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COUNCIL OF MINISTERS
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Addis Ababa.

OAU SYMPOSIUM ON THE PEACEFUL USES OF ATOMIC ENERGY IN AFRICA

Kinshasa, Democratic Republic of the Congo
28th July - 1st August, 1969

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PRESENTATION REPORT

Introduction:

1. The idea of holding a symposium to bring together Scientists active in Africa in the field of atomic energy for peaceful purposes, had been canvassed for sometime since the creation of the OAU in 1963. It gained momentum soon after that, when the OAU entered into correspondence with the International Atomic Energy Agency with the aim of signing an agreement of co-operation between them. It was not until 1967 that the machinery for holding the symposium were put in motion. In April, 1967, the Second Ordinary Session of the Scientific Council of Africa (CSA), which met in Addis Ababa, included a symposium on the "utilization of atomic energy for peaceful purposes" in recommendation XIV on "Provisional Programme of Technical meetings and conferences for 1967/69". This was among the recommendations of the CSA, which were subsequently approved by the Council of Ministers and the Assembly of Heads of State and Government at their Ordinary Sessions held in Kinshasa, Congo, in September 1967. Having thus received the statutory approval, the proposed symposium had to be planned for.

Preparations for the Symposium:

2. To ensure a comprehensive coverage of the peaceful uses of atomic energy, the General Secretariat prepared a provisional list of items for inclusion in the agenda of the Symposium, and submitted it on the 8th March, 1968, to the International Atomic Energy Agency for advice. The IAEA was also asked for any information on African scientists who were known to be engaged in the application of atomic energy for peaceful purposes. At the same time, a formal application was made to the IAEA for joint-spnsorship of the symposium, and for aid it could give to make the symposium a success. The IAEA responded positively to all of these requests. The agreed provisional agenda plus other relevant information were first circulated on the 20th June, 1968, to all Member States, Universities, to African Scientists listed by the IAEA and to Members of the Scientific Council of Africa. Invitations were also sent to the relevant UN Specialized Agencies and to other organizations to send observers to the symposium. A steering Committee was established composed of the following:-

Professor Felix Malu	Commissaiere des Sciences Nuclaire (Congo)
Dr. Aklilu Lema	Dean of the Science Faculty, HSIU (Ethiopia)
Mr. Belov	Senior Officer-External Liaison, IAEA
Mr. J.D. Buliro	Assistant Secretary-General, OAU
Mr. K.M. Katondo	Education/Cultural Officer, OAU

and met in Addis Ababa on 19/20th December, 1968, to plan for the symposium. The OAU also invited the following eminent scientists to present papers and lead discussions in the strategic areas shown:-

(1) Prof. A. Eyimote Beyo (Nigeria)	Medicine
(2) Dr. E.M. Ely-Shazly (U.A.R.)	Minerals and Geology
(3) Prof. H.E.O. Lindsay (Ghana)	Nuclear reactors
(4) Mr. Bakheit Said (Sudan)	Agriculture.

3. Earlier before this, and in their letter received in October, 1966, the Democratic Republic of the Congo invited the OAU to hold the symposium in Kinshasa, where there is already in operation a research reactor. The OAU accepted this invitation with gratitude. At the request of the Government of the Republic of the Congo, the dates for the symposium were fixed as 28th July to 1st August, 1969, while the "Commissariat des Sciences Nucleaires" of the Congo was placed in charge of the local arrangements and of the whole programme.

The work of the Symposium:

4. The symposium was formally opened by H.E. Andre Tshibangu, the Minister for Power of the Democratic Republic of the Congo on the 28th July, 1969. In his welcoming speech which is attached hereon as Appendix III, the Minister reminded those assembled that it was time Africa promoted and strengthened its co-operation in the scientific fields through the OAU as it was doing in the political fields. He further called for the increasing application of science and technology to the development efforts of Member States with the aim of improving the economic, social and political situations of their citizens. The Minister's address was followed by that of Mr. J.D. Buliro, the OAU Assistant Secretary-General in charge of Science and Technology, who informed those gathered for the symposium of the reasons why it was being held, and what was expected from it. As can be seen in the text of his speech appearing in Appendix IV, he stated among other things that the symposium had three objectives, firstly "to hear and learn about the activities currently being done in Member States .....", secondly "to start a systematic and planned process of using atomic energy for peaceful purposes" and thirdly the symposium would held participants "to know and understand one another, and to exchange views on matters of common interest". Next to speak was Dr. Henry Seligman, the Scientific Adviser to the Director-General of IAEA, who spoke from notes. In his address, he outlined some of the benefits which developing countries could obtain from the application of atomic energy for peaceful purposes. He also pledged the Agency's help to the OAU and to its Member States in the efforts to apply atomic energy more widely and more effectively.

5. Subsequently, the symposium elected Professor Felix Malu, the "Commissaire des Sciences Nucleaires" of the Congo, as the Chairman, and adopted an agenda attached hereon as Appendix I together with the organization of its sessions. The list of the over-fifty participants and observers appears in Appendix V. Participants came from Burundi, Cameroon, Chad, Democratic Republic of the Congo, Ivory Coast, Gabon, Ghana, Kenya, Libya, Nigeria, Senegal, United Arab Republic and Zambia. The following Organizations and countries sent

observers: ECA, UNESCO, European Economic Community, Belgium, France, the U.S.A.. The IAEA had five senior officers and the OAU two.

6. In the five days that followed, the symposium discussed at length the various aspects of using atomic energy for peaceful purposes, and completed its work in time. The brief reports of each session on the main trends of the discussions, and the consequent recommendations that were adopted are reproduced in Appendix II which is attached. Altogether eleven recommendations were adopted, and, the attention of the Council of Ministers and of the Member States is invited to these. As can be seen from the texts of the recommendations, they range from general considerations to specific disciplines within the economic and social services provided to the citizens of Member States. After noting in Recommendation I that programmes in the peaceful use of atomic energy "should not be initiated in isolation but be an integral part of the overall long range development plan of a nation", the symposium recommended among others that:-

> "Appropriate training using available facilities especially in Africa, and adequate means, be given to Scientists and Technological personnel, to enable them to use atomic energy for peaceful purposes in various sectors of the economies of Member States," and that
>
> "Member States should undertake the uses of atomic energy for peaceful purposes in all relevant fields as part of their day to day activities and that such uses should be included in appropriate projects within their overall development plans".

7. The symposium paid considerable attention to Agricultural Sciences, with the knowledge that agriculture supports more than 90% of the populations of Member States, and is the mainstay of their economies. When considering the use of fertilizers so as to assist in increasing production and productivity of food and cash crops, the symposium recommended among others in Recommendation IV that: "the best possible methods of applying these fertilizers should be studied with the help of the competent international Organizations, to ensure that their use is economic," - an activity in which radio isotope tracers could be most helpful. In order to increase livestock production, the symposium, in Recommendation VII, called on Member States to ensure:

> "that immunological programmes should include using of isotopes and radiation with the end view of controlling diseases by use of vaccines," and:
>
> "that with a view to increase the efficiency of meat and milk production, metabolic studies and research on utilization of water and minerals should include the use of radio isotopes."

8. On radio-active minerals, Recommendation VIII states among other things that:

> "Exploration for radio-active ores, especially uranium, and their exploitation in the African States should be greatly encouraged in the immediate future with the following objectives:
> (a) to secure local nuclear raw materials for future power and desalination programmes;
> (b) to export uranium concentrates to an expanding and stable world market in the mid seventies, and
> (c) to help the mineral and industrial infrastructure of the States concerned."

The importance of these recommendations is obvious. While the prices for radio active minerals, and especially of uranium, are so good, those States that can export these products have a chance of increasing their earnings of foreign currency. On the other hand, mining and refining activities if undertaken locally, would definitely expand the industrial activities obtaining in the States concerned - thus providing opportunities for the citizens to earn more incomes and to develop their industrial skills. More foreign currency to pay for means of production and for services, and availability of individual incomes to pay for consumer goods and for investment, all assist Governments of Member States in raising the standards of living of their citizens. These recommendations on increasing mining activities in radio-active minerals are therefore very relevant to the search for means of raising of standards of living within Member States, and should be strongly supported. These are a few of the recommendations made by the symposium.

9. All the Recommendations adopted by the symposium are presented in Appendix II, for the consideration of the Council of Ministers. Normally, these recommendations should first have been presented to the Educational, Scientific, Cultural and Health Commission for endorsement before being presented to the Council of Ministers. But in view of the fact that the next meeting of that Commission will be held in 1971, and without wishing to delay any further the implementation of the Recommendations of the symposium, the General Secretariat sought the permission of Member States to present those recommedations to the present session of the Council of Ministers for approval. A copy of the letter addressed to Member States in this connection is attached hereon as Appendix VI. Of the replies received, no Member State raised any objection to the suggested departure from the established procedure in respect of recommendations from meetings such as the one under discussion. Hence, the recommendations of the first OAU Symposium on the Peaceful Uses of Atomic Energy in Africa, which was held in Kinshasa in July 1969, are hereby presented to the Council of Ministers for approval, so as to open the way for their implementation. Those recommendations, as well as the working papers that were presented and the proceedings will be published in a book form with the aid given by the IAEA for this purpose.

10. One very encouraging phenomenon at the symposium was the number of papers presented, which revealed the multiplicity of activities being undertaken within Member States in applying atomic Energy for peaceful purposes. It was heartening to hear of the various research activities - completed and still in progress - which were being carried out. These need to be encouraged directly, and indirectly through expansion of other activities in related fields so as to introduce both horizontal and vertical complementarity as appropriate. This would require among others, the fast circulation of information on research activities and results, and the injection of co-ordinated and adequate financial and human resources into these activities - actions which the OAU is best placed to assist in. This cannot however be embarked upon unless the recommendations of the symposium are formally approved by the Council of Ministers.

11. The Kinshasa symposium, through its recommendations, will go down in the history of the OAU as having highlighted the usefulness of applying atomic energy in peaceful endeavours in Africa. It covered all known aspects in this connection. It became clear however in the course of the discussions, that such a wide-ranging treatment of this subject should end with that symposium. This was because the tackling of the various sectors, for example agriculture, medicine and minerals, would in themselves require a lot more time than was allocated to them in the symposium. In future therefore, efforts will be made to deal with these sectors one by one so as to allow sufficient time for a fuller exploration of what is involved, and the identification of problems needing solutions, so as to better advise Member States on the best ways to improve their activities in these connections. In this, of course, the OAU will continue to play its Charter-given role for the benefit of Member States.

Aid from the IAEA and the Democratic Republic of the Congo:

12. Before conluding this presentation report of the work of the Kinshasa symposium, it is a pleasure to record here the substantial financial and technical aid which the IAEA gave to the OAU, which contributed to the success of the work of the symposium. The IAEA gave the following financial and technical aid:

(a) US.$4,000 to pay for invited leaders of discussions
(b) 13 Staff Members - 5 professional and 8 technical staff
(c) 4 papers (1) "Nuclear Raw Materials"
(2) "Nuclear Techniques in Food and Agriculture and International Co-operation in their use"
(3) "Application of Atomic Energy in African Economic and Social Development Plans"
(4) "Role of Research Reactors in Developing countries".
(d) Publication in a book form of the papers, proceedings and recommendations of the symposium.

The OAU is grateful to the IAEA for this generous aid, and looks forward to more co-operative actions between the two Organizations now that the future of the peaceful application of atomic energy in Africa is beginning to be stimulated and co-ordinated. Also by providing a suitable environment to, and financial assistance in respect of local expenses of, those attending they symposium, the Democratic Republic of the Congo contributed to the success of, and friendly atmosphere that prevailed at, the symposium. The OAU is therefore grateful to the President, Government and Peoples of the Democratic Republic of the Congo for all of these. The OAU symposium, to which all this aid was given and generosity bestowed, successfully completed its tasks, and it is now up to the OAU political organs to approve its recommendations to enable Member States and others concerned to implement them.

13. The Council of Ministers is therefore invited to approve the recommendations of the OAU symposium on the Peaceful Uses of Atomic Energy in Africa, which was held in Kinshasa, Congo, from 28th July to 1st August, 1969, which are contained in Appendix II of this report.

ADDIS ABABA
JANUARY 1970.

OAU SYMPOSIUM ON THE PEACEFUL USES OF ATOMIC ENERGY IN AFRICA

Kinshasa, Democratic Republic of the Congo
28th July - 1st August, 1969

A G E N D A

1. Official opening.

2. Session I — Evolution of Nuclear Science in Africa.

3. Session II — Agronomical Sciences.
   Session III — Hydrology - Geology - Raw Material.

4. Session IV — Medical and Biological Sciences.
   Session V — Power Reactors.
   Session VI — Research Reactors - Training.

5. Session VII — Physical Sciences.
   Session VIII — Chemical Sciences.

6. Closing.

P A N N E L S

General President	F. Malu (Democratic Republic of the Congo)
Session I	Vice President - R. Mustafa (U.A.R.) Member - O. Llyod (I.A.E.A.) Rapporteur - Patel (Zambia)
Session II	M. Fried (I.A.E.A) S. Bouyer (France) Jacquinot (Senegal)
Session III	J. Cameron (I.A.E.A.) E. El Shazly (U.A.R.)
Session IV	Boyo (Nigeria) J. Bouckaert (Democratic Republic of the Congo) P.R. Bitakaramire (Kenya)
Session V	L. Gillon (Democratic Republic of the Congo) B. Spinrad (I.A.E.A.) J.P. Brown (Ghana)
Session VI	L. Gillon (Democratic Republic of the Congo) B. Spinrad (I.A.E.A.) Sene (Senegal) J.P. Brown (Ghana)
Session VII	J.E.O. Lindsay (Ghana) H. Seligman (I.A.E.A.) P. Cacii (Kenya)
Session VIII	J.E.O. Lindsay (Ghana) H. Seligman (I.A.E.A.) P. Cacii (Kenya)
Closing Session	J.D. Buliro (O.A.U.) F. Malu (Democratic Republic of the Congo) H. Seligman (I.A.E.A.)

OAU SYMPOSIUM ON THE PEACEFUL USES OF ATOMIC ENERGY IN AFRICA

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REPORT ON SESSION I

The following observations were made:

(1) Many OAU Member States have embarked on programmes for the utilization of atomic energy for peaceful uses;

(2) Such programmes should not be initiated in isolation but be an integral part of the overall long range development plan of a nation;

(3) Nuclear technology could play a vital role in the educational, scientific and economic development of Member States

(4) Many Member States are handicapped by lack of their own professional and technical personnel;

(5) The co-ordination of activities within Member States is not so good. Also, the dissemination of information is rather poor.

RECOMMENDATION I:

The OAU Symposium on the Peaceful Uses of Atomic Energy, meeting in Kinshasa, in the Democratic Republic of the Congo, from 28th July to 1st August, 1969,

HAVINGING CONSIDERED and DISCUSSED the present status within OAU Member States of the application of atomic energy for peaceful purposes,

RECOMMENDS THAT:

(1) Appropriate training using available facilities especially in Africa, and adequate means, be given to scientific and technological personnel, to enable them to use atomic energy for peaceful purposes in various sectors of the economies of Member States.

(2) Such personnel using atomic energy for peaceful purposes should engage in educative or information activities aimed at informing planners, governments and the general public, of possible uses, and advantages of applying atomic energy to various aspects of economic and social activities;

(3) Member States should undertake the uses of atomic energy for peaceful purposes in all relevant fields as part of their day to day activities and that, such uses should be included in appropriate projects within their overall development plans;

(4) As a way of increasing the circulation of ideas, the recommendation of the last session of the Educational, Scientific, Cultural and Health Commission relating to dissemination of information on scientific and technological ideas, research work and research workers in Africa, should also include information about using atomic energy for peaceful purposes;

(5) The OAU Member States be urged to actively support research in the field of nuclear physics and chemistry by providing the relevant equipment, schoarships and moral support;

(6) The IAEA, UNESCO, ILO and similar organizations be urged to intensify their support in the development of the peaceful uses of atomic energy in Africa; and

(7) That the OAU set up a scientific panel for the application of atomic energy for peaceful purposes.

SESSION II - AGRICULTURAL SCIENCES

RECOMMENDATION II:

The participants at the Symposium,

CONSIDERING the importance of agricultural production for the economies of most Member States of OAU;

BEARING IN MIND the progress that has yet to be made in order to intensify agricultural production; and

CONSIDERING the great variety and effectiveness of the application of atomic energy, which are possible in agriculture;

RECOMMEND:

(1) that appropriate ways and means of developing the uses of atomic energy in agricultural research (such as the training of experts and the provision of equipment) should be studied;

(2) that lists of research topics meriting priority should be drawn up, attention being given to the particular needs of member states and, as appropriate, to the potential economic applications of the work in question; and

(3) that international co-operation in the utilization of atomic energy, particularly its value as a means of studying common problems, should be emphasized.

RECOMMENDATION III:

The participants at the Symposium,

CONSIDERING the vital importance of water for plant growth; and

BEARING IN MIND the great value of the neutron probe as a means of determining the water content of soils;

RECOMMEND:

(1) that studies aimed at developing and improving the neutron probe for various applications, depending on such specific objectives as may be determined, should be pursued; and

(2) that training of specialists should be considered, so that a broad use of the neutron probe will become possible in Africa.

RECOMMENDATION IV:

The participants at the Symposium,

CONSIDERING the need to improve crop yields through the use of mineral fertilizers;

BEARING IN MIND that there are factors (for example the high cost of fertilizers which are still largely imported from abroad, insufficient market value of crops) which often make the use of such fertilizers uneconomic in African countries;

RECOMMEND:

(1) that the best possible methods of applying these fertilizers should be studied with the help of the competent international organizations, to ensure that their use is economic;

(2) that basic research on the dynamic behaviour of certain nutrient elements (e.g. nitrogen and phosphorus) in the soil and in the plant should be intensified; and

(3) that experimental work on methods of applying fertilizers should be further developed, particularly in relation to basic food crops. The co-ordinated international programme in this field initiated by the IAEA is of great value.

RECOMMENDATION V:

The participants at the Symposium,

CONSIDERING the importance of selection in plants as a means of creating new high-yield strains, resitant to disease and possessing good agronomic and technical qualities;

CONSIDERING further a basis for selection is given by the natural variability residing in particular plant populations of interest, and that artificial variations could be induced by irradiation of seeds and plants with X-rays, γ-rays and neutrons as well as radiomimetic chemiclas;

BEARING IN MIND that substantial results have already been obtained in this type of work;

RECOMMEND that the technique of inducing mutations in plants by irradiation should be used more frequently, in conjunction with conventional methods of hybridization.

RECOMMENDATION VI:

The participants at the Symposium,

BEARING IN MIND that the areas affected by harmful insects generally cover several states;

CONSIDERING that encouraging results have been obtained in some cases by releasing radiation-sterilized male insents;

BEARING IN MIND the (as yet incomplete) laboratory results that have been obtained with tse-tse flies and mosquitoes;

AWARE OF the ravages caused by these two types of insects in Africa;

CONSIDERING the problems caused by the accumulation of pesticide residues and by the development of resistance to pesticides in the insects themselves;

RECOMMEND:

(1) that the OAU Member States should combine their efforts and resources to promote research on methods of combatting harmful insects whose range of action extends over several of their territories; and

(2) that work on the development of the sterile male technique for control or eradication of appropriate insect pests, for example tsetse flies, mosquitoes, etc., should be encouraged and supported.

RECOMMENDATION VII:

CONSIDERING that animal diseases and inadequate nutrition place serious limitations on livestock production in Africa especially in regions where parasitic diseases, such as East Coast Fever, trypanosomiasis, etc., are prevalent, and in view of the limited knowledge of the pathogenesis and immunology of African diseases, the Symposium,

RECOMMENDS:

(1) that emphasis should be placed by Member States of OAU in various regions of Africa, on studies of the aetiology and pathogenesis of livestock diseases in Africa using radiobidogical techniques where appropriate;

(2) that immunological programmes should include using of isotopes and radiation with the end view of controlling diseases by use of vaccines;

(3) that with a view to increase the efficiency of meat and milk production, metabolic studies and research on the utilization of water and minerals should include the use of radio-isotopes; and

(4) that research on water and mineral metabolism in livestock using radio-isotopes in various regions of Africa should be encouraged.

SESSION III : HYDROLOGY - GEOLOGY - RAW MATERIALS

RECOMMENDATION VIII:

In the fields of Hydrology, Geology and nuclear raw materials, the participants in the symposium,

RECOMMEND THAT:

(1) Exploration for radio active ores especially for uranium, and their exploitation in the Member States should be greatly encouraged in the immediate future having in mind the following objectives:

(a) to secure local supplies of nuclear raw materials for future power and desalination programmes,
(b) to export uranium concentrates for expanding and stable world market in the mid seventies, and
(c) to help in developing mineral and industrial infrastructure of the States concerned.

(2) Effective co-operation between Member States is highly desirable in the exploration and exploitation of radio-active ores and especially of uranium and it is deemed necessary for these States to pool their human and material resources so as to meet the complex and costly requirements in this field. Such co-operation may include the formation of combined integrated prospecting groups having representatives from several States; regular exchanges of experience; development of information media, including convening of specialized meetings; training of the necessary cadres through the exchange of experts and study groups and through the creation of one or more training centres; the establishment of contacts between competent organizations, the encouragement of joint projects.

(3) Compilation of the previous work in the exploration and exploitation of radioactive minerals in the Member States should be undertaken so as to help in devising the new programmes for radioactive ores especially for uranium in the continent.

(4) Greater use should be made of radiometric exploration programmes in Africa in searching for other mineral raw materials. On the other hand fundamental data in earth sciences and information accumulated while working on othermineral raw materials should be utilized to make the search for radioactive ores especially for uranium deposits more effective and less expensive.

(5) Application of isotopes which is particularly useful in revealing the hydrology of the major river basins and of ground water reserves should be used more widely within Member States, and

(6) Co-operation in the applications of radioisotope techniques between Member States, and especially between those with common river basins and common ground water reservoirs (some of which are already grouped in riverine organizations) would facilitate the solving of the complex problems presented by these basins and reservoirs, thereby permitting more efficient use of these. Joint projects along these lines, as well as in the training provided in regional isotope centres, would be advisable.

SESSION IV : MEDICAL AND BIOLOGICAL SCIENCES

RECOMMENDATION IX:

CONSIDERING the harmful effects of tropical diseases of malnutrition in Africa, and also regretting that only a few papers were presented in these connections, the Symposium,

RECOMMENDS:

(1) that OAU encourages Member States to promote research on tropical diseases in their own countries using radiobiological techniques wherever possible, with the aim of eradicating or controlling them;

(2) that specific research be directed at the elucidation of the aetiology, pathogenesis, immunology and prevention of tropical diseases, e.g. malaria, sleeping sickness, etc., with the end view of disease eradication or control by vaccination.

(3) that in view of the seriousness of diseases transmitted by arthropods, particular attention should be given to technical studies of biological methods of controlling these vectors (e.g. the sterile male technique) and to ecological and biological research based on radioisotopic labelling of insects;

(4) that Member States should encourage the establishment of regional centres using atomic energy for medical purposes and these centres should also be used for training of medical personnel in this field, and

(5) that there should be a permanent information service for disseminating information on current research work, and that there should be arrangements for the exchange of experiences and information through specialized colloquia under the auspices of international organizations such as the OAU, IAEA, WHO, and FAO.

SESSIONS V & VI : POWER AND RESEARCH REACTORS

A. As to power reactors, it was noted that Africa as a whole still had a large amount of undeveloped hydroelectricity potential, and that the power systems of most African countries are too small and too loosely interconnected as to be unable to use power reactors in the large sizes now considered economic. Nonetheless on the present information, most parts of Africa have a relative scarcity of fossil fuel and therefore as development proceeds, nuclear power might ultimately be used.

B. As to research reactors, it was noted that they can and do play a useful role in the creation of a focus for material research, in the ability to provide local source of radioactive isotopes, and in improving and broadening scientific and technical education;

RECOMMENDATION X:

The Symposium:

(1) Notes that the training of scientific and technical personnel is vital for existing nuclear installations and essential for all new installations;

(2) Recognizes the need for large and sophisticated scientific apparatus in connection with research reactors; and

(3) Thanks the United Arab Republic and the Democratic Republic of the Congo for their renewed offers to welcome research workers and technicians from other Member States in their nuclear research centres which have research reactors already in operation, and in particular to put their research reactors at the disposal of other Member States.

IT RECOMMENDS:

(1) that priorities should be given to the training of personnel, both by regular regional courses and by sending trainees to suitably equiped centres;

(2) that requests be made to the international organizations concerned to assist the Member States in planning the most appropriate courses and periods of training and in facilitating exchanges of research workers;

(3) that Member States should co-operate with each other to ensure the fullest possible utilization of available installations and also to provide for the possibility of their expansion, and

(4) that UNESCO be requested to promote, with the advice of the IAEA where appropriate, the development and supply of demonstration equipment which would serve to illustrate the principles of nuclear physics in secondary school teaching.

SESSION VII : PHYSICAL SCIENCES

Thirteen presentations were made, mainly in the theoritical Physics Field. There was a good exchange of opinion and it became clear that a closer co-operation of African Scientists was desirable. One paper dealt with the achievements of the Middle East Radioisotope Centre in Cairo, UAR, for the Arab Countries which would like to be closely associated with other African scientists. Most of the remaining papers originated from Congo (Kinshasa).

SESSION VIII : CHEMICAL SCIENCES

Six presentations were made. Announcements were made on the possibilities of Associateship of the Trieste Centre in Italy from Theoritical Physics, and on the interest shown and the help offered by Euratom to African scientists. The papers, many of which originated from Congo (Kinshasa) showed the many activities going on using radioisotopes and radiation chemistry. Co-ordinated production of radioisotopes for Africa was discussed, a subject which could also be solved by closer co-operation of African scientists and of Member States.

RECOMMENDATION XI:

As a result of these discussions, the Symposium,

RECOMMENDS:

that appropriate organizations should
(a) Arrange adequate scientific conferences,
(b) Arrange for a central Reference Library,
(c) Co-ordinate isotope production, and
(d) Avoid duplication of equipment or effort.

OAU SYMPOSIUM ON THE PEACEFUL USES OF ATOMIC ENERGY IN AFRICA

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INAUGURAL SPEECH BY H.E. A. TSHIBANGU, MINISTER FOR POWER OF THE DEMOCRATIC REPUBLIC OF THE CONGO

Your Excellency, the Minister of State for Planning and Scientific Research, Representative of the Head of State,
Member of the Political Bureau,
Members of Government,
Excellencies,
Ladies and Gentlemen,
Fellow Countrymen,

It is a very great honour for our country to welcome today the eminent delegates from African countries who are here to attend the first symposium of the Organization of African Unity on the peaceful uses of atomic energy in Africa.

Yesterday, it was political Africa which got together in Addis Ababa and to-day it is scientific Africa that is meeting in Kinshasa to assess the situation and lay down the foundation of such collaboration as may give rise to many hopes and, it is our wish that this will be fruitful.

Africa, in general and the Democratic Republic of the Congo in particular, will follow with great interest for one week, the discussions that this African scientific world will hold and we congratulate it in advance.

Your Excellency the Minister of Scientific Research of the United Arab Republic, Mr. Assistant Secretary-General of the Organization of African Unity, Mr. Assistant Director-General of the International Atomic Energy Agency,
Distinguished delegates,

His Excellency the President of the Democratic Republic of the Congo, Lieutenant-General Joseph Desire Mobutu, his party, Government and the entire Congolese nation, are happy to welcome you to Kinshasa. Your presence here is indeed the result of six years of untiring efforts to achieve closer relations on our continent.

Please convey to your respective Governments our most sincere thanks for the confidence which they have shown in us by entrusting you with the important mission of taking part in this symposium held in our capital.

This conference has the task of organizing more rationally scientific research directed towards peaceful application of atomic energy. The use of radio-isotopes was introduced in Africa since ten years ago.

Gentlemen, you who were the promoters, are the living proof. Your action has been considered in this development. It was however dispersed because of the difficulties of communications between our countries and the lack of structures set up to facilitate exchanges. In organizing this first scientific symposium, the Member States of the Organization of African Unity intended to give you the opportunity to remedy this state of affairs by laying down the first foundation of both a flexible and effective co-ordination at a time when the increasing need for scientific training and research requires greater human and capital investments. In the present state of the structural organization of a scientific machinery in Africa, the resources that may be devoted to science could be exhausted before the actual needs are satisfied. Now, these needs are continuously growing at the same rate as the economic and social development of our continent. Scientific needs cannet be ignored. They must be met in order to advance. For a modern nation, scientific development is in fact no longer a single question of harmonious internal development nor a way of merely contributing to the general progress of humanity. Science is becoming more and more a means and not an end in itself; it is the instrument of economic and social power and as such it is the stake in rivalry and competition between all the countries of the world. So much attention would not be paid to the scientists if they did not constitute a decisive element in a formidable economic competition.

For Africa, scientific and technical research represents, at one and the same time, an opportunity and a threat. Faced with the considerable advance of the industrialized countries, the African countries cannot make their presence felt unless they pool their natural resources with technical expertise. It is this expertise which makes and breaks the power of nations today. The countries whose research efforts are inadequate or not effective enough are gradually reduced to the rank of subsidiaries of the more enterprising countries.

In order to assert its personality, Africa must participate actively and fully in the flow of exchange of scientific and technical know-how.

In order to promote the active participation of our countries, we obviously need to plan and co-ordinate our efforts in this field now. This would enable us to mobilize our resources and technicians in programmes which would have everyone's support.

Allow me, Gentlemen, to conclude by saying once more what you already know but what, at times, needs repeating: that atomic energy is the generator of great progeess and that we are expecting far greater progress from it. Twenty-five years after Hiroshima and Magasaki, the common men that we all are in varying degrees, find it difficult to divorce nuclear energy from the atomic bomb or even 20th centuary physics from the destructive powers of nuclear energy.

To ask the question "What are the recent developments in physics that are likely to be of significant value to our generation?" would inevitably call forth a reply which may be given in three works: the atomic bomb. The modern man is, of course, deeply concerned. The terrifying nature of modern atomic arms combined with the deep division of the world is undeniably the cause of anxiety in many minds. And yet an estimate, however quick, of the peaceful use of atomic energy, reveals an impressive achievement for humanity. Radio-isotopic techniques have penetrated all fields of science and technology. The generalized practice of analysis by neutronic activation as a currect method of measure of nearly all the elements is of great interest for agriculture, medicine, biology, physics and technology. Cobalt bombs are used in the treatment of malignant tumours. With ionized rays, plants under go beneficial changes, etc.

I would not be able to forgive myself, Gentlemen, if I were to prolong the list, because the purpose of your symposium is precisely to add your personal contributions.

Although these few examples do not exhaust the subject, they do suffice to demonstrate that atomic energy is capable of rendering great services in all fields of science and civil engineering. It is obvious, that atomic energy has completely broken away from the tragic circumstances in which it was first revealed to the world and has become today a source of life.

For its part, our country has played a basic and historic role in the beginning of the atomic era. Furthermore, it has contributed to the success of atomic energy by establishing the first Nuclear Centre in Africa. As you know, this Centre has become, since the meetings of the Organization of African Unity in September 1967, the regional Centre for Africa. In order to make it possible for it to carry out this new task, it will soon be transformed and given higher authority.

We remain convinced that your discussions will be crowned with success and that this first symposium of the Organization of African Unity will constitute a fresh start for Africa in the field of scientific and technical research.

Long live the Organization of African Unity.

Long live International Co-operation.

OAU SYMPOSIUM ON THE PEACEFUL USES OF ATOMIC ENERGY IN AFRICA
Kinshasa, Democratic Republic of the Congo
28th July - 1st August, 1969

SPEECH BY MR. J. D. BULIRO
ASSISTANT SECRETARY-GENERAL OF THE OAU

(Your Excellency, Mr. President,)
Honourable Ministers,
Excellencies,
Ladies and Gentlemen,

On behalf of the Organization of African Unity, I have great pleasure in welcoming you to this first OAU Symposium on the Peaceful Uses of Atomic Energy. May I also at the same time, convey to you the greetings of the Administrative Secretary-General of the OAU, Mr. Diallo Telli. This Symposium in the peaceful uses of atomic energy is one to which we attach a lot of importance, firstly, because of the increasing and varied application of atomic energy in the production of goods and services, and secondly, because this is a new discipline which appears amenable to regional and continental joint action by Member States, as supplementing national action. It is recalled that the proposal that a symposium in the use of atomic energy be held was tabled by the Secretariat in the Second Ordinary Session of the Scientific Council of Africa which met in Addis Ababa in 1967. An appropriate recommendation was adopted by the CSA, and was subsequently endorsed by the Assembly of Heads of State and Government, and by the Council of Ministers, which met in this very city in 1967. Since then, and with the help of the International Atomic Energy Agency, our Secretariat has been planning for this symposium. This process was made easier by the fact that we received and accepted an invitation from the Democratic Republic of the Congo, to hold the symposium here. It is now left to you, and to the Member States to judge from the results, as to the effectiveness and efficacy of the work involved.

As far as the OAU is concerned, the objectives of this symposium are mainly three. Firstly, we hope to hear and learn about the activities currently being done in Member States in the field of using atomic energy for peaceful purposes. This should help us to start keeping an inventory of what is being done in this field, and of the workers engaged in it. Secondly, this symposium affords us the opportunity to start a systematic and planned process of using atomic energy for peaceful purposes. Lastly, I am sure you would agree with me, when I say that this symposium helps the participants to know and understand one another, and to exchange views on matters of common interest.

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In organizing this symposium we are naturally engaging in the continuing process of trying to find solutions to our development problems, and of trying to achieve accelerated development in economic, social and political matters to the end that our people may have increasing standards of living. We hope that you will look into how best the application of atomic energy in agriculture, could help us to produce enough food to feed ourselves. Over 90% of the populations of Member States stay in the rural areas, and depend mainly on agriculture. We depend on agriculture for our major exports, and for some of our industries. For all these and other reasons which I need not mention here, we must adopt modern methods of farming to increase and vary our agricultural production, and to raise agricultural productivity. In expoiting, processing and developing our mineral resources, we must adopt the most efficient systems of production. The market of radio-active minerals such as uranium, is very lucrative. We should exert our efforts to earn more foreign currency, or expand and develop our industrial base, by effectively exploiting and developing our rich and varied mineral resources. In medicine, we need to take action to ensure not only efficient curative services to our citizens, but also to provide them with a healthy environment in which to live. For the comfort and progress of our citizens, we need to provide power, transport, communications, industry, and other attributes of an adequate economic and social infrastructure. All of these, and other areas, have found use in appropriate forms of atomic energy. We need to use methodology, services, equipment and systems, which have proved successful elsewhere for improving or supplying our goods and services. Where necessary, these have to be adapted to our local needs and circumstances. We need scientists who can undertake research and development for such adaptation, and we have to provide them to carry out this work. This calls for the establishment of the requisite research and development capacities within Member States. We must develop by our own efforts - supplemented as necessary by external aid. This calls, among other things, for the establishment and expansion of our capacity to innovate new improvements, goods and services. Innovation capacity is based on a specific volume of research and development activities. Such innovation could arise from inventions from local or external research and development activities. We need to train scientists for these and other scientific and technological activities; we need to establish and expand our research and development capacities; and we need to give our scientific personnel the equipment and services they require, and the necessary incentives, to obtain the best efforts from them. On our part, we are busily engaged in efforts to establish Centres of Excellence in Africa in scientific disciplines, at which indigenous personnel for science and technology will be trained to the highest level possible, and at which sophisticated research and development activities will be undertaken to help Member States to solve their development problems. It is hoped to make a start with the Centre for Geology, Mineralogy and Geophysics (Earth Sciences).

We expect this symposium to look into all these and other aspects as are relevant to the peaceful uses of atomic energy, and to draw up recommendations which will enable the OAU to embark on national, regional and continental programmes aimed at accelerating the economic, social and political development of the Member States.

I would like to take this opportunity to thank the International Atomic Energy Agency for the financial and technical assistance they have given to the OAU to assist us to hold this symposium. I would also like to thank the Member States, and the participants here assembled, for enabling us to gather in Kinshasa in this symposium to deal with the present and future role of the peaceful uses of atomic energy in Africa.

We are very grateful to the President, of the Democratic Republic of the Congo, H.E. Lt.General Mobutu and his Government for inviting us to come to this beautiful city to deliberate on these important matters. Your President, the Government and the friendly and brotherly peoples of the Democratic Republic of the Congo, are among the most effective supporters of our Organization - the OAU. I recall September, 1967, when the Assembly of Heads of State and Government met in this very room, to chart a new chapter for the OAU. I am also glad to mention that the President, H.E. Lt. General Mobutu, is a member of the OAU Ad-hoc Commission on Nigeria, which is actively trying to stop the war in Nigeria that has already claimed many lives, and caused much suffering to some of the survivors. These are are but a few of the examples which place the President, the Government and Peoples of the Democratic Republic of the Congo amongst the most ardent supporters of our Organization. We are therefore happy to be among you, and are appreciative of the brotherly and substantial hopitality which continue to be bestowed on us by the brotherly, fiendly and peace-loving peoples of the Democratic Republic of the Congo. Your Excellency, Mr. Minister, I would kindly ask you to convey our greetings and gratitude to the Government and the Peoples of Congo.

OAU SYMPOSIUM ON THE PEACEFUL USES OF ATOMIC ENERGY IN AFRICA

Kinshasa, Democratic Republic of the Congo
28th July-1st August, 1969.

COLLOQUE DE L'OUA SUR L'UTILISATION PACIFIQUE DE L'ENERGIE ATOMIQUE EN AFRIQUE

Kinshasa, République démocratique du Congo
28 juillet-1er août 1969.

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Kinshasa 31/7/69.

OAU SYMPOSIUM ON THE PEACEFUL USES OF ATOMIC ENERGY IN AFRICA

Kinshasa, Democratic Republic of the Congo
28th July - 1st August, 1969

A NOTE TO MEMBER STATES ON PRESENTATION PROCEDURE

SC/SCN/5/377.69

The General Secretariat of the Organization of African Unity presents its compliments to the Ministries of Foreign Affairs of all Member States and has the honour to refer to the First OAU Symposium on the Peaceful Uses of Atomic Energy which was held in Kinshasa in the Democratic Republic of Congo from 28th July to 1st August, 1969. The Symposium was successfully held and was attended by over 80 scientists from several Member States. The agenda of the Symposium is attached hereon as Appendix I. The recommendations which were adopted by the Symposium are also attached here in Appendix II. The Symposium was held with the collaboration of the International Atomic Energy Agency and the Democratic Republic of Congo both of whose help was very much appreciated.

In accordance with the normal practice, the recommendations of the Symposium should first be submitted to the Educational, Scientific, Cultural and Health Commission for endorsement before being forwarded to the Council of Ministers and the Assembly of Heads of State and Government for approval. However, that Commission is due to meet in 1971 in accordance with the new directives which demand that meetings of the Commissions should be held once every two years. The Commission held its last meeting in June/July this year.

The purpose of sending these recommendations to Member States is to request that unless there is any objection, these recommendations will be submitted properly for consideration by the next Ordinary Session of the Council of Ministers which is due to be held in February 1970. This suggestion is being made for two main reasons.

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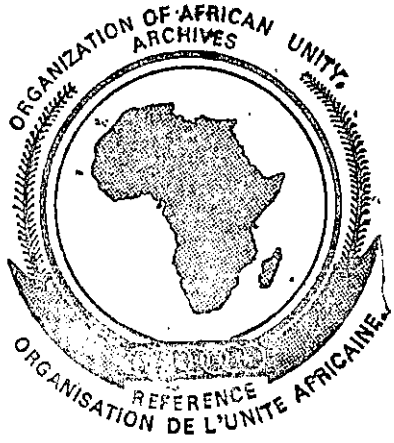
Firstly, to avoid unnecessary delay in the implementation of the recommendations of the Symposium, and secondly, the suggestion is made in the knowledge that the recommendations do not contain any controversial aspects. It is considered that if implemented, they would contribute to the rapid development which Member States aspire to. It is therefore hoped that Member States will raise no objection in having these recommendations presented directly to the Council of Ministers next February instead of waiting for the recommendations to be processed through the Educational, Scientific, Cultural and Health Commission in 1971.

The General Secretariat of the Organization of African Unity avails itself of this opportunity to renew to the Ministries of Foreign Affairs of all Member States the assurance of its highest consideration.

MINISTRIES OF FOREIGN AFFAIRS
OF ALL MEMBER STATES

c.c. Ministries of Education
Ministries of Health
Ministries of Agriculture
Ministries of Natural Resources.

Addis Ababa - 3rd October, 1969.



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OAU Symposium on the peaceful uses of atomic energy in Africa Kinshasa , Democratic Republic of the Congo 28th July-1st August ,1969

Organization of African Unity

Organization of African Unity