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WORKSHOP ON DEVELOPMENT OF
MARINE SCIENCE AND TECHNOLOGY IN AFRICA

ECA, Addis Ababa, 8 - 13 June 1981

OPENING ADDRESS

by

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Mr. Deputy Executive Secretary,

Ladies and Gentlemen,

It is with great pleasure that I welcome you all at the opening of this meeting. First of all, I would like to convey to you the greetings of the Director General of Unesco, Mr. Amadou Mahtar M'Bow, who attaches great importance to this meeting, as a significant step towards development in general as well as in the area of marine sciences and marine resources in Africa.

It is now almost one year since a working group of marine scientists met here in ECA to discuss the state of marine sciences in Africa, before embarking on a number of missions to almost all the coastal states of West, Central and East Africa. We now have an unprecedented survey of the main elements which constitute the national efforts in the field of marine sciences and marine affairs. I say unprecedented survey, because it was made simultaneously and represents the state of affairs in African coastal states during 1980; in other words, the beginning of the decade of the eighties.

As you know, this survey is only the first step within a work plan designed to promote the cause of marine sciences and technology in Africa, with a view to facilitating the response to the growing needs of the continent in this domain.

The Work Plan is carried out under a regional project financed by UNDP, and executed by the U.N. Economic Commission for Africa, and Unesco. This project, was approved by UNDP in October 1979, became the first project to be jointly implemented by ECA and Unesco, as executing agencies, under the "Arrangement between the Director General of Unesco and the Executive Secretary of ECA", signed on 10 May 1979.

We are now approaching the end of the preliminary phase of this project, and the aim of this meeting is to assess the work achieved during the preparatory phase, but above all, to set out a plan for the operational phase of the project. I imagine this to be the minimum we may expect from this meeting, given the wide range of your specializations, your experience in developing marine science and technology both in and outside Africa, and the great needs of Africa in this domain.

One big regional project is a modest start, and this should be supplemented with a wide range of national and regional efforts, in order to attain a reasonable capacity in making use of the sea. Of course, there are many limiting factors, not least among them the financial resources and the availability of manpower. I am certain that these problems will emerge in your discussions, but I am touching on them briefly, to remind you of the challenging task which lies ahead of you. In short, your task will be to advise on how to make the best use of limited resources and attain the greatest output. You will face this problem when asked, as a first priority of this meeting, to advise on a draft work plan for the operational phase of the project, but you will face it again and again when attempting to draw up a medium or long term plan for the development of marine sciences and technology in Africa, that is to say, during the present decade and up to the year 2000. A lot of imagination and pragmatism will be required to set out an adequate work plan for the project, within the context of a wider action plan for Africa during the present decade.

I mentioned earlier that this project was initiated at the beginning of the present decade. There could not have been a more opportune time to start this project than the present. Indeed, the initiation of this project coincided with three major international fora which focussed attention on the three main themes :

Sea, Science and Technology, and the Economic Development of Africa. I refer here to the following conferences, which resulted in an unprecedented awareness with regard to this triangle of themes, among the public, as well as among the decision and policy-makers. These are :

- 1) The Third United Nations Conference on the Law of the Sea and the emerging new regime of the ocean.
- 2) The United Nations Conference on Science and Technology for Development, Vienna, Austria, 20-31 August 1979, and the Vienna Programme of Action on Science and Technology for Development.
- 3) The Second Extraordinary Assembly of OAU Heads of State and Government, devoted to Economic Matters, Lagos, Nigeria, 28-29 April 1980; and the Lagos Plan of Action for the implementation of the Monrovia Strategy for the Economic Development of Africa.

The Draft Convention on the Law of the Sea (Informal Composite Negotiating Text - ICNT) makes specific reference to a number of actions to be taken by member States as well as by International Organizations, relating to the conservation of marine resources, the conduct of marine scientific research, the protection and preservation of the marine environment, the transfer of marine science and technology. An important institutional innovation is the establishment of an International Sea Bed Authority.

The "Vienna Programme of Action" on science and technology for development, focusses attention on the following three broad areas :

- i) "Strengthening the scientific and technological capacities of the developing countries;
- ii) restructuring the existing pattern of international scientific and technological relations;
- iii) strengthening the role of the United Nations in the field of science and technology and the provision of increased financial resources".

The Lagos Plan of Action for the implementation of the Monrovia Strategy for the Economic Development of Africa, devoted complete chapters to science and technology, to human resources development and utilization, to environment and development, to natural resources, and to food and agriculture, which all represent areas of great relevance to the development of marine sciences and technology in Africa. Furthermore, the Monrovia declaration "puts science and technology in the service of development by reinforcing the autonomous capacity of our countries in this field".

Mr. Deputy Executive Secretary,

Ladies and Gentlemen,

Since the inception of this project, a number of UN Organizations and Specialized Agencies have shown keen interest therein, and have followed its development very closely. We are grateful for the interest and collaboration they have shown during the preparatory phase of the project, and hope they will continue their support during the coming phase of the project.

One important item on your Agenda is that on mechanism for global and regional cooperation in marine sciences in Africa, included upon the proposal of the Intergovernmental Oceanographic Commission (IOC) and after consultations with the ECA and Unesco. This Item of the Agenda is intended to respond to Resolution XI-18 (Marine Science Cooperation on the Atlantic Coast of Africa), which was adopted at the Eleventh Session of the IOC Assembly (Unesco, Paris, October - November 1979). This Resolution (which was co-sponsored by Senegal, Gabon and France) instructed the Secretary of the Commission, in collaboration with the Division of Marine Sciences of Unesco, to arrange for a Workshop on Marine Science cooperation, to be held in West Africa. This Workshop was to provide the basis for a Marine Science Association for countries of the Atlantic Coast of Africa and other interested IOC Member States. This Item of the agenda will be presented to you by the Secretary of IOC Mr. Mario Ruiva; we hope the ensuing discussions help the Commission in its efforts to assist its African member States in strengthening their national capability, in the field of marine science and related aspects, as well as

tobring the services of IOC and its regional scientific programmes and coordinating mechanism closer to Africa, and to enhance the ability of the scientific community in Africa in taking advantage of IOC activities.

The Regional Seas Activity Centre of the United Nations Environment Programme have realized the relationship between this project and the Action Plan for West and Central Africa Region, which was recently adopted in Abidjan, 16-23 March 1981, as well as its relationship with the Action Plan for East Africa. You may recall, it was agreed during the Working Group Meeting in May 1980, that the questionnaires and reports of the missions be utilized to produce a Directory of Marine Research Centres in Africa. The first draft of this Directory has now been produced and distributed to you, and we commend the efforts of UNEP in the production thereof. Our colleague, the Representative of UNEP, Mr. Mohamed Tangi, will introduce this subject, after which we will be very happy to listen to your comments and proposals.

However, this Directory will, first of all, demonstrate the severe shortage of specialized manpower in Africa, and I would like, at this stage, to give you some statistical figures of great significance to this project. A study of the International Directories of Marine Scientists, partially produced by SCOR (Scientific Committee on Oceanic Research), FAS and IOC, showed that the oceanographic community in the world had increased from 750 marine scientists in 1950 to 11,000 in 1975. The latest figure for the Directory which is now going to press, points to a number of about 20,000 scientists. In 1975, the number of marine scientists in developing countries was 2,119, representing 19.2% of the total of 11,030; in comparison, slightly less than the number in U.S.A., and double the number in Japan. It should be noted, however, that the number of marine scientists in developing countries in 1975, is about three times the total number of the world's oceanographers in 1950, and almost equal to that in 1960. The rate of increase of the marine scientific community has roughly been doubled every five years. There is no reason to suspect that this rate will change. Certainly growth in the developing, as well as in the developed countries is continuing, and will certainly continue over the next decade, though it may vary from region to region.

It is of prime importance that we analyse the situation with regard to manpower in marine science and technology in Africa, taking into consideration the background of the world situation in general, and in particular, of other developing countries. The present Directory in your hands, gives a painful account of the situation. The number of marine scientists in all the member States covered by this Directory, in mid 1980, is 161, of which 33 are expatriate. Assuming that the revision and completion of this draft will increase the number of national scientists with a number equivalent to that of the expatriates, we shall remain at the same figure of about 160 marine specialists, almost exclusively in marine biology and fisheries. However, many of them are engaged in administration, fisheries management, and other related fields. Consequently, this will greatly reduce our estimation of the real scientific manpower engaged in research and development in Africa. Even if we take 160 as an accepted figure, we shall find that this represents less than 1.5% of the world oceanographic community in 1975, and about 7.5% of the marine scientists in developing countries. In other words, the number of marine scientists in 22 African countries is less than the number in each of the following leading developing countries, such as Chile (190), Brazil (273), Mexico (299), and India (422). Given the enormous task, the long coastline and the abundant resources, one could not but regret the situation. In addition to the basic mission of research and development, there now exists more projects, meetings, missions and piles of literature and correspondence than can be handled by the limited number of marine scientists scattered throughout Africa. Without any real solution to this shortage in manpower, there will be no appreciable progress in the development of the ocean and coastal resources of Africa. Therefore, let us emphasize here this case, and devote the project at hand for the principal purpose of developing the required manpower in marine science and technology in Africa.

Before closing, I wish to express, on behalf of Unesco, our sincere gratitude to the Executive Secretary of ECA, Prof. Adebayo Adedeji, for his personal interest in this project, and for the care he has taken to ensure its success. We express also our appreciation for the cooperation and financial contribution of IOC which helped increase the participation in this Workshop.

Our thanks are also due to all those in UNDP, in ECA, in IOC and in UNEP, as well as in all the institutions visited by the missions, who have contributed to the efforts associated with this project.

Finally, I should like to take this opportunity to welcome our colleagues, the Representatives of UN Organizations and Agencies, and other Observers in this meeting. Let us hope that this Workshop will attain its objectives, and that the participants will find it to be not only an inspiring, intellectual exercise, but also an encouraging endeavour to restore hope in the future progress in Africa, through the development of marine sciences and technology.