to that already provided within the framework of existing bilateral arrangements—without, of course, interfering in any way with the operation of such arrangements; such development of assistance will make it possible to meet a greater proportion of the needs of Africa, in conditions of complete independence" (Third Meeting of FAMA, Rec. VI). For it goes without saying, the new States insist there must be no strings attaching to bilateral aid; all the countries of Africa stress "the need to demonstrate the non-political character of technical assistance and to ensure that such assistance be offered without any restriction that might create a form of interference" (ibid.).

Lastly, the African countries ask that "any development of bilateral technical assistance with the aid of FAMA should be considered in close liaison with the programmes of work of the Specialised Agencies and other United Nations organisations" (ibid.).

These principles being laid down, several of the suggestions put forward by the Secretariat were adopted.

(a) It was recommended that those African countries not already possessing the necessary machinery for ensuring co-ordination between ministerial departments in regard to technical assistance requested and received, should establish such machinery as soon as practicable (Rec. V).

(b) The FAMA Secretariat was requested to explore sources of bilateral assistance outside Africa, and to circulate information on the subject.

(c) The Secretariat was requested to provide national or international organisations outside Africa with information on the needs of African countries, including, where possible, an assessment of long-term development needs.

(d) It was recommended that, on the occasion of each annual Session, one or two days should be devoted to the discussion of general problems of technical assistance, so as to acquaint member countries with the possibilities of assistance and obtain from them information on the progress of their needs. The Commission decided that this annual session should not

normally be open to countries and organisations outside CCTA, bearing in mind the grave risk of introducing a political element into the discussions if it became a habit to invite ever-increasing numbers of observers to attend meetings on general policy. At the same time, the Secretariat is authorised to maintain close contact with outside countries and organisations, and in practice does so, as has already been noted. To sum up, the Commission agrees that CCTA/FAMA should to some extent assume the role of the Colombo Plan organisation in the field of technical assistance, but does not wish to have permanently in its midst, even as regular guests, outside countries or organisations whose numbers it fears might rapidly increase. This is the chief point on which the Secretariat proposals were not accepted.

In pursuance of these decisions, the Secretariat will remain in close relations with a number of bodies. ICA has already been mentioned in connection with the visit of the CSA mission to the United States. Close liaison now exists with OEEC and the Council of Europe, from which the Secretariat expects considerable results; in its view, once the constitution of the new organisation (OECD) is adopted, that body should be in a position to furnish very full details on the potentialities of its twenty-one members for supplying assistance and to transmit to them requests for assistance from African countries.

3. THE COMMISSION

General trends

The most outstanding fact about the Commission in the past year has been the complete transformation in its membership. At the time of the Eleventh Meeting of CSA, the number of Members of CCTA was ten; the Sixteenth Session saw the accession of fifteen new States, namely: Central African Republic, Chad, Congo, Dahomey, Federal Republic of Congo, Gabon, Ivory Coast, Madagascar, Mali, Mauritania, Niger, Nigeria, Senegal, Somalia, Upper Volta. On the other hand Ghana, one of the earliest participants belonging to the new Africa, decided not to take part in the Commission's work, without formally denouncing the Convention, however.

It will readily be realised that such profound changes call for considerable reorganisation and readaptation. Moreover, it was essential that the new States should not feel they were confronted with a *fait accompli*, that they should be able from the moment of entry to expound the reasons for their candidature and indicate what they expect from inter-African co-operation. To this end, the Secretariat had proposed that the Sixteenth Session should discuss the long-term objectives of the Commission. In a document circulated on the subject, the Secretary-General called for a re-examination of basic principles, so as to trace in broad outline the pattern of co-operation in the Africa of tomorrow.

In response to this appeal, ninety-five government delegates were present at Lagos early in February for a general discussion, with fifteen observers attending from countries and organisations sympathetic to CCTA's objectives. The discussion lasted three days, covering every possible aspect and excluding none. At the end of the three-day debate, a recommendation was adopted which it is deemed desirable to quote here virtually in its entirety (Rec. IV):

“(a) The general view was that no drastic change was required in respect of methods of work and objectives. The Commission reaffirms that its object is to develop technical co-operation between countries in its geographical area, and, insofar as the former so wish, with African countries outside this area and with countries and organisations outside the continent interested in the development of Africa. Its action is of a technical and strictly non-political character. The need was stressed to preserve and reaffirm the neutrality of the Commission, on every occasion. It was also made clear that governments were opposed to being drawn into ideological discussions within the framework of CCTA.

Thus, the Commission can and must be a valuable instrument for co-operation and for the development of close relations between countries in Africa. As indicated by the recommendations adopted at the Third Meeting of FAMA, it should also assist in exploring, mobilising and, finally, co-ordinating additional facilities for bilateral technical assistance.

“(b) In its action, the Secretariat should concentrate on maintaining a proper balance between Member Countries; no country should form the impression that the Commission is more interested in attractive projects to be implemented in wealthy countries than in the determined and sometimes less striking action to be undertaken in the less wealthy countries. This concern should be reflected in the policy adopted for the recruiting of personnel and, in due course, a fair representation of the various Member Governments should be ensured in the establishment of the Secretariat and other permanent bodies.

“(c) With due consideration for the interests of African countries, priority should be given to concrete and practical activities that can show results in the near future.

“(d) The Commission approves the recommendation presented by the Secretariat, on the lines laid down at the Tananarive meetings, to lay stress on regional activities. This should not be a hard-and-fast rule, as the Commission should remain a unit and some of its activities are of an inter-African nature. On the other hand, the delegates readily recognised that it was at regional level that the activities of the Commission could bear the most fruit. In particular, the Commission stresses the value of regional projects, calling for the co-operation of

several neighbouring countries (" Joint Projects "). Implementation of such projects will be supported, if need be, by technical and financial assistance sought by the Secretariat outside Africa, in agreement with Member Governments concerned.

" (e) As was rightly recommended by previous Sessions, it is essential that the task of the Commission should be co-ordinated with that of the United Nations and its various agencies as well as of other international organisations. Member Governments could not accept the overlaps, the loss of time and money, and even unprofitable arguments, which would result from a lack of co-ordination. The Commission relies on the Secretariat to pursue the policy successfully adopted during the last few years. . . .

" (h) The principles recalled above are in line with those that have inspired the action of the Commission during the last few years. It has appeared necessary to recall them, however, to define them in certain respects, to modify them slightly in some cases, taking into account the views expressed at the Sixteenth Session and the need to keep the Commission continually adapted to the requirements of Africa, which is the golden rule of CCTA."

If we compare this recommendation with those quoted above on technical assistance, it will be seen that former principles are unchanged, that certain methods and certain objectives are more clearly brought out while other considerations fall into second place. These observations merit some discussion which the Council may perhaps care to accord them at its Twelfth Meeting.

The conclusions of the Lagos Session are the more important in that they were adopted at a time when trends in Africa are crystallising. While not wishing to enter into the realm of politics, it is worth noting that the Commission's basic principles are identical in concept with the principles underlying several of the more ambitious schemes recently proposed. Last year, in paragraph (1) of the Annex to its recommendations, the Council referred to the regional development scheme known as the " Tubman Plan ". In May 1961, the conference held at Monrovia approved the ideas put forward a short time previously by twelve African countries and prepared the groundwork for a system of co-operation between African sovereign States. The Commission represents the instrument of this policy in the technical sphere. Furthermore—and this is of special interest in present circumstances—it is an instrument which belongs not only to the countries of the Monrovia meeting but to other African countries too. On his last tour of West Africa the Secretary-General had the conviction that, at the technical level at least, this form of co-operation was everywhere regarded as highly desirable, even by those whose diverging political and economic policies still militate against fuller co-operation in other fields.

Regional co-operation

Paragraph (d) of Recommendation IV quoted above emphasises the value of regional activities. These will be dealt with at length in the present Report. The joint projects already stressed as being so important are essentially regional projects. At numerous meetings during the year specialists have come together from neighbouring countries with similar ecological conditions. In certain cases, indeed, formal procedures for regional consultation are being developed, as was indicated in respect of the Upper Niger in 1960; the same principle has been extended in 1961 to cover the whole river basin.

An interesting suggestion made by the Council last year (see Annex, para. 5) was to throw open to all the countries in a given region such centres for analysis, identification and research as already exist. A first hesitant step was taken in this direction when the Commission granted a very modest sum to enable the Abidjan station to carry out the salinity testing of sea water for other seaboard countries (Joint Project 13). This recommendation of CSA has so far had little effect, however, and it would be interesting to consider possible extensions of the method at the meeting in Pointe-Noire.

Nevertheless, it will be seen that the Commission has no desire to impose a rigid form of regional co-operation by establishing regional sub-offices as proposed by the Secretariat but prefers to see the limits of a region set in relation to individual requirements.

Permanent structure of the Commission

(a) Senior staff

A serious danger facing the Commission at such a time is that of dilution or even waste of effort. The Council's comments on this point will therefore be received with special attention. The Secretariat for its part is of the opinion that, by maintaining the Bureaux and other permanent organs at their present level of efficiency, it will be possible to ensure continuity in a number of technical fields. The Secretariat itself, in particular the Scientific Secretary and his assistant, will take care that the objectives laid down by the Council and accepted by the Commission are not lost sight of, while the Secretary-General and Assistant Secretaries-General will endeavour to preserve as accurate a view as possible of the prospects and problems.

In a light structure like that of the Commission, the role of individuals may sometimes be enormous and their selection is a matter of prime importance. The best of activities are jeopardised when the corresponding post remains vacant for too long or is filled by someone of inadequate standard or timorous character. On the other hand, quite new sectors can be very satisfactorily explored and become splendid spheres of activity when the person responsible combines competence with imagination and

energy. As an instance, one has only to think of what a single Inter-African Co-ordinator like Dr. Postel has been able to accomplish in barely two years.

The Secretariat would be lacking in frankness if it tried to hide the fact that the staff situation is not entirely satisfactory. The Commission certainly has a high proportion of competent and dedicated officers. But prolonged vacancies in certain posts remain a worrying and indeed desperate problem for the future of the Commission. At the time of writing, the post of Assistant Scientific Secretary has been vacant for seventeen months, the post of Assistant Secretary of FAMA will be filled only after six months' delay, the post of Assistant Secretary in charge of Social Sciences is still open after a year and a half, that of second Assistant Director of IBAH has never been filled, and the post of Assistant Director of BIS has been vacant for two and a half years. How can the Commission be expected to function properly in such circumstances ?

Since, moreover, the senior officers of the Commission are seconded from the relevant services in their own countries, there are repeated changes which constitute another difficulty. Four contracts are due to expire within the next twelve months, those of the Second Assistant Secretary-General, the Director and Assistant Director of ILI, and the Director of BIS, while the Scientific Secretary of the Phytosanitary Commission has resigned with effect from October 1961. Two of these five will probably agree to a renewal of their contracts if asked by Member Governments, but the other three will be definitely leaving the Commission and rejoining their parent services.

As against this, a number of appointments have been made in recent months. Mr. Richelieu Morris was appointed First Assistant Secretary-General as from 1 January 1961. Dr. Vandemaële was appointed Assistant Director of the Bureau for Animal Health as from July 1960. Mr. Sarraute succeeded Mr. Guesde as Head of the Publications Bureau in April 1961. Three contracts have been renewed, those of Mr. Ensor, Secretary of FAMA, for three years from April 1961 ; of Mr. Haighton, Director of ILI, for one year only from May 1961 ; and of the Secretary-General, for three years from November 1960.

At the Eleventh Meeting, the Council made suggestions as to methods of appointment of senior staff, in order to try and find an answer to precisely these questions. The suggestions were only partially endorsed by the Commission ; the latter prescribed simplified methods of appointment, less cumbersome than the former procedure (consultation with CSA is, of course, retained as regards scientific and technical posts). Today the main difficulty is no longer that of method but the virtual impossibility in certain cases of finding suitable candidates. It is perhaps this question of the search for candidates which should receive the attention of the Council.

Coinciding with its move to simplify methods of recruitment, the Commission redefined its recruitment policy. It declared the essential

criterion to be the technical and personal qualities of the candidate. Other things being equal, it recommended that preference be given to candidates with a knowledge of the problems of Africa and Madagascar, that is, as far as possible to African and Malagasy nationals. The new Member Governments will have to be generous in this matter; they must be prepared to accept the sacrifice involved in seconding first-class men to CCTA for a few years at a time. To facilitate implementation of this principle, it is planned that those officers whose knowledge of one of the two official languages may be inadequate shall be enabled to spend a few months on further linguistic studies before taking up duty.

(b) Publications

The Council has always emphasised the importance of publications, whether periodicals or individual books, in the work of CCTA. Each of the Commission's permanent organs publishes one or two specialist periodicals (with the exception of *Science-Afrique*, a general review issued at two-monthly intervals); this gives a total of six printed periodicals and nine multigraphed bulletins. The majority of important CCTA meetings form the subject of scientific books, some of them of considerable volume (inter-African conferences, ISCTR, certain symposia). Of the twenty joint projects in hand, fourteen involve printed publications which may sometimes constitute the basic feature of the project or at any rate its culmination. Appendix IV lists the publications issued in two languages—in some cases three—and covered by the Commission's budget. Forty-five publications in all have appeared during the year, made up of eighteen technical reports, five publications in Portuguese, and twenty-two issues of periodicals.

If it were not for these publications, much of the work of CCTA and CSA would be of precarious value, restricted to people directly participating. But some of the work acquires permanent value through the publications issued and can be widely disseminated throughout Africa and beyond.

The Head of the Publications Bureau numbers his correspondents in thousands, and the growing volume of sales in the United States is a good sign.

External relations

(a) Non-member governments

The same policy has been pursued in regard to non-member governments as in previous years. They can be invited to meetings and participate in specific activities of the Commission (the joint projects system illustrates the scope of this remark), but they cannot be associated in any way with the direction or the day-to-day running of the Commission.

This policy applies to countries within the geographical area but which have not joined the Commission. One of these, Somalia, is now a Member.

Relations with the Sudan and Ethiopia in respect of training courses, fellowships, veterinary questions and hydrobiology continue as hitherto. Nevertheless, there is a certain reserve on the part of new Member Governments and a feeling that these countries have had plenty of opportunity of getting to know CCTA, so that there is no reason why they should share in the benefits of co-operation if they are unwilling to bear the costs.

Participation of countries outside Africa is developing at joint project level, as already noted, and also in the context of the scientific and technical activities of CCTA/CSA. First-rate specialists have been sent by the United States, Israel, Italy, the Netherlands, etc. to meetings on hydrology, all branches of fisheries, labour questions, mechanisation of agriculture, migrations, and so on ; and on several occasions, for instance the meetings on bananas and tunny, experts whose names had been suggested by the Council were sent by the United States by way of technical assistance. Their contribution has been most valuable and it is to be hoped that the experiment will be repeated.

Lastly, it has already been mentioned that eleven countries were represented at the Extraordinary Meeting of FAMA, of which four were invited to attend the whole Session.

(b) International organisations

There has been no change in the policy laid down over a number of years, the tendency being rather for the new Governments to reinforce measures already taken with a view to close co-operation between CCTA on the one hand, and on the other hand the organisations in the United Nations family and other international agencies. It is essential to avoid overlapping, and to achieve close co-operation.

(i) **UN.** The Secretary-General has paid two visits to United Nations headquarters in New York, where he discussed the Congo and numerous technical subjects covered by the various divisions at UN headquarters, such as community development, housing, hydrology and so on. It is in the latter field that the first concrete action will result (see Part II, chapter 2). Conversations at a higher level, notably with the United Nations Under-Secretary for Economic and Social Affairs and his assistants and with the Assistant Managing Director of the Special Fund, afforded an opportunity for the Secretary-General to restate the general directives of the Commission and underline its earnest desire for co-operation. The atmosphere of the conversations was excellent, the more so in that the UN had delegated an observer, Father de Breuver, to attend the Lagos Session.

(ii) **ECA.** The satisfactory and constructive nature of relations with headquarters departments of the United Nations augurs well for relations with ECA. They are less easy to define because, contrary to what the ill-informed may suppose, the programmes of the two Commissions have little in

common. In the principal sectors covered by ECA, the role of CCTA has always been small and has been further restricted in the last few years. Mr. Martin, Member of CSA, maintains regular liaison with ECA and takes care of the smooth integration of specific CSA and CCTA projects into the context of the far-reaching activities of the Economic Commission. The Secretariat would like to extend its warm thanks to Mr. Martin.

ECA was represented by Father de Breuvery at the Sixteenth Session, and CCTA delegated Mr. Haighton, temporary Assistant Secretary-General, to attend the third session of ECA at Addis Ababa.

(iii) **FAO.** Relations between the FAO Regional Office and the permanent organs of CCTA have now reached a high degree of systematic co-operation and mutual confidence. Each of the organisations is informed well ahead of the other's projects. In some instances, FAO takes the lead and CCTA lends support (agricultural extension, nutrition, world soils map, Atlantic committee on tunny); in others the process is reversed (exploration of the Gulf of Guinea, rinderpest control, animal diseases, information on quelea, pedological map of Africa, and so on). Finally, there are cases in which responsibility is equally divided, for example activities with regard to a specific crop, storage of food products, etc. Both the Secretariat and all the permanent organs of the Commission are very grateful to the heads of the FAO Regional Office for facilitating the growth of this co-operation which today presents no problems.

Two FAO observers attended the Sixteenth Session of CCTA, which for its part was represented by Dr. Fournier at the first African Regional Conference of FAO and by Dr. d'Hoore at the 34th session of the FAO Council in Rome.

(iv) **WHO.** Equally happy conditions have long applied in relation to WHO. However, there is some diminution in the basis of co-operation, to the extent that BPITT is in a state of hibernation. The most interesting sphere of co-operation has been in questions marginal to the field of medicine—sanitation, health education, water supplies, ankylostomiasis, etc.

WHO was represented at the Sixteenth Session at Lagos; because of events in the Congo, CCTA was unable to send an observer to the annual meeting of the WHO Regional Committee.

(v) **ILO.** The situation as reported last year still holds good. Close contact exists between the ILO Field Office in Lagos and the Inter-African Labour Institute, and a joint project has been carried out. Mr. Haighton attended the International Labour Conference at Geneva as usual and represented the Commission at the first African Labour Conference in Lagos.

The International Labour Organisation was represented at several CCTA meetings, including the Sixteenth Session and the Sixth Inter-African Labour Conference. The International Labour Office will con-

tribute to the preparation of technical meetings planned for the future, as set out in Part II, chapter 6.

(vi) **UNESCO.** Relations are less close with UNESCO which, however, delegated a most active observer to the Sixteenth Session and several projects are under joint study. Dr. Fournier, moreover, maintains liaison with the Specialised Agency in Paris and spares no effort in supplying it with documentation. Other CCTA Bureaux have also contributed, though on a lesser scale, to a number of UNESCO undertakings, notably an inventory of natural resources in Africa undertaken on behalf of ECA.

(vii) **OEEC.** An account is given above of the important contacts established between OEEC and CCTA, and more particularly FAMA. The Organisation delegated two eminent observers to Lagos, who made an impressive contribution. The Secretary-General of CCTA also attended a meeting of the Development Assistance Group.

(viii) **Council of Europe.** The same remark applies to the Council of Europe; this is not surprising since the ideas put forward by the CCTA/CSA Secretariat to facilitate the extension of bilateral technical aid are very similar to those advocated by speakers in the European Assembly at Strasbourg. The Acting Secretary-General of the Council of Europe and a member of the Irish parliament in Dublin made the journey to Lagos for the meeting in February. Since that time, divers technical matters, concerning university education in particular, have been dealt with.

(ix) **Other Organisations.** On various well defined technical questions, co-operation with the relevant bodies continues on satisfactory lines—UN Specialised Agencies such as WMO and IAEA; inter-governmental organisations such as the International Union of Geodesy, the International Office of Epizootics and so on; and non-governmental organisations such as the World Federation for Mental Health, the International Road Federation, and various engineering associations.

(x) **General remarks.** For several years, relations between CCTA and the international organisations, especially those within the United Nations family, presented a thorny problem. The Secretariat is happy to state that that period is now over. The increasingly pronounced African character of CCTA naturally helps towards easier relations.

The only problem now—but an important one with so few effectives as the Commission has—is the difficulty experienced by the Secretariat and other permanent organs in replying to all the requests addressed to them and attending the many gatherings to which they are invited. Appendix III lists most of the meetings at which CCTA/CSA has been represented in the past year.

PART TWO

NATURAL RESOURCES

I. CONSERVATION OF NATURE

For years past, the Scientific Council has been concerned to draw the attention of governments to the risks to future generations incurred through the ill-considered destruction of natural wealth. At this time when African countries are achieving their independence, it is right to help them to take the measure of the problems facing them as regards protection of nature and conservation of natural resources. Council Members will therefore be pleased to note that the measures proposed in 1960, on which the Scientific Secretary reported verbally to the Eleventh Meeting, are being put into effect.

At Kampala two years ago the Council proposed the holding of a major conference dealing with the conservation of natural resources, to be preceded by extensive preparatory work. It suggested that the aspect to be stressed should be the rationally planned exploitation of natural resources, with emphasis on the profitable nature of such rational exploitation from the economic standpoint. At the same time Dr. F. Darling, among others, had suggested that a conference should be held on the conservation of natural resources in relation to economic development.

The General Assembly of the International Union for Conservation of Nature (IUCN) at Warsaw in June 1960 afforded an opportunity for consideration of these projects. Professor Monod, who attended the meeting, will doubtless wish to address the Council on the subject. A Working Party drew up a Plan for Africa 1960-3 to be carried out by IUCN and CCTA, with the support of FAO, UNESCO and more especially of the governments of countries south of the Sahara who are obviously the people most concerned.

The aim of the project can best be set out by quoting the report of the Working Party :

“ The particular purpose of the project would be to inform public opinion, through the intermediary of their leaders and responsible officers in their Governments, and to convince public opinion that application of conservation practices, based on ecological knowledge, is in the best interests of all countries in Africa. Furthermore, it will mean encouraging the exchange of scientific and technical information coming from African States or which could be useful to the latter. The word ‘ conservation ’ applies here to water, soil, flora and fauna ; special attention would however be accorded to large mammals as being an important natural resource which, in many zones, is in serious danger. This project would be concentrated

essentially on non-exploited habitats including natural reserves, national parks, game reserves and also other non-cultivated areas which, if developed in rational manner, could yield a regular return in animal protein and other natural products.”

The project provides for three phases. In phase one, a particularly well qualified officer of FAO, Mr. G. G. Watterson (now Secretary-General of IUCN), toured a number of countries in Africa at the end of 1960 and the beginning of 1961 to discuss conservation principles and practice with African leaders. These conversations contributed to the preparation of phase two, which directly concerns the Council.

Symposium on the Conservation of Nature and Natural Resources

Phase two of the project adopted at Warsaw is none other than the symposium envisaged by CSA. It will be jointly organised by CCTA and IUCN. FAO and UNESCO will be associated with the preparation and running of the meeting.

The symposium will take place from 5 to 12 September at Arusha (Tanganyika). It will include two field excursions, one midway through and the other after the working sessions. At least a hundred delegates are expected ; they will probably include Sir Julian Huxley and Dr. Darling, among other outstanding figures.

The symposium will be divided into two parts. The first will be taken up with technical discussions and will last about three days ; those participating will be specialist research workers and representatives of technical departments. The agenda will cover :

—The role of natural resources in the local economy of areas not so far exploited, and how such resources may be increased.

—Inventorying, conservation and development of natural resources ; training of specialist personnel.

—The place of nature conservation in the rational utilisation of the soil and in general planning.

The second part, based on the ideas endorsed by the Eleventh Meeting of the Council, will cover in three or four days the administrative and political problems connected with conservation, namely :

—Wild fauna and flora ; cultural and economic wealth.

—Integration of nature conservation and of utilisation of natural resources into economic development programmes.

—Man's attitude to nature.

—Popular education.

—International aspects (International Convention, 1933 ; UN list of national parks ; proposal for an African Charter ; activities of international organisations).

The Sixteenth Session of the Commission set out the guiding principles for this second part in its Recommendation VII :

“ One of the most important aspects of the problem is the need to awaken public opinion to the dangers of wanton destruction of natural resources and to the advantages of a wise policy of nature conservation in both the immediate and more distant future.

“ The Commission considers in this respect that the section of the symposium dealing with this aspect of the problem should receive the full attention of Member Governments and that delegates should be appointed, in each country, among those personalities best able to convey such a message to the populations. It also considers that problems connected with the education of the masses should receive special attention at Arusha and that consideration should be given afterwards to the possibility of publishing pamphlets in the vernacular and to other means of propaganda that will have a popular appeal.”

Thus it is highly desirable that each delegation should include a senior government delegate (a minister or his representative).

Technical preparations for the symposium are in the hands of Professor Monod and the CCTA/CSA Secretariat, together with the Secretariat of IUCN, which is producing a number of working documents. An Advisory Committee set up during the Warsaw Assembly, with Dr. Worthington as chairman and other eminent authorities assisting, is also playing an important part in the preparations.

As to the third phase of the Plan for Africa, this will follow the 1961 Symposium ; a permanent team of two experts attached to the IUCN Secretariat will spend some time travelling in Africa. The four organisations concerned—CCTA, FAO, IUCN and UNESCO—will operate jointly.

This is an ambitious scheme, but the time to sound the alarm and to lay the foundations of action is now. In ten years it will be too late in the majority of African countries. There are, indeed, encouraging signs ; the Secretariat is happy to note, for example, that despite the grave difficulties experienced in the Congo since July 1960 the country's national parks have in general been respected by the population, and the provincial government most directly concerned has given full support to the action of the Congolese game wardens protecting this patrimony.

Training of specialist personnel

As recommended by the Council, questions of training will be considered at the time of the symposium. The competent department in Tanganyika has drawn up an interesting project for the training of medium-grade wild life conservation staff essential to any effective con-

ervation policy. It calls for the establishment in East Africa, probably at Arusha, of a centre where a hundred officers from East and Central Africa could receive training. The level required of candidates would be the Cambridge School Certificate. A course of eighteen months to two years would train them to carry out simple game surveys, undertake topographical operations, report on current legal matters concerning contraband and take part in park management, in particular the game "harvest".

This project fits in well with the regional programmes for joint action organised under the responsibility of CCTA/FAMA. The American authorities were informed in the course of the CSA mission to the United States in May and were favourably disposed towards the project. The Scientific Secretary has been asked to put the final touches to it, in consultation with the three or four countries concerned within the region. Coinciding with the Arusha Symposium, a small meeting of representatives of these countries and of bodies wishing to be associated with the programme will be held to work out technical and budgetary aspects of the project and decide how expenditure connected with the centre is to be covered by the governments in the region, starting with its fourth or fifth year of operations (the procedures envisaged in such cases are the subject of a paragraph in the present Report—see Part I, Chapter 2).

2. CLIMATOLOGY, METEOROLOGY, HYDROLOGY

Climatological Atlas (Joint Project 1)

The Inter-African Correspondent for Climatology has informed the Secretariat that the Atlas is now almost ready. Final corrections to the proofs are in hand and all except one of the maps are with the printer. Bindings will be ready in June 1961. A short publicity leaflet will be issued shortly.

The Council will note this progress with great satisfaction. Members have always been interested in Joint Project 1, and it is with pleasure that the Secretariat addresses its congratulations and thanks to Dr. Jackson and his team, as also to the South African Trigonometric Survey Department.

Meteorology

At its Eleventh Meeting, the Council noted the need for training of meteorologists and assistants (Recommendation XVI); it warned the governments of new States of the risk of disorganisation of the existing network of meteorological and climatological stations. The Scientific Secretary informed the WMO Secretariat, which expressed interest in the proposal. WMO, however, a Specialised Agency of the United Nations, cannot put forward suggestions until the study it is at present making in

conjunction with other UN bodies on training needs in Africa, is completed. A further report will be made to the Council.

Mention should also be made of the first session of the WMO Committee on Hydrological Meteorology in Washington. CCTA was represented by the Inter-African Co-ordinator for Hydrology, Dr. Rodier, who was able to give a detailed account of the results of the Nairobi Conference referred to below. He drew the attention of other participants to the recommendations adopted at Nairobi which give the point of view of the meteorologists and hydrologists of Africa. Dr. Rodier was pleased with the results of the meeting and the extent to which it was possible to get a hearing for those working in Africa.

Inter-African Hydrology Conference

The Inter-African Hydrology Conference at Nairobi in January 1961 was the most important activity and the culmination of CCTA/CSA efforts in this sphere. After organising small specialist meetings to deal with limited topics, and after establishing a system for the exchange of information, the Commission convened a broad inter-African gathering open not only to hydrologists but to specialists in all branches concerned.

The lengthy preparations were undertaken according to the advice given by CSA and with the active assistance of Dr. Russell, Member of the Council, and of the Inter-African Co-ordinator, Dr. Rodier. In Recommendation VIII of the Sixteenth Session, the Commission voiced its thanks to CSA. Other international organisations have expressed equally flattering opinions on the conference and the manner in which it was prepared.

Delegates and observers at Nairobi numbered 120, many of them sent by countries not members of the Commission (United States, Israel, Italy, Netherlands) and by various international organisations (FAO, WHO, WMO, UN, UNESCO), non-governmental specialist organisations, engineers' associations and private bodies. The volume of documents circulated in advance of the conference exceeded anything hitherto experienced at CCTA; 140 papers were submitted, the majority being of great technical and scientific value.

Two excursions arranged by the local authorities in connection with the conference were a great success, and there was also an exhibition enabling delegates to display plans, diagrams, photographs, designs, samples and models of equipment.

The conference was divided between plenary sessions and committee meetings, the plenary sessions being devoted to the following points :

- The importance of hydrology in the development of a country.
- Hydrology of the principal river basins.
- Effects of land-use policies on water resources.
- Organisation of inter-African co-operation.

Four themes were covered by technical committees :

—Hydrometeorology (measurement of precipitation, of evaporation and transpiration, and of radiation).

—Surface water hydrology (streamflow and river studies), sediment studies, special problems relating to arid areas, lakes and swamps.

—Catchment area experiments.

—Ground water hydrology (methods of location, assessment of resources, artificial recharging, intrusion of sea water).

The highly technical reports of the plenary and committee meetings, together with the conference recommendations and conclusions and a substantial proportion of the preliminary documentation will be published shortly. In addition, the hydrological data on the principal rivers of Africa communicated to the conference will be published in the form of index cards with printed cover (Conference Recommendation LI).

It is no easy matter to sum up the technical discussions of the Nairobi Conference in a few sentences. Doubtless Dr. Russell, who took the chair at the plenary sessions, will give the Council a fuller account and the Secretariat will therefore confine itself to reporting the general conclusions.

The participants were at one in urging that governments should recognise the importance of hydrology in countries in process of development. This is a fundamental discipline, and there can be no valid development planning without prior work of a hydrological nature systematically carried out by experts ; otherwise government action will be launched in ignorance of one of the country's basic resources.

This preliminary observation explains the importance attached by delegates to the means of collecting data. Numerous recommendations deal with the methods and equipment to be recommended for adoption, standardisation of which is a necessary objective. Delegates also drew the attention of governments to the need for detailed studies on a number of problems which, it was felt, were insufficiently covered at the present time, such as the effect of grazing management on water supplies (Rec. XI), degradation of rivers in arid zones (Rec. XLII), ground water research (Recs. XLVI-L). The conference further recommended the setting up of technical committees competent to advise governments on the consequences of major changes in land-use policy as they affect the water resources of an area (Rec. VIII).

Co-operation between African countries in the field of hydrology constituted one heading of the conference discussions. The conclusions under this heading were considered by the panel of correspondents at its first meeting, held at Nairobi on the same occasion. Particular importance was attached to co-operation between countries within one river basin, which frequently have interests in common. The information obtained can be of immediate value for all riparian countries. Sometimes, indeed, it is possible to undertake projects on a regional basis. The

conference took special note of the need for such co-operation in the Niger and Chad basins (Recs. XIII and XIV). As will be seen later, a start has been made in implementing these recommendations.

On the inter-African plane (Rec. XII) the suggestions of certain participants for creating one or more international research bodies were turned down and the panel of correspondents procedure, familiar to the Council, was maintained, the Co-ordinator receiving expressions of encouragement in his work. More precisely, it was proposed that the Co-ordinator should prepare a list of specialists concerned with hydrology, draw up a trilingual glossary of terms and expressions in current use, and issue a simplified bibliography of articles on hydrology, including those appearing in publications having a small circulation. Finally, the countries will be kept informed, through the Panel of Correspondents, of work done in Africa and hydrometric data collected, and they will regularly receive hydrological year-books.

As regards future meetings, the conference recommended that large inter-African gatherings should only be held at long intervals and that efforts should be mainly directed to small specialist meetings for the discussion of specific subjects and to regional meetings.

The unconditional support given to all these proposals by the observers from foreign countries and international organisations calls for special mention and grateful recognition. The Director of the UN division for water resources and transport was particularly co-operative, and the Secretary-General during his visit to New York received assurances that the United Nations would contribute to the development of co-operation in Africa by making substantial resources available to countries and individuals working in this sphere, in close liaison with CCTA/CSA, frequently taking as a basis the work already effected under their aegis.

Co-operation within a common river basin

The Nairobi Conference having recommended close co-operation between countries bordering on a common river basin, the Commission at its Sixteenth Session endorsed this conclusion in its Recommendation VIII and decided in favour of its early implementation.

Accordingly a meeting of the countries bordering on the River Niger was convened for May 1961 at Ségou (Mali). Unfortunately Guinea was unable to be represented, but its agreement on the principle of co-operation had been expressed a year previously (at the meeting on the problems of the Fouta Djallon held at Mamou in May 1960). Two United Nations observers were present.

The meeting afforded an opportunity for very useful exchanges of information between specialists, on such matters as the present organisation of hydrological services, the respective value of the various stations to

countries situated downstream, flood forecasting, the possible effects on the regime of the river of major projects planned or in hand.

From the outset the delegates expressed their determination to remain in close contact on all technical scientific problems concerning the Niger and its tributaries. They resolved to form themselves into an "Advisory Committee for the Niger" which will meet regularly, one of its members being responsible for maintaining liaison between meetings. The Governments explicitly undertake to enter into joint consultation with the other riparian countries of the Niger whenever a major project, or a series of minor projects, likely to affect the regime of the river in other riparian countries comes under consideration. Finally, joint projects will be undertaken where appropriate; some may involve seeking technical and financial aid outside Africa.

As a first example of joint action, a recommendation of the new Advisory Committee asks the United Nations to send an expert to spend about eight months assembling existing information and prepare a report on the repercussions on the regime of the Niger of the major projects at present planned in the river basin (Niandan and Sankarani barrages, expansion programmes of the Office du Niger, development projects for the tributaries in Dahomey, and so on).

The meeting was fully equal to the expectations of those desirous of such co-operation, and its example is being followed; a similar meeting is soon to be held for countries situated in the Chad basin, this being taken as including the Logone and the Chari. Another meeting could be held between the four riparian states of the Bafing and the Senegal, which particularly lends itself to extensive programmes of regional development.

This affords a new opening for CCTA/FAMA. The Secretary-General's conversations in the United States, referred to in the preceding subsection, demonstrated that certain countries and organisations outside Africa would be glad to contribute to schemes of regional development; in the minds of many eminent people, the works required for developing the resources of a river basin come well within the scope of such a policy.

Training of specialist personnel

Several delegates at the Nairobi Conference laid stress on problems of training. Recommendation XX notes that, in hydrology as in many other spheres, advanced training is a prerequisite for qualified engineers and hydrologists in senior appointments; this is a universal problem which can be resolved only in terms of university or higher education. There is likewise a need for two further categories—that of assistant hydrologists, men who have followed their secondary education with a year's special training and are capable of supervising work in the field, and that of personnel with about a year's training who can carry out the normal field operations of taking gauge-readings, surveys, and so on. In

most countries there are not enough officers in the two latter categories to justify the establishment of national centres. It would be foolish to continue to train such officers solely in the field, still more so to consider sending them outside Africa.

With this in mind, a scheme was submitted at the Ségou Meeting, which will shortly be circulated to the governments concerned. It proposes that a permanent centre for the training of assistant hydrologists and field personnel should be set up in West Africa (probably in Dahomey), which would be open to all French-speaking countries and train some ten assistant hydrologists and twenty field workers annually. After the first few years, the centre would be run and financed solely by the countries concerned, but technical and financial assistance provided under FAMA auspices should cover basic equipment and operation during the initial period.

Other activities relating to hydrology

The CSA Specialist Meeting on Water Treatment is discussed in Part III, chapter 7.

The interest evinced by United Nations bodies in hydrological problems has already been stressed several times above. Of particular note are the United Nations projects for the training of administrators with responsibilities in connection with the development of hydrological resources.

Mention should likewise be made of the continuing attention given to hydrological questions by WHO, which sent observers to the CCTA and CSA meetings on these problems. A seminar was organised in December 1960 on community water supplies, at which Mr. Roberts represented CCTA/CSA. The seminar emphasised the need for each country to have its own autonomous national agency to ensure the efficient administration of the water supply and safeguard its independence. Problems of water supply finance and of *per capita* consumption were discussed at length. Medical and technical aspects of these same questions will be taken up at the CCTA/WHO Symposium on Hygiene and Sanitation in Relation to Housing (see Part III, chapter 7).

On a somewhat different plane, the Council may wish to take note of a project at present being worked out by the Inter-African Co-ordinator, for the systematic survey of ten to fifteen catchment basins of around 1,000 sq. km. Much information has been assembled on small catchment basins (25 sq. km.) but little on catchments of 1,000 sq. km., which is precisely the scope of many hydro-agricultural schemes now being undertaken, in particular for the installation of wet rice cultivation. The Nairobi Conference drew the attention of governments to this matter in its Recommendation X.

Because systematic information is lacking, the experts are obliged to carry out a complete survey every time a development scheme is proposed,

involving expenditure out of all proportion to the benefits to be derived from the development. Hence Dr. Rodier's suggestion; he considers that, if observations were made of ten to fifteen catchments of these dimensions by specialist teams over a five-year period, the results could be readily adapted to apply to any particular case.

This project is under study. It involves considerable expenditure, and an even greater difficulty will be to find a qualified hydrologist for each catchment. Nevertheless, the Ségou Meeting desired to put on record its interest in the proposal.

3. GEOLOGY AND GEOPHYSICS

Geology

The Inter-African Scientific Correspondent, Dr. Haughton, has continued his normal activities. The *Geological Abstract* has been issued regularly every two months (abstracts were made of 436 publications in 1960). Other work undertaken by the Correspondent included an inventory of existing training facilities in the field of geology. Dr. Haughton also represented CCTA/CSA at a number of international gatherings, among them the Twenty-first International Geological Congress at Copenhagen in August 1960.

An extension of Dr. Haughton's activities is likely to accrue from the Commission's desire that he should also cover applied geology. Accordingly, it has been decided to augment his material resources and give him additional staff.

At the same time, regional co-operation is proceeding satisfactorily. The Southern Regional Committee has pursued its study of the history of the Stormberg volcanism and is due to meet for the fourth time in September 1961 at Pretoria. The East Central Committee is to hold its third meeting towards the end of 1961 or the beginning of 1962 in Uganda, taking as its topic the relations between geological surveys and the development of mineral resources in tropical Africa.

This form of activity is yielding good results, due largely to Dr. Haughton. The effectiveness of our type of work lies in close co-operation with the competent departments. Thus such a long established body as the African Geological Surveys' Association, which has covered Africa as a whole since 1932, has passed to the Secretariat a request for closer links with CCTA so as to be in a position to utilise the latter's resources in carrying out certain projects entrusted to the Association—revision of the geological map, compilation of a metallogenetic map of coal deposits, and so on. Already closer co-operation has been established with the Association. CCTA's regional committees for geology will have the task of collating and checking the available information required for the elaboration of the Association's proposed structural

map of Africa; the details for the map will correspond to the systems adopted by the International Commission on Structural Maps.

The Eleventh Meeting of CSA adopted a recommendation on geological problems in Africa as a whole (Rec. XVIII). Wide circulation was given to the recommendation and some progress has been made in the matter. The regrouping of geological departments in the course of the year meets certain needs—an example being the formation of a single geological service for the four States formerly comprising French Equatorial Africa. Likewise to be noted are the agreements reached between the relevant French services and most of the former French West African States for maintaining a minimum level of geological activities. By no means all the problems have been solved, but there has been real progress. Meanwhile the Commission has refrained from making concrete proposals for joint action until its help is requested.

As to questions of training, these are difficult to discuss in the context of CCTA/CSA activities. Qualified geologists have to study in higher educational establishments while the field worker is generally trained on site.

An interesting suggestion put forward in general terms by Dr. Obermuller, Associate Member of the Council, is to receive detailed study and will be the subject of a report in a few months' time. Dr. Obermuller suggests that small teams should be formed, consisting of two officers with elementary training in geology and geodetic surveying, to operate under an expert geologist within a given area of the arid zone where they would prospect for ground water and study where wells should be sunk. Joint action would cover the training of these officers, the provision of prospecting and drilling equipment and the training of locally recruited well-diggers. In this way whole regions of the arid zone could be systematically covered on relatively economical terms. This proposal comes within the scope of the policy laid down in Recommendation X (v) of the Third Meeting of FAMA.

Geophysics

The Council had intended holding a second meeting of specialists on geophysics in 1961, to consider the results of the International Geophysical Year in Africa. Basing itself on reports presented to it, the Council now considers this meeting no longer essential, the researchers and experts being already in close mutual relations (Rec. XIX of the Eleventh Meeting).

However, CSA is anxious to keep abreast of progress in this sphere of geophysics, since studies in this field are of importance to the understanding of the natural economic medium. Scientific Correspondents have already been appointed for seismology, geomagnetism, oceanography and ionospheric. As proposed by CSA, the Correspondent for Seismology,

Professor Hales, Director of the Bernard Price Institute at Johannesburg, has also been designated Inter-African Correspondent for Geophysics. He is assisted in his task by two sub-regional correspondents covering West and Central Africa respectively, namely Miss Crenn, Director of the Centre de Géophysique at M'Bour, and Dr. Berg, Head of the Geophysics Department of IRSAC, Lwiro (Sixteenth Session, Rec. IX).

The Council at its Eleventh Meeting noted the project for centralising information now available or which may be collected in Central and East Africa, where there are eleven seismological stations currently operating. The aim is twofold :

(i) Economic and general

—To supply government departments and undertakings concerned with data and advice regarding the construction of buildings in particularly exposed regions.

—To maintain a watch on areas of volcanic activity so as to forecast eruptions.

—To organise the supervision of underground nuclear explosions.

(ii) Scientific

Dr. Berg, Head of the Department of Seismology and Volcanology of IRSAC, is of the opinion that systematic seismotectonic research will afford fuller knowledge of the graben in these areas and on the speed at which tremors travel within and parallel to the graben.

A more detailed study has been made under the direction of Dr. Berg, who proposes :

—The modernisation of certain existing seismological stations in order to bring about an up-to-date standard network (two new stations may be needed).

—The creation of an inter-African centre in the geophysical department at Lwiro, to assemble, collate and interpret data received from Central and East Africa, covering more especially the major rifts.

External aid will be needed for the implementation of this project over a period of at least three years. Certain institutions in Germany have already indicated their willingness to provide specialist staff. Dr. van den Berghe will report to the Council on the results of his conversations in the United States on the subject in May 1961.

Unfortunately, it is difficult to make proposals as regards the date when operations could begin if the project is accepted, because of the disturbed situation in the Congo.

4. PEDOLOGY, SOIL CONSERVATION AND UTILISATION, PHYTOGEOGRAPHY

Pedological Map of Africa (Joint Project 11)

The Council has followed with close attention in recent years the work of Dr. d'Hoore, Director of the Inter-African Pedological Service (SPI), and been kept informed of progress in compiling a soils map of Africa (including the area north of the Sahara). Dr. d'Hoore presented the third draft, prepared in the light of the observations made during the technically and scientifically outstanding debate at Dalaba in 1959, to the Seventh International Congress of Soil Science at Madison, U.S.A., in August 1960. It was very favourably received and the congress sent a message of congratulation (which was circulated by the Secretariat). The work of Dr. d'Hoore on the fourth draft, the last but one, continues in accordance with the recommendations of the SPI Council of Management. This fourth draft is to be submitted to the consideration of pedologists in Africa, as was done at Dalaba. It will be the first item on the agenda of the symposium to be held by CCTA together with FAO in August 1961. Following that discussion Dr. d'Hoore will prepare the fifth and last version of the map, which will be ready for publication in 1962 or 1963. It will be on a scale of 1/5,000,000, utilising the basic maps supplied by the Commission under Joint Project 7.

This is a considerable undertaking which could not have been successfully carried out without the full understanding and co-operation of pedologists all over Africa. Tribute is due to Dr. d'Hoore whose authority and competence in this field have aroused great admiration.

Already a simplified map, on the basis of the third draft, has been prepared for the Clarendon Press, Oxford, and included in the new 1/25,000,000 Atlas of Africa published by that firm.

While work on the map has proceeded satisfactorily, 1960 was a difficult year for SPI, as pointed out at the Eleventh Meeting of the Council. The Assistant Director, who was at Yangambi during the period of the disturbances in July, had to be evacuated and has left the Commission's service. The Yangambi offices are at present empty and the work has had to be transferred temporarily to the Ghent laboratory. What is to become of SPI? In addition to the classification and mapping of soils, SPI had been called upon, under the programme adopted by its Council of Management, to prepare a Review of Methods of Analysis to supplement the Soils Map. The Commission recommended that the Council of Management should decide as to the desirability of proceeding with this project and on whether to maintain SPI in being.

Inter-African Pedological Service (SPI)

The SPI Council of Management will meet for the fifth time following the CCTA/FAO symposium mentioned above, that is to say, probably at

Lourenço Marques in August 1961. The main topic of discussion will be the future of the Service. The projected world soils map referred to in the next paragraph will also come up for consideration. Dr. Aubert, Member of CSA, will probably attend the SPI meeting and will be able to report to the Council.

Symposium on Soils Classification (CCTA/FAO)—World soils map

The Congress at Madison, already referred to, stressed the great importance of pedological mapping and the need for standardising definitions and nomenclatures in this sphere. CCTA is in the lead with its map of Africa. For some time FAO has wished to broaden the scope of the discussions and arrange a meeting between representatives of all pedologists from the tropical zone. A CCTA/FAO symposium will be held towards the middle of 1961 to compare the views of pedologists from Africa and those from other areas of the tropics. Dr. d'Hoore who represented CCTA at the Thirty-fourth Session of the FAO Council in Rome in October 1960, had conversations on the subject; he believes it should be possible, as a first phase, to establish interesting correlations between Africa and Latin America.

Arrangements for the symposium will be as laid down at Dalaba. The first part, as indicated above, will be devoted to the pedological map of Africa. The next two items on the agenda will be respectively the red and yellow soils of tropical regions, and the comparison between the pedological map of Africa and those of tropical regions elsewhere, with special reference to the map of Latin America; a point-by-point comparison will be made under this heading of the classifications adopted in tropical regions. FAO will arrange for a Latin American expert and one from South-East Asia to be present. The fourth point on the agenda, namely the present state of pedological studies in Africa, will be based on the reports of government delegates.

The symposium forms part of the preparatory work for a large-scale project planned by FAO and UNESCO, in accordance with suggestions put forward at Madison, consisting in the publication of a world soils map on a scale of 1/5,000,000. The Commission has given a favourable reply to FAO's invitation. The work done by SPI will be placed at the disposal of the relevant departments in Rome, it being understood that in the final publication mention will be made of the responsibility of CCTA/CSA in the compilation of the pedological map of Africa. The Director of SPI, as a member of the advisory committee which is to supervise the work and advise the two Specialised Agencies, will be able to give FAO his full assistance. This is an important project and Dr. Aubert will certainly wish to give the Twelfth Meeting of CSA an outline of its broad principles.

Inter-African Soils Bureau (BIS)—Map of the dangers of erosion (Joint Project 20)

Since its reorganisation in 1959 on the lines recommended by the Council, the Inter-African Soils Bureau has functioned to the satisfaction of all concerned. For this, credit is due to the Director, Dr. Fournier, whose presence confers a high scientific standard on the Bureau's work and who, through his travels, maintains close contact with the relevant services and institutions in Africa and with international bodies.

After a search lasting several years, two English-speaking candidates were nominated for the post of Assistant Director. The Council of Management has been consulted and an appointment will be made after the meeting of the Executive Committee of the Council of Management due to take place in Paris in June with Dr. Aubert, Member of CSA, present.

The Bureau has continued to discharge its normal role, publishing three issues of *African Soils* during the year, together with the Monthly Analytical Bulletin and a large number of bibliographical index cards, replying to questions raised by various government departments, international organisations and private firms, training personnel on short-term attachment, and so on. Special mention should be made of the part played by Dr. Fournier in maintaining liaison with several international organisations in the spheres covered by BIS, including a specially close relationship with EEC, FAO and UNESCO. These three organisations have formed the habit of applying to the Bureau to draw on its unique collection of documentation on African soils problems. As the only Director of a CCTA Bureau still resident in Europe, Dr. Fournier is also responsible for liaison of a more general nature and numerous matters are handled through him. A reference to Appendix III will show the large number of meetings attended by Dr. Fournier on behalf of CCTA.

At one of these meetings an interesting project was drawn up, which calls for mention at the present point in the Report to the Council. The European Economic Community (EEC) sponsored a meeting in Brussels in October 1960 on problems of reforestation and soil conservation in tropical countries. Seven national research institutes of EEC member countries took part, along with a representative of the FAO forestry section, Dr. Aubert, and the Directors of BIS and SPI. Many requests for aid with projects involving reforestation and soil conservation programmes having been received by EEC, that body is anxious to assemble as much information as possible on the problems, for use as criteria on which to assess the requests for assistance. The meeting in Brussels was an attempt to answer these questions.

The experts attending were of opinion that an inventory of work done and information collected should be made by the national institutes.

A synthesis, to which BIS will contribute substantially, should then follow, and an erosion map will constitute a valuable element in the context of this synthesis. This preliminary phase will be succeeded by field studies carried out by regional teams operating in broad ecological zones.

CCTA participation is not confined to its contribution to the meeting in Brussels or to making available the documents in the possession of BIS. Compilation of the erosion map has been entrusted to the Bureau and, under an agreement reached between the CCTA Secretariat and EEC, the latter will finance the compilation and printing of the map by BIS. When completed, the map will be widely distributed in all member countries of CCTA. A joint project is being devoted to this undertaking so as to enable CCTA to receive the outside aid thus offered (Joint Project 20). The map, to a scale of 1/10,000,000, in three colours plus black, will show the variations in the danger of erosion in Africa, that is to say the variations in climatic turbulence, subdivided according to vegetation, soil and gradient. Once the map of erosion risks is complete, BIS will consider the possibility of preparing a second map on the susceptibility to erosion of African soils.

The project is due for completion in about June 1961 and the Secretariat hopes to be able to show the Council the results at the Pointe-Noire Meeting.

Other schemes are also being considered by BIS and the international organisations. It would appear to be possible to envisage one joint project per year, conducted under the authority of the Director of BIS and covered to a large extent by external subsidies. Should such projects become numerous, recourse would naturally be had to specialists outside CCTA, who would be recruited for the duration of the project.

Regional activities for conservation and utilisation of the soil

The life of the Regional Committees goes on. At a recent meeting CROACUS defined the objective as being to develop the exchange of information, to promote joint studies, to arrange technical visits and encourage direct co-operation between States in one and the same region.

Since meeting at Dalaba, CROACUS has resumed its activities. The new Secretary has circulated a number of documents and took part *ex officio* in the Fouta Djallon Meeting. As regards the Fourth Meeting, this will take place in November 1961 at Samaru and Mokwa (Northern Nigeria). Discussion will be concentrated on problems of conservation and utilisation concerning the middle belt (Soudano-Guinean zone), with particular reference to the soil/water relationship. There will be an excursion to the Mokwa district. The meeting will be followed by a subcommittee of pedologists.

CRACCUS was, in principle, to have held its fifth meeting at the

time of the CCTA/FAO symposium on the classification of soils of tropical regions in Leopoldville. It is possible that the CRACCUS meeting may be postponed. If it takes place, it will be mainly devoted to the study of rural development plans with a view to intensification of agriculture and conservation of the soil. Each delegation will be asked to outline the guiding principles of its country's policy, quoting examples of development schemes in hand or at the planning stage.

SARCCUS has again been very active. In May 1961 it ran a seminar on agricultural extension problems, at which four days were occupied by discussion and two by field visits. Finally, mention should be made of two regional training courses on soil conservation and utilisation arranged for early in 1962. The courses, one for English-speaking and the other for French-speaking participants, will last six to eight weeks and will include a considerable amount of work in the field. They are designed for middle-ranking officials locally responsible for soil conservation, as recommended by the Eleventh Meeting of CSA.

Phytogeographical atlas for Africa

The CSA Specialist Meeting on Open Forests held at Ndola in November 1959 recommended that the project suggested by the Meeting of Specialists on Phytogeography at Yangambi in 1956 concerning the publication of a phytogeographical atlas for Africa should be implemented. At its Eleventh Meeting, CSA considered that, if the project was to be undertaken within a reasonable time, the appointment of a qualified expert to work full-time would be necessary (Rec. XXIV). He would be responsible for assembling and studying the requisite information, as was done for the Pedological Map of Africa. This would entail a long-term operation. Before proceeding to a definite recommendation on the subject, the Council felt that a further specialist meeting of phytogeographers should be held when the time came, to go into the questions involved in the compilation of a phytogeographical atlas (Eleventh Meeting, Rec. XXIV).

The enquiries made by the Secretariat offer little hope of swift implementation of the project. It is thus for the Council to decide what priority to give it. The Scientific Secretary will submit a note on the subject at Pointe-Noire. Dr. Bates, Member of CSA, who was chairman of the Ndola meeting, will probably wish to make known his views.

5. PHYTOTECHNICS

Banana production

In accordance with the Council's recommendations, a CCTA/FAO symposium on banana production was arranged at Abidjan from 12 to 19 October 1960. Specialists attended from eight CCTA countries directly

interested, along with representatives from nine countries outside Africa, a number of observers from international bodies and business organisations, and FAO experts. The post of Assistant Scientific Secretary being vacant, the Secretary-General was represented by Mr. Champion, head of the Bananas Division of IFAC.

The meeting started with a statement by FAO on the world market for bananas; the technical study of problems relating to major export crops cannot be divorced from the economic and marketing aspects. The agenda also covered the following points: improvement and selection of banana species, ecology, plantation experiments, control of pests and phytopathology, transport and maturing of bananas, by-products.

The recommendations deal with four subjects. Firstly, those addressed to FAO and CCTA/CSA recommend closer co-operation in the field of research and improvement in the exchange of information between specialists, including the establishment of a world list of institutes and research stations working on banana investigations and the regular dissemination of information from research centres—in particular the issue of a periodical bulletin and a bibliographical bulletin, and the publication of an atlas, in colour, on the pests, diseases and deficiencies of the banana and methods for their control.

The other recommendations are directed to governments of producer countries. They call attention to the difficulties encountered in research for resistant hybrids, and propose the organisation of systematic research for and maintenance of mutants, the promotion of exchanges of plant material and likewise the promotion of studies on banana ecology. They further recommend standardisation of statistical reporting and the preparation of a catalogue of international denominations. Finally, they stress the importance of loading conditions as well as ripening, and suggest that a uniform system of evaluating banana quality on loading should be drawn up.

The main responsibility for implementing the recommendations devolves on FAO.

Coffee

A world meeting on coffee took place at Abidjan from 21 to 29 October 1960. This was organised by FAO with CCTA assistance, on similar lines to the Accra meeting on cocoa in February 1959. The agenda included the following items:

- World survey of main technical production and processing problems.
- Genetic improvement.
- Nutrition, water and shade requirements.
- Diseases; insects and other pests.
- Processing.
- Research.

- Technical production methods in traditional coffee areas.
- Extension.
- FAO coffee projects ; administrative questions.

Savannah zone cereals and other crops

As proposed by the Council, the Commission has decided on the holding each year of a meeting devoted to a crop of major economic importance, organised when possible jointly with FAO. The next symposium will deal with grain crops in savannah zones (sorghum, maize, millet). It will take place in 1962, in the middle belt of West Africa, in the vicinity of a centre where cereal research is in progress (either at Bambey in Senegal or at Samaru in Northern Nigeria).

The Council was of the opinion that the symposium should be mainly concerned with problems of selection (Rec. XXVI of the Eleventh Meeting). Further, in its view the technical discussions should be divided into three sections, one of them to study maize, one to study sorghum and millet varieties and the third to consider the production and distribution of improved seed. In fulfilment of these recommendations, the agenda has been drawn up in three sections, namely :

Section 1—Maize

Breeding for drought and disease resistance. Importance of developing synthetics.

Section 2—(a) Sorghum

Breeding for bird resistance, particularly quelea, and for disease and striga resistance. Possible value of tetraploid sorghums.

(b) Millets

Production of improved varieties.

Section 3—Production and distribution of improved seed

General policy regarding improvement of grain production in savannah zones. Co-operation in the field of research on these cereals.

FAO has requested that Section 3 should also include an item on the improvement of grain legumes from the nutritional angle.

Mr. Doggett of Uganda, whose name was suggested by the Council, has agreed to assist in preparing the symposium and it is hoped that he will attend it. Consultations are proceeding between the Secretariat (Nairobi) and FAO regarding arrangements for the meeting.

As to the crops to be dealt with at subsequent symposia, the Fifteenth Session at Tananarive assigned priority to wet rice cultivation and the Council suggested that the next one thereafter should be devoted to jute substitutes.

Mechanisation of agriculture

The discussion at the Fifteenth Session witnessed to the great interest of governments in CCTA's activities in respect of mechanisation of agriculture. Especially noteworthy was the desire to give priority to questions of equipment for manual use and animal traction as against complex mechanised equipment.

The panel of correspondents has been formed and the Secretary of the Committee, Mr. Garrard, is in close contact with its members. A first issue of the Information Bulletin has been published and distributed. The main object of the Bulletin, as set out by the Committee, will be to bring to those working in the field practical information about developments elsewhere covering the technical, economic and social aspects of mechanisation, in particular the first and last of these. A bibliographical section will be included, as well as accounts by the Secretary of his tours.

Mr. Garrard plans to make regular tours of Africa. His first trip, to coincide with the meeting in Ségou, was still in progress at the time of writing the present Report.

The Committee met for the second time at Ségou (Mali) from 10 to 15 April 1961. Its agenda included the following items :

- Report on recent development and testing in respective areas.
- Rice cultivation, harvesting, processing, drying.
- Training of specialist personnel.
- Progress report on the work of the Committee ; bulletin ; future meetings.

The meeting included field excursions and demonstrations of various equipment. Twelve working papers were submitted on technical questions and served as a basis for the discussion ; they will be reissued in the bulletin.

The Committee recommended that governments should establish standing committees to advise and ensure close co-operation between users and suppliers of agricultural machinery and the official departments concerned. It was felt that, in view of the wide diversity of agricultural conditions, training should normally be carried out within each country. Nevertheless, the Committee considered that it would be useful to set up regional courses or centres to train instructors for the staffing of national institutions. Such training courses should be conducted on a monolingual basis. There should be separate centres for dry zone countries, where the emphasis should be on the use of animal-drawn equipment, and for tsetse infested countries in the tropical zone where motorised equipment is required. At Lagos in February the Commission reaffirmed its intention of taking up a scheme of this kind. The Inter-African Secretary, Mr. Garrard, will accordingly prepare a report, on the basis of which the Secretary of FAMA will seek to proceed.

The Committee proposed that its third meeting should be held in 1963, in a humid area, taking as its two main themes :

—Problems of applying mechanisation to the production of maize, sorghum and millet.

—The mechanisation of crop-protection against diseases and pests.

6. PROTECTION OF AGRICULTURAL PRODUCTION

Inter-African Phytosanitary Commission

The integration of the Phytosanitary Commission into the CCTA organisation has now been completed (see Rec. XXVIII of the Eleventh Meeting). Difficulties of a juridical nature still persist, of course, and these the lawyers are pursuing. But the recommendations adopted by the Member Governments are such that any state adhering to CCTA is automatically bound by the provisions of the Phytosanitary Convention, and that is the only thing that really matters. It was a fortunate decision, for it has avoided the danger of serious gaps suddenly appearing in the network of phytosanitary protection for Africa when the new States achieved independence.

The Phytosanitary Commission has been very active under its new Scientific Secretary, Mr. Barat, whose great competence and energy have won golden opinions. His premature departure is to be regretted ; called to take over important duties in his parent administration, Mr. Barat will be leaving the Commission in 1961. We can only hope that his successor will possess similar high qualities.

During his short period with the Phytosanitary Commission, the Scientific Secretary made an extensive tour of West Africa, besides pursuing his regular work with the help of the Commonwealth Institutes of Entomology and Mycology. These activities were reviewed at the Fifth Meeting of the Phytosanitary Commission, from 10 to 13 October last in London. Numerous technical resolutions were adopted and changes were suggested in the co-ordinated legislation already formulated by the Commission. In a recommendation on the education of travellers, and especially passengers by air, who may unwittingly introduce serious plant diseases into Africa, the Commission called for the use of posters and leaflets to draw the attention of travellers to this point ; the CCTA/CSA Secretariat has been encouraged by seeing such posters well in evidence at Lagos airport.

The Commission also emphasised the present shortage of plant quarantine stations, of which there are only three for the sub-continent (in British East Africa, South Africa and Nigeria), and suggested that the joint project procedure should be followed to promote the establishment of further stations with regional status. These could be established in existing centres or institutes, so as to keep down costs. They would also

be available for conducting research and helping to train technicians as explained below. However, the fact cannot be overlooked that such stations impose heavy requirements in scientific staff. At least a dozen specialists working together (nematologists, entomologists, virologists, mycologists) will be needed to bring a station up to the desired level. At its Sixth Meeting the Phytosanitary Commission will consider in detail a scheme elaborated by its Scientific Secretary.

As requested by FAMA, the Phytosanitary Commission debated at length the problems of training. A recommendation in favour of three- to four-month courses for training phytosanitary inspectors and plant protection officers also urged that facilities be provided for candidates leaving university to go on to more advanced level. As an immediate measure, the Commission proposed that academically trained staff should be temporarily seconded to certain African countries to improve the plant protection services and be responsible for the practical training of phytosanitary officers.

A scheme has been worked out by the Scientific Secretary in conjunction with FAMA. In Mr. Barat's view, more effective training could be given in travelling teams than in fixed centres. Each team would consist of three specialists who would give practical demonstrations at every stop on their route. At the same time they could act as consultants, look into the situation of the phytosanitary services in the countries visited, and report on the development of such services and on the implementation of technical assistance projects.

Relatively large sums and high-grade personnel would be required to carry out the programme proposed by Mr. Barat, if adopted by the Phytosanitary Commission. This would call for substantial outside aid. When the time comes, the FAMA Secretariat will endeavour to deal with the problems by the usual methods.

The Sixth Meeting of the Phytosanitary Commission, which is to examine the questions set out above, will take place at Ibadan from 16 to 20 October 1961, thus establishing a precedent, in that it will be the first meeting of the Commission to be held away from the headquarters of its Scientific Secretariat.

Apart from the two major topics just referred to, the meeting will discuss the *Guide to Phytosanitary Procedure* compiled by Mr. Barat for use by phytosanitary personnel at ports and airports. After approval by the Commission, the Guide will be widely circulated.

Weed control

The Phytosanitary Commission decided to extend its activities to cover this field and the subject therefore comes under the present chapter rather than that of phytotechnics.

The Council last year noted that weeds gravely affect agriculture in

Africa and cause considerable loss of production. Accordingly it suggested the convening of a symposium on weed control (Rec. XXVII). The agenda will include the following points :

- General weed control (methods, legislation, cost).
- Weed control in specific crops (cereals, leguminous grain and forage crops, trees and plantations, grasslands, bush, forest nurseries, control of aquatic weeds).
- Weed control in African agriculture (chemical weedkillers, possible hazards and precautions necessary).
- Science of chemical weed control (biochemistry and physiology, formulation, absorption, persistence, translocation within the plant and in the soil).

This last item will be considered only if it is possible to invite specialists with the requisite qualifications to the symposium.

FAO has agreed this agenda in its broad outlines and will sponsor the symposium jointly with CCTA. Dr. Bates, a Member of CSA, is providing technical guidance for the Secretariat in its preparations for the meeting, at which he will be present as recommended by the Council.

The symposium will if possible be held at Ibadan (Moor Plantation) from 23 to 27 October 1961.

Aquatic plant pests (Joint Project 14)

Dr. Bates, Member of CSA, and Dr. Wild, well known for his work on the flora of the Zambesi basin, kindly assisted in the preparation of a pamphlet on aquatic plants presenting a potential danger. A list of fifty-nine plants has been compiled, divided into three classes :

- those of major importance ;
- those presenting a potential danger and already known in Africa ;
- dangerous plants hitherto unknown in Africa.

The pamphlet is now almost ready ; only four plates remain to be completed. It will consist of 48 pages of text and 16 plates. Two thousand copies will be printed, the English edition being published under the supervision of the periodical *Kirkia* which is the authority in this field, and widely disseminated to government departments and educational establishments.

Dr. Bates has been responsible for the technical direction of the project and the Secretariat wishes to express its thanks for his help, as also to the British Museum (Natural History Section) for its substantial contribution to the preparation of part II of the pamphlet.

Protection of stored food products

The Council has long attached importance to the protection of stored food products. Year by year a considerable proportion of food crops is

lost through poor storage conditions. CSA therefore urged that a second symposium be held on the subject, to deal with storage on the farm and small-scale storage generally. FAO agreed to organise this meeting jointly with CCTA. The venue has not yet been selected; the proposed date is 1962.

The agenda will take account of Recommendation XXX of the Eleventh Meeting and cover :

- Traditional methods.
- Problems of humidity, insect pests, rodents.
- Improved methods of drying and harvesting.
- Methods available to smallholders, bearing in mind their resources.
- Drafting of a handbook of practical advice for farmers.
- Communal installations and commercial storage in small-scale undertakings.

Various proposals have been made for extending this agenda. One government would like it to cover imports of cereals contaminated by insects; another suggests including the handling of cereals, particularly maize, prior to exportation. The Secretariat's impression is that these questions exceed the terms of reference approved by the Council and would best be considered elsewhere than at the symposium. No doubt the Twelfth Meeting will wish to express its views in the matter.

Quelea

The Secretariat reported to the Eleventh Meeting on the CCTA/FAO Symposium on Quelea Control held at Bamako in May 1960. Some of the recommendations have borne fruit—for example the West African countries not yet members of OCLAV, the joint organisation for control of bird pests, are now co-operating with that body. Again, a technical assistance mission has visited Mali, under FAMA auspices, to explain the method of aerial spraying of parathion successfully employed in East and southern Africa. Following this mission, trials are now in progress in the area covered by the Office du Niger and may possibly lead to this method being adopted.

Nevertheless the quelea menace calls for continuing attention; the extension of cultivation constantly increases the danger. Unfortunately it will be difficult to obtain external aid for the regional ringing campaigns previously outlined to the Council but perhaps it may be easier to organise large-scale anti-quelea campaigns using mechanical or chemical methods. Another idea is for research into selected varieties not edible by birds. The Scientific Secretary may be able to give the Council further information at Pointe-Noire.

7. INLAND FISHERIES AND HYDROBIOLOGY

As desired by the Commission and the Council, activities in this sphere have been resumed. Two symposia have already taken place and a third will be held in the course of the next two years. Regional Committees are to be formed; a Co-ordinator has been appointed.

Third Symposium : Major Lakes

This meeting was held at Lusaka from 17 to 24 August 1960. The agenda covered the following points :

- Comparison and standardisation of working methods.
- Simplification of analytical methods.
- Migrations of fish; dynamism of the population of the major lakes.
- Currents.
- Co-operation between laboratories studying the major lakes.
- Introduction of pelagic species in certain lakes (Nyasa, Kivu); propriety of introducing species in media where they are as yet unknown.
- Progress on fishpond pisciculture since the Second Symposium, and present position.

The discussion on pisciculture was confined to a rapid review of steps taken to implement the recommendations of earlier meetings, as a separate symposium is to be held on the subject.

Technical recommendations resulting from the other discussions deal with the need for caution when introducing species to waters foreign to them (this point was considered with special reference to the nutria in Cameroun), the use of fish for the destruction of aquatic vegetation, the urgency of a taxonomic study of freshwater species, and so on.

One recommendation proposes the setting up of a co-ordinating committee grouping the authorities responsible for dealing with fishery problems on Lake Tanganyika. This is dealt with later in the present Report.

Fourth Symposium : River Basins subject to Heavy Seasonal Flooding

The symposium met from 4 to 10 May at Fort-Lamy. Eight member countries were represented together with the Sudan and FAO. The new inter-African co-ordinator, Dr. Daget, took an important part both in preparing the technical documents (seventeen were submitted) and in the actual debates. These were of a high scientific standard throughout. The topics considered were :

- The physicochemical environment in relation to the biology of fish and to fisheries.
- Aquatic and semi-aquatic vegetation in relation to the biology of fish and to fisheries.

- Aquatic fauna other than fish.
- Biology of fish species.
- Technology of traditional fishing, equipment and methods.
- River development and pisciculture.
- Fish marketing.
- Inter-African co-operation.

The symposium underlined the great potential of river basins subject to heavy seasonal flooding and of vast flood plains in helping to meet the food requirements of African countries, given rational development of fish production. For several countries, in the Chad area for instance, fish production constitutes one of the most economic of food resources as well as one of the most stable and best suited to existing social structures. The symposium recommended that fisheries experts should take part in the studies preliminary to all development schemes in such basins, and that agricultural development and hydroelectric projects should be submitted to them for examination with a view to discovering how to turn each project to best advantage. More generally, the symposium underlined the need for close co-operation between hydrobiology experts and hydrologists. This principle operates in the Advisory Committees for the Niger and Chad but there should equally be co-ordination in respect of all works from the outset.

The symposium studied the effects of development works on fishing. This can be developed when artificial lakes are created, if the right action is taken to prepare the terrain in advance, stock the water with fish if necessary, train and equip the intended fishermen and provide for marketing.

Certain aspects of the symposium were of a scientific nature. There was a series of contributions on problems of taxonomy. The influence of aquatic vegetation on fish was discussed and the hydrobiological effects were shown to be mainly indirect, involving modification of the environment and the constitution of new biotopes. Mention was also made of other freshwater organisms. While the largest of these are familiar—hippopotamus, crocodiles, birds—little is yet known about insect life and still less about the simuliid larvae which spread onchocercosis or the causal agents of bilharziasis; and there are other organisms very difficult to identify because of the lack of specialists.

Lastly, in exchanges of views on fishery conditions and fish conservation, it was generally recognised that the fishermen of these regions have much experience and use equipment very well suited to its purpose. At most they might be helped to modernise their gear (nylon nets, addition of outboard motors, and so on) but even this should be approached with caution, acting to a large extent through the fishing co-operatives. Extensive programmes for training fishermen are thus ruled out and efforts are best directed to the training of instructors. This should be envisaged at local

level to take account of the characteristics peculiar to each river basin, or indeed each part of the basin.

Fifth Symposium : Pisciculture or River Basins subject to Heavy Seasonal Flooding

The Lusaka Symposium recommended that a fifth symposium on hydrobiology should be held in about 1962 to deal with pisciculture. Items on the agenda would be :

- General studies on regional methods of pisciculture.
- Species used in pisciculture—biology, improvement and selection, diseases.
- Fishponds—construction and management ; natural production and improvement ; artificial feeding.
- Fish farming techniques.
- Types of fish farming—family, co-operative, commercial.
- Extension.
- Marketing.
- Effects on human health.
- Terminology.

The Council's views are requested as to whether to hold this symposium in 1962 or to concentrate instead on the committees referred to below.

As regards the river basins subject to heavy seasonal flooding which were the subject of the Fort-Lamy meeting, the participants recommended that another symposium should be devoted to the same subject in 1963.

Co-ordinating committees for the major lakes

Recommendation VIII of the Lusaka Symposium proposed that a co-ordinating committee should be established for each great lake, to include the authorities responsible for fisheries problems in countries bordering on these lakes. This seemed to offer the best means of co-ordinating research, harmonising administrative measures in respect of fishing and fisheries, and implementing long-term projects. The committees would include both research scientists and specialists concerned with fisheries development.

The Sixteenth Commission endorsed this recommendation, adding that FAO should be invited to take part in the work of these committees (Rec. XVII, c). This decision will involve the setting up of five committees, for Lakes Albert, Edward, Tanganyika, Nyasa, and the Chad basin. There are special reasons for recommending that two of the committees should be formed quickly.

Taking first the Chad basin, several countries have already manifested their desire to see close co-operation quickly established. The Fort-Lamy

Symposium called for an early start of the committee's work, to cover also the Chari and Logone rivers, major tributaries of the Chad. The Government of Nigeria has undertaken to place all available information at the disposal of the committee. The intention of the Secretariat is to convene the Co-ordinating Committee for the Chad in 1962. To ensure the desired liaison between hydrologists and hydrobiology experts, one might even consider convening simultaneously the two committees for the Chad, respectively composed of hydrologists and of fisheries experts from the riparian countries.

As for the Co-ordinating Committee for Lake Tanganyika, this if it could meet would have a most interesting subject for study. At the Sixteenth Session, a representative of Ruanda-Urundi who was one of the Belgian delegation, officially proposed placing the research ship PRESIDENT PAUL ERMENS, at present anchored at Usumbura, at the disposal of the countries bordering Lake Tanganyika. A joint operation of the utmost interest could thus be planned between the countries concerned (Federal Republic of Congo, Federation of Rhodesia and Nyasaland, Ruanda-Urundi and Tanganyika). Political conditions unfortunately render the convening of this committee difficult and it will have to be postponed.

Inter-African Co-ordinator

The Commission approved the Council's choice and has appointed Dr. Daget, who is in charge of the hydrobiology laboratory at Mopti (Mali), to be Co-ordinator of the Panel of Correspondents for Hydrobiology and Fisheries. The eminence of the new Co-ordinator, both technically and personally, constitutes a most valuable element, and very interesting progress can be predicted for this panel.

Dr. Daget attended the meeting of the Niger Advisory Committee at Ségou in May 1961, thus implementing the recommendation adopted at Fort-Lamy shortly before, in favour of closer liaison between hydrologists and hydrobiology experts. Such liaison promises fruitful developments in the future.

The Co-ordinator and his panel of correspondents will, of course, remain in close contact with FAO, and especially with the officer dealing with fisheries questions at the Regional Office, Dr. Meschkat. A considerable expansion of FAO projects in this sphere seems likely and the same close co-ordination is therefore called for as in other fields.

8. OCEANOGRAPHY AND SEA FISHERIES

Inter-African co-operation

Only two years ago, the Commission's activity in this sphere was very limited. One symposium had, indeed, been held at Luanda at the

end of 1957 and adopted various recommendations, but their implementation was problematical. In contrast, the Twelfth Meeting of CSA will have a very substantial report to consider. There have been three meetings during the past year, others are planned and an exceedingly active panel of correspondents provides for valuable exchanges between persons interested in the West Coast. A project of unprecedented scope in the history of the Commission is on the point of realisation. All this has been achieved with extremely limited resources, largely due to the energy of one man, the Inter-African Co-ordinator. The Secretary-General would like, before all, to pay tribute to Dr. Postel and voice his sincere gratitude.

Under the direction of the Co-ordinator, exchanges of information have been pursued within the panel. A small information bulletin serves to give them more permanent form. From time to time, Dr. Postel circulates technical and scientific data. He is continuing with the implementation of the Luanda recommendations: one list of taxonomists has been circulated, two others will follow shortly as well as a general list of oceanographers and technicians; an inventory showing the common names of fish species is likewise in preparation.

The Co-ordinator's task will be considerably eased in this respect by the creation of an FAO African Fisheries Commission, as recommended by the first African Regional Conference of FAO at Dakar in May 1961, at which CCTA was represented by Dr. Postel. This Commission will meet at regular intervals; its Secretariat, under an extremely competent officer of the FAO Regional Office, Dr. Meschkat, will promote liaison and the dissemination of information. The latter will work in close contact with CCTA, giving priority to problems of fish processing and fishing technology, while the panel and the Co-ordinator will be mainly concerned with problems of oceanography and marine biology. There is no hard-and-fast demarcation, however; the two bodies both remain free to step outside their respective fields as here indicated.

The Co-ordinator also maintains contact with UNESCO. He represented CCTA at the UNESCO Conference on Oceanographic Research in July 1960 at Copenhagen, at which it was recommended that intergovernmental oceanographic commissions should be set up, composed of representatives of governments and international organisations interested. The same meeting approved the broad lines of oceanographic research programmes with special reference to the Indian Ocean. While not abandoning the idea of having some day an international oceanographic research ship, the meeting favoured for the time being the use of national vessels in regional campaigns, which is the policy suggested by the Commission and discussed later in the present Report.

The plan to make available to seaboard countries the services of a laboratory equipped to undertake exact and complete determinations of salinity of sea water is now in operation (Joint Project 13). The laboratory

is at the new Abidjan institute and it is hoped that the facilities thus provided, through the Commission on the proposal of the Council, will be utilised.

Lastly, the Council will be pleased to know that the sphere of fisheries is one in which technical aid is developing satisfactorily. Experts have been sent during the year to Gabon, Guinea and Liberia. One interesting idea of Dr. Postel's is, through the agency of these experts, to encourage the different countries of Africa to make use, on a regional basis, of the research facilities existing in some of them. For example, the Abidjan institute could contribute to research on the Liberian coast, the one at Pointe-Noire to studies conducted as far north as Douala. Here is a method that is worth encouraging.

Symposium on Marine Biology and Sea Fisheries off the East Coast of Africa

The symposium was held at Cape Town from 12 to 17 September under the chairmanship of Professor Millot, Chairman of CSA, and with the collaboration of representatives of FAO and UNESCO. The agenda covered :

—A systematic biological inventory of marine fauna of economic importance.

—A study of small-scale fishing and industrial fisheries in West African waters.

—A survey of regional resources available to research workers.

—Discussion of the possibilities for international co-operation.

The Indian Ocean is today among the least well known, and only very limited use is being made of its resources on the African coast. The Symposium emphasised the opportunities thus afforded to countries seeking new ways of improving the nutritional status of their populations. Lack of information is the cause of delay in exploiting the marine resources of the Indian Ocean. The symposium studied means to promote research and facilitate exchanges between research workers. It recommended the publication of lists, inventories and bibliographies, and called for improved statistical services. Lastly, it drew the attention of governments to the importance of oceanographic research and to the need to endow centres at work in the region more adequately as regards staff, equipment and ships.

Professor Millot will probably like to give the Council an account of the Cape Town Symposium.

Symposium on Thunnidae

In the context of the Commission's decision to hold meetings from time to time on species of major economic importance, a symposium was

held on thunnidae, from 12 to 17 December 1960 at Dakar. Its theme was tunny fishing in African waters, and the meeting was to some extent a prelude to the world meeting which FAO is arranging in June 1962 in California (where Dr. Postel will represent CCTA). This symposium was attended by specialists delegated by eleven member countries and FAO. At the Commission's request, the United States Government sent two eminent experts, from California and Hawaii. The five heads of the agenda were :

- Systematics and taxonomy.
- Distribution.
- Bionomy, biological cycle and natural history.
- Study of fish populations.
- Fishing methods.

The discussion was highly technical. Professor Monod, who took part and acted as host to the meeting, will report on it to the Council.

A number of recommendations of primary interest to taxonomists included one for the establishment of a working party under the chairmanship of Professor Frade, of Lisbon, to prepare a report for the FAO world meeting in 1962. Others dealt with ways of promoting knowledge of the thunnidae family (uniform standards of mensuration, rate of growth, biology, migration, dynamics of fish populations) and with fishery aspects such as temperature measurements in tunny-fishing areas, comparative study of species suitable for use as live bait, and the economic value of several species of thunnidae not yet exploited. The surveys and researches conducted by the United States were noted with special interest.

On a more general topic, Recommendation XVI of the symposium records the view of the experts that the concepts of maximum sustained yield set forth in the Convention adopted by the 1958 Geneva Conference on the Law of the Sea should be applied. The symposium accordingly recommended the convening of a conference of plenipotentiaries from all countries concerned in the high-seas tunny fisheries in eastern Atlantic tropical waters, for the purpose of establishing among themselves an agency along the lines of the Inter-American Tropical Tuna Commission, to formulate recommendations for the rational exploitation and conservation of the species. The Commission having endorsed this recommendation, the CCTA/CSA Secretariat notified the United Nations Secretary-General accordingly.

Specialist Meeting on Co-ordination of Fisheries Research off the West Coast of Africa—Future meetings

The meeting of specialists arranged by CSA took place at Monrovia from 5 to 10 December 1960. Its terms of reference were to consider

what measures might be recommended for extending co-ordination and regional co-operation in the fields of :

- zoological systematics ;
- biology of useful species ;
- physical oceanography ;
- general equipment ;
- methods of fishing and fish technology ;
- documentation.

In addition, the meeting examined the project for a campaign in the Gulf of Guinea, which is discussed below.

Professor Monod took the chair and will report to the Council. Experts who were present on the invitation of the Council were Dr. da Franca from Lisbon, Mr. Johnson from Lagos, Mr. Longhurst from Freetown, Mr. Marchal from Abidjan, together with Dr. Postel and a number of specialists delegated by Member Governments and by FAO.

The discussions, of a scientific nature, covered a vast field. Subjects dealt with in the recommendations include the listing of species of commercial value, publication of an extension pamphlet, bionomic study of selected species, comparison of the potential yield of various trawling sea beds, the development of fish processing methods to ensure conservation of nutrient qualities, equipment for drying of fish in humid regions, improvement in statistical services, etc.

Three recommendations in particular illustrate the co-operation proposed by this meeting : the IFAN laboratories at Dakar have offered to undertake the identification of ichthyological material collected in West Africa ; the Lisbon Centro de Biologica Piscatoria is prepared to identify algological material ; and a working group under the chairmanship of Mr. Longhurst, of Lagos, is to study the sardinella species. The Co-ordinator will keep in touch with the implementation of these various proposals.

* * *

The meetings at Monrovia and immediately afterwards at Dakar were both distinguished by their high level of competence. The number of research scientists and qualified workers in these fields is extremely limited and it was therefore exceedingly valuable to bring them together.

It is now for the Council to decide as to future meetings. The Secretariat suggests that one specialist meeting of the 1962 programme might be devoted to the marine invertebrates, specifically crayfish, prawns, crabs and molluscs, the meeting to take place in the first few weeks of 1963. Professor Monod will undoubtedly wish to submit proposals regarding specialists to be invited, agenda and possible venue.

On the other hand, in accordance with the Commission's recommendation to hold symposia from time to time on fishing of species of

major economic importance, the Council may propose following the Symposium on Thunnidae with another intergovernmental meeting. This likewise could be held in 1963.

Exploration of the Gulf of Guinea (Joint Project 19)

At the Tenth Meeting of CSA, Professor Monod put forward the idea of a vast campaign to explore part of the eastern Atlantic. A year ago the idea was still very vague, and it is hardly mentioned in the report to the Eleventh Meeting. The excellent work done by Dr. Postel, the thorough study carried out at Monrovia and the two weeks of discussion which Professor Monod and Dr. Postel had on the subject in the United States, have combined to give precise form to the project. The Commission approved the broad lines of the programme and decided to give it high priority. Specialists in the region have agreed on a plan and substantial offers of assistance have been made, chiefly by the United States Government. Thus it will be possible to hold at Lagos, from 1 to 4 August 1961, a meeting of experts who will work out final details of the project, examine the budgetary aspect and prepare the requisite administrative measures. Professor Monod will be present and will report to the Council.

General concept

Very little is known about the Gulf of Guinea. Exact data on the inshore waters have been accumulated as a result of research and fishery activities, but the open sea as a whole has never been methodically explored. Yet this must be a zone rich in resources, especially on the continental shelf, which at present are not rationally exploited. This, besides being wasteful, could also give rise to over-fishing of some species in certain areas.

When Africa is seeking openings for development, and when improvement of the nutrient value of the African diet is a prime necessity, the failure to develop industrial-scale fisheries more systematically is paradoxical. Very large catches should be possible, the double objective being to increase local consumption of the common species and fish of the sardinella group, and expand the export of choice species, of practically all the tunny varieties and possibly of fish meal.

Consequently, it must be clear from the outset that the campaign here discussed will have as its ultimate aim the development of a vital economic activity. At a later stage, ways will have to be considered of closely associating the African countries with this development; this will involve problems of small-scale industrialisation (which might be taken up by FAO) and of training of officers for the high-seas fishing fleets (which CCTA/CSA will be glad to take up, with aid from outside organisations, both national and international).

Budget details

The project suggested by Dr. Postel, as amended by the Monrovia meeting and adapted to the American offers, is therefore now :

(i) *A scientific exploration campaign*

The objects should be :

- (a) to define the environmental conditions ;
- (b) to study the three-dimensional distribution of fauna and flora ;
- (c) to assess the productivity of the prospected area and to study the quantitative ecology of plankton ;
- (d) to build up collections ;
- (e) to collect as much information as possible to serve as guidance in the preparation of subsequent fishing campaigns.

The routes followed by the vessels will be equidistant and follow meridians and parallels ; they will take in scientific calls at the islands of St. Helena, Ascension and S. Tomé. Observations will cover meteorology, physical oceanography and biological oceanography, the working methods being based on those adopted for the United Nations expedition to the Indian Ocean (SCOR).

The specialist teams required will involve large numbers. While it is hoped that the vessels for the oceanographic campaign will be provided and operated by the United States Government, priority when appointing research workers will be given to those with experience of the West African coast.

(ii) *Experimental campaigns*

The most important of these is a trawling campaign directed especially to the Bissagos shelf. Here the purpose is to collect data on the various types of pelagic and demersal fish and study trawling methods. Two trawlers will be used, each of them making two cruises of about four to five months within the period of a year ; the two trawlers will be chartered in Europe.

The Monrovia meeting asked that the trawling campaign be closely co-ordinated with the operations of local research vessels, which remain limited to the coastal zone. Thus to quote the expression adopted at Monrovia, a real " Guinea year " will be organised.

(iii) *Direction of the campaigns*

If the American offers are confirmed, the oceanographic campaign will be directed by the American authorities, whereas the trawling campaign will be wholly organised by the Inter-African Co-ordinator and the project

director. However, both campaigns will be closely co-ordinated under the supervision of a single committee.

(iv) *Publication of results*

Interpretation of the results for publication in convenient form for future use will be possible after careful analysis of the data obtained. This period of analysis and interpretation will be included in the project, as will publication in English and French.

9. ANIMAL RESOURCES

Inter-African Bureau for Animal Health

The Eleventh Meeting of the Council was informed of the Commission's decision to extend the field of activity of the Bureau at Muguga, to include animal physiology, nutrition and breeding, with particular stress on aspects related to animal health. The Commission expressed its full confidence in the present Director of the Bureau, Mr. Beaton, to undertake these new tasks, with the aid of the Assistant Director, Dr. Vandemaele. At the same time the Bureau continues its previous work. The quarterly *Inter-African Bulletin of Epizootic Diseases* and the other regular publications issued, together constitute a means of liaison greatly valued in veterinary circles in Africa. The Director and Assistant Director are in direct touch with the local veterinary services and during the last year have visited the Central African Republic, Chad, Ghana and the several countries of East Africa including Mozambique.

A considerable part of the Director's time has been occupied on three joint projects, details of which are discussed later in this chapter. The fact that they have been favourably received is largely due to extremely careful preparation and the confidence which veterinary services have in the competence and impartiality of the Bureau. Mr. Beaton has every reason to be proud of this. Moreover, the Secretariat hopes that these first projects will in due course be followed by others for which the initial preparations will likewise be handled by the Director of the Bureau and his assistants.

Furthermore, the Bureau is responsible for liaison with other international organisations concerned with veterinary questions; first among them is the International Office of Epizootics (OIE). The Director as a rule attends the annual meeting of OIE, which for its part is represented at the more important meetings sponsored by the Commission in this sphere. There are also close links with FAO, the Bureau being invited to gatherings concerned with Africa (an account of two such meetings will be found below) while FAO sends representatives to meetings organised by the Commission. Finally, the interest shown by the Overseas Division of EEC in veterinary problems will be noted; this was clearly demonstrated at the Kano meeting on rinderpest (see below).

The IBAH Council of Management was to have held its Ninth Meeting and the Inter-African Committee its Seventh Meeting at Leopoldville, starting on 11 July 1960. The meetings had to be cancelled and an *ad hoc* meeting of the Council of Management a few days later at Vom (where most of the countries had representatives attending the ISCTR meeting) dealt with urgent problems of administration. Other matters were deferred until 1961.

The Tenth Meeting of the Council of Management and the Seventh Meeting of the Inter-African Committee will now take place at Salisbury between 20 and 26 July 1961. Administrative and financial questions will be considered by the Council of Management. The Committee will have a long agenda. It will discuss the three joint projects in the veterinary sphere and other proposals for organising campaigns against animal diseases, for instance rabies, in different regions. It will also make recommendations as to future meetings. The Secretariat has been advised that a suggestion will be made asking the Council to devote one of its specialist meetings in 1962 to a problem of animal health or production.

Specialist meetings

No specialist symposium had been planned for the period of the 1960 annual meetings of the Inter-African Bureau. The next one, from 17 to 19 July 1961 at Livingstone, will be on poultry diseases excluding helminthiasis. Another symposium, to be held at Kabete early in 1962 to coincide with the training course on artificial insemination discussed later in this chapter, will be on infertility diseases of domestic animals.

As indicated in the Report to the Eleventh Meeting of the Council, a WHO/CCTA/FAO Symposium on Veterinary Public Health was held at Nairobi from 24 November to 3 December last. Thirty-five participants attended, with eight lecturers, these being eminent specialists from overseas. A leading subject of discussion was the difficulty encountered in Africa in applying the methods employed in industrial countries. A very heavy agenda covered :

- Interrelationships between human and animal diseases.
- Food-borne diseases (meat, milk, processed foods).
- Use of antibiotics as preservatives for milk and meat.
- Food hygiene control.
- Rabies, brucellosis, anthrax, leptospirosis, salmonellosis, zoonoses.
- Veterinary public health administration at various levels.

The question of rabies received particular attention. Visits were arranged, notably to the Kenya meat packing stations and dairy plants which are among the most modern in the continent, and the majority of delegates were also able to see the Bureau's installations at Muguga.

CCTA was represented by Dr. Ritchie at the Seventh Session of the European Commission for the Control of Foot and Mouth Disease, and by Mr. Beaton at the OIE Permanent Committee on Foot and Mouth Disease. Careful consideration was given to questions of transmission of the disease and to the danger of introducing exotic strains from one continent to another, as also to the complex techniques developed for sampling virus types and for the culture and preparation of vaccines.

The Seventh Meeting of the Committee at Livingstone will examine the question of implementing a recommendation adopted in 1960 to hold meetings of experts on foot and mouth disease at regular intervals and at CCTA expense.

Dr. Marshall, Chairman of the Committee, represented CCTA at the meeting sponsored by OIE and FAO in Paris from 17 to 20 January 1961 on swine fever and African horse disease, with special reference to the spread of these diseases and campaigns for their control. Swine fever has already caused great havoc. Consideration was given to methods of diagnosis and to measures banning the movement of pigs and the carriage of pig meat even in the frozen state. The Middle East is the worst centre of horse fever but certain countries within the CCTA area are also affected; cases have for example been reported from Senegal. The meeting discussed problems of research and measures for controlling the import and export of horses.

As mentioned above, the Council will have before it a request from the Committee for Animal Health to set aside one of its specialist meetings in 1962 for a topic relating to animal resources. This matter has been included in the agenda.

Not least among IBAH's interests are the diseases common to man and animals. Thus the Bureau took an important part in the Eighth Meeting of ISCTR (see p. 77) and participated in the WHO meeting on tuberculosis at Nairobi in November.

Training courses

In view of the dynamic activity of the Bureau, it is not surprising that some of the most valuable of the training courses sponsored by FAMA during its short history have dealt with veterinary questions. There have been two courses during the past year.

One was held at Muguga from 14 to 18 November 1960, to demonstrate to qualified veterinarians the use of laboratory techniques for the rapid diagnosis of rinderpest. The course was the sequel to a recommendation adopted at Nairobi by a regional meeting organised by CCTA in September 1959. Eleven English-speaking veterinarians attended; EAVRO provided the major share of the instruction and Mr. Beaton took an important part in the course. There was a great deal of practical laboratory work, which was why the number of places had to be strictly limited. A monograph

on the relevant techniques was prepared in connection with the course. The 1959 meeting in Nairobi had been led to propose the holding of such a course because of the existence of a mucosal infection presenting clinical symptoms very similar to those of rinderpest, thus entailing frequent errors in diagnosis. The course was therefore of real importance, and it has been suggested that another similar course should be held in West Africa or in East Africa.

The second training course to be held since the Eleventh Meeting of CSA was one for middle-ranking technicians; the subject—poultry production and diseases—was divided into three sections, namely, diseases, breeding techniques and nutrition. Most of the course took place at Kaduna from 5 to 26 January, after which the participants proceeded to Western Nigeria to visit the Fashola station. Teaching staff was provided by the Governments of Northern Nigeria, Ghana and the United States (ICA), by way of technical assistance, while the visit was led by an Israeli expert; their competence won great admiration. Twenty-eight participants from eight English-speaking countries shared the benefit of this instruction. One comment only is called for; it is that three weeks is a very short time to cover these wide topics, especially where participants have such varied levels of training. This observation will be worth considering when future courses are being organised. A similar course for French-speaking participants is to be held at Bingerville from 3 to 22 July 1961.

Another course planned for the near future will be on the production, storage and distribution of semen. It will take place in April 1962 at the Kabete laboratories in Kenya and last a fortnight. This course is intended for qualified veterinarians; it will be open to participants from all countries in Africa south of the Sahara and simultaneous interpretation will be provided.

The Seventh Meeting of the Committee is likely to make further proposals for courses to be arranged from 1963 onwards.

Eradication of rinderpest in the Chad/Niger area (Joint Project 15)

The Council has already been informed of the Commission's intention of organising a campaign for the eradication of rinderpest in the Chad/Niger area and signified its wholehearted approval (Rec. XXXV of the Eleventh Meeting). As the experts declared in Recommendation II of the meeting called to discuss the project at Kano, "to the four countries of Cameroun, Chad, Niger and Nigeria, their cattle populations are of the greatest economic importance: consequently they have all for some years been striving to protect these herds against rinderpest by vigorous programmes of vaccination with the objective of eradication. Each now recognises that this is unlikely to be achieved except by an intensified programme which is co-ordinated with the programmes of its neighbours. However, the size of the region which can be freed of rinderpest depends not only

on the capacity of the veterinary services, reinforced for the campaign, but also on the measure of administrative support."

Acting on these premises, the Inter-African Bureau for Animal Health drafted a plan of campaign in consultation with the veterinary services of the four countries. This having been adopted in principle by the Sixteenth Session (Rec. XXI), a meeting was convened for 2 to 6 May at Kano to draw up a detailed programme, settle the budget and propose the necessary administrative arrangements.

The programme is for a three-year campaign to cover systematically the cattle population of the region, amounting to some eight million head. All the cattle in the region will be vaccinated annually for three years using standard methods as laid down at Kano, and ear-punched immediately after inoculation; a time-table of operations will be drawn up to provide for the various zones to be covered in turn each year.

Government expenditure on rinderpest control already amounts to some £400,000 annually. The cost of augmenting the veterinary services for the period indicated, as regards personnel, plant and equipment, was calculated at Kano to amount to £900,000 for three years (approximately £200,000 for equipment and £700,000 for running costs).

The project will be carried out by the veterinary services of the four countries. A Co-ordinator or Director will be designated to be responsible, under the Secretary-General of CCTA, for the co-ordination and supervision of operations according to the agreed plan of campaign. He will be empowered to visit all parts of the area and call for all information needed. Should his efforts prove fruitless, he would bring the matter to the notice of the governments through the medium of the Secretariat.

These are the broad outlines of the project; implementation is planned to start in the first weeks of 1962, so that the campaign proper may begin in the 1962-3 dry season, i.e. around October 1962.

Two further conditions will be essential to the success of the campaign. One is that financial assistance shall be found; the offers made in various quarters, in the first place by the United States Government and also by the European Economic Community and FAO, give grounds for optimism in this respect. The other essential condition of success is the full support of the four governments. An extensive propaganda campaign will need to be carried out by the political authorities, to mobilise the rural masses and convince them of the prime necessity of wholehearted participation in the campaign, if the results are not to be jeopardised.

Joint action against bovine pleuropneumonia (Joint Project 16)

The Commission summed up the problem which is the subject of Joint Project 16 in these terms:

"Bovine pleuropneumonia constitutes a serious handicap in a number of countries, particularly in West Africa. According to the

experts, additional research is necessary in respect of control methods. Such researches can be conducted in existing specialised laboratories in Africa South of the Sahara, and it is obviously desirable that they should be properly co-ordinated."

Recommendation XXXV of the Eleventh Meeting confirmed the Council's interest in the question.

A memorandum prepared by the Director of the Inter-African Bureau for Animal Health sets out the technical details of a three-year plan. It consists of four phases, two involving work mainly in the laboratory (research and vaccine production) and two involving work mainly in the field (epizootical study and control measures). The plan provides that all the phases should be carried out by a team under a single direction and consisting both of specialists known in Africa and—Mr. Beaton insists—of experienced research workers without previous experience of bovine pleuropneumonia.

The geographical siting of the project has not yet been settled. There are four suitable laboratories, at Farcha (Chad), Hann (Senegal), Muguga (Kenya) and Vom (Nigeria); it will be difficult to make a choice between them. Consequently it would seem best to deal with the other problems first. The Inter-African Committee for Animal Health will consider the project at its Seventh Meeting and, if need be, set up a small working party to produce a detailed paper at the close of the discussions, incorporating the Bureau's proposals. It will then be time to go fully into the financial arrangements and decide on a laboratory.

Offers of participation have already been made by five Member Governments as also by various American bodies. The total figure for the project is relatively high; a first estimate fixes the budget at about £150,000 for three years.

Tsetse campaign in South-East Africa (Joint Project 17)

For two years now, the Commission has been aware that one of the first questions demanding joint action is that of trypanosomiasis, or more precisely, that of tsetse control. This having been accepted in principle by the Commission, the views of ISCTR were sought from the scientific angle. No recommendation has been presented in respect of human trypanosomiasis, and some members are of opinion that it would be difficult to improve on present methods. At the same time, the almost complete absence of representatives of French-speaking countries hampered the discussion which certain delegations—the Guinean delegation, in particular—would have liked to have with neighbouring countries at the meeting in Vom (see Part III, chapter 1). Ruanda-Urundi is another case in point.

However, as regards trypanosomiasis in animals, the Vom Meeting performed useful work. Its Recommendation IV defines in precise terms

two areas in which concerted action is essential. One is the zone to the north and north-east of the South African frontier, that is to say, in Southern Rhodesia and Mozambique. The advance of the tsetse fly here is causing anxiety and there is a danger of it reaching the Kruger National Park. Very full technical information is available and everything is ready for the launching of a joint campaign. This is proposed by the Secretariat under Joint Project 17. Experts from the three countries concerned, together with the Director of the Inter-African Bureau, met on 7 November at Lourenço Marques. The meeting adopted a number of technical recommendations. These urged the need for a vegetation map and an aerial survey of the whole area, pilot spraying of a limited sector, and various other measures, before completing the detailed planning of the project. A pupal casing survey was recommended to determine the breeding sites of the tsetse. Total cost of the project over a period of ten years was estimated in round figures at £2,000,000.

A start has been made in implementing the project. The Government of South Africa agreed to undertake the pupal casing survey and has approached the other countries concerned in the matter. It would also appear possible for the vegetation map to be compiled by the three governments in the region from data already available.

An Interterritorial Standing Committee is to be established to be directly responsible for supervising the project. Serious difficulties may arise on the financial side. No definite offer of assistance has so far been made by countries outside the region.

* * *

A similar state of affairs to that just described prevails in the general area of the Caprivi Strip which affects the Bechuanaland Protectorate, South West Africa, Angola and Northern Rhodesia. This second project is not so far advanced as the first, as further technical information is needed. The South African authorities are dealing with the matter. It has been decided to hold a meeting of the four governments concerned at Livingstone later on, to consider the question of joint action.

* * *

Although no suggestions were made at Vom regarding West and Central Africa, the Committee's recommendation leaves the door open and the Commission has called the attention of governments concerned to the possibility of considering joint programmes of trypanosomiasis control (Sixteenth Session, Rec. XXV).

During the CSA mission to the United States, Professor van den Berghe discussed with the American authorities the idea of having a meeting of experts in about a year's time, to examine the possibility of launching vast anti-tsetse campaigns. The experts should not be specialists in

trypanosomiasis research, like the members of ISCTR, but people used to organising large-scale campaigns against glossinae plus a few representatives of other disciplines, in particular one or two economists, in order to situate tsetse control within the context of general development. What would be the use of undertaking action on a very large scale in regions where the population is unable at once to occupy and exploit the areas freed from tsetse? How could lasting results be expected in such circumstances? Dr. van den Berghe will certainly wish to discuss his ideas at the Council meeting.

Other regional projects in the field of animal diseases

The opinion of several delegates to the Sixteenth Session of the Commission is expressed in Recommendation XXII :

“ The interest raised by the joint action against rinderpest in the Chad/Niger region shows that this form of action should cover areas wider than that initially envisaged and could be extended to other animal diseases.”

In fact, it would seem to be preferable to concentrate on a few well-considered projects and not dissipate efforts. The recommendation quoted thus suggests a line of action but can only be applied very gradually. In the first place, therefore, Joint Project 15 should be implemented. As soon as the campaign has begun, another project should be started, and here interest would appear to lie in continuing the assault on rinderpest in another zone in West Africa. If as is hoped this second project could be launched before the completion of Joint Project 15, it should cover different countries, so as not to overburden the veterinary services. The second rinderpest project might, for example, cover the Senegal/Mali/Upper Volta region, and a third project subsequently provide for liaison between the first two. This is only a suggestion which should receive due consideration.

The Inter-African Committee will look into the matter at its Seventh Meeting. Delegates from Dahomey, Senegal and Upper Volta were present at Kano and had a preliminary exchange of views which augurs well for the discussions at Livingstone, as does the direct interest shown by the Government of Mali. For many years to come, the Council is likely to be asked to take note of reports by the Inter-African Bureau and the CCTA/CSA Secretariat on the progress of joint campaigns against animal diseases.

PART THREE

SOCIAL, ECONOMIC AND TECHNICAL

I. HUMAN HEALTH

BPITT

Unfortunately the report on BPITT only goes as far as July 1960. Since then the Bureau has been in a state of suspended animation, due to the return to Europe of the Secretary responsible for the Panels of Correspondents, Dr. Louis. It still has as Co-Directors, in accordance with the practice hitherto, the Directors of the Pasteur Institute in Brazzaville and of the Institute of Tropical Medicine in Leopoldville, but in present circumstances, and lacking an officer to run it, the Bureau cannot resume its normal activities.

Prior to July, however, as noted by CSA at the Eleventh Meeting, there had been far-reaching changes under Dr. Demarchi and Dr. Courtois. The Bureau's Bulletin was altered; three issues of the new *Bulletin of Endemic Diseases in Africa* were published at two-monthly intervals during the first half of the year and were well received. As recommended by CSA in 1959 the new journal, instead of only reproducing material from other periodicals, contained original articles, summaries of reports from medical services in Africa, abstracts of scientific work, news of interest to government departments and private undertakings, and contributions from outstanding medical authorities.

The Bureau was also responsible for liaison with WHO, for detailed discussion of joint activities and for representing the Commission at gatherings sponsored by WHO. This year for the first time in a very long while, it was not possible for CCTA to be represented at the annual meeting of the WHO Regional Committee.

On being informed of the situation, the Sixteenth Session adopted the following recommendation which speaks for itself (Rec. XXIV):

“Several delegations showed some anxiety at the present cessation of the activities of BPITT. It appeared to them that as the Commission has a bureau for medical matters, this should cover a wider field in connection with public health and that, following the example set by the Inter-African Bureau for Animal Health, it should serve as an effective liaison organisation among medical officers working in Africa, publish a bulletin similar to the *Bulletin of Endemic Diseases*, give information on the activities of medical departments and research workers operating in Africa, and so on, this work being, of course, organised in close liaison with WHO.

“ These principles are not new. They were proposed by CSA as long ago as its Tenth Meeting in 1959. They form the subject of a detailed memorandum presented by the French delegation, which will be circulated to all Member Governments. The delegations considered that this situation could not be allowed to persist any longer. They requested the Secretariat to study without delay the administrative problems arising from the application of these principles.

“ Other delegations, while not necessarily rejecting the principle of the extension of BPITT, did not consider themselves to be in a position to give a precise reply during the Session. They recognised, however, that the decision could no longer be deferred and agreed that the Third Inter-African Conference on Medical Co-operation should be requested to take a definite decision concerning the problem as a whole, taking into account its technical aspects.

“ The Commission therefore requests the Third Inter-African Conference on Medical Co-operation to undertake a detailed study and to put forward a definite plan of action corresponding to the views expressed by delegations. The Secretariat will collect additional information which might be necessary to complete the information of certain Member Governments or to define more closely certain aspects of the problem.”

Third Inter-African Conference on Medical Co-operation

The Commission has always sought to promote interterritorial co-operation in the field of medicine—bilateral, regional and inter-African. At inter-African level the Commission organises a major conference on medical co-operation every five or six years. The second was at Leopoldville in 1955, the third was to have taken place in July 1960 at Luanda. Due to events in the Congo, it was postponed and the proposal now is to hold it at Luanda from 15 to 23 September 1961.* The suggested dates will enable delegates to attend in turn the Conference on Nutrition, the Medical Co-operation Conference and the meeting of the WHO Regional Committee.

There is no alteration in the arrangements for the Conference and we may therefore quote the last report. The preparatory meeting of experts took place in Lisbon on 25 April 1959, a representative of WHO being present. The agenda allows for thorough discussion of the implementation of the recommendations of the Second Conference as regards interterritorial co-operation. It also covers the study of possible measures of an international nature, within the framework of CCTA and other organisations, and the consideration of results of previous medical meetings. Lastly, there will be a study of the question of co-ordination, existing or desirable, of prophylactic measures in respect of each major endemic disease; this will be the

* A further postponement of this conference proved unavoidable.

most important part of the Conference. A number of advance papers have been circulated on the control of the major diseases. WHO will participate actively in the Conference. This will provide a convenient occasion for the discussion of problems of medical co-operation. But without a restored BPITT, it will not be possible to maintain regular active liaison. For this reason, the debate arising from Recommendation XXIV of the Sixteenth Session will be of special importance.

Trypanosomiasis—ISCTR

ISCTR met for the eighth time from 19 to 23 July 1960 at Jos/Vom. Prior to the meeting a number of reports of high scientific value were submitted; these will be published. There were interesting discussions on these papers at the meeting, at which CCTA was represented by the Director of IBAH and the Co-Director of BPITT. Among some sixty experts attending were observers from the Republic of the Sudan, from WHO and from ICA.

There was a lack of balance in the representation of CCTA member countries—no delegate was present from Belgium or the Congo (though the part Dr. Neujean has always played in the Committee is well known), and France and the Community together had only one representative. This being so, there is less cause for surprise that on a number of points, in particular as regards joint action, it should not have been possible to arrive at conclusions concerning West Africa or Central Africa.

The agenda was divided into three sections—trypanosomiasis in man, trypanosomiasis in animals, and control of glossinae. As regards trypanosomiasis in man, it is noteworthy how strongly the experts at Vom urged that surveillance and observation of control measures must continue since the menace of sleeping sickness still exists. As to animal trypanosomiasis, there was discussion on trypanocides, their mode of action, comparative value, toxicity and so on. The meeting noted the impetus given to studies on immunity following the previous meeting at Brussels in 1958. The greatest volume of documentation was submitted for the third section; it included papers relating to ecological studies of the tsetse, laboratory breeding of tsetse, problems of control etc. It was agreed to assemble for the Committee's Ninth Meeting information on the resting places of the different species of tsetse, which will contribute substantially to control.

Lastly, the Committee went into the possibilities of launching joint campaigns against the tsetse fly. This point is covered in Part II, chapter 9 (in particular, Joint Project 97).

ORGANIZATION OF AFRICAN UNITY Specialist meetings and training courses

(a) WHO/CCTA Tuberculosis Seminar

For a number of years WHO has been conducting surveys on tuberculosis. In particular, it has set up a centre for the interpretation and co-ordination of data on tuberculosis in Addis Ababa.

ordination of anti-tubercular activities, at Nairobi. CCTA for its part has a panel of correspondents. This being so, WHO proposed the holding of a seminar, which took place at Nairobi from 16 to 22 November last. The agenda included items on :

- The extent of the problem of tuberculosis.
- Diagnosis.
- Treatment.
- Case finding.
- Preventive measures.
- Control programme.

CCTA was unable to be represented at this seminar, due to the closing down of BPITT.

(b) Training Course on the Medical Uses of Radio-isotopes

Members of the Council have for several years recommended the holding of elementary training courses on the use of radio-isotopes. The first of these courses took place from 16 May to 19 June at Lovanium (Leopoldville) and dealt with the use of radio-isotopes in the field of medicine. Mgr. Gillon, Associate Member, took an eminent part in its preparation, together with Dr. Naudé (Vice-Chairman); they will both no doubt like to tell the Council more about it.

The course was jointly sponsored by the Commission des Sciences Nucléaires du Congo and FAMA, with co-operation from the International Atomic Energy Agency and the United States Government (ICA). Four member countries supplied teaching staff under FAMA auspices, an especially notable contribution being made by Belgium and the then Belgian Congo. The twenty-seven students from nine African countries who attended the course included doctors, public health officers, pharmacists, radiologists, veterinarians, agronomists and physicists.

The course was divided into two sections. The first, concerned with basic training on nuclear physics and radio-isotopes, was given separately for English-speaking and French-speaking participants. The second section, for all the participants together, dealt with specific techniques in the use of radio-isotopes in medicine, biological science and, in particular, entomology. Practical work in the laboratories was also included, as well as on-site study of the Trico Reactor in operation.

From the technical angle, the course was a success ; the chief criticism was that the level of instruction appeared sometimes to be too advanced for the present state of development in Africa.

(c) Specialist Meeting on Ankylostomiasis (CSA/WHO)

In 1958, BPITT proposed that a meeting should be held to take stock of available knowledge of ankylostomiasis and study the problems of

prophylaxis. The Bureau, indeed, took the view that the disease constitutes an important aspect of human pathology in certain areas of Africa where practically the whole population is affected. This being also the opinion of the WHO Regional Office, CSA decided to devote one of its specialist meetings in 1961 to the subject. The meeting will be held under joint CSA/WHO auspices from 22 to 29 August 1961 at Brazzaville, just after the Twelfth Meeting of CSA. Five specialists have been invited by the Council. They are : Professor Fraga de Azevedo, Member of the Council ; Dr. Vaucel, Associate Member ; Professor Charmot, of Marseilles ; Dr. Elsdon Dew, of Natal ; and Dr. Gillet, of Spa. Four specialists will be sent by and at the expense of WHO.

Around this nucleus of experts the discussions will be organised to cover the following points :

- Incidence and gravity of the infection.
- Ecological factors determining geographical distribution.
- Pathogenesis.
- Treatment.
- Prophylaxis.

Preparatory work is in hand ; WHO has appointed a specialist, Dr. Ansari, to co-ordinate preparation. Professor Fraga de Azevedo, who is to take the chair at the meeting, will probably wish to address the Council on the subject.

(d) Specialist Meeting on Epidemiological Research on Plague (WHO/CSA)

The Eleventh Meeting took cognisance of the following report :

“ Plague is a disease of wild rodents, of which domestic rodents and man may be secondary victims. Only a few active foci remain in Africa and Madagascar. On the other hand, strains of bacilli are still found of archaic character and it is not known whether or not they can give rise to the disease in man.

“ The Director of BPITT and the Regional Director of WHO have suggested that a CSA/WHO meeting of specialists on the epidemiology of plague should be held to consider the situation in each of the countries concerned, the potential extension of existing foci, the development of research, and the comparison of results obtained on the resistance of rodents to plague. The meeting could be held in the Congo, either at Leopoldville or at Bunia ; it would consist of three days of debates and three days of visits.”

Following this report the feeling of Members of the Council was in favour of convening a specialist meeting on the subject in 1962. The proposal was accepted by WHO, but with the request that the meeting be deferred till 1963.

(e) Inter-African Conference on Malaria (WHO/CCTA)

Malaria is one of the primary concerns of WHO ; the extent of the Specialised Agency's responsibilities in eradication work increases year by year. At a recent meeting of the WHO Executive Board it was proposed that the entire cost of the Malaria Eradication Programme should be gradually incorporated into the regular budget. This would result in expenditure of the order of \$2,000,000 in two years. The figure represents the cost of pursuing and extending current projects so as to avoid any one of them being interrupted and jeopardising the work in a whole region.

WHO is planning an inter-African conference on malaria, for which a preparatory technical meeting was held at the WHO office in Brazzaville in 1959. The agenda will comprise :

- Parasitology in man and in animals.
- Endemicity and immunity.
- Entomology of vectors of the disease.
- Therapeutics and prophylaxis.
- Eradication.

The date of the conference has been postponed several times to allow for fuller preparation. It is now planned to take place in about July 1962 at Yaoundé.

(f) Other meetings

The WHO/CCTA/FAO Symposium on Veterinary Public Health is described in Part II, chapter 9. Proposals for a CCTA/CIE/FAO/WHO seminar on health and nutrition education and a CCTA/WHO symposium on health problems in relation to housing are discussed later in this chapter and in chapter 7 below.

Further plans are being worked out for 1963 and the subsequent years ; they relate for example, to pediatrics, nursing, water supplies, bilharziasis, leprosy, virus diseases and venereal diseases.

(g) Other training courses

CSA proposed at its Eleventh Meeting that further training courses should be planned in the field of medicine (Rec. XXXIX). They might deal with methods of laboratory diagnosis in virus diseases and with bilharziasis, and should be organised in close liaison with WHO.

The Third Meeting of FAMA endorsed these proposals in principle.

Other WHO activities

No further evidence is needed to illustrate the close association between WHO and CCTA. However, the increasing part taken by WHO in all joint activities deserves emphasising. Generally speaking—except for occasional meetings like the Specialist Meeting on Ankylostomiasis—WHO

covers the whole field of medicine. Co-operation is exceptionally valuable where meetings, seminars or courses extend to more than one discipline, the medical sphere being represented by WHO and the more technical spheres by CCTA. This process is likely to continue, unless it proves possible to set up an Inter-African Bureau of Public Health.

The Fourteenth World Health Assembly met in February at New Delhi, where CCTA was represented by Dr. Merle. At the 26th and 28th meetings of the Executive Board, held at Geneva, CCTA was represented by Dr. Courtois, former Co-Director of BPITT, and Mr. Hawkins, Assistant Secretary-General, respectively. Among the wide range of questions reviewed at these regular meetings, the very considerable efforts of the Organisation in the Federal Republic of Congo stand out. Twenty-eight teams totalling 130 doctors were sent out and a programme of instruction has been undertaken with the aid of a number of European countries. If the Congo tragedy has not been accompanied by epidemics and the complete collapse of the public health infrastructure, much of the credit is due to WHO.

Mapping of vectors of diseases (Joint Project 8)

The Council has adopted several recommendations on the atlas of vectors of diseases to be compiled under the direction of Professor van den Berghe. It will be remembered that Joint Project 8 has as its object the preparation of a series of maps showing the distribution of diseases and their vectors in Africa. A total of 48 maps is planned, on a scale of 1/5,000,000 and 1/10,000,000. A detailed report was presented last year.

Events in the Congo have delayed implementation of the project, although funds had been allocated by the Commission. It would be useful if Professor van den Berghe could indicate to the Council what steps he proposes for the completion of the project, the more so as the personnel working with the Inter-African Correspondent for Cartography will be available shortly when the Climatological Atlas is finished and it would be a great pity to lose their services.

Nutrition

(a) Inter-African Conference

The Commission's activities in the field of nutrition have been concentrated on preparations for the coming Inter-African Conference. Following a rather lengthy discussion, the Commission decided that the conference, to be known as the Fourth Inter-African Conference on Food and Nutrition, should be held in 1961 and have as its general theme, as suggested by the Panel of Correspondents and by FAO, "national policies in the field of food and nutrition". In response to the Commission's invitation, FAO and WHO have agreed to organise the conference jointly with CCTA from 4 to 13 September at Douala.

This will be a most important event. On all sides one observes the desire for a clear-cut food policy; that is why the moment seemed ripe for studying not only technical aspects of nutritional problems, but national food policies as a whole and their place within the context of development programmes in general. The agenda witnesses to these considerations, having been drawn up by a preparatory meeting of experts representing the three organisations (Brazzaville, 25 July 1960) and approved by the Panel of Correspondents when they met in September. It falls under four heads:

—Available information: food consumption levels, food requirements, nutritional adequacy of average diets:

—Food consumption targets: long-term objectives, short-term objectives.

—General policies: factors involved, agricultural planning, food policy.

—Organisation: specialist services, co-ordination of activities, liaison between nutrition scientists and government departments.

Detailed plans for the Conference were worked out at the preparatory meeting. The work is being divided among the three organisations concerned. Responsibility for heads one and three is being assumed by FAO and WHO, for heads two and four by CCTA. Professor Platt and Dr. Quass have been appointed rapporteurs on the CCTA side, while Dr. Latsky, Inter-African Secretary, and Dr. Demaeyer, Head of the Nutrition Division of IRSAC, whom the Eleventh Meeting recommended should be approached, are co-ordinating preparations as between member countries of the Commission.

(b) Panel of Correspondents

The Panel held its Eighth Meeting in Washington on 6 and 7 September 1960. Twelve countries were represented, as were FAO and WHO. The discussions naturally dealt in part with the 1961 Conference and also covered other aspects of the Secretariat's work. It was agreed that the revised monograph on researches into nutrition in Africa should be drafted by Dr. Latsky, making use of data supplied for the Conference, and that the final draft should be considered at the Ninth Meeting to be held at Douala during the Conference.

(c) Training of specialists

In accordance with the Commission's instructions, the FAMA Secretariat will participate in two specialist training courses of about six weeks each which FAO proposes to hold; the first, in French, will be at Dakar in 1962, the second will take place two years later. The two organisations also envisage the holding of courses on a more modest scale, of about

a month's duration, for auxiliary personnel in the field of nutrition; these will take place in about 1962-3.

Nutrition is among the foremost concerns of the FAO Regional Office. One of the Director's assistants, Mr. Ganzin, is a professional nutritionist who spares no effort in seeking to fulfil the very ambitious projects of FAO in this field. The determination of the FAO Office to consider nutritional problems as a whole and in the context of national policies is to be noted with satisfaction. Substantial progress should be achieved.

(d) Health and nutrition education

The Commission instructed the Secretariat to arrange a meeting in 1962 on problems of health education more particularly in rural areas, to be planned in close liaison with the international agencies concerned. WHO signified its interest. CIE organises each year, with a French-speaking country in Africa, a course or study tour devoted to the problems of mothers and children, in which a large place is given to health education. And FAO, in the programme submitted to its session in 1959, proposed to hold jointly with WHO a seminar on the problems of education in regard to health and nutrition. This would be similar to the seminar held in Latin America in 1960 and would study the food habits and the changes in diet observed in the course of natural evolution, along with extension methods. After the conclusion of the seminar, the handbook designed for intermediate-level education referred to above could be finally completed.

These various projects have been merged and it has been decided to hold a seminar probably in Cameroun in May 1962, sponsored jointly by the four organisations, on the theme of education in relation to nutrition and health. As this will be a seminar and not a symposium, experts will be designated in advance to lead the discussions. Dr. Demarchi, Co-Director of BPITT, will be responsible for the agenda together with WHO on the medical side, while FAO will contribute items on nutrition in consultation with the Inter-African Secretary.

Medicinal plants

The Sixteenth Session noted the importance for African countries of the systematic investigation of possible uses of medicinal plants and in particular those employed in traditional medicine (Rec. XXVIII). The Secretariat prepared an interim report for submission to CSA at its Eleventh Meeting. In most cases, the researchers have only recently begun their work and are unaware of what is being done elsewhere in the continent. The studies initiated are extremely varied and there is little co-ordination. It is true that the field is so vast that there is little risk of overlapping. The most important function which CCTA can fulfil will be to prepare a report on current work in Africa, so as to afford researchers an over-all view of the

question. The Secretariat proposes to publish and circulate this report in accordance with the Commission's recommendation.

The section on mental health appears under chapter 3 below, since CCTA activities increasingly concern problems of psychology, and also because the Inter-African Correspondent for Psychotechnical Tests is the pivot of the Commission's action.

2. SOCIAL SCIENCES

The Commission has suffered through the post of Assistant Secretary in charge of Social Sciences being vacant during 1960 and 1961. An Acting Secretary, Mrs. Bevan, was appointed last summer at Lagos and brought great intelligence and energy to her task. Her presence made it possible to keep in touch with developments and to initiate certain action referred to below. However, apart from such independent activities as continue thanks to the voluntary help of specialists (migrations, linguistics, psychology and so on), the review of the Commission's activities during the past year is disappointing. The work of CCTA in other fields has also suffered from this deficiency, since social science experts are hardly represented at meetings any more. An example was the Specialist Meeting on the Adaptation of Education to African Conditions where, as the ethnologist invited by CSA had to cancel his arrangements a few days prior to the meeting, ethnology and psychology were not directly represented at all.

In conformity with the CSA proposal made at the Eleventh Meeting, the Commission decided in February last to appoint Dr. Solange Faladé as Assistant Secretary in charge of Social Sciences. Miss Faladé is a Dahomean who, after studying medicine, went on to specialise in pediatrics and ethnology. She has carried out researches on the African child and on the adaptation of African students in big urban centres. Her published work has been well received in scientific circles.

Dr. Faladé will take up her post on 1 August. As her work in Paris still goes on, she will only be able to devote two-thirds of her time to the Commission. For six months she will be entirely at the disposal of the Secretariat in Lagos or elsewhere in Africa; during the rest of the year she will work in Paris, devoting part of her time to CCTA.

Before starting on her duties, Dr. Faladé is having consultations in various quarters. CSA may wish to issue some directives at its Twelfth Meeting.

Study of Migrations in West Africa (Joint Project 3)

Progress in the Study of Migrations in West Africa carried out from 1957 to 1959 has been reported to the Council year by year. It will be

remembered that this study covered the systematic survey of migratory movements from Mali, Niger and Upper Volta to Ghana and the Ivory Coast via Dahomey and Togo. The study, while having its statistical side, was also concerned with investigating the reasons for migration and how it is organised. As has been underlined in turn by the Council and the Commission, the results of the survey are thus of interest to the majority of ministerial departments in the countries within the region, to the extent that they throw light on essential factors in the life of the countries concerned. It can never be sufficiently stressed that these migratory movements are on a scale which is probably nowhere equalled, either as regards the population figure of the countries of destination or that of the countries of origin.

The symposium to interpret the results of the survey had to be postponed several times to allow for thorough preparation. The twenty-one advance documents circulated gave partial statistical results and fairly comprehensive qualitative information. The symposium took place at Niamey from 13 to 25 February. It was attended by representatives of nine member countries, of WHO and of the United States, covering the fields of social sciences, statistics and also labour and human health, as recommended by the Council and the Commission. It is worth noting that the main accent was placed by governments on the labour aspect, demonstrating that political leaders are fully aware of the part played by migrations in the economic and social development of their countries.

The first week was occupied with methodology and general theory—the role of migrations in the development of a region (host countries and countries of origin), the organisation of migrations, and methods and general theory of surveys. The second week was devoted to the joint project itself. First the statistical results were considered and then specific aspects such as family status of migrants, age, occupation, psychological problems, and the relationship between migration on the one hand and religious phenomena and commercial movements on the other.

The conclusions in respect of methodology brought out the great difficulties encountered by investigators both during the actual survey and in the analysis of results. It was emphasised that these surveys should be entrusted to groups of specialists and that each group of investigators should include an administrative officer so as to free the other specialists from administrative responsibilities. Stress was also laid on the role of statisticians in the analysis and presentation of results and on the need for avoiding undue haste in analysis. Three recommendations on specific points called for a code of ethnic groups in western Africa, for official lists of villages, and for a bibliography of works on migration in Africa (this last to be prepared by ILI in Brazzaville). Certain general conclusions, of primary interest to governments, dealt with two thorny problems, namely the protection of migrants against disease before and during migration,

and their social protection in the host country. Here it is interesting to note the concurrence of views as between the symposium at Niamey in February and the Inter-African Labour Conference at Abidjan a few weeks later. The symposium suggested that, as the logical outcome of Joint Project 3, a programme of research work should be undertaken in countries of origin, as well as surveys on the correlation between migrations and the evolution of African philosophies.

The experts on the project spent a third week drafting the report, on the basis of the principles laid down by the symposium. The volume, which will be published by CCTA, will contain a full report on the work carried out under Joint Project 3, including the additional material called for in Recommendation X. The Scientific Director of the project will endeavour as far as possible to prepare a second volume containing all previous works on migrations in West Africa.

The two principals in the implementation of the project, Dr. Rouch, the Scientific Director, and Mr. Piault, the Chief Officer in charge of the survey in Ghana, were delegated by CCTA to attend the meeting and took an important part, as did Mrs. Piault, Mrs. Vianès, Mr. de Surgy and others who had also participated actively in the survey. Subsequent comment on the symposium has been such as to rejoice the specialists who for two years devoted so much of their energies, generally on a voluntary basis, to this work of utmost importance. The study was timely; the results will be available to the West African countries at the very moment when they are concerned with plans for both national and regional development.

Urbanisation and urban development

At its Eleventh Meeting, CSA decided to devote a specialist meeting in 1961 to the problems of urbanisation and urban development (Rec. XLVI). Since that decision was taken, the Secretariat has received numerous observations on problems of urban development planning. The pace of urbanisation renders these problems very acute. Their solution demands close co-operation between representatives of a wide range of disciplines. It also calls for broad surveys before the technicians come to tackle the technical problems. The engineer's work must be preceded by that of the sociologist, the economist, the demographer and the statistician, and the views of these experts should always be borne in mind by those responsible for designing urban development and drawing up town-planning schemes. With few exceptions, this is far from being the case in Africa.

The meeting of specialists on the Social Aspects of Urbanisation will be held at Abidjan from 23 to 31 August. The specialists invited by the Council have been chosen to ensure proper representation of the relevant disciplines, without undue emphasis on technical aspects. They are

Professor Daryll Forde, Member of the Council, ethnologist, of London ; Mr. Lagneau, town-planning specialist, of Paris ; Professor St. Clair Drake and Mr. Bernus, sociologists, of Accra and Abidjan respectively ; and the Inter-African Correspondent for Psychometric Tests, Dr. Biesheuvel, psychologist. Mr. Martin, Member of CSA and himself an economist, will be in the chair. The specialists invited by CCTA will meet for prior discussions two days before the meeting opens.

In accordance with the Council's suggestion, the agenda is modelled on that of an earlier conference in Latin America and is divided into two sections :

—Definition of the problem of urbanisation ; demographic aspects ; economic and social aspects.

—Plan of action : economic development ; national development planning ; social policy ; priorities.

Thus the problem of urbanisation is situated within the general context of national development. The Chairman will endeavour to avoid exclusively technical discussion from the engineering angle, and likewise the theoretic and scientific arguments dear to the academic mind.

Unfortunately it has not proved possible to obtain the assistance hoped for from UNESCO. However, this Specialised Agency of the United Nations will, it is hoped, be represented, together with ILO and the UN Bureau of Social Affairs.

Psychiatry.

A number of ideas pertaining to the realm of psychology will be discussed in chapter 3 on Education, in particular the question of psychometric tests and the study of the development of personality. Nevertheless, the Council will perhaps agree to consider, under the heading of social sciences, an interesting suggestion put forward by Dr. Lambo, Member of CSA, who will probably like to speak on the matter himself.

As head of the neuro-psychiatric centre in Nigeria, Dr. Lambo is better placed than anyone to assess the great changes in the treatment of mental disorders in Africa that have taken place in recent years. These changes are the consequence of advances in pharmacology and of the new methods now widely applied in the continent. Dr. Lambo believes it would be a good thing to arrange a discussion among experts on the subject. He has already brought the idea to the attention of a number of experts and the response has been very favourable.

Dr. Lambo will probably propose that the Council should devote one of its specialist meetings in 1962 to the problems of modern psychiatry in Africa. The author of the proposal will submit suggestions as to the agenda and possible participants. The agenda would cover clinical aspects of psychiatry, epidemiology, problems of organisation, planning of mental treatment and training of specialists.

The meeting could be held at Abeokuta, under the chairmanship of Dr. Lambo. The World Federation for Mental Health and WHO would naturally be invited. It appears that Dr. Lambo can draw on certain funds which would enable him to invite some additional experts.

Libraries and documentation

(a) Meeting of Specialists

The Council had decided on a Specialist Meeting on Libraries with a two-part agenda. The first part was to have been devoted to a restatement of existing resources and to consideration of action to be taken in this respect, the second part to new measures to be recommended, in particular the establishment of national or regional centres. A further question down for discussion was the training of specialist personnel. The five specialists designated by the Council had signified their great interest in the meeting, which was to have taken place at Bukavu.

This had twice to be postponed, however, and it is now for the Council to decide if it still wishes the meeting to take place. If so, it will set aside one of its specialist meetings in 1962 for the purpose, confirm the agenda and the names of the specialists, select the venue and designate a chairman.

(b) Training of specialist personnel

One of the projects for regional training centres considered by the Secretariat concerns the training of French-speaking librarians in Africa. This project was discussed with the American authorities during the CSA mission to the United States and is now the subject of detailed study by Mr. Rousset da Pina, Curator of the Dakar University Library, in close consultation with chief librarians in other countries in the region. Perhaps the Scientific Secretary will be able to give the Council further information at the Twelfth Meeting.

(c) Gifts of books from America

Following an agreement between ICA and FAMA, the latter body has had some twenty institutions and technical departments in Africa entered on the mailing list of the United States Book Exchange Service. In exchange for the supply by CCTA of a certain number of copies of each of its publications, USBES sends gratis to the bodies on its list the scientific and technical works of which it holds a stock. The effects of this arrangement are beginning to be felt.

Other activities in the field of social sciences

(a) Linguistics

There was a long debate at the Fifteenth Session on the Commission's activities in the field of linguistics. The Commission considered that

particular importance should be attached to these activities. It was of the opinion that it would be highly desirable to promote the study of original languages and encourage measures to ensure their better knowledge. The Commission stressed its interest in the work of the Inter-African Committee on Linguistics, which it hoped would make possible the submission of concrete proposals to ensure the early implementation of projects (Rec. XXXVI). The Commission returned to the subject at its Sixteenth Session, noting the urgency of submitting proposals with a view to meeting the general desire to promote knowledge of the civilisations of Africa (Rec. XXIX).

The reasons underlying the interest of the newly independent countries are well summed up in these two recommendations, which were duly communicated to Dr. Guthrie, Chairman of the Committee on Linguistics. He decided that the committee should meet for the second time in Brazzaville at the beginning of July 1962 to draw up future programmes. A symposium will be arranged to coincide with the meeting of the Committee, and under its auspices, on the theme of multilingualism. Member Governments will send delegates and Dr. Guthrie will invite a number of experts, out of grants which he has obtained from various foundations and institutes.

(b) Ethnohistory

The Panel of Correspondents for Ethnohistory, whose Co-ordinator is Dr. Vansina (at present in the United States on a fellowship), now consists of eleven members. There is much interest on the part of Member Governments in this type of work, and Dr. Vansina proposed holding a meeting of his panel in December 1961, with an agenda covering the following items :

—Methods to be applied in the collection and interpretation of oral traditions.

—List of the main historical problems to be studied.

—Relationship between historians and archeologists.

—Inexpensive publication of basic historical material.

Professor Daryll Forde has since given the Secretariat information regarding the fourth seminar convened by the International African Institute, of which he is the Director, for December 1961 at Dakar. It will probably be necessary to reconsider the proposals submitted by Dr. Vansina to take account of the Institute's plans.

(c) Other activities

The report on official archives in Africa South of the Sahara is ready for publication and distribution. The panel consists of eleven members, with Dr. Baxter as Co-ordinator.

A conference on African history was held at Salisbury last September,

at which Dr. Vansina represented the Commission. Professors of history from a number of universities in Africa attended but unfortunately only English-speaking Africa was represented. Those present discussed the methods employed in ethnohistory studies and touched on a number of problems relating to nineteenth and twentieth century history (recourse to Arab and Ethiopian archives, study of nationalist movements and so on). The Panel of Correspondents on History has ten members, with Dr. Silva Rego as Co-ordinator.

Mention should be made of the Fourth PIOSA Congress at Karachi in November, at which Professor Millot represented CCTA/CSA, and the symposium arranged by the International African Institute at Salisbury in December under the chairmanship of Professor Clyde Mitchell, Associate Member of CSA, on African systems of thought, religious belief and ritual, traditional and modern. Another point of interest is the suggestion by a recent meeting of experts that the Commission should be responsible for the co-ordination of past and current research on the Bushmen.

Lastly, the enquiry into problems of absenteeism and labour turnover (Joint Project 5) has provided extremely interesting data from the social sciences aspect. It is reviewed in chapter 6 below.

3. EDUCATION

Adaptation of education to African conditions

Members of the Council will recall the meeting of specialists held at Lagos in May 1960. Dr. Lambo, who was one of the leading figures, will be able to give an expert appraisal of the meeting. The recommendations noted the fundamental role of institutions and of community life for Africans. It is in terms of this observation that the evolution of education must be studied and planned. Mental health experts and ethnologists should be associated in the elaboration of general training plans. More precisely, the meeting recommended that studies be undertaken of personality in cultural groups typical of Africa and on what the African community expects and hopes from modern education. On the proposal of Dr. Biesheuvel, the Eleventh Meeting of CSA endorsed these recommendations and left it to the Inter-African Correspondent for Psychometric Tests to formulate a project.

The meeting in Lagos also reiterated the importance of education in a country's evolution, in its technical progress as in the growth of national consciousness and the development of its new personality. It urged that education be regarded as an important factor in planning. Other conclusions stressed the difficulties experienced by Africans in interpreting diagrammatic and other visual material, and suggested remedies by way of preliminary training and the use of more suitable aids to education; called for a study of the scholastic level and age at which a European

language should be wholly or partially substituted for the native language as the vehicle of instruction; and recommended the adjustment of syllabuses to African needs and conditions.

Following on these conclusions of the Lagos meeting, CSA recommended that a review of the known facts and the views expressed on these questions, and of their implications for educational practice, should be prepared forthwith, to serve as a basis for the formulation of research schemes and other plans for action in this field (Eleventh Meeting, Rec. L). The possibility was envisaged that one or more of these plans might be made the subject of a joint project or be referred to a research organisation having the resources available for its implementation. Dr. Biesheuvel would submit proposals in consultation with Dr. Taylor, of the University College of Ibadan, whose name was suggested at Lagos.

The foregoing remarks all stem from one consideration—the need to know more about the process of the development of personality in Africa, in order that educational methods may be adapted to the potentialities of the young African. This was the guiding principle of the Inter-African Correspondent when, on the occasion of the CSA mission to the United States, he presented a detailed memorandum proposing systematic researches on the development of personality and the influence of such external phenomena as malnutrition. Dr. Lambo will describe to the Council the broad outlines of this project, to which Dr. Biesheuvel is putting the final touches. Implementation would be a matter for agreement between the Inter-African Correspondent and other specialists in this field of research, in particular Dr. Taylor.

Psychotechnical selection tests (Joint Project 18)

A similar concept underlies Joint Project 18, which was the subject of Recommendation LI of the Eleventh Meeting. The idea is to design a battery of standard psychotechnical tests suitable for use in the vocational selection of children at the end of their primary education. The meeting held at Brazzaville in May 1960 concluded that four series of tests were needed, namely, non-verbal intelligence test, test of mechanical comprehension, visual perception test and test of interests. Construction of these tests will involve a sequence of phases:

(a) A meeting of experts to work out details of the project and consider administrative and budgetary implications. This meeting would be concerned with the content of the tests, definition of the populations to which they should be applied, size of experimental samples and psychometric techniques to be used in standardisation. It would decide on the share of the work to be allotted to the various institutions and organisations prepared to collaborate.

(b) In accordance with the recommendations of this meeting, and once

funds had been obtained, preliminary work would consist in the construction of the tests to be tried out experimentally. The majority will be adapted from tests existing outside Africa ; others will have to be specially designed.

(c) The tests would be tried out in two series of field experiments (with an interval between them for further adjustment of the tests), carried out in a dozen different areas.

(d) After final modifications, the results would be published and widely circulated.

The Commission recommended that the project should be adopted (Sixteenth Session, Rec. XXXV) and that work should start without delay. Unfortunately it has not yet been possible to find the necessary assistance, and it is to be hoped that this difficulty will soon be overcome.

Joint Project 18 constitutes an essential aspect of the Commission's action in this sphere. Increasing numbers of requests are received for technical aid, many of them concerned precisely with the subject of this joint project (as in the case of a recent request from Mali). As noted above, this action is directly linked with work on the African personality as a whole. Lastly, the joint project represents an important item in the programme which the Commission would like to undertake in respect of selection and training. In pursuance of the suggestions contained in the Annex to the Recommendations of the Eleventh CSA Meeting, the Commission adopted the following recommendation at Lagos in February 1961 (Rec. XVIII of the Second Meeting of the Administrative Committee) :

“The Secretariat is requested to study the possibility of developing bilateral technical assistance to African States, for instance by preparing lists of consultants who could advise governments in respect of the fields where these methods can be developed, as well as on the tests to be worked out and the training of personnel responsible for their application.

“CSA has drawn the attention of Member Governments to the advantages that African countries can derive from a more systematic use of psychometric tests. This should facilitate the selection of candidates for courses and training centres, as well as for the recruitment of various types of personnel.”

Third Inter-African Conference on Education

The Commission decided that the Third Inter-African Conference on Education, to be held at Monrovia in 1962, should be on the education of women. The Council examined the question at its Eleventh Meeting in the light of the report submitted by the Scientific Secretary following the UNESCO meeting which he attended in May 1960 at Cotonou. The

four headings of the agenda proposed under CSA Recommendation LII are :

- Factors affecting the education of women (including the unwillingness among certain peoples to send girls to school).
- Women's education in the general educational system.
- Special means and methods of education for women.
- Potential contribution of women's education to the over-all development of a country.

At its session in Lagos, the Commission endorsed the proposal but decided that the draft agenda should be somewhat modified to take account of the comments of the UNESCO observer, before being circulated in its final form. The UNESCO observer had asked that women's education should not be dealt with separately from education in general ; the constant aim which must never be lost sight of, was to give women education in all respects equal to that provided for men. At the same time he suggested the addition of certain items, for instance, under Head 2 above, an item on the role of women in the teaching profession.

The Scientific Secretary will let the Council have latest information on the question at the Twelfth Meeting. It should be possible to draw up the final agenda and convene the conference without delay. Arrangements will, of course, have to be made to ensure careful preparation and the Commission is counting on UNESCO assistance in this connection.

Higher education

At Kampala in 1959, the Council asked that the Commission should place its resources at the disposal of institutes of higher education to aid them in strengthening their co-operation. The Council, while careful not to intervene in questions pertaining to the universities, felt that the Commission might on occasion make a not inappreciable contribution to the promotion of exchanges between universities, either of professors, research workers, students, special equipment or documents.

The Inter-University Council for Higher Education Overseas, which advises the African university colleges that are in special relations with the Universities of London and Durham, devoted one of its sessions at Windsor in August 1960 to the question ; the Assistant Secretary-General was present. The Inter-University Council approves the suggestions put forward by CSA and would like CCTA to promote the holding of a meeting of principals of higher education establishments in Africa. The plan is for the meeting to be held during next summer's vacation, probably in Europe, and to consider the problems mentioned above and the specific suggestions made in the course of discussion at Windsor, namely :

- the promotion of exchanges among professors and lecturers,

particularly those members of university staffs who are already experienced but not yet well known ;

—the compilation of a register of researches, in progress or planned, at African universities.

The Sixteenth Session gave its approval and reaffirmed its desire to assist the universities. To avoid any misunderstanding, it should be emphasised here that the proposal is a very modest one and in no way impinges on the fundamental problems of higher education. It is necessarily on a totally different plane from the action initiated by UNESCO and the Council of Europe to assist the development of institutions of higher education ; *a fortiori* it is only remotely linked with the considerable efforts of many European and American countries to aid the young African countries in building up a close-knit university system. But in its modest way it can help in the solution of certain material problems and that is its only aim.

Teaching of a second European language

The Commission at its Sixteenth Session once again noted that the teaching of a second European language in Africa is a problem which must be solved if closer relations and more frequent contacts are to be established between French-speaking and English-speaking countries (Rec. XXXVIII). As regards the aims which the Commission might set itself, the Fifteenth Session defined these in precise terms (Rec. XLVII):

“ In respect of adults, accelerated training centres, with audio-visual aids, have been established in several European towns, and are being organised in certain towns in Africa.

“ Within the scope of school curricula, teaching of foreign languages can probably be developed with the assistance of teachers from neighbouring countries, on condition that equipment and methods are suitably adapted.”

Accordingly CSA decided to devote one of its specialist meetings to the question. This will take place at Yaoundé from 13 to 18 November 1961. The agenda has been drawn up by the Scientific Secretary in consultation with specialist circles and with due consideration for work already done (Rec. LIV). Items will include :

—Methods and curricula for the rapid teaching of adults (in particular, audio-visual aids).

—Modern methods for the teaching of languages in schools.

—Training of teachers.

—Possibilities of co-operation between African countries in the teaching of languages in schools.

It is for the Council to approve the arrangements and indicate who

should be invited to chair the meeting. Invited specialists will probably be the Assistant Director of the Centre de recherches et d'études pour la diffusion du français at Saint-Cloud ; Mr. Coulibaly, lecturer in English at Dakar ; Professor Strevens of the University of Leeds, who has taught in Africa for many years ; and a member of the British Council. There was great interest in the Council's work in this sphere when the CSA mission visited the United States and there are grounds for hoping that the Americans may send one or more specialists to the meeting.

The conclusions of this meeting will be important and could lead to an ambitious dual programme—on the one hand dealing with the training of large numbers of locally recruited teachers competent to teach a second European language within the school syllabus, and on the other hand concerned with the systematic creation of an accelerated training centre in every big town in tropical Africa. This is a problem vital to African development—the subcontinent cannot remain linguistically divided into almost watertight compartments.

UNESCO activities in the field of education

At the last Biennial Assembly of UNESCO, representatives of all nations urged the Organisation to give priority to a vast campaign to assist Africa in the rapid extension of education for its young people. It was felt, and rightly so, that here was a problem vital for Africa and for the world. Very large sums have been made available.

In the realm of education, therefore, the dominant role in co-operation is played by UNESCO, and the operations of a small organisation like CCTA must be confined to well defined subjects not covered by the ambitious UNESCO programme.

In February 1960 UNESCO held a meeting at Addis Ababa of Ministers and Directors of Education, to review problems of primary and secondary education in Africa. A second conference at a similar level in May 1961 was to decide details of the "special programme of aid to the African States", with attention to financial aspects as also to educational problems as a whole. All CCTA member countries were invited.

The agenda was drawn up to include the following points :

- Role of education in development.
- Financing of education programmes.
- School methods ; teacher-training.
- Technical and vocational education.
- Adult education.

The Scientific Secretary will report on the conclusions of this conference ; these will need to be kept constantly in mind when elaborating the programme of the Council and the Commission.

Also among UNESCO activities mention should be made of the

conference held at Accra in December 1960 on the teaching of science in Africa. CCTA/CSA had the good fortune to be represented by Mr. Knottenbelt, who had shortly before completed a six-month mission to Eastern Nigeria under FAMA auspices. The delegates underlined the need for polyvalent teachers, stressed the importance of practical work and issued a warning against the obsession with book-work. They were of opinion that more attention should be given to the teaching of mathematics. In discussion of the science curricula currently prescribed in English-speaking and French-speaking countries, a good deal of criticism was voiced. A further conference is to be sponsored by UNESCO in 1962, this time on the teaching of science in the universities.

CCTA was also represented at the African meeting and the world gathering of the World Confederation of Teaching Professions in August 1960. Discussion turned mainly on problems of the primary syllabus and the training of teaching staffs.

Another point calling for mention concerns the technical assistance activities of FAMA. Experts on the teaching of languages have been sent to Guinea, Senegal and the Ivory Coast. Another expert spent six months in Eastern Nigeria advising the Government on the teaching of science in secondary schools. Requests have been received from Mali and other countries.

Finally, throughout the present Report, reference is made to proposals for establishing regional training centres—for assistant hydrologists (Part II, chapter 2), laboratory technicians (Part I, chapter 2), librarians (Part III, chapter 2), conservation staff for national parks (Part II, chapter 1), instructors in the mechanisation of agriculture (Part II, chapter 5) and so on.

4. RURAL WELFARE

The new countries of Africa all attach primary importance to rural action, which they see as a means of associating the rural masses with the development of the country, political, social and economic. Independence, by placing at the head of affairs nationalist leaders who exercise undoubted authority over the populations, makes for greater effectiveness in such action than under the colonial system. Hence the immense interest in all activities in this sphere and the priority accorded to them by CCTA Member Governments.

The Commission seeks to aid every country in Africa in this respect, applying its normal methods of pooled experience and enabling each country to be informed of, and to employ, the methods and experts of others. At the same time it directs its efforts towards regionalisation of activities and concentrates on practical and concrete problems.

Community development

(a) Panel of Correspondents—Inter-African Community Development Clearing House

It will be remembered that a contract was signed with the Institute of Education Community Development Clearing House at London University. The experience of eleven years and the very large holding of documents amassed by the Clearing House are thus available to all Member Governments.

It was decided to supplement this arrangement by the creation of a panel of correspondents. On appointment, correspondents receive from Mr. Clunies-Ross, the Director of the Inter-African Clearing House, a letter explaining the services which the Clearing House can render, and offering to reply to requests for information and advice, to send documentation and to receive visitors. The Clearing House needs to be more widely known and used, particularly by French-speaking countries which, until the Commission initiated this action, had no occasion to seek its aid.

Mr. Clunies-Ross brings great energy and enthusiasm to his work and the Secretariat takes this opportunity of expressing its thanks. During May and June, Mr. Clunies-Ross has been touring the whole of West Africa, visiting six French-speaking and four English-speaking countries. At the end of the year he will undertake a similar tour of East Africa and be able, among other things, to establish contacts with ECA at Addis Ababa.

The Bulletin published by the Clearing House in London is now circulated by the Inter-African Clearing House to all member countries. Three numbers have been issued to date, containing extracts from other journals, original articles (including two by Mr. du Sautoy and Mr. Wright) and information on government policies, administrative problems, programmes and projects and new techniques.

(b) ECA activities

At Addis Ababa, as in the other United Nations Economic Commissions, a Bureau has been set up to keep in touch with the problems of community development; it includes an officer seconded from FAO and the former head of CCTA'S rural welfare activities, Mr. Dulphy. The initial projects, in pursuance of recommendations of the Addis Ababa Seminar in September 1959 and the decisions of the second session of ECA, are concerned with the training of personnel and the compilation of periodical reports.

A regional seminar at Accra in November 1960, organised under the joint sponsorship of ECA, the UN Bureau of Social Affairs and the UN Technical Assistance Bureau, had as its theme the relationship between family and child welfare projects and community development programmes. Emphasis was on the role of women in community development, a matter

which is under special study by ECA. CCTA was represented by the Director of the Inter-African Community Development Clearing House, Mr. Clunies-Ross. The discussion was fairly general, with a wide agenda.

(c) Symposium on Community Development in Eastern and Central Africa

A symposium on community development will take place at Kampala from 24 November to 4 December 1961. The Commission was encouraged by the success of the Accra Symposium for West African countries in 1959 to arrange a similar meeting for East and Central Africa. There will, however, be a difference in that the theme of the coming symposium at Kampala will be community education.

The heads of the agenda are :

- Group work at the village level.
- Anti-illiteracy work.
- Health education.
- Agricultural extension work.
- Women's work in rural and in urban conditions.
- Education for citizenship.

—Training of senior staff for community development work, with special reference to the contribution of the universities.

The countries of East and Central Africa, ECA, and the United Nations Bureau of Social Affairs have been invited to send representatives, and experts in the region have been asked to contribute papers on the various items of the agenda. Dr. Prosser will take the chair; Professor Lewis of the University of London and Mr. Clunies-Ross are busy on the technical preparations. The Secretariat warmly thanks all three for their participation.

(d) Community development and agricultural extension study tour

It had been planned to arrange a study tour on community development to follow immediately on the Kampala Symposium, similar in all respects to the very successful tour organised in conjunction with the United Nations at the end of 1959. The plan has been changed, however, in view of the fact that ECA has its own project for a tour involving two or three CCTA member countries, and the undertaking postponed until the spring of 1962. The study tour will then follow the seminar on agricultural extension discussed below and cover that subject in addition to community development. FAO has agreed to participate and will provide one of the two specialists to lead the tour. This will last a month, visiting four of the following countries : Uganda, Rhodesia, Cameroun, Ivory Coast, Mali, Nigeria. Numerous field visits are planned, with intervals to enable those taking part to sum up their impressions and draw

conclusions. The FAMA Secretariat will endeavour to obtain fellowships to meet a substantial proportion of the costs.

Agricultural extension

(a) Development Centre for East and Central Africa

A Centre for West African countries in July 1959 at Ibadan was jointly sponsored by FAO and CCTA. Its purpose was to consider the role of extension services in general development and to study their organisation. The Centre was successful, thanks to the technical arrangements made by FAO and to the contribution of Mr. de Geus who came from Rome specially for the meeting.

It was natural, therefore, that the programme proposed for East and Central Africa should include a similar project. FAO has agreed to the suggestion and decided to organise a Development Centre on similar lines to the one at Ibadan in July 1959. This FAO/FAMA Centre, in Tanganyika at the beginning of 1962, will be particularly concerned with the role of women in agricultural extension.

Various suggestions made at Ibadan with a view to organising permanent liaison will be discussed; they propose the establishment of a semi-permanent regional Centre, the publication of a bulletin and the holding of regular training courses. For the moment, the Commission has confined itself to forming a panel of correspondents, of which the secretariat duties might ultimately devolve on FAO, the prime mover in agricultural extension matters.

(b) Symposium on Agricultural Research

The Scientific Council at its Ninth Meeting proposed that a meeting should be arranged to provide for an exchange of views on the organisation of agricultural research. The Council has been kept informed regarding preparations for the symposium and the subject was covered in last year's Report. Events in the Congo made it necessary to change the place and date. The symposium will now be held at Muguga early in December 1961. Dr. Russell, who will probably take the chair, may like to tell the Council more about it.

As already reported, the agenda includes the following heads:

—Definition of the objectives pursued by agricultural research organisations.

—Structure of agricultural research organisations; relations with forestry and grazing research.

—Liaison with fundamental research centres and administrative departments, particularly those concerned with agricultural extension.

—Basic and advanced training of research workers both outside and inside agricultural research organisations.

—General principles of organisation and administration of agricultural research.

Rural trades

The Secretary-General has already indicated to the Council the interest displayed in matters related to rural trades by the new governments desirous of seeing rural communities developed and modernised (Rec. XLIX of the Eleventh Meeting). The Sixteenth Session approved arrangements for the symposium to take place in December 1961. The Nigerian Government was asked to agree to its being held in Eastern Nigeria. Preparations for the symposium are mainly in the hands of the Inter-African Labour Institute, with the participation of Mr. Arnaud, an expert seconded to Zanzibar under FAMA auspices. ILO is also to contribute to the preparation of the meeting.

Items on the agenda will be :

- The present situation in regard to rural trades.
- The role of craftsmen in the rural community, in labour stabilisation, and in economic and cultural progress.
- Development of rural trades ; the use of community development methods, co-operatives, training of craftsmen.
- Assistance to practising craftsmen, modernisation of techniques, supply of materials, financial aid, central bureau of rural trades.
- Marketing of produce : in nearby rural areas, to urban outlets, for export.

Surprising as it may seem, the problem of rural trades does not appear to be systematically covered by the policy of any country in Africa. The meeting will thus be of an exploratory nature.

Agricultural engineering

Recommendation XXXIII of the Sixteenth Session reads :

“ The Commission requests the Secretariat to furnish information on problems of agricultural engineering, particularly on questions of agricultural and pastoral hydrology in relation to the improvement of living conditions in rural areas. It considers that it would be desirable to establish co-operation in this field.”

The Secretariat is seeking means of implementing this recommendation. The concept of “ agricultural engineering ” is essentially French (just as that of “ community development ” is essentially English). Exchanges of views should therefore prove fruitful.

At the same time, it is possible that the establishment in West Africa of a regional centre may be proposed, for the training of French-speaking agricultural engineering assistants.

5. ECONOMICS AND STATISTICS

Nature of the activities of the Commission and the Council

The kind of work which CCTA/CSA could usefully accomplish in this field was well defined by the Council at its Tenth Meeting. This should be confined to specific projects, carefully selected and of limited scope, leaving the big international questions—extensive surveys of major economic problems, training of executives, assistance to countries—to be handled by the Economic Commission for Africa. It is not proposed to recapitulate the analysis which led to these conclusions but simply to note that the Commission again endorsed them at its Sixteenth Session (Rec. XXI) :

“ In the light of the activities and projects of ECA, it appears reasonable to continue to confine the work of CCTA to clearly defined subjects and to surveys of a descriptive nature.”

Practically the only CCTA activity of long standing in this field is the Inter-African Committee on Statistics, and this is shortly to be wound up. Its great value in recent years was in providing a meeting ground for representatives of statistical services in Africa. The meetings sponsored by ECA, in particular the Conferences of African Statisticians, now fulfil that function, and there are many who feel that there is no longer any call for a permanent inter-African committee. If certain specific projects should be undertaken, a small working party could be formed to advise the Commission and the Secretariat.

Nevertheless, the Fifteenth and Sixteenth Sessions considered that the Committee ought to meet once more. The meeting has been fixed for July in Lisbon, immediately after the second of the ECA Conferences of African Statisticians. In addition to decisions regarding its future and that of its secretariat, provided without charge by the Portuguese authorities for several years, the Committee will discuss the results of the Study of the Methodology of Family Budget Surveys (Joint Project 9, see below).

The Committee will also consider what action to take on Mr. Martin's suggestion, submitted to the Council and later endorsed by the Third Meeting of FAMA, for providing basic courses on statistical survey methods for specialists in various sciences.

* * *

In view of the limits now set on the Commission's activities in the realm of economics and statistics, there is no purpose in including here a detailed account of the work of the Economic Commission for Africa and the Specialised Agencies. Mr. Martin will be able to give the Council any details it may like to have.

ECA is making itself felt, particularly in the field of statistics. A second Conference of Statisticians will meet at Tunis in June to draw

up the programme for the coming years. CCTA/CSA will be represented by Mr. Martin. A number of training projects have been or are being organised, for example on demographic census methods and for training of middle-ranking statisticians. Publications include a statistical information bulletin, a handbook giving statistical series available in Africa and a bibliography of statistical material.

In this, as in the economic field, ECA is furnishing and will furnish very important aid to African countries, helping them to set up their specialist services, train their personnel and proceed to the necessary surveys. Finally, mention should be made of ECA's work on the use of national accounting as a basis for economic policy and development planning. Professor Leduc who, with Miss Ady, represented CCTA/CSA at the Addis Ababa meetings in January 1961, will probably wish to report the conclusions to the Council.

FAO activities in the economic sphere were discussed last year. By way of illustrating the Report to the Eleventh Meeting, we would point to the meeting held at Fort-Lamy last November on the marketing of meat and livestock, attended by the Assistant Director of IBAH on behalf of CCTA.

Completed projects

(a) Inventory of Economic Studies (Joint Project 4)

It will be remembered that the inventory compiled by Miss Ady, Associate Member of CSA, includes a complete list of works on economic questions in Africa with brief notes thereon. The book was published in 1960 and widely circulated; sales have been very satisfactory.

The Commission decided to publish at intervals supplementary lists bringing the inventory up to date. The first of these, due to appear in 1962, will cover new works published since the original inventory. It is astonishing to see from the list how numerous these new works are; Miss Ady's task of supervising the collection of the material is therefore no easy one and the Secretariat desires once more to pay tribute to her. There is a possibility that, as recommended by the Director of the Inter-African Labour Institute, the supplements may cover works on the economic aspects of labour problems.

(b) Descriptive Study of National Accounting Systems (Joint Project 6—with the assistance of OEEC)

The English edition of the study was published in January 1961 and the French edition should be on sale this summer. Comments have been very favourable.

The assistance given by OEEC has been most valuable, both during the period of preparation (Mr. Milton Gilbert and Mr. Stuvell) and in

regard to publication for which, it will be recalled, OEEC assumed the entire responsibility. The Secretariat takes this opportunity of expressing its warm appreciation to the Organisation and those of its officers who contributed to the project, as also to Miss Ady and Mr. Courcier, the authors.

(c) Adaptation to African usage of the standard classification of occupations (Joint Project 10—ILO/CCTA)

This project is dealt with under the chapter on Labour (Part III, chapter 6).

Methodology of family budget surveys (Joint Project 9)

The Council is aware of the joint project devoted to collecting, in the form of a descriptive study, available material on the methodology of surveys on family budgets in Africa. Delay occurred because two of the experts approached were unable to find the time necessary to ensure the completion of the work by the middle of 1961 (the project will be of great assistance to other international activities planned for the latter part of 1961 and 1962). Final arrangements were made for Mr. C. J. Martin and Mr. J. Causse to be responsible for the English and French sides respectively.

The plan of work is for a report to be prepared, on the basis of a questionnaire sent to statistical services in Africa. The questionnaire was circulated and practically all the English-speaking countries have replied.

On the English side the work is more or less completed. The questionnaire has produced information on the scope, purpose and organisation of surveys undertaken. With regard to "scope", the inquiries were directed to ascertaining the geographical area covered, the types of communities investigated and the strata of society selected within each community. Under the heading of "purpose", information was sought regarding the reasons for the selection of areas and social groups. And under "organisation", the aim was to obtain information concerning the pre-survey work (with special reference to the selection and training of personnel), the use of pilot surveys and, for the survey itself, the actual methods used, i.e. whether it was based on a sample or complete coverage, the enumeration system and the system of control and analysis.

Mr. Causse felt it to be desirable to conduct his work in respect of the French-speaking countries on somewhat different lines, drawing largely on existing records and relying less on questionnaires.

Each "national" report, after some editing, forms a chapter in the final report and these chapters are prefaced by two notes, prepared by Mr. Martin and Mr. Causse, in which the findings, methods and systems are summarised. The draft of this final report will be considered by a small group of experts on the occasion of the Sixth Meeting of the Inter-

African Committee on Statistics, and receive the final touches from Mr. Martin and Mr. Causse. It will, of course, be made available to the Specialised Agencies and other organisations, national or international. Mr. Martin will probably like to add his comments at the Twelfth Meeting of the Council.

Case studies on economic development (Joint Project 12)

At the Eleventh Meeting of the Council, Mr. Martin made a proposal which was promptly adopted, for case studies to be initiated and published, presenting the data available on various typical cases of economic development in Africa. Governmental sources would be used, through the agency of the CCTA Correspondents, but information might also come from private undertakings, trade unions, universities, research bodies and so on. The studies as published, while mainly descriptive, would also comprise a critical examination of the project and an assessment of the results in the context of the development of the country concerned.

The purpose of these researches would not be to provide economic history alone. The series of case studies envisaged would be of great value to professors and teachers concerned with the training of African personnel by providing specific, contemporary illustrations from the students' own countries rather than examples from the history of nineteenth century Europe or twentieth century America. Thus there can be no doubt as to the usefulness of such studies to any institution, national or international, engaged in the compilation of textbooks of economic development. Lastly, the material will certainly prove useful to theoreticians and research workers in considering the basic facts of economic development in non-industrial countries. From these various angles, the case studies of economic development should equal in value the business case studies published by the Harvard School of Business Administration in respect of the more highly developed countries.

Though not wishing at this stage to draw up a detailed list of case studies, Mr. Martin has suggested the following subject headings :

- Major hydroelectric projects.
- The organisation of national economic development plans.
- Methods of promoting private investment.
- The role of public finance in economic development.
- The use of investment and development corporations in expanding industrial activities.
- Agrarian reform and the improvement of agricultural production.
- The development of State Banks.

The proposal is not to make an exhaustive study of each subject but to select a few typical examples under each heading and publish a descriptive study, without attempting comparisons or seeking to draw general

conclusions. Accordingly, the bulletin to be devoted to these studies would contain a series of monographs each dealing with a specific project, but the individual items in each issue would not necessarily be related.

This Joint Project would have a permanent character, several case studies being published each year. A Steering Committee of five or six members, with Professor Leduc as Chairman and Mr. Martin as Co-ordinator, would be generally responsible, while editorial boards would be appointed for each subject heading. These would consist of persons chosen for their special knowledge of the subjects covered, together with the Co-ordinator, and would be responsible for editing the studies prior to publication. Their members would normally be experts working in Africa. The people selected to write the studies could be civil servants or research workers according to circumstances ; some might be familiar with African problems, others might be postgraduates working for their Ph.D. thesis.

During the Council mission to the United States, Mr. Martin had many occasions to explain his scheme and deliberately invited criticism, but this was very rare, whereas interest was always very great, both in official and in academic circles. In the universities, he was told, many American students would like to proceed to their doctorate by way of such case studies. As to the problem of finance, it appeared that this should not be difficult to solve. The CCTA/CSA Secretariat is dealing with the matter.

Bearing in mind the absolute need of ensuring complete independence both for the authors of the studies and for the committees responsible for the project as a whole, the Secretariat suggests that this Joint Project should be placed directly under the Council. Governments would be informed of it and their assistance requested, but CSA would be solely responsible for the running of the project. Administrative arrangements, as is the case for all joint projects, would be handled by the small group based on the Co-ordinator and financed by subventions from countries and organisations outside Africa. The Twelfth Meeting is invited to take a definite decision on the matter.

6. LABOUR

Research on absenteeism and labour turnover (Joint Project 5)

The Council is aware of the extensive survey carried out by twelve countries over a period of a year and covering more than a hundred undertakings, with a view to assembling data on absenteeism and labour turnover in Africa. The survey is one aspect of the Commission's work on the basic factors—especially the human factors—of productivity. The Council has also been informed of the survey methods adopted, under a joint project planned in 1956 at Salisbury, subsequently revised at various times, and co-ordinated by the Director of the Inter-African Labour Institute.

On completion of the survey, reports were prepared by the directors of research, and the ILI Director drew up a synthesis report setting out the main conclusions of the investigators.

The results of the survey were the subject of the most important item of discussion at the Sixth Inter-African Labour Conference at Abidjan in April. The Directors of research presented their conclusions in summary form together with their impressions regarding general aspects of the problems of productivity brought out by the survey. This part of the debates was of a scientific nature and the conclusions reached after thorough examination of the problems merit special attention. They state categorically that "the prevailing rates of absenteeism in African countries have very little, if any, effect on productivity in African countries. . . . Prevailing rates of labour turnover in Africa do not necessarily affect productivity adversely. Indeed, a fairly high rate of labour mobility may be desirable in the interest of the economy as a whole, taking into account the rate of economic evolution and technological change" (Report of the Conference).

These conclusions are noteworthy in that they are diametrically opposed to widely held opinion, and the conference considered that the matter could not be allowed to rest there. It recommended that where survey results have not yet been analysed this should be done as early as possible, and specifically that investigations should be undertaken at national level and on uniform lines to determine productivity rates, observing that "the present opinions held about levels of productivity in Africa are for the most part unsupported by adequate research and may prove to be likewise false". Such investigations, the conference declared, should be undertaken on a comparative basis in terms of the data available on productivity rates in technologically more developed countries.

Constructive suggestions were made in respect of personnel management. The conference was struck by the observations of a number of labour departments and research workers on the interrelationship between productivity on the one hand, and management policy and working conditions on the other. Productivity often depends, it appears, on labour/management relations and the extent to which the workers are informed of policy. Accordingly, the conference recommended the holding of seminars for employers' representatives to discuss productivity questions, together with representatives fully acquainted with the workers' point of view in suitable cases. The ILI Advisory Committee is to make definite proposals on the subject. Interest in the suggestion has been expressed in industrialised countries which have stated their readiness to support the project.

The reports and conclusions in respect of Joint Project 5 will be issued in a printed publication, to be financed by the Inter-African Research Fund.

Sixth Inter-African Labour Conference

The Sixth Inter-African Labour Conference met at Abidjan from 17 to 25 April. About a hundred participants attended, representing nineteen CCTA member countries, two non-member countries, ILO, and the European Economic Community. It was one of the most notable meetings of the year, both in respect of the topics discussed and in terms of the participation of the new member countries.

As mentioned above, the most important heading of the agenda was productivity. On the second item, labour migrations, conclusions were adopted defining the essential conditions to be observed for organised labour migrations (see Part III, chapter 2) and referring to international labour conventions and other ILO texts. They emphasise the need for intergovernmental agreements when large-scale temporary movements occur in order to guarantee the social and health protection of the migrants, provide for repatriation of a proportion of earnings, and enable representatives of the country of origin to protect their nationals in the host country.

Item three dealt with the labour problems involved in major development projects, with a view to considering the legislative and other measures required for the recruitment, training and protection of workers engaged on a project, for their resettlement on termination of the work, and for minimising the ill-effects of displacement of population due to development works. These questions were discussed with reference to such completed projects as the Kariba dam. After a further debate on more general lines, the conference unanimously agreed on the primary need to integrate any major development project into the framework of a national development plan established by the competent national authorities. Nothing, indeed, could be more dangerous than the elaboration and implementation of such projects in isolation from the surrounding country.

Coinciding with the conference, a committee of experts met to examine—for the first time in Africa—problems of safety and health at work. The highly technical discussions covered industrial diseases, safety measures in ports, safety regulations for wood-working and other machines, and so on. The conclusions are in line with the international conventions of ILO.

The transactions of the conference will be printed and published by the Commission in the usual way.

Inter-African Labour Institute (ILI)

The year has been a busy one for the Institute. Its main activity was of course connected with the Sixth Inter-African Conference, which involved considerable work for the Director and the Assistant Director. Moreover, due to staff difficulties, the Secretary-General was obliged to have the Director, Mr. Haighton, with him at Lagos as Assistant Secretary-General for several months. Mr. Haighton acted for the Secretary-General during the latter's absence on a number of occasions and represented him on

numerous journeys to countries in the region, visiting no less than thirteen countries within a year. The Secretary-General tenders his grateful thanks to Mr. Haighton and takes this opportunity of publicly stating that, but for his help, the work of the Commission would have been greatly diminished if not paralysed.

As part of the normal work of the Institute, and in addition to the tours undertaken by the Director, the Assistant Director visited ten countries and represented the Commission at various international gatherings. The *Bulletin* now appears quarterly. Recent contributions have included articles by Dr. Biesheuvel, Inter-African Correspondant for Psychometric Tests, and studies of migrant labour. One number was devoted to training problems, others will deal with social security and urban unemployment. The Advisory Committee has decided to continue the publication every two months of Information Sheets on labour matters for non-specialist readers. The Advisory Committee has also recommended the compilation and publication of an inventory of social and labour legislation in respect of Africa. It will be of value for Member Governments to be able to consult the Institute at any time on the legislation adopted in other countries.

Mention should also be made of the vital part played by the Institute in the implementation of CCTA projects on psychometric tests by listing selection methods currently employed. It is responsible, too, for liaison generally with the Federal Government of the Congo, as well as in the sphere of labour (a short-term technical aid mission on vocational selection was arranged by the FAMA Secretariat).

Finally, the close and friendly relations with ILO are the responsibility of the Institute. Since opening its Field Office at Lagos, ILO has been doing important work in Africa; co-operation has therefore assumed a more concrete character than formerly, which is a matter for satisfaction. The Commission was represented by the Director of the Institute at the first African Labour Conference organised by ILO at Lagos in December. Delegates from many of the African States present expressed great pleasure at the success of the conference. Topics discussed included vocational training, freedom of association and collective bargaining. As in previous years, Mr. Haighton represented the Commission at the International Labour Conference sessions in Geneva.

Adaptation to African usage of the standard classification of occupations (CCTA/ILO Joint Project 10)

The central purpose of this project, which originated in a suggestion by the Inter-African Committee on Statistics, was to make available to Member Governments the services of an expert on occupational classification to advise on the elaboration of systems of classification adapted to local conditions but nevertheless complying with the ILO standard system of classification which enjoys worldwide approval.

The project was jointly sponsored by CCTA and ILO, the latter engaging and paying the expert, the former being responsible for the cost of his mission in Africa. On the basis of requests from Member Governments for the expert's services, his mission was calculated to last about nine months, approximately half of the time in the Congo (then under Belgian administration). The mission began in May 1960 and the expert spent some time in Ghana, Nigeria and Northern and Southern Rhodesia. Events in the Congo having made it impossible for that part of the mission to be carried out successfully, it was agreed in September 1960 to terminate the mission prematurely; the expert was recalled to Geneva at the end of that month. There was, however, an understanding between the two organisations that should other countries desire to benefit from the services of an expert in this subject, ILO would detail one of its own officials for the purpose. Two countries indicated that they would welcome such a visit; the expert has already been to Nigeria and will shortly visit the Central African Republic.

Unemployed youth

The condition of unemployed youth is a matter of concern to all African countries. Some of them are thinking of organising, or have already organised, a compulsory civic service; others are planning different steps. Twelve governments having requested CCTA to assemble information on the matter, the Commission adopted the following recommendation (Sixteenth Session, Rec. XXXIX):

“ These problems should be considered within the general framework of measures against unemployment which affects both youths and adults. The main object should be to exchange information on experiments carried out in African countries, and their economic value, as well as on other problems arising in this connection. No endeavour should be made to define a general policy applicable to all African countries, in this respect.”

ILO has been asked to assist. The Inter-African Labour Institute has been careful to keep constantly before the authorities concerned the absolute necessity of adopting only such measures as are entirely compatible with international conventions. It has been agreed that ILO will send a delegate to the proposed seminar and contribute to its preparation. The agenda is at present being worked out for the meeting which is expected to take place towards the middle of 1962. The venue has not yet been fixed.

7. TECHNOLOGY

The Commission's activities in the technological sphere are expanding year by year. This will come as no surprise to the Council which last year

reiterated its conviction of the importance of this field of activity (Rec. LIX). Its views have been fully borne out by the three meetings of specialists, three specialist symposia and four regional meetings in less than two years. Of special note is the West African Public Works Conference which stands out as an instance of the regional development of activities, illustrating how the Commission can be utilised even though the initiative comes, as it is highly desirable that it should, from the specialist departments of a group of countries.

Housing

(a) Inter-African Secretariat and Committee on Housing

Since the Second Inter-African Housing Conference (Nairobi, 1959), there has been great activity on the part of the Inter-African Secretariat under Mr. Richards, to whom the Secretary-General would like to pay tribute. Mr. Richards is proceeding on the lines of the recommendations of the Nairobi Conference. A check-list of roofing materials, based on information supplied by the United Kingdom Correspondent, has been issued, so has a directory of research bodies. A manual is in preparation on methods of diagnosing soil phenomena and related questions. Oil companies and international organisations have had the question of low-cost cookers brought to their notice. Mr. Richards is going into the possibilities of establishing standard formulae for the computation of housing costs, costs of installed services (water, gas and so on) and overheads. Lastly, Mr. Richards is in consultation with the Inter-African Correspondent for Climatology regarding the presentation, for the use of architects and engineers, of the data assembled when compiling the Climatological Atlas.

The Committee was to have met for the fifth time late in 1960. It was felt that it would be better to postpone the meeting until 1961 in order to combine it with the specialist meeting referred to below, and it will now take place on 20 October in Rhodesia. The agenda will deal mainly with the work of the Inter-African Secretariat.

(b) Symposium for representatives of building research organisations

Research is essential if the most advantageous solutions are to be found to housing problems, whether social, economic or technical, especially in connection with large-scale housing projects. Close co-operation between research bodies is therefore desirable, and this is a concern of the Inter-African Secretariat. The Committee considered that a symposium should be held for representatives of research organisations. It will take place from 16 to 19 October, on the occasion of the Specialist Meeting mentioned below and will be for experts and research workers only, to

the exclusion of contractors and departmental heads. The agenda will include :

—Current research projects (on housing design, building costs, soil problems, materials, services).

—Work proposed.

—Co-operation between research bodies and with departments or individuals concerned in applying the results of research.

(c) Meeting of Specialists on the Construction of School Buildings

CSA, which has displayed a sustained interest in technological matters over a number of years, decided that one of its meetings of specialists in 1961 should deal with problems related to the planning of school buildings (Rec. LVIII of the Eleventh Meeting). It endorsed the views of the Inter-African Secretary for Housing that the work at present undertaken in several countries was satisfactory to the extent that it enabled the building of schools well adapted to local conditions, both sociological and economic.

The agenda will cover the following :

—Minimum basic requirements for school buildings as related to educational needs in Africa (classroom dimensions, lighting, ventilation, ancillary space requirements).

—Functional needs and their implication on design.

—Effects on design of local factors such as sun path, site, transport.

—Preliminary studies.

—Economic aspects.

—Building materials and other technical questions.

The Council asked that the accent should not be exclusively on technical problems, since it was anxious to avoid the mistake too often observed in Africa of costly buildings identical in pattern with those erected to suit quite different conditions in other continents.

The meeting will be held in Rhodesia from 11 to 14 October, under the chairmanship of Dr. Stutterheim, Associate Member. Six other specialists have been invited. They are Dr. Calderwood, of the Council for Scientific and Industrial Research, Pretoria ; Mr. Cruz, of Lisbon ; Mr. Forsyth, of Salisbury ; Mr. Fry, architect, of London ; Mr. Halain, a Belgian town-planning expert ; and Mr. Kalt, a French architect. The participation of UNESCO, which has also been invited, is important in so far as it will assist governments in fixing standards for the construction of school buildings in the context of the "special programme of aid to Africa" referred to in Part III, chapter 3 above.

(d) CCTA/WHO Seminar on Hygiene and Sanitation in relation to Housing

The Nairobi Conference noted that poor conditions of domestic sanitation seriously affect the health of urban communities. The problem

is currently aggravated by the rapid rate of urbanisation and the fact that the new town dwellers are not adjusted to urban conditions. In accordance with the conference recommendation, the Commission decided to devote a seminar to the subject. WHO has agreed to be associated with it; a first approach to the matter has already been made by the medical men who attended the WHO Regional Committee in 1959.

Member Governments immediately evinced great interest in the project, eleven of them writing to the Secretariat with messages of support and comments. WHO for its part has approved the Commission's suggestions, the more readily in that a committee of experts is meeting at Geneva in June 1961 and its conclusions could with advantage be considered in the CCTA/WHO Regional Office context.

The agenda will cover the following questions :

- Scope of public health aspects of housing in Africa.
- Technical problems (water, sanitation, housing design, facilities) considered from the sanitary and medical angle.
- Conclusions of the WHO Committee of Experts.
- Future action at inter-African level.

Participants will be medical practitioners and public health officers on the one hand, and on the other town-planning experts and public works engineers, with possibly welfare workers and perhaps economists.

The Secretariat is not unaware of the difficulty of securing balanced representation of the various disciplines or of the fact that, as for many such gatherings, there is a danger of governments giving priority either to the medical aspect or to the technological aspect. The Sixteenth Session noted this danger in its Recommendation XLII. The seminar will take place from 4 to 9 December, probably at Dakar.

Public Works

(a) Symposium on Soil Stabilisation

The CSA Meeting of Road Experts at Lourenço Marques in 1958 recommended that a symposium should be held on soil stabilisation. This is a matter of great importance in Africa, where the development of the road system is a vital part of general advancement. With proper methods, soil stabilisation can be employed to reduce costs by using low-grade local materials instead of hauling special materials over long distances at great expense. The methods must, however, be dependable; otherwise they may give disappointing results, involving prohibitive maintenance charges.

The volume of documentation circulated before the Symposium (44 papers), the number (60) and standing of those attending (they included observers from the European Economic Community and two non-governmental specialised agencies) showed that the Commission was tackling a subject of direct interest to African countries.

The agenda was in four parts :

- Role of soil stabilisation ; economic and technical considerations.
- Cement and lime stabilisation.
- Mechanical stabilisation—bituminous and other.
- Research and future development.

Some of the debates were extremely technical. A general introduction, however, brought out the point that economic considerations are the determining factors. Great stress was laid on the need for field trials of different methods of stabilisation—mechanical, chemical and physico-chemical. There was an excursion affording opportunities for interesting on-site discussions.

Recommendations were adopted on the exchange of information on the use of stabilising agents. The Panel of Correspondents was asked to circulate such information, indicating exactly the conditions and soil type used and the results of road experiments.

The symposium also suggested the appointment of a small committee from among members of the panel to make recommendations regarding uniform test procedures for various stabilisation methods. This working party was set up immediately after the symposium ; its four members are Dr. Rigden, the Co-ordinator of the panel, as chairman ; Mr. Martins, Mozambique, Correspondent on soil stabilisation ; Mr. Mitchell, Southern Rhodesia, Correspondent for bituminous surfacings ; and Mr. Remillon, France. The working party met at Pretoria and drew up a questionnaire for despatch to all countries by Dr. Rigden.

The Symposium considered proposing that CCTA should establish or subsidise the establishment of a test laboratory. This suggestion was dropped in favour of the recommendation referred to above, which is more in line with the normal activities of the Commission.

The symposium was in favour of a third meeting on roads ; this will be held at Abidjan in 1963. Its topic will be African road design, covering different types of road with special emphasis on gravel roads. Preparations for this new symposium have already begun.

(b) Panel of Correspondents for Roads

The Panel of Correspondents met for the first time at Nairobi with the Co-ordinator as chairman. The specialist correspondents reported on their work on behalf of the panel. Dr. Millard, Correspondent on Pavement Design, will shortly circulate a memorandum on full-scale experiments on black pavements.

(c) West African meetings on public works

Directors of Public Works in English-speaking countries of West Africa have established the habit of meeting for talks on technical points and have lately begun inviting their opposite numbers from other West

African countries. At their 1959 (fourteenth) conference in Accra, they adopted the CCTA proposal and entrusted the Commission with the arrangements for the fifteenth conference. The latter was therefore organised by the Commission, while retaining its specific character.

The conference met at Ibadan from 28 November to 2 December 1960. Delegates attended from eleven countries in the region. A wide agenda covered problems of training, civil engineering, road construction and housing, as well as administrative and juridical questions connected with contract policy. Two recommendations call for special notice. One on the training of engineers and sub-professional cadres calls for practical training carried out in Africa whenever possible; in this connection the Secretariat scheme for on-site training of engineers was welcomed and endorsed by the conference. The meeting also stressed the urgency of developing international road facilities in West Africa, indicated the link roads which might form a first transport network for the region, and noted the possibility of establishing a permanent regional body. The Secretariat advised ECA of these points, which all come within the purview of the United Nations Regional Commission in accordance with the programme laid down at Tangier in February 1960.

The Sixteenth West African Public Works Conference will be held at Monrovia in January 1962. The agenda is under study. The Sixteenth Session approved the arrangements made by the Secretariat to contribute to the preparation of this conference as to the preceding one (Rec. XLIII).

Two West African symposia are also to take place in the near future with help from the Secretariat, one on water supplies to coincide with the Sixteenth Public Works Conference (Monrovia, January 1962), and another on roads and aerodromes to be held in Northern Nigeria, probably starting on 13 November 1961.

(d) East African public works conference

The Directors of Public Works in East Africa were interested to learn that the Commission could assist in organising their meetings while leaving technical responsibility to them. The Secretariat received a request for similar assistance to be offered to East Africa as to West Africa. This would, in particular, make it possible to invite Directors of Public Works from nearby countries to meetings hitherto confined to the three countries of British East Africa and the Federation of Rhodesia and Nyasaland. The Secretariat has acceded to this request and a first regional public works meeting for East Africa will probably be arranged in the near future.

Other technological meetings

(a) Specialist Meeting on Water Treatment

The purification of brackish water and the treatment of polluted water are of immense importance to whole regions of Africa, either because they

are semi-arid and lack water, or because industrial expansion involves special problems. CSA accordingly decided to devote one of its specialist meetings in 1960 to water treatment.

The meeting took place at the CSIR headquarters in Pretoria from 12 to 17 September. Dr. Naudé and Dr. Verdier will be able to report to the Council. The forty participants included an observer from WHO and another from Israel, the nucleus of specialists having been invited by CSA. Twenty-four extremely technical papers were circulated beforehand and will be issued as a printed publication. The four-part agenda covered :

- Demineralisation of water by distillation and by electro dialysis.
- Surface water supplies, pollution, chemical conditions, biological aspects.
- Legislation to safeguard surface water.
- Treatment and disposal of sewage and industrial effluents.

In addition to the discussions, visits were arranged to Welkom in the Orange Free State, where participants were able to inspect one of the biggest plants in the world for the treatment of brackish water.

The discussions were highly technical. As regards demineralisation, a number of interesting observations pointed to the fact that work done in arid regions north and south of the Equator respectively was largely complementary. To the north, the main objective had been technological improvement and marketing, while in the south there had been work on the development of new types of plant and interesting results in the manufacture of membranes. This adds particular value to the exchange of information on matters connected with electro dialysis. As to distillation, it was recognised that this was now a well established process.

The utilisation of surface waters was the subject of lengthy debate, with reference to the various impurities encountered, whether natural or arising from the presence of detergents, synthetic fertilisers or other chemical substances. There were comments on the relationship between biological data and pollution, permitting of rapid evaluation of the nature and degree of the latter.

The exchanges were less fruitful on the juridical aspects of the problem, which are closely bound up with local circumstances. Finally, a wide range of information was given on the treatment and disposal of sewage and industrial effluents, with special emphasis on the use of oxidation ponds.

Two recommendations call for mention. One underlines the need for more extensive research on the physiological effects on men, animals and plants, of waters containing mineral salts. The Sixteenth Session endorsed the other recommendation of the Specialist Meeting and appointed Dr. G. J. Stander, Director of the CSIR National Institute for Water Research, to be Inter-African Correspondent on Water Treatment. The new Correspondent has contacted experts and organisations working in this

field with a view to promoting the exchange of information. He has plans for courses for technicians on sewage disposal and for compiling a list of consultants to which the Commission or any of its Member Governments could refer.

(b) Specialist Meeting on electric power transmission

The Scientific Council having decided to organise a specialist meeting in 1962 for engineers concerned with the problems of long-distance power transmission, the Commission recorded its approval in Recommendation XLIV b) of the Sixteenth Session and the Secretariat has consulted a number of experts in Africa. There appears to be agreement that the agenda should include the following points :

- Comparison of present standard practices ; establishment of new standards better suited to African conditions.
- Determination of isokeraunic level according to scientific criteria.
- Protection of overhead lines against lightning.
- Protection of overhead lines against atmospheric and microbiological agents, parasites, birds, etc.
- Rationalisation of types of pylon—metal, wooden, concrete, etc.
- Cost of power transmission and of distribution of current.
- Standardisation of tensions, prospects of linked systems.

Mgr. Gillon, Associate Member, will be able, if he is at Pointe-Noire, to advise on this meeting, at which he might also preside. He will submit the names of a few specialists and the Secretariat will pass on the suggestions it receives. In fixing a date for the meeting, the Council will wish to bear in mind the international conference on grid systems to be held in Paris in 1962 which will obviously be of interest to the experts invited by CSA to its own meeting.

8. CARTOGRAPHY

There is no special meeting on cartography to report during the past year. Foremost in the permanent activities of the Commission has been the issue, through the University of the Witwatersrand and under the supervision of the Inter-African Correspondent for Cartography, Dr. Jackson, of base maps on the scales of 1/5,000,000, 1/10,000,000, 1/15,000,000 and 1/30,000,000. These base maps are being used by the Commission's Bureaux, by experts engaged on inter-African projects and by national undertakings, for entering technical or scientific data which it is desired to present in cartographic form.

The Inter-African Correspondent for Cartography continues to advise on, and frequently to direct, a series of projects involving other disciplines but culminating in each case in the publication of a map. Examples are the Climatological Atlas (Joint Project 1, see Part II, chapter 2), Atlas of

Vectors of Diseases (Joint Project 8, see Part III, chapter 1), Pedological Map of Africa (Joint Project 11, see Part II, chapter 4), and now the Soil Erosion Map (Joint Project 20, see Part II, chapter 4).

* * *

As regards the Trigonometric Survey Department or other departments responsible for maps and surveys, inter-African co-operation is the function of the Inter-African Committee on Surveys and Maps. Thanks to its chairman, Brigadier Collins, undoubtedly one of the leading authorities in Africa, there have been valuable exchanges of information between members of the committee. It is interesting to note that practically all Member Governments have appointed their correspondents, thus indicating the importance they attach to this form of co-operation. In addition, contact is being progressively established between Brigadier Collins and the specialist bodies like IUGG, which has intimated its desire for permanent liaison with the Inter-African Committee.

When it met for the third time, in Lisbon in April 1960, the Inter-African Committee on Surveys and Maps decided that a symposium on a technical subject should follow each of its subsequent meetings. The Committee chairman has proposed that the symposium to follow its fourth meeting should deal with economic methods of producing large-scale maps of 1/50,000 upwards.

In principle, the Fourth Meeting is due to take place in 1962 and the Federation of Rhodesia and Nyasaland has announced its readiness to act as host. However, the plan is certain to be modified, because the U.N. Economic and Social Council has decided to ask the Economic Commission for Africa to convene a regional conference on cartography, similar to those held in other continents. ECA is to consult the competent technical bodies, and the Secretary-General has written to the Executive Secretary at Addis Ababa to put him in touch with Brigadier Collins. At the Sixteenth Session, CCTA expressed its wish to be associated with the ECA conference and the subject is under consideration. This being so, Brigadier Collins has underlined the desirability of convening the Fourth Meeting of the Committee, as also the technical symposium should this be decided on, at around the same time and in the same country as the United Nations conference on cartography. The Secretary-General will report latest developments to the Council.

APPENDIX I

**MEETINGS HELD UNDER CCTA/CSA/FAMA AUSPICES FROM
JUNE 1960 TO JUNE 1961**

	<i>Place</i>	<i>Date</i>
Meetings of the Commission, the Scientific Council and the Foundation for Mutual Assistance		
19th Meeting of the Executive Committee of CSA.	Johannesburg	30 Aug.
11th Meeting of CSA.	Cape Town	1-10 Sept.
20th Meeting of the Executive Committee of CSA.	Lagos	29, 31 Jan., 6 Feb.
2nd Meeting of the Administrative Committee.	Lagos	30 Jan.-1 Feb.
3rd Meeting of FAMA.	Lagos	2, 4, 6 Feb.
16th Session of CCTA.	Lagos	3, 6-11 Feb.
Inter-African Conferences		
1st Conference on Hydrology.	Nairobi	16-26 Jan.
6th Labour Conference.	Abidjan	17-25 Apr.
Symposia		
Third Symposium on Hydrobiology and Freshwater Fisheries: Major Lakes.	Lusaka	18-24 Aug.
Symposium on Marine Biology and Sea Fisheries off the East Coast of Africa.	Cape Town	12-17 Sept.
Symposium on Soil Stabilisation.	Nairobi	3-8 Oct.
Symposium on Bananas (CCTA/FAO).	Abidjan	12-19 Oct.
World Coffee Meeting (FAO in association with CCTA).	Abidjan	21-29 Oct.
Meeting on the campaign against the Tsetse Fly in South-East Africa (Joint Project 17).	Lourenço Marques	7-8 Nov.
Seminar on Tuberculosis (WHO/CCTA).	Nairobi	15-22 Nov.
15th West African Public Works Conference.	Ibadan	28 Nov.-2 Dec.
Symposium on Thunnidae.	Dakar	12-17 Dec.
Symposium on Migrations in West Africa (Joint Project 3).	Niamey	13-25 Feb., 27 Feb.-3 Mar.
Meeting on the Eradication of Rinderpest in the Niger-Chad Area (Joint Project 15).	Kano	2-6 May
4th Symposium on Hydrobiology and Inland Fisheries: River Basins subject to Heavy Seasonal Flooding.	Fort-Lamy	4-10 May
Preparatory Meeting		
For the 4th Inter-African Conference on Food and Nutrition (CCTA/FAO/WHO).	Brazzaville	25 July
CSA Specialist Meetings		
Water Treatment.	Pretoria	12-17 Sept.
Co-ordination of Fisheries Research off the West Coast of Africa.	Monrovia	5-10 Dec.
Training Centres, Seminars		
Training Course on Medical Uses of Radio-isotopes (Commission des Sciences nucléaires du Congo/FAMA).	Leopoldville	16 May-19 June 1960
Training Course on Rapid Diagnosis of Rinderpest.	Muguga	14-18 Nov.
Seminar on Veterinary Public Health (WHO/CCTA/FAO).	Nairobi	24 Nov.-3 Dec.
West African Course on Poultry Production (in English).	Kaduna/ Fashola	5-27 Jan.
Regional Seminar on Agricultural Extension (southern Africa).	Pretoria	1-6 May

	<i>Place</i>	<i>Date</i>
Meetings of Committees, Bureaux, Councils of Management, Panels of Correspondents, etc.		
BIS Council of Management, 12th Meeting.	Paris	1-3 June 1960
IBAH Council of Management, 9th Meeting.	Vom	20 July
ISCTR, 8th Meeting.	Jos	19-23 July
Nutrition—Panel of Correspondents, 8th Meeting.	Washington	6-7 Sept.
Roads—Panel of Correspondents, 1st Meeting.	Nairobi	8 Oct.
Phytopanitary Commission, 5th Session.	London	10-13 Oct.
Budgetary Committee, 11th Meeting.	London	22-25 Nov.
Hydrology—Panel of Correspondents, 1st Meeting.	Nairobi	25 Jan.
Roads—Panel of Correspondents, Subcommittee for Soil Stabilisation.	Pretoria	Feb.
Mechanisation of Agriculture Committee, 2nd Meeting.	Ségou	10-15 Apr.
ILI Advisory Committee, 11th Meeting.	Abidjan	21-25 Apr.
Niger Advisory Committee, 1st Meeting.	Ségou	18-21 May
BIS Executive Committee.	Paris	6 June 1961
ILI Advisory Committee, 12th Meeting.	Geneva	5-6 June 1961
Working Parties		
CCTA/FAMA Action in the Congo (1).	Lagos	20 Sept.
CCTA/FAMA Action in the Congo (2).	Lagos	6 Oct.
Working Methods of the Commission.	London	21 Nov.
Liaison Officers.	Lagos	7 June 1961

APPENDIX II

MEETINGS TO BE HELD UNDER CCTA/CSA/FAMA AUSPICES
IN 1961, 1962 AND 1963

	Place	Date	Year		
			1961	1962	1963
Meetings of the Commission, the Scientific Council and the Foundation for Mutual Assistance					
21st Meeting of the Executive Committee of CSA.	Pointe-Noire	7 Aug.	x		
12th Meeting of CSA.	Pointe-Noire	8-18 Aug.	x		
22nd Meeting of the Executive Committee of CSA.	Abidjan	Feb.		x	
3rd Meeting of the Administrative Committee.	Abidjan	Feb.		x	
4th Meeting of FAMA.	Abidjan	Feb.		x	
17th Session of CCTA.	Abidjan	Feb.		x	
Inter-African Conferences					
4th Conference on Food and Nutrition (CCTA/FAO/WHO).	Douala	4-13 Sept.	x		
Conference on Malariaology (WHO/CCTA).	Yaoundé	July		x	
3rd Conference on Education (Education of Women).	Liberia			x	
3rd Conference on Medical Co-operation.	Luanda			x ?	
Symposia					
Symposium on Poultry Diseases.	Livingstone	17-19 July	x		
CCTA/FAO Symposium on Soils Classification.		end July	x		
Meeting on the Gulf of Guinea Exploration Campaign (Joint Project 19).	Lagos	1-4 Aug.	x		
Meeting of Principals of Higher Educational Establishments in Africa.	Europe	summer	x		
Symposium on the Conservation of Nature and Natural Resources (CCTA/IUCN in association with FAO and UNESCO).	Arusha	5-12 Sept.	x		
Symposium for representatives of Building Research Organisations.	Rhodesia	16-19 Oct.	x		
Symposium on Weed Control (CCTA/FAO).	Ibadan	23-27 Oct.	x		
West-African Symposium on Roads and Airports.	Northern Nigeria	13-17 Nov.	x		
Symposium on Community Development in East and Central Africa.	Kampala	20-30 Nov.	x		
Symposium on Agricultural Research.	Muguga	4-9 Dec.	x		
Symposium on Hygiene and Sanitation in Relation to Housing (CCTA/WHO).	Dakar	4-9 Dec.	x		
Symposium on Rural Trades.	Eastern Nigeria	13-19 Dec.	x		
16th West African Public Works Conference.	Monrovia	Jan.		x	
West African Symposium on Water Supplies.	Monrovia	Jan.		x	
Symposium on Stored Food Products (CCTA/FAO).	Dahomey	beginning		x	

	Place	Date	Year		
			1961	1962	1963
Symposium on Infertility Diseases of Domestic Animals.	Kabete	Apr.	x		
Symposium on Multilingualism.	Brazzaville	July		x	
Symposium on Savannah Zone Cereals (CCTA/FAO).	Bambey or Samaru			x	
Meeting on Tsetse Control in the Caprivi Strip.	Livingstone			x	
2nd Meeting of Experts on Joint Action in the Fouta Djallon.	Fouta Djallon			x	
Symposium on Unemployed Youth.				x	
5th Symposium on Freshwater Fisheries and Hydrobiology: Pisciculture.	Central Africa			x	
East African Public Works Conference.				x	
Specialist Symposium on Large-scale Maps.	Salisbury			x	
3rd Symposium on Quelea Control.	East Africa			x ?	x ?
2nd Road Symposium	Abidjan				x
6th Symposium on Freshwater Fisheries and Hydrobiology: River Basins subject to Heavy Seasonal Flooding.					x
Symposium on Wet Rice Cultivation.	Sierra Leone				x
CSA Specialist Meetings					
Urbanisation and Urban Development.	Abidjan	23-31 Aug.	x		
Ankylostomiasis (CCTA/WHO)	Brazzaville	22-29 Aug.	x		
Construction of School Buildings.	Rhodesia	11-14 Oct.	x		
Teaching of a Second European Language.	Yaoundé	21-25 Nov.	x		
Psychiatry.	Abeokuta	beginning		x	
Libraries and Documentation.				x	
An Animal Disease.				x	
Transmission of Electric Power.				x	
Marine Invertebrates.				x	
Research on the Epidemiology of Plague (CSA/WHO).	Bunia ?	beginning			x
Phytogeography.					x
Training Centres, Seminars, Study Tours					
West-African Training Course on Poultry Production (in French).	Bingerville	3-22 July	x		
Training Course on Nutrition (FAO/WHO/FAMA).	Dakar	Nov.-Dec.	x		
2nd Training Course on Nutrition (FAO/WHO/FAMA).	Dakar	Jan.-Feb.		x	
Agricultural Extension Development Centre, East and Central Africa (FAO/FAMA).	Tanganyika	Feb.		x	
Study Tour on Community Development, for East and Central African Countries (FAMA/FAO).	Uganda/ Rhodesia/ Cameroun/ Ivory Coast/ Nigeria	March		x	
Training Course on Artificial Insemination.	Kabete	Apr.		x	
Seminar on Health and Nutrition Education (CCTA/CIE/FAO/WHO).	Cameroun	May		x	
Regional Training Centres on Soil Conservation.	Ivory Coast, Nigeria			x	

	Place	Date	Year		
			1961	1962	1963
Training Centre for Instructors in Agricultural Mechanisation.				x	
2nd Training Course in Rapid Diagnosis of Rinderpest.				x?	
Training Course on Virus Diagnosis.				x?	
Meetings of Committees, Councils of Management, Panels of Correspondents, etc.					
ILI Advisory Committee, 12th Meeting.	Geneva	5-6 June		x	
Statistics Committee, 6th Meeting.	Lisbon	10-13 July		x	
Inter-African Committee for Animal Health, 7th Meeting.	Livingstone	20-24 July		x	
Inter-African Bureau for Animal Health, Council of Management, 10th Meeting.	Livingstone	25-26 July		x	
SPI Council of Management, 5th Meeting.		Aug.		x	
Geology—Southern Regional Committee.	Pretoria	Sept.		x	
Nutrition—Panel of Correspondents, 9th Meeting.	Douala	Sept.		x	
Housing Committee, 5th Meeting.	Rhodesia	20 Oct.		x	
Phytosanitary Commission, 6th Meeting.	Ibadan	16-20 Oct.		x	
Budgetary Committee, 12th Meeting.	Lagos	30 Oct.—2 Nov.		x	
Soils—CROACUS Subcommittee of Pedologists.	Samaru	3-4 Nov.		x	
Soils—CROACUS, 4th Meeting.	Samaru/ Mokwa	6-11 Nov.		x	
Community Development—Panel of Correspondents, 1st Meeting.	Kampala	Nov.		x	
Ethnology—Panel of Correspondents, 1st Meeting.	Senegal ?	6-8 Dec.		x ?	
Geology—West Central Committee, 3rd Meeting.	Uganda	beginning			x
Chad—Committee on Fisheries Co-ordination, 1st Meeting.		spring			x
Chad Advisory Committee.					x
BIS Council of Management.	Paris				x
Linguistics Committee, 2nd Meeting.	Brazzaville	July			x
Soils—EARCCUS, 4th Meeting.					x
Senegal Advisory Committee, 1st Meeting.					x ?
Committee on Surveys and Maps, 4th Meeting.	Salisbury ?				x
Tanganyika—Committee on Fisheries, Co-ordination, 1st Meeting.					x ?
Niger Advisory Committee, 2nd Meeting.	Niamey ?				x
Agricultural Mechanisation.					x
History and Archives—Panel of Correspondents, 1st Meeting.					x ? x ?
Working parties					
Campaign against Bovine Pleuropneumonia (Joint Project 16).	Salisbury	July		x	
Establishment of a Training Centre for Laboratory Technicians.	Arusha	Sept.		x	
FAMA Committee, 8th Meeting.	Lagos			x	

**CCTA/CSA WAS REPRESENTED AT THE FOLLOWING MEETINGS
HELD BY OTHER ORGANISATIONS JUNE 1960 TO JUNE 1961**

	<i>Place</i>	<i>Month</i>	<i>By</i>
44th Session of the International Labour Office (ILO).	Geneva	June	Mr. HAIGHTON
7th Session of the General Assembly of IUCN.	Warsaw/Cracow	June	Dr. MONOD Dr. FOURNIER
Conference on Oceanographic Research (UNESCO).	Copenhagen	July	Dr. POSTEL
7th International Congress of Soil Science.	Madison	Aug.	Dr. FOURNIER Dr. d'HOORE
World Session of World Conference of Teaching Professions (WCOTP).	Amsterdam	Aug.	Mr. HAWKINS
21st International Geological Congress.	Copenhagen	Aug.	Dr. HAUGHTON
Meeting of the International Geographical Union.	Stockholm	Aug.	Mr. WIGGINS
African Geological Surveys' Association.	Copenhagen	Aug.	Dr. HAUGHTON
Meeting of Principals of English-speaking Universities (Inter-University Council).	Windsor	Aug.	Mr. HAWKINS
Conference on History (Leverhulme).	Salisbury	Sept.	Mr. VANSINA
International Union of Geodetics and Geophysics.	Helsinki	Sept.	Mr. BRAZIER
9th International Congress on Photogrammetry.	London	Sept.	Mr. REITZ
Technical Meeting on Soil Conservation (EEC).	Brussels	Oct.	Dr. FOURNIER Dr. d'HOORE
Development Centre on Agrarian Policy in East and Central Africa (FAO/ECA).	Nairobi/Kampala	Oct.	Mr. WHYTE
34th Session of the FAO Council.	Rome	Oct.	Dr. d'HOORE
Development Assistance Group (OEEC).	Washington	Oct.	Mr. CHEYSSON
26th Session of the WHO Executive Board.	Geneva	Oct.-Nov.	Dr. COURTOIS
1st Meeting of the African Forestry Commission (FAO).	Ibadan	Nov.	Dr. FOURNIER
Meeting on Cattle Marketing.	Fort-Lamy	Nov.	Dr. VANDEMAELE
1st FAO African Conference.	Lagos	Nov.	Dr. FOURNIER
3rd African Meeting of ICFTU.	Tunis	Nov.	Mr. DE LUSIGNAN
4th Congress of PIOSA.	Karachi	Nov.	Prof. MILLOT
Seminar on Community Water Supplies (WHO)	Addis Ababa	Nov.	Mr. ROBERTS
Regional Workshop on Family and Child Welfare in Community Development Programmes (ECA/UN).	Accra	Nov.-Dec.	Mr. CLUNIES-ROSS
1st African Labour Conference (ILO).	Lagos	Dec.	Mr. HAIGHTON
Meeting of Experts on the Teaching of Science (UNESCO).	Abidjan	Dec.	Mr. KNOTTENBELT
3rd Seminar on African Systems of Thought, Religious Belief and Ritual.	Salisbury	Dec.	Dr. MITCHELL
Meeting on Swine Fever and African Horse Disease (FAO/OIE).	Paris	Jan.	Dr. MARSHALL

	<i>Place</i>	<i>Month</i>	<i>By</i>
Working Party on National Accounting Systems (ECA).	Addis Ababa	Jan.	Prof. LEDUC
Conference of the International Association for Research on Income and Wealth.	Addis Ababa	Jan.	Miss ADY Prof. LEDUC Miss ADY
14th World Health Assembly (WHO)	New Delhi	Feb.	Dr. MERLE
3rd Session of the Economic Commission for Africa (ECA).	Addis Ababa	Feb.	Mr. HAIGHTON
1st Session of the Commission for Hydrological Meteorology (WMO).	Washington	Apr.	Dr. RODIER
Museum Association of Middle Africa.	Livingstone	Apr.	Dr. CLARKE
Meeting on the Special African Project (IUCN).	Morges	Apr.	Dr. FOURNIER
Seminar on Industrial Development Practice (OEEC).	Madrid	Apr.	Mr. MORRIS
General Conference on Education (UNESCO).	Addis Ababa	May	Dr. HANN
Constituent Meeting of the African Fisheries Commission (FAO).	Dakar	May	Dr. POSTEL
28th Session of the WHO Executive Board.	Geneva	May	Mr. HAWKINS
19th Session of OIE.	Paris	May	Mr. W. G. BEATON
1st Meeting of the World Soils Map Advisory Committee (FAO).	Rome	June	Dr. D'HOORE
35th Session of the FAO Council.	Rome	June	Mr. HAWKINS Dr. D'HOORE
2nd Conference of African Statisticians (ECA).	Tunis	June	Mr. MARTIN
2nd African Conference on Onchocercosis.	Brazzaville	June	Dr. DEMARCHI
45th Session of the International Labour Conference (ILO).	Geneva	June	Mr. HAIGHTON

LIST OF PUBLICATIONS ISSUED OR TO BE ISSUED SHORTLY

June 1960–June 1961

Technical and Scientific Publications

- 38.—Descriptive Study of National Accounting Systems (Joint Project 6).
 39.—Science in the Development of Africa (Joint Project 2). (Second edition in French).
 40.—Climatological Atlas (Joint Project 1).
 43.—Second Inter-African Forestry Conference (Pointe-Noire, 1958).^{*} 2 vols.
 45.—Symposium on Animal Trypanosomiasis (Luanda, 1958). (Second edition).
 47.—Second Inter-African Conference on Housing and Urbanisation (Nairobi, 1959). (Second edition).
 49.—Symposium on Helminthiasis in Domestic Animals, excluding Poultry (Muguga, 1959).
 50.—Third Inter-African Soils Conference (Dalaba, 1959). 2 vols.
 51.—Specialist Meeting on the Psychology of the African and Madagascan Peoples (Tananarive, 1959). (Multigraphed). Synthesis Report (Printed).^{*}
 52.—Specialist Meeting on Open Forests in Tropical Africa (Ndola, 1959).
 53.—Specialist Meeting on Phytogeography (Yangambi, 1956). (Reprint of Publication No. 22).
 54.—List of Maps of Africa South of the Sahara (Publications Nos. 15 and 17 revised and brought up to date).^{*}
 55.—Third Meeting of the West Central Regional Committee for Geology (Kaduna, 1960).
 57.—Eleventh Meeting of the Scientific Council (Cape Town, 1960).
 58.—CCTA/FAO Symposium on Quelea (Bamako, 1960). (Multigraphed).^{*}
 59.—Specialist Meeting on the Adaptation of Education to African Conditions (Lagos, 1960). (Multigraphed).^{*}
 60.—Booklet on CCTA/CSA/FAMA.
 61.—Text of the International Agreement establishing CCTA and the Constitutions of CSA and FAMA.
 62.—Eighth Meeting of ISCTR (Jos, 1960).
 63.—Third Symposium on Hydrobiology and Inland Fisheries: Major Lakes (Lusaka, 1960).^{*}
 64.—Specialist Meeting on Water Treatment (Pretoria, 1960).
 65.—Symposium on Soil Stabilisation (Nairobi, 1960).
 66.—First Inter-African Conference on Hydrology (Nairobi, 1961).^{*}
 67.—Twelfth Meeting of the Scientific Council (Pointe-Noire, 1961).^{*}
 68.—Sixth Inter-African Labour Conference (Abidjan, 1961).^{*}
 69.—Absenteeism and Labour Turnover (Joint Project 5).^{*}
 70.—Migrations in West Africa (Joint Project 3).^{*}
 71.—Map on the Dangers of Soil Erosion (Joint Project 20—CCTA/EEC).^{*}
 72.—Directory of Research and other Organisations providing Information on Housing in Africa South of the Sahara (Multigraphed). (English only).

Publications in Portuguese

- Second Inter-African Conference on the Treatment of Offenders (Kampala, 1956).
 Fifth Inter-African Labour Conference (Lusaka, 1957).
 Second Inter-African Conference on Industrial, Commercial and Agricultural Education (Luanda, 1957).
 Second Inter-African Forestry Conference (Pointe-Noire, 1958).
 Third Inter-African Soils Conference (Dalaba, 1959).
 First Inter-African Conference on Hydrology (Nairobi, 1961).^{*}
 Sixth Inter-African Labour Conference (Abidjan, 1961).^{*}

Periodicals

CCTA/CSA Secretariat

- Science-Afrique*. Nos. 21, 22, 23 and 24.^{*}
 Folder—CCTA/CSA/FAMA.
 Third Annual Report of FAMA.

Inter-African Bureau for Soils (BIS)

African Soils. Vol. V, Nos. 1, 2 and 3.

Monthly Analytic Bulletin (multigraphed).

Tsetse Fly and Trypanosomiasis Permanent Inter-African Bureau (BPITT)

Bibliographical Trypanosomiasis Bulletin (multigraphed). (Suspended).

Bulletin of Endemic Diseases in Africa (multigraphed). (Suspended).

Inter-African Bureau for Animal Health (IBAH)

Bulletin of Epizootic Diseases of Africa. Vol. VIII, Nos. 2, 3, 4. Vol. IX, No. 1.

Information sheets (multigraphed).

Ninth Annual Report of IBAH.*

Inter-African Labour Institute (ILI)

Bulletin. Vol. VII, Nos. 3, 4, 5, 6. Vol. VIII, Nos. 1 and 2.

Information sheets (multigraphed).

Inter-African Committee on Statistics (CIE)

Bulletin. Vol. VI, No. 1.

Inter-African Community Development Clearing House

Bulletin. Vol. I, Nos. 1, 2 and 3.

Inter-African Committee on Agricultural Mechanisation

Agricultural Mechanisation Bulletin. Vol. I, Nos. 1 and 2.*

Inter-African Scientific Correspondent for Geology

Summaries XXXIII-XXXVIII (multigraphed).

* To be issued shortly.

JOINT PROJECTS

- 1.—Climatological Atlas ² (see Part II-2).
- 2.—Science in the Development of Africa (Dr. Worthington).
- 3.—Study of Migrations in West Africa ² (see Part III-2).
- 4.—Inventory of Economic Studies. Periodical supplements ² (see Part III-5).
- 5.—Research on Absenteeism and Labour Turnover ² (see Part III-6).
- 6.—Systems of National Accounts in Africa (see Part III-5).
- 7.—Base Maps ¹ (see Part III-8).
- 8.—Mapping of Vectors of Diseases ² (see Part III-1).
- 9.—Methodology of Family Budget Surveys ² (see Part III-5).
- 10.—(CCTA/ILO) Occupational Classification in Africa South of the Sahara (see Part III-6).
- 11.—Pedological Map of Africa ² (see Part II-4).
- 12.—Case Studies of Economic Development ² (see Part III-5).
- 13.—Analyses of the Salinity of Sea Water ¹ (see Part II-8).
- 14.—Handbook of Harmful Aquatic Plants ² (see Part II-6).
- 15.—Rinderpest Campaign in the Niger-Chad area ² (see Part II-9).
- 16.—Bovine Pleuropneumonia Vaccine Research ² (see Part II-9).
- 17.—Tsetse Campaign in South-East Africa ² (see Part II-9).
- 18.—Psychometric Tests for Use at the Conclusion of Primary Education ² (see Part III-3).
- 19.—Gulf of Guinea Campaign ² (see Part II-8).
- 20.—Map of the Dangers of Erosion in Africa ² (see Part II-4).

¹ Permanent projects.

² Projects in hand.

³ Projects under study.

TWELFTH MEETING OF THE SCIENTIFIC COUNCIL
 POINTE-NOIRE, 7-18 AUGUST 1961

INDEX

	PAGE
LIST OF PARTICIPANTS	131
RECOMMENDATIONS	
PART ONE.—GENERAL QUESTIONS	
I. Vote of thanks	133
II. Future of CSA	133
III. Regional joint action programmes	134
IV. Regional training centres	135
V. Third-country training programmes	135
VI. Courses for experts unfamiliar with African conditions	136
VII. Recruiting of experts for tropical countries	136
VIII. Co-operation with countries and organisations outside Africa	137
IX. Elections	137
X. Dr. van den Berghe	138
XI. Continuity of action of the Council	138
XII. Meetings of specialists	139
XIII. Administrative arrangements for complex technical assistance activities	139
XIV. Organisation of training courses	140
XV. CCTA/CSA London office	140
XVI. Director of ILI	140
XVII. Publications	140
XVIII. Report to the Twelfth Meeting	141
PART TWO.—NATURAL RESOURCES	
XIX. Nature conservation	141
XX. Conference on hydrology	141
XXI. Co-operation between riparian states	142
XXII. West African training centre for assistant hydrologists	142
XXIII. Assistance in sinking shallow wells	142
XXIV. Pedological map of Africa	143
XXV. Soil erosion map (Joint Project 20)	143
XXVI. Phytogeography	144
XXVII. Symposium on savannah zone cereals	144
XXVIII. Symposia on other crops	144
XXIX. Beekeeping in Africa	145
XXX. Phytosanitary protection	145
XXXI. Hydrobiology	145
XXXII. Oceanography and sea fisheries	146
XXXIII. Thunnidae fisheries in the African Atlantic	146
XXXIV. Guinean year	147
XXXV. Specialisation of veterinarians and zootechnicians in the tropical field	147
XXXVI. Campaign against rinderpest in the Chad/Niger area	148
XXXVII. Vaccine against bovine pleuropneumonia	148

	PAGE
PART THREE.—SOCIAL, ECONOMIC AND TECHNICAL	
XXXVIII. BPITT	149
XXXIX. Control measures against trypanosomiasis and its vectors	151
XL. Training courses in the medical field	152
XLI. Specialisation of doctors on tropical problems	153
XLII. Training of laboratory assistants	153
XLIII. Cartography of vectors of diseases	154
XLIV. Specialist meeting on acculturation	154
XLV. Migrations	154
XLVI. Libraries and documentation	155
XLVII. Radio-carbon dating centre	155
XLVIII. CCTA/CSA activities in the field of education	156
XLIX. Third Inter-African conference on education	156
L. Teaching of a second European language	157
LI. Psychometric tests	157
LII. Statistics	158
LIII. Studies on the methodology of family budget surveys	158
LIV. Case studies of economic development	158
LV. Productivity	160
LVI. The impact of major industrial schemes in the development of young countries	161
LVII. Occupational safety, health and hygiene	162
LVIII. Long-distance transmission of electricity	162
LIX. Meetings devoted to technology	163
LX. Comparative study of hydroelectric development projects	163
LXI. West African atlas	164
LXII. Thirteenth Meeting of the Council	164
ANNEX I	165
ANNEX II	166
ALPHABETICAL LIST OF RECOMMENDATIONS	167

LIST OF PARTICIPANTS

CHAIRMAN

- Professor J. MILLOT . . . Directeur, Musée de l'Homme, Palais de Chaillot, Paris 16^e.

VICE-CHAIRMAN

- Dr. S. M. NAUDÉ . . . President of the Council for Scientific and Industrial Research, P.O. Box 395, Pretoria, South Africa.

MEMBERS

- Professor G. AUBERT . . . Directeur de Recherches de Pédologie, Institut de Recherches Tropicales, 80 route d'Aulnay, Bondy (Seine), France.
- Dr. G. R. BATES . . . Chief Botanist and Plant Pathologist, Federal Ministry of Agriculture, Salisbury, Southern Rhodesia.
- Dr. P. J. DU TOIT . . . Council for Scientific and Industrial Research, P.O. Box 395, Pretoria, South Africa.
- Professor J. FRAGA DE AZEVEDO . . . Professor, Instituto de Medicina Tropical, Lisbon, Portugal.
- Professor G. LEDUC . . . Professeur de Sciences Economiques, Bel-Air, Presles (Seine-et-Oise), France.
- Mr. C. J. MARTIN . . . Statistical Adviser to East Africa, P.O. Box 1101, Nairobi, Kenya.
- Professor TH. MONOD . . . Directeur de l'IFAN, B.P. 206, Université, Dakar-Fann, Sénégal.
- Dr. E. W. RUSSELL . . . Director, EAAFRO, P.O. Box 21, Kikuyu, Kenya.

ASSOCIATE MEMBERS

- Mgr. L. GILLON . . . Recteur de l'Université de Lovanium, Léopoldville, Congo.
- Dr. A. MACHADO . . . Laboratorio de Biologia, Dundo, Angola.
- Médecin-Général VAUCEL . . . Directeur de l'Institut Pasteur, Paris 5^e.

OBSERVERS

- Mr. G. BERRIT . . . Chef du Centre Océanographique, Pointe-Noire, Congo.
- Dr. P. LISSOUBA . . . Chef du Service de l'Agriculture du Congo, Pointe-Noire, Congo.
- Dr. C. L. PIDOUX . . . Psychiatre, 96 rue Pierre Demours, Paris 17^e.

SECRETARIAT

Mr. C. CHEYSSON . . .	Secretary-General
Dr. E. VERDIER . . .	Scientific Secretary.
Mr. G. DE LUSIGNAN . . .	Acting Director, Inter-African Labour Institute, B.P. 2019, Brazzaville, Congo.
Dr. DEMARCHI . . .	Co-Director, BPITT, B.P. 557, Léopoldville, Congo.
Mr. F. BARKER . . .	Linguistic Adviser.
Mr. J. HEYMANS . . .	Interpreter.
Miss F. CALVET . . .	Head of Secretariat.
Miss P. NOYCE . . .	Bilingual Secretary.
Mrs. P. QUERO . . .	Bilingual Secretary.
Miss C. M. ROSEMEYER . . .	Bilingual Secretary.

The Twelfth Meeting was opened, on behalf of the Republic of Congo, by H.E. Monsieur TCHICHELE, Vice-President of the Government, Minister of Foreign Affairs and Mayor of Pointe-Noire.

RECOMMENDATIONS

PART ONE.—GENERAL QUESTIONS

I. Vote of Thanks

The Council THANKS the Government of the Republic of the Congo for acting as the host Government for its meeting at Pointe-Noire.

Thanks to the facilities made available, it was able to conduct its work in excellent conditions. The Secretary-General is requested to congratulate and thank the Mayor of Pointe-Noire and the President of the Chamber of Commerce.

The Members of the Council have highly appreciated the hospitality extended to them during their stay at Pointe-Noire and the excursion organised for their benefit.

The Council REQUESTS the Secretary-General to convey this message to the Government of the Republic of the Congo and to send a special message of thanks to the Vice-President of the Government, Minister of Foreign Affairs, who kindly consented to open the meeting.

II. Future of CSA

The Council devoted the first two days of its meeting to a general exchange of views on the present evolution in Africa and on the consequences to be drawn in order to maintain and develop scientific and technical co-operation. The Council CONSIDERS that the principles adopted at the 1949 Scientific Conference are still entirely applicable and that it is more important than ever that they should be fully appreciated. Recommendation II of the Eleventh Meeting defines the new rules which should govern the action of the Council in accordance with these principles. The Council CONFIRMS these conclusions and requests the Secretariat to bear them constantly in mind. In certain respects, it CONSIDERS that it would be necessary to go even further :

(a) The Council is at the disposal of countries and organisations working for the benefit of Africa. It is closely linked with CCTA but can work in liaison with other organisations and other countries. It is entirely independent of governments, both as regards its members individually and the Council as a whole.

(b) The membership of the Council is such as to provide undisputed authority in the principal scientific fields of direct interest to Africa South of the Sahara. Members must therefore be chosen among persons effectively concerned with the study of African problems ; but such choice is made irrespective of any consideration of nationality, as was shown some years ago when the Council appointed an Associate Member who was a national of a country not a member of CCTA.

(c) In order to cover a wider field of information and also to

facilitate its relations with countries and organisations outside Africa, the Council DECIDES that in future it may appoint Corresponding Members when the need arises. In contrast to Members and Associate Members, these Corresponding Members will not necessarily be engaged in exclusively African problems. They shall be chosen by the Council, for a period of three years, from among scientists concerned with the problems of intertropical regions and possessing unquestionable authority in the scientific field in their own countries. They may be invited to take part in all or part of the meetings and other activities of the Council, at their own expense.

(d) In the choice of its Members and Associate Members, the Council will continue to apply the present rules. In this connection, it is recalled that Members have wide qualifications and that, between them, they should be able to cover all scientific problems relating to Africa South of the Sahara. Considerations of nationality, creed and opinions do not in any way affect nominations. This has been the rule for the last eleven years and it is the intention of the Council to abide by it.

(e) Since the Council is entirely independent, it can take the initiative on any scientific or technical activity. The activities of the Council in its own particular sphere will be somewhat limited for the time being. Some activities are, however, not excluded and the Council DECIDES to undertake a survey this year, to be known as Joint Project 12 and to be carried out under its direct supervision with one of its Members as Co-ordinator (see Recommendation LIV below).

(f) The Secretariat informed the Council of new developments affecting the Commission. The Council NOTES this information with interest and satisfaction and appreciates the full significance of the profound changes in the structure of CCTA. It WELCOMES the fact that these changes have not altered the objectives pursued by the Commission over a number of years and that the new CCTA is ready and able to contribute to the development of co-operation between countries in Africa.

(g) The Council NOTES with concern, however, the regrettable situation of the Secretariat in respect of staff. Some posts have remained vacant for long periods of time and the Secretariat has had to work in difficult conditions. From a scientific and technical point of view, the Council STRESSES the fact that the staff of the Secretariat is notably insufficient and that any prolonged vacancy jeopardises the activities of the Commission in certain fields.

III. Regional Joint Action Programmes

At its Eleventh Meeting, the Council noted the great value of regional joint action programmes (Recommendation II (e) and Annex). It NOTES

with satisfaction the results achieved by the Secretariat during the past year. These projects should be given high priority in the activities of CCTA/CSA and it is the intention of the Members of the Council to give them sustained attention. The Council EXPECTS, however, that it will retain general supervision of the scientific and technical aspects of the work, in a manner to be determined in each individual case.

IV. Regional Training Centres

The Council REAFFIRMS its conviction that problems of training and education should be given priority. It RECALLS the recommendation contained in paragraph 2 (b) of the Annex to the Recommendations of the Eleventh Meeting and STRESSES the importance of regional training centres. It APPROVES the form of action outlined by the Secretary-General in his report and CONSIDERS that, as far as possible, each centre should from the outset be placed under the effective direction of the host country, the other countries in the region being represented by a regional advisory committee responsible for advising the Director. The role of CCTA would be, on the one hand, to obtain preliminary agreement between the countries concerned in respect of programmes of work and administrative arrangements as well as the manner in which current expenditure would be met after the first few years of operation, and on the other hand to obtain financial and technical assistance from countries and organisations outside Africa to cover the requirements of the centre during the initial period.

V. Third-country Training Programmes

Middle-grade personnel should, as far as possible, be trained in Africa. When a country with limited resources cannot meet its own requirements and when there is a suitable training centre in a neighbouring country speaking the same language, the Council RECOMMENDS that the necessary steps should be taken for sending trainees to such centre. So long as the problem arises only in a few isolated cases, the Council CONSIDERS that it can and must be solved within the present scope of FAMA. On the other hand, if this problem were to arise on a larger scale, for certain countries and for certain disciplines, additional facilities should be made available :

- (a) to cover the expenses of trainees by means of bursaries ;
- (b) to compensate and even to subsidise institutions and training centres receiving trainees, in order to enable them to develop their training activities.

The Council RECOMMENDS that this problem should be studied by Governments interested in the development of Africa. FAMA could

provide a suitable framework for the creation of a fund to be supplied from countries outside Africa able to finance such activities.

VI. Courses for Experts Unfamiliar with African Conditions

As a result of current developments, increasing numbers of experts without previous knowledge of African problems are being sent to Africa. The Council **CONSIDERS** that in many cases it would be desirable to give these experts an opportunity of familiarising themselves for a few weeks or even months with the problems they are to deal with, before they take up their posts. Orientation courses should therefore be provided in centres specialising in African problems, usually in centres situated in Africa. If requests were submitted to the Commission on this subject, the Members of the Council would willingly indicate appropriate centres.

VII. Recruiting of Experts for Tropical Countries

To prepare and apply their development plans, countries in Africa need an increasing number of experts. FAMA, like the United Nations Specialised Agencies, is meeting with increasing difficulty in finding experts with sufficient experience of Africa or indeed of other tropical countries. The problem is particularly difficult as regards experts prepared to accept missions of long duration, extending over one or two years. Already experts engaged in technical assistance work are encountering difficulties in their career. These will inevitably increase, and the number of senior scientific research workers and technicians devoting the major part of their career to Africa will become steadily fewer.

The Council **DRAWS** the special attention of Governments and organisations concerned to this serious and urgent problem which at present constitutes one of the major obstacles to the development of countries in Africa. It **URGES** that the necessary measures should be taken to enable universities or governmental organisations to prepare teams of experts to concentrate on the solution of problems with which African governments are faced, and to ensure that the careers of these experts should not be affected, whatever the number or the duration of their missions in Africa. At the same time it is essential that such experts should be entirely independent of the firms or financial groups directly interested in the proposed undertakings.

This is a problem outside the scope of CCTA as an African organisation. It is the responsibility of donor Governments and, in the opinion of the Council, should be given serious consideration by these latter. The Council **DRAWS** the attention of international organisations comprising donor Governments and **RECOMMENDS** that they should give high priority to a study of the subject. The Secretariat shall convey this recommendation to those organisations which in its opinion are best fitted to deal with the problem.

VIII. Co-operation with Countries and Organisations Outside Africa

Last year the Council agreed on the principle of co-operation with all countries and organisations interested in the development of Africa. These principles are confirmed in Recommendation II above. Within the scope of such action, the Council agreed that an information mission should visit countries in Europe and America. The Council NOTES with satisfaction that this mission, which was prepared by the Secretariat, spent two weeks in the United States under the direction of Dr. van den Berghe. It NOTES with satisfaction the results achieved and THANKS the four members who took part in it and particularly the leader of the mission.

In view of this first experience, the Council :

(a) EXPRESSES the hope that the early contacts established in the United States may be maintained and used to the best advantage, particularly by way of direct contacts between Members of the Council and the Secretariat on the one hand, and the American organisations concerned on the other. Thus the interesting possibilities arising from the mission carried out in May 1961 can be followed up in the most fruitful manner. At this stage, the Council NOTES with satisfaction the report submitted to it ;

(b) EXPRESSES the wish that similar missions should take place in future and STRESSES the importance of adequate preparation.

IX. Elections

The Council DECIDES :

(a) to re-elect for three years, as from 1962 :

- Professor Aubert,
- Professor Fraga de Azevedo,
- Dr. Lambo,
- Mr. C. J. Martin,
- Professor Monod ;

(b) to elect the following full Members for one year, as from 1962 :

- Mr. Binns, Director, East African Veterinary Research Organisation, Muguga,
- Mgr. Gillon, Rector of Lovanium University, Leopoldville, and
- Dr. A. Ly, Assistant Director, IFAN, Dakar,

subject to acceptance by the persons concerned. The term of office is fixed at one year in accordance with the rule adopted by the Tenth Meeting which provides that all first elections are for one year only and that re-elections are for three years ;

(c) to elect as Chairman Professor Monod for the duration of his term of office, and to appoint as members of the Executive Committee,

in the capacity of Vice-Chairmen, also for the duration of their terms of office, Dr. Naudé and Professor van den Berghe. So long as Professor van den Berghe is not resident in Africa, the Council DECIDES that Mr. C. J. Martin will replace him as Vice-Chairman, as it considers it essential that members of the Executive Committee reside in Africa during the greater part of the year ;

(d) to elect as Associate Members for three years, as from 1962 :
—Dr. Boné (medicine, biochemistry) ;

(e) to elect as Associate Members for three years, as from 1962 and subject to acceptance by the persons concerned :

- Dr. du Plessis (Phytosanitary Protection), Head of Department, Ministry of Agriculture, Pretoria,
- Dr. P. Okigbo (economics), Economic Adviser to the Government of Eastern Nigeria, Enugu,
- Dr. R. Paulian (biology), Directeur de l'Institut d'Etudes centrafricaines, Brazzaville.

The decisions referred to in paragraph (b) (insofar as concerns Dr. Ly only) and in paragraph (e), will be notified to Member Governments of CCTA in the usual manner.

(f) In Recommendation II above, the Council decides to nominate Corresponding Members from outside Africa.

The Council ELECTS as Corresponding Members for three years, as from 1962 :

- Dr. Bernard (climatology, physical hydrology), Director of IBERSOM, Brussels, and
- Dr. Clark (archeology, pre-history), Professor at the University of California.

X. Dr. van den Berghe

The Council was very sorry to learn that its Vice-Chairman had been suddenly prevented from attending the Pointe-Noire meeting, owing to ill health. It deeply REGRETS his absence, all the more since one of the main subjects for discussion was the very successful mission to the United States carried out by certain members of the Council under his direction. It REQUESTS the Secretary-General to convey to Dr. van den Berghe its best wishes for his early recovery.

XI. Continuity of Action of the Council

The Council is more than ever convinced of the need for its Members to contribute to inter-African co-operation in the intervals between its annual meetings. In this respect, it is desirable that its Members should have an opportunity of meeting more frequently in order to discuss specific

subjects. It is not possible, however, to increase the number of regular meetings. Every opportunity should be taken to enable Members of the Council to meet. For example, on the occasion of some scientific or technical activity, the Members concerned could devote some hours to the consideration of corresponding items in the programme of work of the Council. The Executive Committee could also invite a Member of the Council to attend the meeting which precedes the annual Session of the Commission, in order to discuss any particularly difficult or urgent matter.

XII. Meetings of Specialists

CSA meetings of specialists constitute a valuable form of work for the Council. The methods of convening and preparing these meetings are now well defined. Nevertheless, the Council **RECALLS** two rules which should be applied in order to ensure the success of these meetings :

(a) The meetings should be prepared a long time beforehand. It is therefore indispensable that the Secretariat should receive directives as precise as possible from the annual meetings of the Council. Members of the CSA who intend to propose meetings of specialists should as a general rule provide the Council with precise details and, in particular, should be prepared to submit a draft agenda as well as the names and full particulars of the specialists they propose inviting. This information should be included in the corresponding recommendation of the Council.

(b) Funds are available to enable the Council to invite twenty persons to attend meetings of specialists each year. The average is five specialists to each of four meetings, but there is nothing to prevent the Council from increasing or decreasing the number of specialists invited to a given meeting or from increasing or decreasing the number of meetings, provided that the total number of specialists thus invited and receiving allowances does not exceed twenty.

XIII. Administrative Arrangements for Complex Technical Assistance Activities

As a general rule, the Council considers that activities in the field of technical assistance undertaken within the scope of FAMA should be of a straightforward nature : provision of scholarships, supply of training or research equipment, secondment of experts in an advisory capacity or for training purposes for comparatively short periods (one or two years). Complex activities, however, entailing the co-operation of experts of various disciplines and the implementation of development schemes, or likely to extend over long periods, are not normally within the scope of FAMA and should be left to the United Nations Specialised Agencies or be the subject of strictly bilateral activities. They call for administrative

arrangements and the creation of a managing body. The Commission should only undertake such activities in exceptional cases. When it does, it should adopt a procedure that would allow for the entirely independent management of such schemes. The best solution will be to appoint a qualified person for each individual project, to be responsible for the management of the schemes on behalf of the Commission, during the whole period of its implementation.

XIV. Organisation of Training Courses

Since FAMA has now acquired some experience in the organising of training courses, the Council CONSIDERS that rules to be applied in the organisation of courses should therefore be laid down in writing. It DRAWS THE ATTENTION of the Secretary of FAMA to the memorandum presented on this subject by Dr. Fraga de Azevedo.

XV. CCTA/CSA London Office

The Council EXPRESSES its congratulations to the Assistant Secretary-General for the excellent manner in which the London office of the Commission has operated. The circulation of documents before meetings is highly satisfactory in spite of the late submission of documents by authors. The Council REQUESTS the Secretary-General to congratulate on its behalf the bilingual secretaries responsible for this work.

The Council WISHES in particular to pay tribute to the Assistant Secretary-General, Mr. Hawkins, who has been responsible for the whole of this work and who, for the past two and a half years, has carried out many other tasks within the Commission. It TAKES NOTE of the Secretary-General's statement indicating that the work of the Commission would have been less successful if Mr. Hawkins had not shown such complete devotion to his task. It REQUESTS the Secretary-General to communicate the present message of thanks and congratulations to Mr. Hawkins and also to convey it to the Government from which Mr. Hawkins was seconded.

XVI. Director of ILI

Mr. Haighton will terminate his functions as Director of the Inter-African Labour Institute at the beginning of 1962, after seven years of service with the Commission (including several months as Acting Assistant Secretary-General of CCTA/CSA). The Council WISHES to pay tribute to Mr. Haighton's professional abilities and his devotion to duty. Thanks to him, the Institute now plays an important part in inter-African co-operation.

XVII. Publications

The Council is entirely satisfied with the excellent presentation of the CCTA/CSA publications and once again congratulates the Head of the Publications Service of the Commission. It should be possible to improve

the distribution of these publications and the Council CALLS ON each one of its Members to assist the Scientific Secretary in this respect.

The Council once again URGES its Members to contribute to the publication *Science-Afrique* by sending to the Scientific Secretary any information that may be of use for inclusion in this journal.

XVIII. Report to the Twelfth Meeting

The Council CONSIDERS that the Secretary-General's report has been presented in an excellent manner and CONGRATULATES the Publications Department in London for ensuring the translation and publication of this document in a very short time.

PART TWO.—NATURAL RESOURCES

XIX. Nature Conservation

For a number of years the Council has endeavoured to awaken public opinion and to stress the dangers arising from the indiscriminate destruction of natural resources, as well as the cultural and economic benefits that would derive from a rational exploitation of these resources. The Council WELCOMES the fact that this appeal has met with a response. It THANKS the Inter-African Correspondent for Nature Conservation and the Secretariat for the arrangements made for holding a comprehensive symposium at Arusha in September to deal with this problem. It relies on Professor Monod, Dr. Verdier and Mr. Beaton to ensure that this meeting produces valuable results.

At its Thirteenth Meeting, the Council will examine future activities in this field, in the light of the recommendations adopted at Arusha and of proposals put forward by Professor Monod. At this stage it ENDORSES the proposal put forward by the Scientific Secretary to facilitate the training of middle-grade personnel by the establishment of a regional centre to cover East and Central Africa.

XX. Conference on Hydrology

The first Inter-African Conference on Hydrology took place in Nairobi last January. It was generally agreed to be an unqualified success. The Council THANKS those responsible for this success and in particular Dr. Russell and Dr. Rodier. It HOPES that activities in this field will be pursued and RECOMMENDS that Member Governments of CCTA should spare no effort in the field of hydrology which is seen to be so important in the harmonious development of the new States.

The Council, moreover, STRESSES the fact that the success of the Nairobi Conference was largely due to the careful preliminary arrangements. Not only were the preparatory documents of the highest quality, but above

all the Conference was preceded by two CSA meetings of specialists during which a preliminary survey had been made of the field to be covered. For all new activities on such a large scale, the Council **CONSIDERS** that this example should be followed in the future.

XXI. Co-operation between Riparian States

The Nairobi Conference stressed the value of close co-operation between countries bordering on a common river or situated within a common river basin. Joint development projects can be undertaken; co-operation enables each country to make the best use of resources connected with the river within its territory.

The Council **NOTES** with satisfaction that this part of the recommendation adopted at Nairobi has been rapidly implemented. An Advisory Committee for the Niger was established at the meeting held at Ségou in May; it includes the countries bordering on the river. An important agreement has already been reached between these countries, which have undertaken to consult one another before carrying out any new project that might affect the water regime. The Council regards this as typical of technical co-operation and **HOPES** that the example will soon be followed for other basins, such as the Chad or the Senegal basins. It **NOTES** with interest the statements made by the Secretariat as to the possibility of undertaking joint development schemes of interest to several countries, with the help of substantial financial and technical assistance from outside Africa. The greatest caution will, of course, be necessary; but such schemes are highly interesting and open up useful possibilities of combining the bilateral facilities afforded through FAMA or directly to the countries concerned, with the resources of the United Nations as a whole. In this respect, the Council **NOTES** with satisfaction Recommendation VIII of the third FAMA meeting.

XXII. West African Training Centre for Assistant Hydrologists

Following upon a suggestion made at the Nairobi Conference, the Inter-African Co-ordinator for Hydrology will soon submit proposals for the establishment of a regional centre to meet the requirements of French-speaking countries in West Africa for the training of assistant hydrologists. This project accords with the ideas expressed by the Council at its Eleventh Meeting (see Annex to Recommendations). The Council **NOTES** this project with interest and **HOPES** that it may be implemented in the near future.

XXIII. Assistance in Sinking Shallow Wells

Dr. Obermuller, Associate Member of the Council, considers that the work of hydrogeologists would be facilitated if small teams were available

to carry out routine work in the field of shallow depth boring and well digging. The Council is interested in the suggestion of its Associate Member to prepare a simple programme of technical assistance to help in solving this problem.

XXIV. Pedological Map of Africa

(a) Very satisfactory progress has been achieved in the preparation of the pedological map of Africa (Joint Project 11), and the Council CONGRATULATES Dr. d'Hoore. It THANKS Dr. Tavernier, Director of the Belgian Soils Mapping Service, who has assisted Dr. d'Hoore in his work since he left Yangambi. It NOTES that it is the intention of the Commission to pursue this project to completion. It also NOTES that this work fits into the wider project of a world soils map undertaken on the initiative of FAO and UNESCO.

(b) The Council RECOGNISES the great value of the work accomplished, with limited means, by the Director of SPI. There have been profound changes, however, during the last ten years in the organisation of pedological studies in Africa South of the Sahara, and considerable development has taken place in these studies during this period. The Council therefore CONSIDERS that the Council of Management of SPI might envisage a change in the organisation set up by the Commission for the co-ordination of pedological studies :

(i) The Soils Map of Africa on a scale of 1/5,000,000 should be published in the form of a joint project which would remain the responsibility of Dr. d'Hoore.

(ii) The other tasks of SPI on analytical methods and on pedology in Africa South of the Sahara would be entrusted to BIS and to the regional committees, which would maintain close co-operation between the various laboratories working on these subjects and ensure adequate circulation of results.

XXV. Soil Erosion Map (Joint Project 20)

At the request of the European Economic Community, the Director of BIS has undertaken the preparation of a map showing the dangers of soil erosion in Africa. This work has been undertaken as a joint project financed by the Brussels organisation. The Council CONGRATULATES Dr. Fournier on the work he has accomplished and NOTES with satisfaction that by applying the usual methods it is possible to accomplish such tasks without entailing excessive administrative formalities.

Finally, the Council NOTES that other similar projects may be proposed, relating to definite studies to be conducted under the supervision of the Director of BIS and leading to the publication of a report, a monograph or a map.

XXVI. Phytogeography

The Council NOTES that no further progress has been made in the implementation of certain recommendations of the 1956 Yangambi meeting, notably the preparation of a phytogeographical (vegetation types) atlas, and that certain difficulties have been encountered in the application of the Yangambi system of classification.

In view of the value of such an atlas in numerous important fields of general interest to CCTA, e.g. soil conservation, land use, animal health, etc., the Council REITERATES Recommendation XXIV of the Eleventh Meeting and DECIDES to convene in 1962 a specialist meeting to be held, if possible, in the Federation of Rhodesia and Nyasaland under the chairmanship of Dr. Bates, Member of CSA. The following specialists should also be invited :

—Professor Abilio Fernandes, Director of the Botanical Centre of the Junta do Ultramar, University of Coïmbra,

—Dr. R. A. Dyer, Head of the Botany Division, Pretoria,

—Professor J. Lebrun, Secretary-General, INEAC,

—Professor R. Schnell, Laboratoire de botanique tropicale, Avon, Seine-et-Oise,

an English-speaking specialist to be designated by Dr. Bates.

The exact agenda will be drawn up within the next few months by Dr. Bates in consultation with the appropriate specialists. It should, however, cover the following main points :

—Review of recent developments in the field of classification of vegetation types in Africa.

—Re-examination of the nomenclature proposed by the Yangambi meeting with a view to extending its scope to cover satisfactorily all areas of Africa South of the Sahara.

—Arrangements to implement the preparation of a phytogeographical atlas of vegetation types for Africa.

XXVII. Symposium on Savannah Zone Cereals

The Council APPROVES the arrangements made to convene a symposium on savannah zone cereals, in accordance with Recommendation XXVI of its Eleventh Meeting. It CONSIDERS that the agenda prepared a year ago should be retained and, in particular, it is opposed to the inclusion of grain legumes in this agenda since this subject has already been dealt with at a symposium held at Bukavu in 1957.

XXVIII. Symposia on other Crops

Having decided to hold each year, jointly with FAO, a symposium to deal with crops of major economic importance, the Council suggests that,

following upon the symposium covered by the previous recommendation, the following programme should be considered :

- symposium on paddy rice cultivation ;
- symposium on fodder crops and fallows ;
- symposium on cassava and yams.

XXIX. Beekeeping in Africa

The Council TAKES NOTE of the report by Dr. F. G. Smith, Secretary of the Bee Research Association, on the advantages of research in the field of beekeeping in Africa. It CONSIDERS that this field is not yet sufficiently developed to justify a meeting of research workers. It also CONSIDERS it desirable to collect additional data and REQUESTS the Secretariat to submit a new report on the matter after possible consultation with other specialists.

XXX. Phytosanitary Protection

The Council has on many occasions drawn the attention of Governments to the grave dangers that would threaten agricultural production in Africa, in the absence of adequate phytosanitary protection. It therefore WELCOMES the excellent reports submitted to it on the activity of the Phytosanitary Commission and of its Scientific Secretary. It looks forward to the recommendations that will be adopted by the Commission at its sixth meeting, particularly those relating to the development of the network of international quarantine stations in Africa, and to the training of phytosanitary inspectors. It THANKS Mr. Barat, the Scientific Secretary of the Commission, for his activity and HOPES that his successor will be appointed without delay, as otherwise the Secretary's early departure may jeopardise the results already achieved.

XXXI. Hydrobiology

The Council EXPRESSES its satisfaction at the activities of the Commission in the fields of hydrobiology and freshwater fisheries and THANKS Dr. Daget, the new Inter-African Co-ordinator.

The Council APPROVES the recommendation submitted by the fourth symposium (Fort-Lamy, May 1961) in favour of closer liaison between hydrologists and hydrobiologists. It would seem desirable in the future to take every opportunity to enable specialists in these two subjects, who are working on the same river basin, to meet.

The fifth symposium will be devoted to fish breeding and could meet in Madagascar. For the moment, however, the Council RECOMMENDS that priority should be given to the work of the co-ordinating committees on major lakes, as proposed by the Lusaka symposium and set up by the Commission. The first of these meetings will be concerned with the Chad and its major tributaries.

XXXII. Oceanography and Sea Fisheries

The Council EXPRESSES its very great satisfaction at the activities undertaken in the field of oceanography and sea fisheries. It THANKS the Inter-African Co-ordinator, Dr. Postel. The symposium on marine biology and fisheries off the East coast of Africa led to interesting conclusions and the Council NOTES that extensive co-operation in the study of plankton has developed in this region. The Council EXPRESSES its satisfaction at the recommendations adopted at the specialist meeting held in Monrovia in December 1960 to promote closer co-ordination of research on the West coast. Later meetings could deal with the two following subjects :

- marine invertebrates (crustaceans and molluscs),
- lagoon fisheries.

More intensive research should, however, be undertaken on these subjects before their discussion by specialists. The Council therefore DECIDES that a meeting of specialists shall be devoted to marine invertebrates but that it shall not be held before 1963 or 1964. To facilitate its preparation, a draft agenda appears in Annex I. The Inter-African Co-ordinator is requested to take up the matter with specialists and to report, through the Scientific Secretary, to the Thirteenth Meeting in order to enable the Council to take a definite decision on that occasion.

XXXIII. Thunnidae Fisheries in the African Atlantic

The symposium on thunnidae held at Dakar in 1960 was marked by valuable scientific discussions, dealing with problems of both taxonomy and biology. It also afforded the specialists an opportunity to draw the attention of Governments to the long-term dangers which might result from the overfishing of thunnidae in the African tropical Atlantic. The day is perhaps not far off when the same signs of exhaustion may appear in this area as in other oceans.

The Council attaches the very greatest importance to the recommendation adopted at Dakar for the convening in the near future of a conference having as its terms of reference the establishment of a permanent body designed to study the whole problem and to formulate a rational fishing policy. It CONSIDERS, as does CCTA, that this matter should normally be dealt with in the framework of the United Nations and that it should come within the scope of FAO. If, however, material difficulties were such as to prevent that Agency from rapidly adopting practical measures, the Council CONSIDERS that the problem is so important that a solution should be sought without delay and that the Commission should not hesitate to take the necessary initiative, preferably in association with FAO, but working alone should the need arise. The main thing is that the permanent body, which would be similar to the Inter-American Tropical Tuna Commission, should be set up and made operational without delay.

XXXIV. Guinean Year

Professor Monod reported to the Council on the plan recommended by CSA at its two previous meetings for the exploration of the Gulf of Guinea (Joint Project 19). The Council TAKES NOTE of this report with great satisfaction. This project is the most ambitious with which its name has ever been connected. The considerable resources involved in implementing the Guinean Year, the close co-operation of the research departments of African countries, the extremely detailed preparation of operations by the Inter-African Co-ordinator and the assistance promised by the American authorities, augur well for the success of the campaign. The Council EXPRESSES its lively satisfaction and earnestly APPEALS to all Governments in order that this great project may be carried through in the manner decided upon a few days ago by the experts meeting in Lagos.

The Council RESPONDS with pleasure to the invitation of the initiators of the project and it APPOINTS its new Chairman, Professor Monod, to sit on its behalf on the Scientific Committee for the Guinean Year.

The Council DESIRES to make a special appeal to the Governments of France, Portugal and the United Kingdom. The success of the campaigns will depend in part on their co-operation in the provision of a few experienced men able to undertake scientific and technical responsibilities, both at the head of the project and for leading projects at sea. To enable this to be done, the staff of research departments in Africa will have to be increased during the Guinean Year. The Council RECOMMENDS that these Governments should appoint the necessary staff without delay in order that they may participate in preparing and carrying out the campaigns.

XXXV. Specialisation of Veterinarians and Zootechnicians in the Tropical Field

Many countries in Africa at present encounter great difficulty in obtaining the necessary staff for their veterinary and animal husbandry departments. The seventh meeting of IACAH (Inter-African Committee for Animal Health) very rightly indicated that qualified veterinarians are trained overseas and that their specialisation in tropical questions is a complex and difficult problem. The Committee therefore suggested that the Council might wish to devote one of its specialist meetings to this problem. CSA ACCEPTS this suggestion with satisfaction.

It consequently DECIDES that a meeting of specialists will be devoted in 1962 to the study of methods suitable to provide for the specialisation of veterinary surgeons and zootechnicians in tropical problems. The meeting will be held either in Kenya or in Nigeria. The chair will be taken by Mr. Binns, Member of CSA, and will include the following specialists :

- Dr. Chalmers of the Edinburgh Veterinary School,
- Mr. Chalumeau, Directeur des services de l'élevage, Abidjan,

—Dr. Sauvel, Directeur de l'Institut d'Élevage et de Médecine vétérinaire des Régions tropicales, Alfort,

—a specialist from the Lisbon School of Veterinary Medicine, to be chosen by Mr. Binns and Mr. Beaton.

If the meeting is held in Kenya, a specialist will also be invited from Nigeria; Mrs. Binns and Mr. Polding, of Makerere University, will be invited to attend the meeting without cost to the Commission. If the meeting is held in Nigeria, the specialist from that country will be able to attend without cost to the Commission.

Mr. Binns will draw up the agenda in consultation with Dr. du Toit, Member of the Council, and with the Director of IBAH, in the light of the discussions held in Livingstone in July at the IACAH meeting. If possible, the following topics will be dealt with:

- training in Africa and outside Africa;
- general level of training required of students, the degree of specialisation in tropical problems which it is desirable to achieve;
- theoretical and practical training;
- relationship to scientific research.

XXXVI. Campaign against Rinderpest in the Chad/Niger Area

The meeting held at Kano in May 1961 enabled detailed arrangements to be made for Joint Project 15. The offers subsequently made by the American authorities and by the European Economic Community should be sufficient to cover the very considerable expenditure involved in this three-year campaign aiming at freeing the bovine population from this terrible disease.

The Council CONGRATULATES the initiators of the project, and in particular Mr. Beaton, whose perseverance and competence have resulted in success. It urgently REQUESTS the four Governments of the area to do everything possible in order to ensure that this campaign may have the greatest possible chance of success. As Dr. du Toit, Member of CSA, rightly remarked, if this campaign is followed, as Governments desire, by other similar joint projects covering neighbouring areas, it may be hoped that Africa will one day be freed from this scourge.

XXXVII. Research on a Vaccine against Bovine Pleuropneumonia

Substantial progress has been achieved in the implementation of Joint Project 16. Offers of co-operation which are expected very shortly from a number of non-African bodies will, it is hoped, be sufficient to cover expenditure. The excellent technical plan drawn up by Mr. Beaton, in consultation with Mr. Binns, was accepted by all the specialists.

The Council HOPES that the final difficulties will be rapidly solved and that it will soon be possible to reach agreement on the choice of the laboratory to be responsible for the basic work of the joint project.

PART THREE.—SOCIAL, ECONOMIC AND TECHNICAL**XXXVIII. BPITT**

The Council had once again to consider the problem of BPITT, no action having been taken regarding the recommendations of its two previous meetings.

The main reason for the present unsatisfactory situation is that BPITT has no full-time director, although the Council has stressed the need for such a director each year for the last three years. The Co-Directors have shown the greatest interest in their work and, in very difficult conditions, have performed a valuable task which justifies the existence of the Bureau. But it is impossible to ask more of two men who are already burdened with heavy responsibilities in their own field. The Council NOTES with deep satisfaction the work accomplished by Dr. Demarchi during the past year and cannot but feel that such an effort should not be expected of one man any longer. The Council therefore STRESSES once more the need to appoint, on a full-time basis, a member of the medical profession who has specialised in the field of trypanosomiasis and possesses good practical experience in matters relating to tropical Africa. It also CONSIDERS that the two present Co-Directors should continue to contribute to the work of the Bureau and act as its scientific advisers.

Unless a director is appointed, little of real value can be achieved. On the other hand if a favourable decision is reached, and allowing for the evolution that has taken place during recent years, the Council CONSIDERS that the Bureau should be governed by the following principles. It trusts that the governmental meeting which is to take place at Leopoldville on 22 September will adopt reasonable directives in the light of the present recommendation :

(a) Since it was established, the functions of BPITT have been to cover the field of human trypanosomiasis as well as the essential aspects of research on trypanosomiasis and its vectors (applications in the field of animal trypanosomiasis being the responsibility of IBAH, in accordance with the agreement reached at the fifth meeting of the IBED Advisory Committee in 1958). The Council CONSIDERS that this field of action should not be abandoned. Progress in Africa has undoubtedly been considerable and highly encouraging, but any slackening of activity might lead to a rapid deterioration of the situation and jeopardise the results of years of sustained effort. No organisation other than BPITT is at present capable of ensuring the systematic circulation of information among research workers and organisations working in this field. This task must therefore remain in the forefront of the Bureau's activities.

The International Scientific Committee for Trypanosomiasis Research (ISCTR) meets every two years. Its authority is world-wide.

The Bureau should contribute to the work of the Committee and thus obtain the benefit of this authority. The Council therefore RECOMMENDS that the Bureau should provide the permanent secretariat of the Committee. It could thus distribute a greater number of original works and could, indirectly, play a part in the conduct and promotion of research work.

(b) Other diseases affecting human health are adequately covered by national organisations, by WHO, and in respect of information by various specialised medical journals. BPITT should avoid dissipating its efforts on too many problems and should concentrate on those sectors where its action can be effective, in full agreement with the WHO Regional Office whose excellent work must be neither impeded nor duplicated.

Some years of experience have shown that the panels of correspondents dealing with the four diseases listed by CCTA have achieved no striking results. Even if greater facilities were available, any change in the situation could hardly be expected. The Council therefore CONSIDERS that this machinery should remain dormant for the time being. As to the other two panels of correspondents the secretariat of which has been entrusted to the Bureau, the Council CONSIDERS that they should work independently. The panel for mental health has its own Co-ordinator, Dr. Lambo. The Council RECOMMENDS that the Commission should appoint Mgr. Gillon, Associate Member of the Council, as Co-ordinator of the panel on the use of radio-isotopes.

(c) If the Bureau ceases its efforts to cover the whole of the field of public health, it should on the other hand maintain its right to take the initiative and continue to advise the other organisations of the Commission in all medical matters. Its Director and its two scientific advisers should therefore be consulted whenever a problem arises and should remain closely associated with the work of the Commission in order to assert the views of medical circles whenever necessary.

(d) On the other hand, the Director and the two scientific advisers could submit suggestions regarding specific activities to be undertaken in the field of public health. The Council is of the opinion that two subjects should be in the forefront of their concerns in this connection :

(i) Close co-operation should be maintained between public health services in Africa. The Bureau has played a useful part in convening meetings on medical co-operation. It can develop this activity still further. It is also desirable that the publication of the *Bulletin of Major Endemic Diseases* should continue, so as to disseminate the valuable reports from the medical services of member countries, particularly the annual reports. The Director

and scientific advisers should give consideration to the frequency of publication.

(ii) Training. In accordance with the recommendations of the Council, the Commission is giving priority to problems of training, in particular the specialist training of senior personnel in typically tropical problems and the training of middle-grade officers. The Bureau should show imagination in this respect and promote fruitful activities in the field of medical training.

XXXIX. Control Measures against Trypanosomiasis and its Vectors

For two years the Council has been considering the possibility of devoting regional joint action programmes to control measures against trypanosomiasis and its vectors. It therefore WELCOMES the fact that a first project has been prepared on this subject (Joint Project 17), providing for concerted action between the Federation of Rhodesia and Nyasaland, Portugal and South Africa in the north-north-east area of the South African frontier, to be followed by a second programme of interest to the Governments of the Federation of Rhodesia and Nyasaland, Portugal, South Africa and the United Kingdom, to cover the Caprivi belt.

The Council CONSIDERS, however, that further action is required in this field and that it would be regrettable to lose the benefit of the considerable offers made by the American authorities to contribute to the eradication of trypanosomiasis in certain regions. Nevertheless, the Council STRESSES the need for realism. The eradication of trypanosomiasis throughout the continent is absolutely impossible at present whether it be by control measures against the disease or against the vectors. The means available to man are not sufficiently effective. The elimination of the tsetse fly in areas of low population density would be purely temporary. An over-ambitious project would invite failure and jeopardise in a few years the possibility of smaller-scale but more fruitful action by giving those who are generously offering financial assistance the impression that their effort cannot succeed.

It must rest with the specialists to select limited areas where intensive action may achieve the eradication of vector glossinae. These specialists, as rightly indicated by Dr. van den Berghe, should include research workers engaged on trypanosomiasis and its vectors, game wardens, foresters, agronomists and demographers. The best method of devising a plan of action covering one or two areas would be to convene, in Africa in 1962, a group of experts nominated by Governments who should include those whose names have been proposed by Dr. van den Berghe in his memorandum. In order to ensure for these experts the best scientific advice, the meeting should take place during the week preceding the next meeting of ISCTR. The United States Government should, of course, be invited to appoint a representative to attend this group meeting.

The Council REQUESTS the Secretariat to approach ISCTR urgently on the matter and RELIES on Dr. Vaucel, Chairman of the ninth meeting, to give every possible assistance to this group of experts, which includes some of the most eminent participants at the ISCTR meetings. The Council also REQUESTS the Secretariat to convey this recommendation to the American authorities.

XL. Training Courses in the Medical Field

The Council REAFFIRMS its recommendation of 1960 relating to training courses (Recommendation XXXIX).

(a) The Council RECOMMENDS that a training course should be organised in 1963 on laboratory methods of diagnosis of virus diseases. WHO will be associated with the organisation of the course, which will be intended for technicians or qualified laboratory assistants who have spent at least three years in a microbiology laboratory. It will last two to three months and could usefully be organised at the Entebbe Virus Research Institute. The agenda shall include the following items :

1. General considerations on virus classification.
2. Methods :
 - (a) Culture of viruses.
 - (b) Immunology of viruses :
 - complement fixation reaction,
 - neutralisation reaction,
 - hæmagglutination reaction and hæmagglutination inhibition reaction,
 - sensitisation reaction.
 - (c) Inoculation of laboratory animals :
 - laboratory animals—breeding, maintenance, their natural diseases,
 - forms and methods of inoculation,
 - observation of inoculated animals.
3. Principles governing the application of these methods :
 - (a) Methods of isolation of viruses :
 - collection (pathological products, arthropodes, etc.),
 - choice of investigation methods.
 - (b) Methods of maintenance of viruses. Preparation of antigens, maintenance of collections, etc. Concepts of cold and freeze-drying.

The Secretariat of FAMA shall approach the WHO Regional Office which will be directly informed of the Council's recommendation by Professor Fraga de Azevedo and Dr. Vaucel on the occasion of their

forthcoming visit, and by Dr. Demarchi, Co-Director of BPITT. The site of the training course will be chosen after consultations to be held between CCTA (FAMA and BPITT) and WHO (Regional Office).

(b) A course on bilharziasis should take place at a later date, say in 1964; it should be organised jointly with WHO. The first course would be intended for medical and veterinary officers and qualified biologists and last one to two months. A draft agenda is given in Annex II. Salisbury would be a particularly appropriate site. Dr. Fraga de Azevedo will discuss this matter with the WHO Regional Office, which will also be approached by the Secretariat of FAMA and by BPITT.

(c) The Council NOTES that it is the intention of the Congo authorities to organise a course on radio-isotopes, for laboratory assistants, at Lovanium. FAMA will be invited to assist. The Council HOPES that FAMA will be able to meet this request. Mgr. Gillon will convey the necessary particulars to the Secretary of FAMA in due course.

XLI. Specialisation of Doctors on Tropical Problems

Dr. van den Berghe submitted a very interesting memorandum in which he defines very clearly the principles to be adopted in order to provide doctors trained overseas with a considerable knowledge of tropical problems before they actually take up their posts. The Council APPROVES the general principles contained in Dr. van den Berghe's report. It CONSIDERS, however, that these needs are and should normally be covered within the framework of higher education provided for doctors in Europe or Africa, in particular in universities, university hospitals and specialised institutions, where it constitutes an important part of the activities.

XLII. Training of Laboratory Assistants

As recommended at the Eleventh Meeting, the Secretariat has considered the possibility of helping groups of African countries to establish regional training centres for laboratory assistants. The Council APPROVES this suggestion.

(a) A centre could perhaps be set up for English-speaking assistants from East and Central Africa. The Scientific Secretary will submit a report to the East African authorities within the next few weeks.

(b) Dr. Demarchi proposed the opening in Bangui of a regional centre for French-speaking laboratory technicians from the five countries of the former French Equatorial Africa and Cameroun. The courses would be of about six months' duration. The centre would accommodate about twenty trainees. The Council TAKES NOTE

of this project, which appears worthy of implementation, and EXPRESSES the hope that it may rapidly be put into effect. As previously indicated, the part played by CCTA/FAMA would be limited to the initial period (of from three to five years). It will not therefore involve any direct responsibility in the management of the centre, but will be confined to obtaining an agreement between the departments concerned on a syllabus and on satisfactory conditions of operation for the centre.

XLIII. Cartography of Vectors of Diseases

The Council RECALLS the previous recommendations on Joint Project 8 and in particular Recommendation XL of the Eleventh Meeting. It would like to be accurately informed of progress achieved in this field by Dr. van den Berghe and his team ; it DEPLORES the fact that it is unable this year to take stock of the situation or to recommend any necessary measures. In addition, the Council TAKES NOTE of the observations made by Dr. Machado and REQUESTS him kindly to inform Dr. van den Berghe of them.

XLIV. Specialist Meeting on Acculturation

The specialist meeting held at Tananarive in August 1959 on the basic psychology of the African and Malagasy child, proposed a meeting of specialists on the general problems of acculturation, in the context of the activities devoted by CSA to basic problems in the field of psychology and mental health. This principle was endorsed in Recommendation XXXIX of the Tenth Meeting. The Council CONFIRMS that decision and AGREES to hold the meeting in 1963. Professor Millot is requested to inform the Secretariat, for discussion at the Thirteenth Meeting, of his proposals for an agenda and the names of specialists who would attend the meeting, at which he would take the chair.

XLV. Migrations

(a) The Council EXPRESSES great satisfaction at the completion of the work relating to Joint Project 3 (Survey of Migrations in West Africa). It CONGRATULATES Dr. Rouch, the Scientific Director of the project, and those who collaborated with him. It CONSIDERS that such studies are of considerable importance in the present development of Africa, both because national programmes and planning need to be based on thorough knowledge of movements and availability of labour, and also because migrations already constitute an essential factor in the cultural, social and economic life of the countries of origin and of destination.

The Council APPROVES the recommendations adopted by the Niamey symposium and HOPES that the findings of the symposium will be published

at an early date, as well as a bibliography of available works on migrations in West Africa.

(b) The discussion which took place at the Inter-African Labour Conference at Abidjan, provided an opportunity of defining the essential principles that should govern agreements on migration between African countries, and was thus of fundamental importance. Migrations should, as far as possible, be governed by such agreements and the countries concerned should be in a position to ensure their full and harmonious implementation. The Council RELIES on CCTA and, in particular, on FAMA, as well as on the other international organisations, to help countries in Africa to establish modern structures providing for the inclusion of migrations in the scope of modern economy and to ensure all necessary social and health guarantees.

XLVI. Libraries and Documentation

The Council REGRETS that the meeting of specialists on libraries proposed as long ago as the Tenth Meeting (Recommendation LII) has not yet taken place owing to events in the Congo. It CONFIRMS its intention to convene this meeting and DECIDES that it shall be held in the first few weeks of 1962, if possible at Ibadan. Dr. E. Verdier, Scientific Secretary, will take the chair. The following specialists will be invited to attend :

- Miss Evans, Ghana Library Board,
- Mr. Harris, Librarian of the University College of Ibadan,
- Mr. B. G. Kingswill, Head of Information Department, CSIR, Pretoria,
- Mr. J. Rousset de Pina, Chief Librarian, Dakar University,
- A librarian from Mozambique or Angola, to be designated by Dr. Fraga de Azevedo.

The agenda has already been circulated. The Council APPROVES the items on the agenda.

At this meeting, Dr. Verdier will ensure that an exhaustive discussion be devoted to the project drawn up by Mr. Rousset de Pina for the establishment of the West African Regional Centre for the training of French-speaking librarians and archivists. This project, when it is established on realistic lines suited to the possibilities and to the needs of French-speaking Africa, will be communicated to the American and European bodies concerned, with an urgent request for assistance.

XLVII. Radio-carbon Dating Centre

Professor Monod explained to the Council the proposed establishment at Dakar, under IFAN, of a radio-carbon dating centre. This centre would cover the needs of the West African region. It would complete the network of existing centres—Lovanium, Pretoria, Salisbury—which cover the other parts of Africa South of the Sahara.

The Council **CONSIDERS** that the use of radio-carbon dating methods would enable valuable observations to be made, particularly in the fields of archeology, prehistory, quaternary geology and pedology. It therefore fully **APPROVES** IFAN's initiative and **EXPRESSES** the hope that countries and bodies outside Africa which are desirous of assisting in its development will respond favourably to any requests for assistance which they may receive.

XLVIII. CCTA/CSA Activities in the Field of Education

Education, schools and specialised training constitute the major preoccupation of the new Governments of Africa and there is every reason for satisfaction at this. The development of the continent will depend on the extent and the quality of the work done in this field. The Council **EXPRESSES** its appreciation of the far-reaching recommendations and the ambitious plan adopted last May in Addis Ababa at the important conference called by UNESCO to study all aspects of the problems involved in the development of education. It also expresses its satisfaction at the later activities planned in this field, in particular those included by UNESCO and the Council of Europe in their 1962 programmes.

The effort made, in the first instance by the countries of Africa with the support of countries outside that continent, as also by international bodies, is so extensive that the Council does not consider it appropriate to intervene in the general field of education and **ADVISES** the Commission to abstain from doing so. The latter's activity should be confined to carefully circumscribed subjects, as has been the case in the past, such as particular forms of education (the teaching of a second European language, technical education, etc.), or training problems connected with the normal technical activities of the Commission (training centres in various fields—veterinary, statistical, agricultural, etc., the specialisation of experts in tropical matters, regional training centres and so on).

Under particular activities of the Commission, the Council **NOTES** with interest the idea put forward by one of its Members suggesting that universities, university institutes and presses should in the future provide captions to scientific plates in their publications in both languages, English and French.

XLIX. Third Inter-African Conference on Education

Recommendation LII of the Eleventh Meeting outlined the agenda for the third Inter-African Conference on Education to be held in August 1962 in Monrovia and which will be devoted to the role of women's education in national development. The Council **TAKES NOTE** of the report submitted by the Scientific Secretary and **APPROVES** his intention of entrusting Miss Cowan, Assistant Director of Education in Tanganyika, with an important share in the scientific and technical responsibility for the preparation of the Conference.

L. Teaching of a Second European Language

The specialist meeting on the teaching of a second European language will be held at Yaoundé in November 1961, as provided by Recommendation LIV of the Eleventh Meeting. The Council HOPES that this meeting will enable practical discussions to be held and will cover the means of rapidly developing the teaching of a second European language by the use of the most modern methods.

In particular, the Council APPROVES the Secretariat's intention of requesting the meeting to discuss fully the possibility of the seconding to African countries of teachers from neighbouring countries where the other language is spoken, who could be used as language teachers after following a specialised training course of several months' duration. If the specialists considered this method practicable, the Council, like the Secretariat, CONSIDERS that this would open the way for African Governments towards a solution of the problem posed by the teaching of the second language. It also CONSIDERS that every facility should be given for the speedy establishment of such training centres for teachers seconded as indicated above.

The Council NOTES with satisfaction that the Secretariat of FAMA has already taken steps to facilitate the opening in the larger African towns of audio-visual centres for rapid training in the second European language. It HOPES that the Yaoundé meeting of specialists will devote attention to this matter, as provided in the agenda, and present any appropriate observations designed to facilitate the development of such a project.

LI. Psychometric Tests

The Council RECALLS its previous recommendations and the indications contained in the annex to the recommendations of the Eleventh Meeting. It CONSIDERS it imperative that African countries should adopt efficient methods for selecting the most suitable people for training and promotion. The Council NOTES with satisfaction two reports presented by the Secretariat concerning requests from African States on the subject of psychometric tests, and HOPES that every effort will be made to meet these requests. Once again it THANKS Dr. Biesheuvel, the Inter-African Correspondent, whose great knowledge of the subject needs no stressing.

The project prepared at the Brazzaville meeting in May 1960, for constructing a battery of psychometric tests for use in the selection of adolescents completing their primary education (Joint Project 18) has already been the subject of Recommendation LI of the Eleventh Meeting. The Council REAFFIRMS its opinion that this project should be implemented at an early date. The Council APPROVES the detailed suggestions made by the Inter-African Correspondent and REQUESTS the Secretary-General to take the necessary steps for their implementation as a matter of urgency. It MAKES an urgent appeal to countries and organisations interested in the

development of Africa to contribute to the implementation of the project and thus make available to Governments a valuable instrument for their future development. It is convinced that research workers and psycho-technical experts working in this field in Africa will spare no effort in the fulfilment of this project.

LII. Statistics

In view of the valuable work accomplished by the United Nations Economic Commission for Africa in the field of statistics, the Inter-African Statistics Committee has decided to suspend its operations. The Council WISHES to record its appreciation of the valuable work done by the Committee's Portuguese secretariat and REQUESTS the Secretary-General to convey its thanks to the Portuguese Government for the assistance received over the past ten years. The Committee has indicated, however, that certain specific activities could still be undertaken in the field of statistics, under the aegis of CCTA, particularly in the field of experimental statistics. In this respect, the Council RECALLS Recommendation LIV of its Tenth Meeting to consider providing specialists in natural sciences with information on modern statistical methods.

LIII. Studies on the Methodology of Family Budget Surveys

Information received by the Council shows that the studies undertaken by the Commission in this field (Joint Project 9) are opportune, inasmuch as they will constitute a valuable complement to similar studies undertaken by other organisations in other continents. The Council THANKS Mr. Martin for his participation in this project and HOPES that the final publication will be achieved early in 1962 as planned.

LIV. Case Studies of Economic Development

In its Recommendation XLVII, the Eleventh Meeting of the Council established the principles of a joint project (No. 12) for the publication of a series of case studies of economic development; such studies would contribute to a better knowledge of economic development and would be very useful for the training of economists called upon to deal with African matters. Mr. Martin, a Member of CSA, has consulted a number of economists in the course of the year and has now submitted a final programme (L (61) 144 of 31 July). The Council THANKS and CONGRATULATES him for the work he has done in this connection.

The Council APPROVES the arrangements suggested by Mr. Martin in his memorandum of 31 July 1961. It ACCEPTS in particular the draft budget attached thereto. It DECIDES to undertake the overall responsibility for implementing this project, on the lines laid down in the memorandum.

1. The Council SUBMITS the following comments which should be added to the memorandum of 31 July :

(a) The project is under the direct control of CSA and therefore has no governmental character ; the authors of individual case studies, the editorial boards and the Steering Committee will present their work from a strictly scientific point of view.

(b) The list of subjects included in the memorandum is given merely by way of indication. The final choice of subjects will rest with the Steering Committee. In so doing, the Committee shall bear in mind that consideration must be given to the social aspects of the problems studied as well as to their economic aspects.

(c) The studies included in the scope of the project will not be merely descriptive but will also be of an analytical nature, in order better to determine the general principles to be applied in the study of economic development.

2. To ensure the implementation of the memorandum of 31 July, amended as above, the Council DECIDES as follows :

(a) The Steering Committee shall consist of :

- Professor Leduc, Member of the Council, Chairman,
- Mr. Martin, Member of the Council, Co-ordinator,
- Dr. P. Okigbo, Economic Adviser to the Government of Eastern Nigeria,
- Dr. M. Touré, Mauritanian Ambassador in Paris,
- Dr. J. Weeks, Director of the Bureau for Economic and Statistical Research of Liberia.

The Committee may appoint a qualified person to represent circles outside Africa which have shown particular interest in the project and offered to contribute.

(b) The Co-ordinator of the project will be Mr. Martin, Member of the Council. His functions are defined in the memorandum of 31 July. Mr. Martin will organise his work in consultation with the Steering Committee and will be assisted by the Secretariat as regards material facilities. As far as possible, the Secretariat's Chief Accountant will be entrusted with the straightforward financial responsibilities relating to the project.

(c) Editorial boards will be appointed by the Steering Committee according to the subjects studied. Certain editors will of course be chosen from outside Africa. The Council NOTES that several of them may be seconded from universities or research institutes, and some may be research workers engaged in economic research on Africa.

(d) The Bulletin in which the case studies will be published will appear at irregular intervals. The decision in this respect will rest with

the Co-ordinator, according to the material available for publication. The Bulletin will be published in two languages, English and French.

(e) The following time-table will be observed as far as possible, once the financial problems have been settled and the necessary funds made available :

- Within three months, a first meeting of the Steering Committee ; this meeting will constitute the beginning of the implementation of the project.
- Within six months from the first meeting, beginning of effective work.
- Within fifteen to eighteen months from the first meeting, publication of the first issue of the Bulletin.
- Five years after the first meeting, an overall consideration of the results of the project in order to determine whether it shall be pursued and, if so, within what framework (the possibility should not be excluded of responsibility being transferred to some other CCTA/CSA or United Nations organisation).

3. The Council RECOMMENDS that Member Governments of CCTA should give all necessary assistance for the implementation of the project. The Co-ordinator of the project will visit the various countries in Africa and will have occasion to request assistance from the economic authorities of those countries. Governments are also requested to authorise their officers to contribute to the project, if invited to do so, either by taking part in the work of one of the above committees or boards, or by personally preparing a particular case study. The Secretariat will approach the Governments concerned, on behalf of the Council, whenever necessary.

4. The Council REQUESTS the Secretary-General to approach officially, on its behalf, those Governments and organisations which have shown interest in the project and to invite them to contribute, either by making staff available for the project or by granting the necessary subsidies to meet the budget annexed to the memorandum of 31 July.

LV. Productivity

The Council NOTES with satisfaction that Joint Project 5 " Survey on Absenteeism and Labour Turnover " has been successfully completed. It CONGRATULATES the directors of research on this achievement. It NOTES with interest the preliminary findings which show that the rates of absenteeism and instability are lower than was expected before this research was undertaken and compare not unfavourably with those experienced in many industrialised countries ; they do not therefore afford sufficient explanation for the low productivity observed in Africa. The Council HOPES that the directors of research and those working with them will be

able to pursue the analysis of the data collected during the survey, with particular emphasis on health factors.

The Council, moreover, WELCOMES the recommendations adopted by the sixth Inter-African Labour Conference at Abidjan. It APPROVES Recommendation IV relating to seminars on productivity and Recommendation VI relating to research on levels of productivity.

In this connection the Council CONSIDERS that it would be better to implement these recommendations separately. It therefore REQUESTS CCTA, through ILI :

1. To promote discussion groups on problems of productivity, convening representatives of management and representatives of workers.

2. To study, on the following basis, the possibility of carrying out a survey on levels of productivity in undertakings in Africa :

- (a) to assess the levels of productivity of African workers by making comparisons between productivity in Africa and productivity in other parts of the world that have reached a higher level of technical development, as well as between various African countries, such comparisons to be conducted in a series of specific industrial undertakings ;

- (b) to study, in selected undertakings, the areas of labour supply and the demographic and cultural characteristics of such labour force, its aspirations and motivations, and its degree of efficiency ;

- (c) to study individual undertakings in order to determine their conditions of work and methods of management and production control ;

- (d) to study policies relating to personnel and wages (the part played by monetary inducements in increasing productivity should be the subject of a thorough study).

The Council does not underestimate the complexity of such a survey nor the extent of the resources required for its implementation and it RECOMMENDS that CCTA should organise a meeting of experts, including economists, statisticians, medical officers, sociologists and specialists in the field of productivity, to prepare a joint project for the carrying out of this survey and to determine the means required for its implementation, and its cost.

LVI. The Impact of Major Industrial Schemes in the Development of Young Countries

The sixth Inter-African Labour Conference provided the opportunity for an exchange of views on the impact of major industrial schemes in the development of new countries in Africa. ILI has been invited to collect

legislation and by-laws on the social aspects of these schemes. The discussion also covered general aspects of the problem from the economic and social as well as from the psychological angle. The Council WELCOMES this discussion which dealt with schemes that present many difficulties but are of major importance for all countries in Africa.

It DRAWS the attention of the Steering Committee of Joint Project 12 (Recommendation LIV above) to these problems, considering that certain studies could usefully be undertaken in this field.

LVII. Occupational Safety, Health and Hygiene

In the course of the Inter-African Labour Conference, a group of experts examined the problems of occupational safety, health and hygiene. The Council APPROVES this development and HOPES that a symposium or a meeting of specialists will be convened to study problems of occupational hygiene. This symposium should include medical officers, specialists in hygiene, sociologists and labour inspectors.

LVIII. Long-distance Transmission of Electricity

Confirming Recommendation LIX of its Eleventh Meeting, the Council DECIDES to devote one of its specialist meetings in 1962 to the problems of long-distance transmission of electricity in Africa. The agenda will cover the following points :

- comparison of present standards in use, with a view to establishing new ones taking account of experience acquired ;
- determination of the isokeraunic level according to scientific criteria ;
- protection of overhead lines against lightning ;
- protection of overhead lines against atmospheric and micro-biological agents, parasites, birds, etc. ;
- rationalisation of different types of pylons, metallic, wooden, concrete, etc. ;
- cost of power transmission and current distribution ;
- possibilities of interconnection ;
- standardisation of voltages and frequencies.

Mgr. Gillon, Member of CSA, will inform the Scientific Secretary of the final version of the agenda within the next few weeks. He will take the chair at the meeting. In addition, the following specialists will be invited :

—Professor Eng. Alberto Abecassis Manzanares, Director of the Hidrotechnica Portuguesa, Av. Estados Unidos da America, Lote 10-12°, Lisbon,

—Mr. H. Huon, Ingénieur en Chef, Société des forces hydro-électriques du Bas-Congo, rue des Aduatiques, 9, Brussels,

—Mr. J. M. Stock, Chief Engineer, Uganda Electricity Board, P.O. Box 559, Kampala, and

—a French specialist whose name will be indicated by Mgr. Gillon to the Scientific Secretary.

The meeting will be held in Lagos in November 1962 and advantage will be taken of the offer made by the organisers of the Lagos International Fair to invite specialist firms to exhibit on that occasion equipment the use of which is linked with the subject under discussion at the meeting. Mgr. Gillon will give all necessary information to the Scientific Secretary.

LIX. Meetings Devoted to Technology

The Council CONFIRMS the decision which it adopted several years ago for the regular holding of specialist meetings on problems of technology. The two subjects to be discussed at forthcoming meetings are :

—the protection of wood ;

—the protection of wood and metals used in a marine environment (corrosion, accretions, shipworms, crustaceans, etc.).

LX. Comparative Study of Hydroelectric Development Projects

Numerous projects have been studied during recent years for the construction of large-scale barrages to produce electric power for industrial purposes. Each of these projects involves a considerable undertaking having extensive repercussions in numerous fields. Furthermore, these projects have been drawn up without any direct interrelationship. Information published about them is not generally of such a nature as to allow of any comparison of the projects.

The Council has been asked on several occasions to study various aspects of this problem. It is not competent, nor is the Commission competent, to express an opinion upon the advisability of a given project or to assess the relative value of different proposals. On the other hand, and in so far as this is not being done by any other body, the Council BELIEVES that it cannot refuse to act and that it must follow up requests which are made to it.

Basing its decision on principles similar to those which led it to accept responsibility for Joint Project 12 (see Recommendation LIV above), the Council RECOMMENDS that a comparative study of different projects of this nature should be undertaken ; this attitude will, of course, be confined to the technical aspects of projects. It will present information in a comparable form, whether this involves technological data or assessments of current consumption, its cost, the cost of construction, etc. The expert responsible for the study should be chosen with care, and any recourse to the services of persons directly or indirectly associated with the

drawing up of any of these projects is to be avoided. It would be advantageous for the expert chosen to work in close liaison with the Co-ordinator of Joint Project 12, and to make fullest use of the facilities offered by the Centre for economic studies at Lovanium University as well as of other items of information already collected by various specialised institutes or periodicals. The very complete studies undertaken by the International Bank for Reconstruction and Development constitute an essential element in any such study and the survey should be carried out if possible in closest liaison with the Bank.

LXI. West African Atlas

As long ago as its Ninth Meeting, the Council took note of the IFAN project to publish an international atlas presenting in cartographic form scientific data concerning West Africa. The project has now been studied in detail and the Council APPROVES the proposals made by Professor Monod, whom it CONGRATULATES on his initiative. It DESIRES that bodies and countries outside Africa should give sympathetic consideration to requests for assistance which they may receive.

LXII. Thirteenth Meeting of the Council

The Council DECIDES to hold its Thirteenth Meeting from 13 to 22 September 1962. It HOPES that it will be possible to organise this meeting in the Horn of Africa and REQUESTS the Secretary-General to approach the responsible authorities.

(Reference Recommendation XXXII)

**SPECIALIST MEETING ON MARINE INVERTEBRATES
(CRUSTACEANS AND MOLLUSCS)**

Draft Agenda

1. Morphology and Taxonomy

- (i) Taxonomy and diagnosis ; identification keys.
- (ii) Nomenclature
 - (a) accepted scientific names and synonyms
 - (b) common and vernacular names.
- (iii) Variability (intraspecific unities, sexual dimorphism, biometry).

2. Distribution

- (i) Specific area.
- (ii) Bathymetric distribution.

3. Bionomy and Ecology

- (i) Reproduction (morphology and physiology of gonads and copulating organs ; seasonal place of laying ; fecundity ; eggs ; larval stages and metamorphoses).
- (ii) Food (qualitative and quantitative data ; mechanisms involved).
- (iii) Growth, age, longevity.
- (iv) Populations (types of structure and distribution), possible gregariousness (importance, composition and development of schools) ; assessment of stocks in relation to their ecological requirements and their seasonal evolution).
- (v) Seasonal movements (conditions, extent, internal or external factors).
- (vi) Ecology (role of species in the ecosystem ; mesological, physico-chemical (including the nature of the sea bed) and biological characteristics).

4. Exploitation

- (i) Technical aspects, whether traditional or not (fishing methods ; gear ; boats).
- (ii) Treatment, utilisation, marketing (methods of conservation, etc.) ; uses other than as food.
- (iii) Economic aspects (quantities landed, statistics, possible developments).

(Reference Recommendation XL (b))

**TRAINING COURSES ON BILHARZIASIS
(DOCTORS, VETERINARIANS, BIOLOGISTS)**

1. General

Geographical situation ; incidence ; medical, economic and social importance.

2. Parasites

Different species ; classification ; biology ; maintenance in the laboratory.

3. Vectors

Taxonomy ; biology ; culture in the laboratory ; natural and experimental infection.

4. Human and animal bilharziasis

Pathology ; clinical ; clinical and laboratory diagnosis.

5. Epidemiology and epizootology

Reservoirs of viruses ; dispersal factors ; miscellaneous indices.

6. Control of bilharziasis

Principles ; individual and collective prophylaxis ; therapeutics ; health education.

ALPHABETICAL INDEX OF RECOMMENDATIONS

A

Acculturation—Specialist meeting, XLIV
 Assistance in sinking shallow wells, XXIII
 Atlas (West African), LXI

B

Beekeeping in Africa, XXIX
 Bilharziasis—Training course, XL and Annex II
 Bovine pleuropneumonia research, XXXVII
 BPITT, XXXVIII

C

Campaign against rinderpest in the Chad/Niger area, XXXVI
 Cartography of vectors of diseases, XLIII
 Case studies of economic development, LIX
 CCTA/CSA London office, XV
 Conferences :
 Hydrology, XX
 Third Inter-African on Education, XLIX
 Continuity of the Council's action, XI
 Co-operation with countries and organisations outside Africa, VIII
 Co-ordinating committees on Major Lakes (Chad), XXXI
 CSA (Future), II
 CSA (Thirteenth Meeting), LXII
 Courses for experts unfamiliar with African conditions, VI

D

Doctors—specialisation in tropical medical problems, XLI

E

Economic development—case studies, LIV
 Education :
 CCTA/CSA activities in the field of, XLVIII
 Third Inter-African Conference, XLIX
 Elections, IX
 Electricity—long distance transmission, LVIII

F

Family budget surveys (Joint Project 9), LIII
 Future of CSA, II

G

Guinean Year, XXXIV

H

Haighton, Mr., XVI
 Hawkins, Mr., XV
 Hydrobiology and inland fisheries, XXXI
 Hydroelectric development projects (Comparative study), LX
 Hydrologists (West African training centre for assistant), XXII
 Hydrology conference, XX

J

Joint action (Regional programmes), III
 Joint Projects :
 5—Absenteeism and labour turnover, LV
 8—Mapping of vectors of disease, XLIII
 9—Family budget survey, LIII
 11—Pedological map, XXIV
 12—Case studies of economic development, LIV
 15—Rinderpest, XXXVI
 16—Bovine pleuropneumonia, XXXVII
 18—Psychometric tests, LI
 20—Soil erosion map, XXV

L

Laboratory assistants (training), XLII
 Libraries and documentation, XLVI
 London office, XV

M

Major industrial schemes in the development of young countries, LVI
 Maps :
 Pedological map of Africa, XXIV
 Soil erosion, XXV
 Vectors of disease, XLIII
 Meetings of specialists, XII
 Meetings of specialists on :
 Acculturation, XLIV
 Libraries and documentation, XLVI
 Marine invertebrates, XXXII
 Phytogeography, XXVI
 Specialisation of veterinarians and zoo-technicians in the tropical field, XXXV
 Teaching of a second European language, LIX
 Migrations, XLV

N

Nature conservation, XIX

O

Occupational safety, Hygiene and Health, LVII
 Oceanography and sea fisheries, XXXII

P

Pedological map of Africa, XXIV
 Phytogeography, XXVI
 Phytosanitary protection, XXX
 Productivity, LV
 Psychometric tests, LI
 Publications, XVII

R

Radio-carbon dating centre, XLVII
 Radio-isotopes—Training course for laboratory assistants, XL

Recruiting of experts for tropical countries,
VII

Regional programmes, III

Regional training centres, IV

Report to the Twelfth Meeting, XVIII

Rinderpest in the Chad/Niger area, XXXVI

Riparian States (co-operation between), XXI

S

Savannah zone cereals—Symposium, XXVII

Soil erosion map, XXV

Specialisation of doctors on tropical problems,
XLI

SPI, XXIV

Statistics, LII

Symposia on :

Hydrobiology and inland fisheries—4th
and 5th symposia, XXXI

Migrations (Niamey), XLV

Rice, fodder crops and cassava, XXVIII

Savannah zone cereals, XXVII

T

Teaching of a second European language, L

Technical assistance activities (Administrative
arrangements), XIII

Technology—meetings on, LIX

Third-country training programmes, V

Thirteenth Meeting of CSA, LXII

Thunnidae fisheries in the African Atlantic,
XXXIII

Training centre for assistant hydrologists—
West Africa, XXII

Training centres (regional), IX

Training courses :

Medical field, XL and Annex II

Organisation, XIV

Training of laboratory assistants, XLII

Trypanosomiasis and its vectors (control
measures), XXXIX

V

Van den Bergh, Dr., X

Vectors of diseases—cartography, XLIII

Veterinarians—specialisation in the tropical
field, XXXV

Virus diseases (training courses in the labora-
tory diagnosis of), XL

Vote of thanks, I

W

Wells—assistance in sinking of, XXIII

West African atlas, LXI

West African training centre for assistant
hydrologists, XXII

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TWELFTH MEETING OF THE SCIENTIFIC COUNCIL

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