

UNITED NATIONS ECONOMIC and SOCIAL COUNCIL

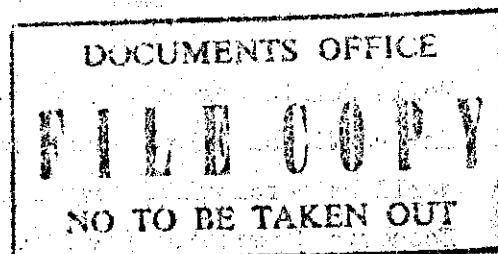
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REPORT OF THE SIXTH MEETING OF THE UNACAST REGIONAL GROUP FOR AFRICA Addis Ababa, 18-21 October 1971

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INTRODUCTION

Opening and duration of the meeting

1. The Regional Group for Africa of the UN Advisory Committee on the Application of Science and Technology held its sixth consultative meeting at the Headquarters of the Economic Commission for Africa, Africa Hall, Addis Ababa from 18 to 21 October, 1971.

Attendance

2. One member of the African Regional Group, the Hon. Dr. W.K. Chagula, attended the meeting. Other bodies and agencies represented were: the Office of Science and Technology, ESA, UN Headquarters, the Economic Commission for Africa (ECA), the World Meteorological Organization (WMO), United Nations Educational, Scientific and Cultural Organization (UNESCO), Food and Agriculture Organization of the United Nations (FAO), World Health Organization (WHO) and the International Labour Organisation (ILO).

3. The meeting was attended by 24 people and a complete list of participants is given in annex II.

Organization of the meeting

4. The Hon. Dr. W.K. Chagula, the only member of the Regional Group present assumed the Chairmanship. The meeting proceeded to approve the agenda which appears in annex I.

5. The meeting was opened by Mr. R.K.A. Gardiner, the Executive Secretary of the Economic Commission for Africa. In his opening remarks, Mr. Gardiner welcomed Dr. Chagula and the representatives of UN organizations and agencies and referred to the importance of the regular consultations between the Regional Group, ECA and other UN agencies active in the field of science and technology within Africa. He stressed the importance of the World Plan of Action for the African Region and hoped that the meeting would conclude its deliberations on the draft African Regional Proposals for the World Plan of Action at this session. He hoped that suitable action programmes would emerge from the regional plan which would constitute a framework for action at the country level.

Documentation

6. The documents before the African Regional Group at the meeting are listed in annex III.

Reception by H.E. Mr. Samuel N. Ebuka

7. Participants at the sixth consultative meeting of the Regional Group for Africa attended a reception given by H.E. Mr. Samuel N. Ebuka, the Ambassador of the Republic of Equatorial Guinea on 20 October 1971.

I. AFRICAN REGIONAL PROPOSALS FOR THE WORLD PLAN OF ACTION

9. The meeting has before it the following documents: World Plan of Action for the Application of Science and Technology to Development (E/4962) and (E/4962/Add.1 parts I-XII) prepared by the UN Advisory Committee on the Application of Science and Technology to Development, Regional Proposals for the World Plan of Action (UNACAST/AF.REG./V.2) and (UNACAST/AF.REG./VI.2 Parts I-VI) prepared by the UN Economic Commission for Africa.

10. A representative of the ECA secretariat introduced the discussion on this topic and explained the objectives and the format of the Regional Proposals which the meeting was to consider. The inputs into the preparation of the Regional Proposals for the World Plan of Action came from three main sources:

- (i) The Global Plan for the World Plan of Action which provided a general framework of areas of priority selected for action by the UN.
- (ii) The Country Surveys on Needs and Priorities in the Application of Science and Technology to Development. These surveys were conducted by the ECA in 1969 in 39 member-countries and furnished information on the areas of need and the priorities of these countries where science and technology require to be applied.
- (iii) Contributions from specialized agencies containing proposals for action in different sectors.

11. In preparing the draft Regional Proposals for the World Plan of Action, the task of the Commission has been to select regional programmes within the framework of the Global Plan, taking into account the needs already ascertained from the country surveys undertaken. The Regional Proposals are not intended to answer to all the needs of the countries in the African Region, but are a selection of programmes of high priority from among those needs. For the purpose of implementation it will be necessary to proceed to the selection of country projects as the final stage of the Plan. The Regional Plan could be looked upon as the envelope for the country projects.

12. The presentation of the Regional Proposals falls under ten sectors, each sector having its own chapter. In each chapter there is an introductory part giving a brief outline of the problems and issues in the sector and the areas of intervention for science and technology. The objectives towards which the programmes in the sector are directed are then listed followed by programmes designed to give coverage to the range of ascertained country needs. Within each programme the Regional Plan lists and discusses briefly a number of illustrative projects. The list of projects under each programme is not meant to be exhaustive.

13. It was pointed out that Chapter I on "Science Development" and Chapter IV on "Industry" had been presented at the Fifth Meeting of the

Regional Group of UNACAST last year, but the Chairman proposed that it would be useful to discuss the whole Plan together including these two Chapters.

14. Within the time available, the meeting considered six chapters of the Regional Plan, namely:

- I Science Development
- II Natural Resources
- III Food and Agriculture
- IV Industry
- V Transport and Telecommunications
- VI Housing and Urban Development.

15. Owing to the shortage of time, consideration of the remaining four chapters was deferred and it was decided that these should be presented before the African Regional Group Meeting to be held in Geneva during the 15th session of UNACAST. In particular, discussion of Chapter X on Transfer of Commercial Technology and Item 4 of the Agenda was deferred in order to allow consideration at a meeting at which UNIDO and UNCTAD could be present.

16. The main decisions and amendments proposed during the meeting on each of these chapters are given in the following paragraphs:

Chapter I

17. The Chapter was presented for discussion in substantially the same form as it had originally been tabled before the fifth meeting of the Regional Group. The UNESCO representative enquired whether the Chapter had been revised to take account of the submission which had been sent by the Field Science Office after the fifth meeting. The ECA pointed out that the present chapter as it was, already took note of any relevant proposals contained in the UNESCO submission. At the insistence of the UNESCO representative the meeting agreed that copies of the submission be referred to be circulated to the participants of the meeting. After the participants had had time to read the UNESCO submission the Chairman summed up the position by pointing out that there was no need to amend the chapter in its present form which could be said to arise out of any proposals contained in the UNESCO submission. It was clear, after the UNESCO document had been read, that it dealt primarily with a later stage of the Regional Plan where country projects would be selected and it was agreed that any relevant points in the document would be taken into consideration during the next stage of the exercise which would involve selection of country projects.

Chapter II

18. In Chapter II a number of modifications were made to the sectoral objectives of the Regional Plan in order to include some activities which had been omitted. In addition, a new Project (c) relating to the training of personnel for Earth Resources Exploration Satellites was added in programme III. The Chapter was then adopted.

Chapter III

19. In introducing Chapter III, the ECA pointed out that the priorities for the Regional Plan coincided very closely with those of the Global Plan except that, within the African region, the production of unconventional proteins was not of serious interest. The general conviction within the region was that the conventional sources could provide adequate supplies of protein to meet the food demands. Under Programme I of this sector, the meeting agreed that a Project (d) should be added relating to the survey of ecological conditions in order to determine the crops that are most suitable for cultivation. Under Programme III the meeting agreed to a suggestion that wheat should be added to the list of cereals of interest for genetic research within the region.

20. In Programme V considerable discussion took place on Project (a) which related to the introduction of mechanization into agriculture. It was felt that projects for the introduction of mechanization should be conceived of in two categories. There was need for the introduction of mechanization at what was designated "intermediate technology level" in many farming areas in Africa where full mechanization as normally known would not yet be relevant. It was therefore decided that an additional project be added under this programme which would provide for the introduction of intermediate technology into farming as a separate stage of farming mechanization. A second project was requested to be added in Programme V to deal with the development of improved farming practices. In the discussion of Programme VI, it was felt that there was need to take account of the sociological problems of introducing new animal production techniques. Sociological problems had in the past and still continue to constitute one group of serious obstacles to the modernization of agriculture. It was agreed to provide an additional project under this programme dealing with research into sociological problems of introducing new animal production techniques.

21. Programme IX dealt with the development of forestry. Under this programme it was agreed that two new projects be added: one dealing with education on problems of conservation of forests for farmers and the other to provide for the development of forest products. Under Programme X, the meeting recommended that a second project should be added dealing with the development of new processed foods from existing agricultural products. Programme XI was agreed upon in the form presented but a request was made that further details might be added on the categories of manpower requiring to be trained.

Chapter IV

22. Chapter IV was presented for discussion in the same document from the fifth meeting. It was agreed that the division of programmes into government and non-government programmes should be deleted from this chapter and that all programmes should be given in the same way as in the rest of the chapters. Under Programme II, the meeting agreed that an additional subject which should feature in the industrial research programmes should be the evaluation of technologies generated through research. It was also felt

that Programme III relating to standardization should specifically mention the need for standardization to extend to small-scale industry. Since the Regional Plan would be followed by country project selection exercises, it was felt that there was no need to mention countries for which particular projects were relevant at this stage and it was therefore agreed to delete the mention of individual countries from this chapter. A further change made in the chapter was the decision to transfer Project (b) under Programme IV which related to the creation of legislation and organizations for patent administration and industrial licensing to Chapter X which would deal with Transfer of Commercial Technology.

Chapter V

23. In Chapter V, the greater part of the discussion took place on Programme III concerning the promotion of proper maintenance of transport networks and equipment. It was agreed that, under this programme, three new projects be added. One project would deal with the improvement of the organization of the vehicle maintenance; the second project would relate to the co-operation of African countries in joint operation and maintenance of airlines. The meeting also felt that it would serve the interests of the countries within the region if a programme of regional and sub-regional conferences and seminars were organized to discuss the issues relating to airlines operation and maintenance. Under Programme VI of this sector a suggestion was made that there was need to provide for the training of operating personnel for seagoing vessels. The suggestion to provide a Project (e) under the programme for this purpose was accepted.

24. At the end of the discussion of this chapter it was pointed out that because of the very low stage of development of maritime shipping in the region it would serve some useful purpose to emphasize this particular area of need by bringing all the projects relating to maritime shipping into one programme for purposes of emphasis. It was agreed that a new Programme VIII be added to this chapter and that all projects related to maritime shipping which were scattered in all the other programmes from I to VII should be collected together under the new programme.

Chapter VI

25. In the discussion of Chapter VI, members agreed that the title "Housing and Urban Planning" was too restrictive and a proposal to rename the chapter "Housing and Urban Development" was agreed. In Programme II it was felt that advantage should be taken of the provision of Project (b) to emphasize the need for addition of rural settlement needs. Although the terms of reference for the WPA, as enunciated in the original plan frame focus attention on urban settlement programmes, nonetheless in a region where by far the greatest proportion of the population lived in rural areas adequate attention should be devoted within the Regional Plan to problems of rural settlements.

II REVIEW OF THE GLOBAL PRIORITIES OF THE WPA AND
THEIR APPLICATION WITHIN THE AFRICAN REGION

27. At the suggestion of Mr. Desai, Deputy Director of the Office of Science and Technology, ESA, the meeting decided to carry out a brief review of priority areas for action identified by the Advisory Committee and contained in Volume I of the published World Plan of Action - document E/4962. The meeting discussed the priorities treated in Chapters I, II and III of this document and identified those that were relevant to the needs and priorities of the African region. It was decided that a brief report should be prepared based on the discussions and a more detailed examination of these priorities which would deal with the applicability of the global priorities contained in this document to the African region. This brief review would be a supplement to the Regional Plan.

28. The general conclusion of the discussion of Volume I was that most of the priority areas identified in the Report were applicable to the African region. However, the question of natural disaster warning systems and human fertility in Chapter I were not considered to be priority areas for action in the African region as a whole.

29. In the list of subjects under Chapter II, the meeting recommended the inclusion of two items under the section dealing with human diseases control, namely bilharzia and onchocerciasis.

III. REVIEW OF CURRENT PROGRAMMES AND ACTIVITIES OF UNITED NATIONS
ORGANIZATIONS AND AGENCIES CONCERNED WITH THE APPLICATION
OF SCIENCE AND TECHNOLOGY IN THE AFRICAN REGION

30. Under this agenda item the representatives of the organizations and agencies present were invited to give their reports. Both written and oral submissions were made to the meeting and a summary record of these is given in the following paragraphs.

World Health Organization (WHO)

31. The representative of WHO emphasized that control of communicable diseases is the major activity of his organization in Africa. WHO is giving assistance to African Governments in this matter and in the collection and evaluation of data on health problems with a view to providing appropriate measures for their control. In the field of education, the organization provides high-level personnel to teach in African universities, and also offers fellowships to indigenous medical and health personnel to enable them pursue further studies.

32. The WHO's interest in population programmes has been in the integration of family planning into the basic national health services and the organization has collaborated with other UN agencies in research and surveys connected with infant mortality and related issues. Problems of malnutrition continue to receive appropriate attention. In the area of environmental health, WHO is widening its activities to include all aspects of this problem and is playing an important role in the preparation for the UN Conference on the Human Environment planned for 1972.

International Labour Organisation (ILO)

33. The representative of the ILO reviewed the programmes and activities of his organization related to science and technology and recalled that the transfer of appropriate technologies to the African region was one of the main preoccupations of his organisation. He stressed that this transfer did not merely mean the making available to African countries of all those procedures and methods applicable to developed countries but also implied adapting them to the human needs and sociological realities of the African population. He then elaborated on the following main fields of activity of the ILO which involved the application of science and technology to development in Africa: the planning of economic development; the organization and training of manpower; workers' productivity and their training; co-operative institutions including community and rural development; maritime shipping and ports; small-scale industries and local handicrafts; security and hygiene of workers; labour legislation; the scientific organization of work.

World Meteorological Organization (WMO)

34. The representative of WMO in presenting the programmes and activities of his organization, pointed out that most of their activities to be considered in the World Plan of Action for the Application of Science and Technology to development are enumerated primarily under the atmospheric resources programme of natural resources sector of the World Plan of Action. He pointed out that in so far as African regional programmes were concerned, most of the African countries have adopted the WMO programmes and his organization would assist these countries to achieve their various national targets in this domain. He further added that since one of the most important problems facing African countries was the lack of manpower, WMO considered that the training of personnel was one of the priority activities for African countries. He then enumerated a number of ongoing and planned manpower training activities in progress within the region under the aegis of his organization.

35. Infrastructure for meteorological services still requires improvement in several ways and WMO plans to implement a number of projects in various African countries which would lead to the strengthening of the meteorological services throughout the region and thereby enable the African countries to participate in and benefit from the global meteorological programmes of research and data processing envisaged under the World Weather Watch.

Economic Commission for Africa (ECA)

36. The representative of ECA, in presenting the programmes and activities of the Commission in the field of science and technology stressed the following points: The ECA has a major task before it in assisting member States create or strengthen their national organs for policymaking and planning in science and technology in order to promote their application to social and economic development. Specific assistance is being rendered to member States in this field.

37. One major area of need by member States is in technological development planning and ECA is to undertake special studies and research on methodology and techniques for technological development planning. Related to this, the Commission plans to undertake regular collection and analysis of data on the techno-economic situation and the technological needs and priorities of member States. The critical manpower situation in science and technology is a constraint on all sectors of the national economies in the region. In this regard, the secretariat is concerned with planning and promoting action directed to relieve specific critical areas of manpower shortages in science and technology through identification of needs in terms of new institutions or new courses in existing ones, where the present training programmes appear to be deficient. The ECA has already established an international panel to look into the needs for and nature of the institutes required in the field of applied science and technology.

38. The ECA is concerned about the strengthening of the existing infrastructure of institutions for research and development in different sectors of the African economy in order to ensure a good flow of technology and technical services to production activities. Consultations are in hand between ECA and one member State regarding the establishment of an Institute of Fuel Science and Technology and similar developments are envisaged in other countries in future. ECA places considerable importance on the need to bring decision-makers on one hand and the general public on the other into familiarity with concepts and ideas in science and technology and to create amongst them an awareness of the importance of this domain in the social and economic progress of the African countries. Mass media operators, scientists and journalists will play a big role in this task. Last year, the ECA organized a country Seminar on Science and Mass Media in Kampala which was attended by representatives of these groups within East Africa. Assistance has also been given in the setting up of science editorial division in one of the major newspapers in West Africa.

39. On regional co-operation, ECA believes that this should be further developed on an individual or institutional basis among scientists and technologists on one hand and their respective professional organizations on the other. Already a start has been made in establishing contacts with existing technological societies and associations within Africa.

40. The representative of the Population Programme Centre of ECA pointed out the major problems relating to the demographic situation in Africa and outlined the major programmes of the Centre which were directed to assisting African countries in the following activities in relation to population:

- (i) Data collection;
- (ii) Data analysis and interpretation;
- (iii) Provision of extension services to a number of institutions;
- (iv) Establishment of postgraduate institutes for population studies;
- (v) Sponsoring training seminars and symposia on various aspects of population problems;
- (vi) Offering advice to Governments.

United Nations Educational, Scientific and Cultural Organization (UNESCO)

41. The representative of UNESCO drew attention to a number of activities within his organization's programme for the 1971-72 biennium. In the area of science policy and organization of research, two surveys were under way: one on the institutional needs of African countries in the field of science and technology and other on science policymaking bodies in Africa. A survey of the scientific and technical potential of the African countries has recently been published. UNESCO plans to convene a Conference of African Ministers of Science (CASTAFRICA) in 1973 and a meeting of African experts will be convened in October 1971 to undertake preparatory work and plans for this meeting. Both the OAU and the ECA have been invited to the preparatory meeting.

42. In the area of scientific and technical information, UNESCO plans to establish a World Scientific and Technical Information System (UNISIST) and a number of African Governments have already shown interest in UNISIST. The UNESCO Regional Science Office in Nairobi is undertaking a survey of scientific and technical journals in Africa, the results of which will be published.

43. Science education is a very important area of UNESCO's activity and there has been very close collaboration with UNICEF in connection with integrated science teaching programmes at the primary and lower secondary levels and as an aid to education for rural development. UNESCO also continues to offer advice and assistance to various African countries in the special fields of technical education, engineering education and agricultural education. In a related activity, the organization offers fellowships to African scientists to undergo further training or to attend learned conferences. The organization plans to convene in November, 1971, a Regional Seminar on the Public Understanding of Science and Technology which will supplement ongoing effort in other directions on the promotion of public awareness of science and technology.

44. In the field of environmental sciences, UNESCO is pursuing a long term inter-disciplinary Programme on Man and the Biosphere (MAB). Africa is likely to attract some of the activities planned under this programme, and a number of African countries have already taken steps to ensure their active participation in this programme. Natural resources form an important area of activity for UNESCO, and several missions of an advisory and consultative nature have already been made to a number of African countries by the Field Science Office for Africa in Nairobi. The organization is also consulting with a number of African universities regarding the establishment of post-graduate courses on this subject. In collaboration with other agencies, UNESCO sponsored, in September 1971, a meeting of the African National Committee for the International Hydrological Decade. In the field of oceanography, the organization aims at providing support for the establishment of a Marine Science Centre in West Africa.

Food and Agriculture Organization (FAO)

45. The representative of FAO made a statement on the action programmes of his organization in relation to the World Plan of Action for the Application of Science and Technology to Development. The sectoral proposals which are contained in an FAO document (PAB Mis./70/1) were distributed last year and the main objectives and action programmes for the African region could be identified within the scope of this document. He outlined the objectives of FAO's programmes in Africa as:

- (a) The transformation of the predominantly traditional sector through the optimum combination of science and technology with human and physical resources;
- (b) The conservation and development of natural resources leading to their increased contribution to the social and economic development of African countries;
- (c) The broadening of the rural economic basis;
- (d) The acceleration of the development of agricultural processes and agro-based industries;
- (e) The acceleration of integrated rural development.

46. He then outlined the major programmes envisaged by FAO in this sector in the application of science and technology to development. These are:

- (i) The development and conservation of natural resources for agriculture;
- (ii) Development of land and water resources;
- (iii) Prevention of pollution of inland waters;
- (iv) Improvement of productivity in difficult natural environments;
- (v) Genetic and agronomic improvement of major crops;
- (vi) Genetic and agronomic improvement of cereals with special reference to high-yielding varieties;
- (vii) Improving yields of starch roots and plantains;
- (viii) Improving the protein content of cereals and food legumes;
- (ix) Development of commercial production of fruit and vegetables;
- (x) Production and distribution of quality seeds;
- (xi) Rapid increase in fertilizer use;
- (xii) Animal production and health.

World Bank (IBRD & IDA)

47. The World Bank was unable to send a representative to the meeting, but the Bank sent a brief statement on its activities in support of science and technology in the developing countries.

48. The World Bank Group through the projects and developments it finances contributes to the application of science and technology in most of its operations. The Bank Group is often called upon to finance long-term development projects which usually involve a large importation of technology from abroad to the developing regions. Its financial assistance has often been directed towards research and development-oriented activities and institutions within the context of specific development projects. A number of research programmes within the activities of agricultural institutions or related projects have benefited from the Bank loans.

49. However, the Bank's policies have been evolving in response to the recommendations of the Pearson Commission and the Bank Group is now ready to support national and international research and development activities conceived as independent projects. Initially the Bank Group will confine itself to research institutions in the fields of agriculture, industry, education and population, with emphasis on agriculture. In this connection the Bank Group has recently granted a loan to Spain towards the establishment of six national agricultural research centres.

50. The establishment of international institutions for research in agriculture and related fields will receive considerable support in the near future. In line with this, the Bank in co-operation with UNDP and FAO as co-sponsors, has sponsored a Consultative Group comprising, in addition to the co-sponsors, governments, regional development banks and private foundations interested in supporting international agricultural research related to the problems of the developing nations. Among the proposals being currently studied by the Consultative Group are one for the provision of financial support for the International Institute of Tropical Agriculture in Nigeria and other proposal relating to the establishment of a livestock research centre in Africa.

Annex II: LIST OF PARTICIPANT

Members of the African Regional Group

H.E. Dr. W.K. Chagula
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United Republic of Tanzania

United Nations Secretariat

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Mr. R.C Desai
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Transport, Communications and Tourism Section

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Mr. V. Fadejey

Human Resources Development Division

Mr. J. Riby-Williams, Chief

Population Programme Centre

Dr. P.C. Ohadike

Annex III. LIST OF DOCUMENTS

<u>Document No.</u>	<u>Title</u>
E/4962	World Plan of Action for the Application of Science and Technology to Development: Volume I of the report of the Advisory Committee on the Application of Science and Technology to Development.
E/4962/Add.I Part I-XIII	World Plan of Action for the Application of Science and Technology to Development: Volume II of the Report of the Advisory Committee on the Application of Science and Technology to Development.
UNACAST/AF.REG/V.2	Regional Proposals for the World Plan of Action: Chapter I - Science Development Chapter IV - Industry.
UNACAST/AF.REG/VI.1	Provisional Agenda.
UNACAST/AF.REG/VI.2 Part II	Regional Proposals for the World Plan of Action: Chapter II - Natural Resources.
UNACAST/AF.REG/VI.2 Part III	Regional Proposals for the World Plan of Action: Chapter III - Food and Agriculture.
UNACAST/AF.REG/VI.2 Part V	Regional Proposals for the World Plan of Action: Chapter V - Transport and Telecommunications.
UNACAST/AF.REG/VI.2 Part VI	Regional Proposals for the World Plan of Action: Chapter VI - Housing and Urban Development.
UNACAST/AF.REG/VI.3	Organization of the Preparation of Country Plans for the World Plan of Action.
UNACAST/AF.REG/VI.4	Transfer of Commercial Technology within the African Region.