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**AFRICAN REGIONAL CO-OPERATIVE AGREEMENT FOR RESEARCH,
DEVELOPMENT AND TRAINING RELATED TO NUCLEAR SCIENCE AND
TECHNOLOGY**

A F R A

AFRA ANNUAL REPORT 1996-97

**REPORT BY THE AGENCY
TO THE MEETING OF REPRESENTATIVES OF
AFRA MEMBER STATES**

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REPORT TO THE EIGHTH MEETING OF THE AFRA REPRESENTATIVES

I INTRODUCTION

This report is submitted to the Meeting of the AFRA Representatives pursuant to Article VII.3 (e) of the African Regional Co-operative Agreement (AFRA). It covers the activities undertaken under AFRA during the period September 1996 to June 1997 with particular reference to the implementation of the co-operative projects. The report thus sets forth a schedule of work and modalities for the implementation of projects, shows the resources made available, the distribution of resources to the various components of the projects and the utilization of the resources. This document contains relevant information on AFRA programme and can be considered as a major reference source for AFRA Member States, observers as well as donors.

1. OVERVIEW

Since June 1988, African Member States of the Agency have been considering the establishment of a regional arrangement for co-operation in the field of nuclear science and technology in Africa similar to the arrangements already in place in the Asian and Latin American regions.

In September 1988, representatives of African Member States met during the thirty-second regular session of the General Conference to discuss ways and means of intensifying regional co-operation in the utilization of nuclear techniques for development. As a result of the meeting, a working group was established to develop the text of a regional co-operative agreement for consideration by African Member States. The text so developed was considered, and finalized, during the General Conference's thirty-third regular session at two meetings of representatives of African Member States.

At its February 1990 session the Board of Governors of the Agency endorsed the Agreement (Annex 1).

The Agreement entered into force on 4 April 1990, the date of receipt of the third notification of acceptance. Subsequently, a number of African Member States have acceded to the Agreement and to date the total membership is 22 countries, namely: Algeria, Egypt, Cameroon, Côte d'Ivoire, Ethiopia, Ghana, Kenya, Libyan Arab Jamahiriya, Madagascar, Mali, Mauritius, Morocco, Namibia, Niger, Nigeria, Sierra Leone, South Africa, Sudan, Tanzania, Tunisia, Zaire and Zambia. (Annex 2).

During the Fifth Meeting of the AFRA Representatives, the decision was unanimously taken to extend the Agreement for a new five-year term. The meeting requested AFRA Member States to notify their consent for the extension to the IAEA's Director General. So far, Algeria, Cameroon, Egypt, Ethiopia, Ghana, Kenya, Libyan Arab Jamahiriya,

Madagascar, Mali, Mauritius, Morocco, Namibia, Niger, Nigeria, Sierra Leone, South Africa, Sudan, Tanzania, Tunisia and Zaire have submitted the notification for extension.

2. AFRA MEETINGS

(i) First Technical Working Group Meeting, Cairo, 3-7 September 1990

Activities under AFRA Programme started with the convening of the First Technical Working Group Meeting which was held in Cairo, Egypt by invitation of the Egyptian Government from 3 to 7 September 1990. The Technical Working Group Meeting was attended by the national co-ordinators from Algeria, Egypt, Libyan Arab Jamahiriya, Madagascar, Nigeria and Tunisia as well as observers from Cameroon, France, Japan and USA. Since the meeting was also considered an inaugural occasion of AFRA, the Director General of the Agency attended and gave an inaugural address. The Deputy Director General of the Department of Technical Co-operation and the Area Officer for Africa participated.

The main item of agenda for the meeting was to recommend projects to be included in the first AFRA programme for 1991-92. The meeting considered a large number of proposals submitted by various AFRA countries and decided to recommend 7 projects which were appraised by the Agency and judged to be technically and developmentally sound projects. These consisted of 3 training courses and workshops in the field of Food Preservation (RAF/5/021), Irradiation Processing (RAF/8/016) and Waste Management (RAF/9/007) and 4 projects in the field of Non-Destructive Testing (RAF/8/017), Nuclear Information (RAF/0/008), Local Preparation of Radioimmunoassay Reagents (RAF/6/007) and Nuclear Instrumentation (RAF/4/009).

(ii) First AFRA Representatives' Meeting, Vienna, 17 September 1990

The Meeting of AFRA Representatives took place in September 1990 in Vienna and reviewed the recommendations made by the Meeting of the Technical Working Group with respect to the first AFRA programme. The meeting approved the projects as recommended. The Agency's Board of Governors in its December 1990 meeting approved the projects with TACF funding for the 3 training courses and extra-budgetary funding (footnote a/ category) for the 4 projects. In January 1991 the Government of France has made an extra-budgetary contribution of US \$ 100 000 to enable the implementation of the first year component of the project "Local Preparation of Radioimmunoassay Reagents" (RAF/6/007).

(iii) Second Technical Working Group Meeting, Algiers, 22-25 July 1991

The Second Technical Working Group Meeting was convened in Algiers from 22 to 25 July 1991 by invitation of the Algerian Government. The meeting was attended by the national co-ordinators from Algeria, Egypt, Ghana, Morocco and Nigeria and observers from Cameroon, Canada, China, France, Italy, USA, USSR, the Arab Atomic Energy Agency (AAEA) and UNDP. Two Agency staff attended to provide scientific and administrative support to the meeting. The meeting discussed in detail the proposed implementation plans for the 4 funded projects and approved them. Even though the recommendations of new projects to be included in the 1993-94 programme would be a task for the Third Technical

Working Group Meeting in 1992, the Second Technical Working Group Meeting noted and briefly discussed new project proposals so far received. These were:

1. Food Preservation (proposal made by the workshop on food preservation)
2. Irradiation Processing (proposal made by the workshop on irradiation processing)
3. Use of Radioisotopes in Animal Production and Nutrition (proposal made by Algeria)
4. Adaptation of Exotic Dairy Cattle in Africa (proposal made by Egypt)
5. Nuclear Techniques in Plant and Biotechnology (proposal made by Egypt)
6. Environment monitoring (proposal made by Morocco).

The Agency circulated these proposals to all national co-ordinators and started the appraisal process. Detailed appraisals of these proposals and any others to be submitted have been made available to the Third Technical Working Group Meeting.

The meeting accepted the invitation of Ghana to host the Third Technical Working Group Meeting in Accra in April 1992.

The meeting discussed a draft consultation paper prepared by the Agency entitled "AFRA Guidelines". The paper was intended to elaborate some articles of AFRA for operational purposes and to provide some general guidelines, particularly with respect to programming, implementation and co-ordination of projects. The meeting endorsed the paper.

(iv) Second AFRA Representatives' Meeting, Vienna, 17 September 1991

The Meeting was attended by Representatives from 11 AFRA Member States. Mauritius was not represented. Representatives from Australia, Cameroon, France, Sweden and Zimbabwe attended as observers. The IAEA delegation was led by Professor Noramly bin Muslim, Deputy Director General, Department of Technical Co-operation. The meeting was opened by Professor F.H. Hammad, Chairman of the Egyptian Atomic Energy Authority. Dr. Hadj Slimane Chérif, Minister for Research, Technology and Environment, Algeria, was unanimously elected chairman of the meeting and chairman of AFRA for a one-year period.

After the adoption of the draft agenda, Mr. Noramly made some opening remarks emphasizing that AFRA has achieved a lot during its first year:

- The number of participating countries has increased from 8 to 12;
- The First AFRA Programme was approved by the IAEA's Board of Governors, and subsequently implementation actions were taken;
- National Co-ordinators have been nominated by AFRA Member States who in turn nominated technical co-ordinators.

Mr. Noramly then drew the attention of the participants to two negative aspects that should be dealt with:

- (1) the lack of extra-budgetary funding to implement all approved projects, and
- (2) the poor attendance by AFRA Member States at the Second Technical Working Group Meeting held in Algiers in July 1991.

Mr. Noramly asked the AFRA Member States to make every effort for the mobilization of additional funds and to allocate adequate provision for their representatives to attend AFRA meetings.

The report of the Second Technical Working Group Meeting held in Algiers was presented by Mr. A. Ramtani, chairman of that meeting, and formally accepted by the Representatives.

The meeting considered the AFRA Annual Report 1990-91 and adopted it unanimously with a slight modification to include the new project proposal submitted by Morocco on environmental monitoring. The proposed activities and budget for the 1992 programme were reviewed and endorsed.

Much time was devoted to discussing means and ways for raising additional financial resources for AFRA. Member States were urged to continue lobbying donors through appropriate channels to maintain the pressure for support.

Ghana suggested that the Arab Atomic Energy Agency be approached for financial support to the project 'environmental monitoring' as it has shown interest during the TWGM held in Algiers. The observer from France recommended that few, but essential projects might be in a better position to attract funds from donors.

It was suggested that the UNDP Regional Bureau for Africa be approached for support to AFRA projects.

Recognizing the importance of this issue, the meeting made the following recommendations:

- AFRA Member States in collaboration with the Agency should intensify efforts for raising extra-budgetary funding from potential donor countries, UNDP and any other funding organizations;
- To involve as much as possible representatives of donor countries and organizations in the programming of AFRA projects and activities by inviting them to the AFRA meetings;
- AFRA Member States should include in their statements to the General Conference and the General Assembly reference to AFRA programmes with the aim of bringing an awareness of AFRA to the international donor community;
- AFRA Member States should do their best to provide themselves in-kind resources and to work out an inventory of the infrastructure and expertise in their countries with the aim to exploring possibilities of self-financing of at least part of the approved projects;
- The Agency was requested to allocate funds either from regional programmes in Africa or from national programmes in the region for financing footnote a/ projects approved under AFRA.

The Meeting urged AFRA National Co-ordinators to look at the above-mentioned issues during its third meeting in Accra and to report on the progress made.

(v) Third Technical Working Group Meeting, Accra, 25-27 April 1991

The meeting was attended by National Co-ordinators from Algeria, Egypt, Ghana, Kenya, Morocco, Sudan and Tunisia. The IAEA delegation was led by Mr. Mohammad Ridwan, Director, Division of Technical Co-operation Programmes.

The PNDC Secretary for Industries, Science and Technology, Naval Captain Butah, opened the meeting on behalf of the Government of Ghana. He urged AFRA Member States to continue with efforts to collaborate, co-operate and co-ordinate activities in the area of nuclear science and technology and to avoid unnecessary duplication and waste in financial resources. He also emphasized the role of science and technology in the development of Africa.

In his opening remarks, Mr. Ridwan mentioned that AFRA has witnessed fundamental accomplishments since its inception thereby increasing the Member States' awareness of the benefits to be derived from collaboration, the pursuit of common goals and the sharing of available resources and infrastructures. He emphasized the regional spirit that AFRA has shown and outlined the crucial role that national nuclear research institutes played in the technology transfer process. He drew the attention of AFRA Member States to the vital need for raising additional financial support from donor countries. In relation to the business of the Technical Working Group Meeting, he noted that decisions had to be made on whether there was a need to select few project proposals for 1993-94 which would attract extra-budgetary funding.

The meeting has unanimously elected Dr. A.K. Ahafia, Director of the National Nuclear Research Institute, as chairman of the meeting.

The highlights of the meeting were:

- The review of the implementation of the funded projects in 1991-92;
- The acceptance of the 1992 budget and work plan;
- The review of the new project proposals submitted for consideration under the 1993-94 Technical Assistance Programme;
- AFRA's financial situation.

The Meeting considered four new project proposals submitted by Algeria, Egypt and Morocco as well as the continuation of the on-going projects on waste management, food preservation, irradiation processing and local preparation of radioimmunoassay reagents. After deliberations, the Meeting agreed that the following project proposals should be recommended to the Meeting of AFRA Representatives for submission to the Agency as AFRA programme in 1993-94.

- Waste Management (AFRA I)
- Food Preservation (AFRA II)
- Irradiation Processing (AFRA III)

- Local Preparation of Radioimmunoassay reagents (AFRA V)
- Radioisotopes in Animal Reproduction and Nutrition (submitted by Algeria)
- Nuclear techniques in plant breeding and biotechnology (submitted by Egypt)
- Environmental radiation measurement and harmonization (submitted by Morocco).

The project proposal 'Adaptation of exotic dairy cattle in Africa' (submitted by Egypt) was withdrawn by Egypt as it was agreed that this request should be discussed at bilateral levels.

Regarding AFRA financial prospects, the meeting agreed that lobbying for funds should be done by both the Agency and AFRA Member States. The chairman was requested to take appropriate steps to mobilize funds for the implementation of the projects without funding. In this connection, the meeting suggested that the Chairman contacts the African Development Bank (ADB) and arranges for a delegation from AFRA Member States to visit this bank. The Agency was requested to find out modalities of Agency funding the visit.

The meeting accepted the invitation of Kenya to host the Fourth Technical Working Group Meeting in Nairobi in April 1993.

(vi) Third Meeting of AFRA Representatives, Vienna, 22 September 1992

This meeting took place in Vienna on 22 September 1992 and was attended by representatives from Algeria, Egypt, Ghana, Kenya, Libya, Mauritius, Morocco, Nigeria, South Africa, Sudan, Tanzania and Tunisia. Cameroon and Madagascar were not represented. Observers from Australia, France, Namibia, Senegal, Zambia and Zimbabwe also attended and participated in the discussions. The meeting reviewed the project activities as well as the new project proposals for 1993-94 and approved them. AFRA Annual Report was approved without modifications. The meeting recommended a certain number of measures designed to attract more extra-budgetary funding from donor countries and to smooth the implementation of the AFRA activities.

In particular, the meeting urged the AFRA chairperson of the year to approach the potential donor countries, UNDP, the Arab League, the Islamic Bank and the African Bank for Development for seeking funding for the AFRA projects in the footnote a/ category. The AFRA Representatives placed much emphasis on irradiation technology and recommended that AFRA Member States should endeavour to acquire the required irradiation facilities. They requested the Agency to assist in the selection of appropriate irradiators with suitable size and in carrying out technico-economic feasibility of food irradiation technology in the region. The AFRA Representatives requested the Agency to compile and circulate AFRA training course documents to Member States within the region.

The Representative from Ghana was elected chairman of AFRA for the year, replacing the Representative from Algeria.

The meeting accepted the invitation of Kenya to host the Fourth Technical Working Group Meeting.

(vii) Fourth Technical Working Group Meeting, Nairobi, 26-28 April 1993

The meeting was hosted by the National Council for Research and Technology and was attended by national co-ordinators from Egypt, Kenya, Libya, Madagascar, Morocco, South Africa and Tunisia. Observers from France, Spain and ILRAD attended as well. The IAEA delegation was led by Dr. Qian, DDG-TC.

The inaugural session was officially opened by Dr. A. Khalif, Assistant Minister for Research, Technical Training and Technology who welcomed the guests and stressed the need for more regional collaboration in Africa. He also thanked the donor countries and the IAEA for funding the AFRA projects and hoped that additional funds are made available for financing the remaining projects. (The full speech is shown in Annex 3).

Mr. J. Qian, IAEA Deputy Director General, addressed the gathering. He noted that it was very reassuring to see that 15 African countries have joined AFRA. He requested the participants to pay close attention to their deliberations so that all AFRA activities will lead to the creation of capabilities that will in turn result in strengthening of collaboration between AFRA Member States. He said that AFRA projects must aim at building on the achievements attained in Africa in nuclear science and technology and must be geared towards solving concrete problems thereby optimizing their input on the socio-economic development of the region. He also requested AFRA National Co-ordinators to remember that the success or failures of AFRA will depend on them. He exhorted the participants to make efforts through AFRA to utilize the expertise that already exists in Africa and to contribute in-kind funds for the successful implementation of the projects. (The full speech is shown in Annex 3). The meeting has unanimously elected Prof. L.A. Ogallo, Secretary of the National Council for Science and Technology, as chairperson of the meeting.

The meeting discussed in detail the implementation of the AFRA-funded projects, reviewed the project workplans for 1993-94 and made recommendations for improving the implementation process. Regarding AFRA's financial prospects, the meeting reiterated its concern about the low funding from donor countries and recommended that the chairperson of AFRA must approach potential donor countries as well as the African Bank for Development for funding. Other measures have been recommended by the meeting for approval by the AFRA Representatives.

Finally, the meeting accepted the offers made by Morocco and South Africa to host the Technical Working Group Meeting respectively in April 1994 and April 1995.

(viii) Fourth Meeting of AFRA Representatives, Vienna, 28 September 1993

The Fourth Meeting of AFRA Representatives took place at 10 a.m., Tuesday, 28 September 1993 and lasted until 12.45 p.m. Kenya replaced Ghana as the chairperson of the year. The meeting was well attended by 14 AFRA Member States out of the 16 (Cameroon and Mauritius did not attend). Observers from France and Zambia also attended.

The meeting considered the Annual Report which was prepared by the Agency and covered the activities of AFRA during the year. The report was well received and adopted.

The meeting welcomed the Agency's initiative to approach the African Development Bank (ADB) for the financing of 3 AFRA footnote a/ projects and suggested that a similar initiative be made to approach the Arab African Bank.

The meeting expressed gratitude to the Agency - through its TC Department - for putting additional seed money to allow implementation of certain priority activities foreseen under AFRA Programme.

Various other suggestions were made to improve the implementation process of AFRA activities and to optimize the end-users' benefits. On this particular subject, DDG-TC has emphasized the importance that the Agency accords to the role and responsibility of AFRA National Co-ordinators in disseminating information and assisting in the transfer of knowledge and innovation to the real end-users. He advised AFRA countries to conceive few technically and developmentally sound project proposals that could attract funding from donor countries. He also reiterated his previous recommendation to intensify efforts for mobilizing extra-budgetary contributions and to use the mechanism developed under AFRA for this purpose.

Concern was expressed at the low attendance of AFRA Technical Working Group (TWG) Meetings. Some Representatives requested that a mechanism must be found to finance the participation of AFRA National Co-ordinators at TWG meetings and asked the Agency to assist.

The Representative of South Africa raised the issue of the 1986 General Conference Resolution which calls upon the IAEA to refrain from sending experts and staff members to South Africa. He said that if the Resolution is not lifted now, South Africa will be obliged to withdraw from AFRA activities. He advised AFRA Representatives to draw the attention of their Governments to this issue and hoped that the African Group adopts a favourable approach towards lifting this resolution.

(ix) Fifth Technical Working Group Meeting, Mohammadia, Morocco, 25-29 April 1995

The meeting was hosted by the Directorate of Energy, Ministry of Mines and Energy and was attended by AFRA National Co-ordinators from Algeria, Egypt, Ethiopia, Ghana, Morocco, Nigeria, South Africa and Sudan. Observers from France, United States, Spain China and the Arab Atomic Energy Agency attended as well. The IAEA delegation was led by Dr. Ali F. El-Saiedi.

The inaugural session was officially opened by Mr. Othman Khettouch, Secretary General of the Ministry of Energy and Mines who welcomed the participants to Morocco and thanked the donor countries, notably France and Spain, and the IAEA for financially supporting the programme. He highlighted the need of the African countries for a workable strategy in the field of nuclear science and technology and stated that AFRA offers the best scientific framework for achieving the aspirations of the continent. He also hoped that the donor community pays more attention to the needs of the region and contributes effectively to the implementation of AFRA activities.

Dr. Ali F. El-Saiedi, Director, Technical Co-operation Implementation Management, IAEA, addressed the gathering on behalf of the IAEA's Director General. After thanking the

Government of Morocco and the host institution for making the meeting possible, he mentioned the positive achievements attained during the first five-year period of the AFRA Programme and emphasized the need to draw lessons from past experience in order to further improve the effectiveness and efficiency of the programme and to consolidate its foundation. Referring to the attempts made by the Agency and the chairperson of AFRA for mobilizing funds for the implementation of AFRA activities, Dr. El-Saiedi advised the meeting to concentrate efforts on the good design and formulation of sound projects which can attract funds from donors and for which the countries are prepared to make contributions in-kind. He also recommended to involve at an early stage the real end-users and the private sector in any co-operative project so as to gear AFRA activities towards solution-oriented undertakings with lasting impact. Finally, he expressed concern about some difficulties facing the implementation of the programme; amongst which the poor attendance of AFRA meeting and training events.

The meeting reviewed in detail the implementation of on-going projects as well as the new programme proposed for the 1995-96 cycle and made recommendations for further strengthening regional co-operation. AFRA financial prospects and related matters have also been discussed. The meeting has unanimously approved the extension of the AFRA Agreement in its present form by another five-year period and recommended that AFRA Member States notify the IAEA's Director General of their wish to participate in the extended agreement. National Co-ordinators spent two extra days to discuss issues pertaining to project design and formulation, end-user involvement, impact evaluation and to define a training programme for the project co-ordinators. Several papers covering these topics have been presented by the Agency and were well received. The meeting recommended to compile these documents and to incorporate them in the document "AFRA Guidelines".

The meeting has also accepted the invitation of South Africa to host the next meeting of the TWG with Nigeria as the alternate.

(x) Fifth Meeting of AFRA Representatives, Vienna, 20 September 1994

The Fifth Meeting of AFRA Representatives took place at 10 a.m., Tuesday, 20 September 1994 and lasted until 12.30 p.m. It was attended by Representatives from all AFRA Member States with the exception of Libya and Niger which were not represented. Observers from France, the OAU, the OPEC Fund and Mali have also attended. Morocco replaced Kenya as the chairperson of the year. The Agency was represented by Mr. J. Qian, DDG-TC, Mr. S. Machi, DDG-RI and senior staff members from TC and Technical Divisions.

The meeting considered the AFRA Annual Report and adopted it without modifications.

Various suggestions were made by AFRA Member States to further improve the implementation of the programme activities and to consolidate the commitment of AFRA countries to regional co-operation.

DDG-TC emphasized the need to rethink AFRA's approach for the formulation of project proposals as well as the mechanism in place for the management of AFRA activities in the field. He has particularly suggested that the AFRA chairperson's sphere of competence

be strengthened to enable him to cope with the many challenges facing AFRA in the region. He also appealed to the more advanced countries in the region to provide cost-free assistants to the chairperson who will assist in various activities pertaining to the AFRA programme. This proposal was welcomed by the participants and Egypt and South Africa accepted the principle of providing an assistant to the chairperson. The meeting requested the Agency to draft the role and responsibilities of the assistants and to make an estimate of their activities in the field. (The draft was prepared and reviewed by the Representatives of Egypt and South Africa on 21 September 1994).

The meeting has endorsed the recommendation made by the Fifth TWGM concerning the extension of the AFRA Agreement for a new term of five years.

Mr. S. Machi, DDG-RI, addressed the meeting. He said that his Department is already supporting a Co-ordinated Research Programme under AFRA (associated to RAF/5/027) and that the Department is willing to support more CRPs. Three CRPs are being formulated and will be submitted to AFRA countries for comments and endorsement. Once approved, they will be submitted to donors for funding.

Before concluding, the meeting approved the proposal to evaluate in 1995 the AFRA Programme in the period 1991-1995.

xi. Sixth Technical Working Group Meeting, Johannesburg, 24-28 April 1995

The meeting was hosted by the Atomic Energy Corporation of South Africa Ltd. (AEC) and attended by 14 AFRA Member States (Algeria, Egypt, Ethiopia, Ghana, Libya, Madagascar, Mauritius, Morocco, Nigeria, South Africa, Sudan, Tanzania, Tunisia and Zaire) as well as observers from France, the OAU, the ECA and the Arab Atomic Energy Agency. The IAEA delegation was led by Mr. J. Qian, DDG-TC.

The meeting was opened by Mr. Rusty Evans, the Director General of the Department of Foreign Affairs of South Africa. He firstly apologized that Minister Alfred Nzo and Deputy Minister Aziz Pahad could not attend the meeting. He then welcomed everyone to the meeting and stressed that the South African Government fully supports the development of a secure scientific base in Africa. He emphasized the need for practical applications of nuclear technology and for the accurate identification and management of AFRA projects. Mr. Evans ended his address by emphasizing the South African Government's willingness to share its well-established nuclear technology with African countries within the unique framework of AFRA.

The meeting was also addressed by Dr. Waldo Stumpf, Chief Executive Officer of the AEC who welcomed everyone present at the Sixth TWGM and highlighted the fact that the nuclear technology should be effecting the everyday life of people in a positive way. He emphasized some concrete applications of nuclear techniques in the everyday life of many people and expressed the hope that AFRA activities remain always need-driven. He thanked the IAEA and the representatives of the donors, notably France, for their continuous support.

The meeting was then addressed by Mr. J. Qian DDG-TC and Head of the Technical Co-operation Department. He thanked the South African Government and the

Atomic Energy Corporation of South Africa for hosting the TWGM. He emphasized the lessons learned from the first five-year period of AFRA; particularly that (1) AFRA needs to be focused on its objectives, (2) the survival and development of AFRA depends heavily on the level of commitment of its Member States, (3) AFRA Member States should take ownership of the AFRA programme and (4) AFRA should focus in the future on fewer but larger, thematic, multi-disciplinary/multi-donor projects. He highlighted the strengthened leadership of AFRA in the field through the established Field Management Committee (FTC) and thanked Egypt and South Africa for their input to the FTC. He stressed the hope that some managerial activities be shifted gradually from the IAEA to the FTC. In closing, Mr. Qian encouraged AFRA to take the programme into its own hands so that it can drive a more self-sustaining, effective and efficient programme for the next five-year period.

Mr. L. Manar, present chairperson of AFRA also addressed the meeting. He expressed his gratitude to the South African Government for hosting the TWGM. He also thanked the Governments of France and Spain for their precious support.

After electing Dr. Don Mingay as the chairperson of the meeting and adopting the Agenda, the TWGM reviewed the implementation of the on-going programme 1995-96 and made comments on each project. The meeting has extensively discussed the proposed mission, principles and strategy of AFRA and adopted them with some minor changes. The concept of a Field Management Committee as well as the role and responsibilities of AFRA National Co-ordinators and project co-ordinators were also discussed and adopted by the meeting. These will be incorporated in the AFRA Guidelines.

The meeting then discussed the proposed thematic programmes for consideration by AFRA for the period 1995-2000. The proposed three themes were commented upon and adopted with slight modifications. The meeting decided on the modalities and venues for the formulation of each theme. Before closing the meeting, the TWG was briefed about the arrangements and modalities for the evaluation of the first term of the AFRA programme in 1995 by the IAEA's Evaluation Section.

The meeting accepted the invitation of Nigeria to host the seventh TWG in 1996.

The closing session was addressed by Dr. Waldo Stumpf and Mr. J. Qian. They both stressed the need to strengthen the AFRA Field Management Committee and expressed the hope to see AFRA guiding in future the continent's capacity building efforts in the field of nuclear science and technology. All participants, including the observers, expressed their deep gratitude to the AEC for the excellent arrangements made for the meeting, for the hospitality and for bearing the costs of accommodation of all AFRA National Co-ordinators. These excellent arrangements contributed a great deal to the outstanding success of this meeting.

(xii) Sixth Meeting of AFRA Representatives, Vienna, 19 September 1995

The Sixth Meeting of AFRA Representatives took place at 10 a.m. on Tuesday, 19 September 1995 and lasted until 12.20 p.m. It was attended by Representatives from Algeria, Cameroon, Egypt, Ethiopia, Ghana, Kenya, Libya, Madagascar, Mauritius, Morocco, Namibia, Nigeria, South Africa, Sudan, Tunisia, Tanzania and Zambia. Côte d'Ivoire, Niger, Sierra

Leone and Zaire were not represented. Observers from France, OAU, Uganda and AAEA attended the meeting. Mr. Qian, DDG-TC, Mr. S. Machi, DDG-RI and senior staff members from TC and the Technical Divisions attended as well.

South Africa replaced Morocco as the chairperson of the year.

The meeting considered the AFRA Annual report and adopted it without modifications. Several Representatives commented on the report and made suggestions aimed at enhancing the programme's achievements and enlarging the scope of AFRA activities; particularly in the fields of high priority.

The DDG-TC reflected on the existence of AFRA during the past five years. Its achievements are manifold. It helped to rebuild the confidence of many African scientists, helped them to work together and to share the best of what exists in the region in terms of nuclear infrastructure. He touched upon the question of funding AFRA as a central issue at all AFRA meetings. Most AFRA countries have recognized the paramount importance of this issue and of its impact on the survival of the on-going and future programmes. For fund raising, two alternatives were explored at the Johannesburg meeting. First: a regular contribution from each AFRA country; Second: the FMC to request UNDP Regional Bureau for Africa to earmark some of its regional funding for AFRA. Both suggestions were strongly supported by the meeting. If they materialize, AFRA's financial situation will improve. This is one of the responsibilities of the Field Management. Also, close collaboration with regional and international organizations in Africa should be explored. For donors to become interested in AFRA projects, they should be need-driven, impact centered undertakings. AFRA should also make use of the Model Project discipline

Dr. Mingay then took over to report on the proceedings of the 6th TWGM of AFRA held in Johannesburg and emphasized again that an excellent response was experienced. 14 member states as well as representatives of UNDP, UNECA, AAEA, France and others attended.

The most significant decision made by the meeting was the adoption of the Mission Statement of AFRA which was presented in detail. Another aspect discussed was the introduction of the Field Management team, involving a chairperson elected annually and two cost-free assistants, who, hopefully would serve longer than 2 years. Egypt and South Africa originally offered the cost free services of two assistants and Algeria had recently made a similar offer. The vitally important role of the National Co-ordinators was again emphasized. It was also reported for clarity that the annual reports of the National Co-ordinators should be calendar-year based and submitted in January. All these aspects were contained in the September 1995 version of the AFRA Guidelines.

The need for greater focus has led to the introduction of a thematic approach to new project definition. Each theme would have a new concept of an associated "Gatekeeper" to maintain an expert brief on developments in that area. The four thematic programmes were detailed with named gatekeepers and recognition that formulation meetings for each will take place in the near future.

On invitation, DDG-RI, commented on CRPs. The sharing of research - mechanisms is very useful for African countries. There is no funding at present for 2 CRPs, namely (i.) animal production improvement, and (ii.) crop production improvement. Only the CRP on plant breeding is financed by US\$ 633.000 from RI-Department as per 1997. In addition to new proposals we have an on-going one on trypanosomiasis and another one on rinderpest. Extra budgetary funding for the animal production improvement project is being sought.

It was announced at the 6th TWGM that Nigeria had offered to host the 7th TWGM in 1996, which offer had been accepted with Tunisia as an alternative.

(xiii) Seventh Technical Working Group Meeting, Zaria, Nigeria, 24-28 April 1996

The meeting was hosted by the Nigerian Ministry of Petroleum Resources and held at the Centre for Energy Research and Training of Ahmadu Bello University in Zaria. It was attended by 12 AFRA National Co-ordinators from Egypt, Ethiopia, Ghana, Libya, Madagascar, Nigeria, Sierra Leone, South Africa, Sudan, Tunisia, Zaire and Zambia as well as the observer from the OAU. The IAEA was represented by a delegation led by Mr. Ali El-Saiedi, DIR-TCIM.

The meeting was opened by the Honourable Minister of State for Petroleum Resources, Dr. Kabir Chafe, who highlighted Nigeria's commitment to the AFRA Programme and this is reflected in the establishment of a National Implementation Committee which will co-ordinate all AFRA activities in the country. He said that his government will continue to seek funds to sustain local AFRA activities. He also added that Nigeria appreciates the important need for an adequate radiation safety infrastructure as a means of protecting the people and their environment. Finally, he thanked the Agency for its contribution to the development of nuclear science and technology in Africa and, particularly, for assisting Nigeria in acquiring a Miniature Neutron Source Reactor. The meeting was also addressed by Mr. Ali El-Saiedi on behalf of the IAEA's Director General. He thanked the Government of Nigeria for making the meeting possible and highlighted the establishment of the AFRA Field Management whose role in the management of AFRA activities has been growing steadily. He hoped that this entity will be in a position to take full ownership of the programme by the year 2000. Furthermore, Mr. El-Saiedi said that the Agency has strongly supported the shifting from project-by-project to thematic programmes which will lead to greater chances of attracting donors. He invited the AFRA Field Management to explore the possibility of securing additional funds for the programme through regular contributions from Member States, donors and the UNDP Regional Bureau for Africa and by making more use of TCDC modality.

In his remarks Dr. Don Mingay, AFRA chairperson 1995/96, thanked the Government of Nigeria for hosting the meeting. He said that AFRA has grown with maturity especially with the introduction of the AFRA Field Management. He added that AFRA had a good year with several training events and meetings. He expressed hope that the new drive to focus on end-users and socio-economic impact will yield useful results during the next few years. After electing Dr. Ademola Bawaallah as the chairperson of the meeting and adopting the Agenda, the TWGM reviewed the implementation of the on-going programme 1995/96 and made comments on each project. National Co-ordinators then reviewed the AFRA project

proposals for 1997-2001 which were prepared during formulation meetings held in 1995 and 1996. Slight modifications were introduced to highlight the regional dimension of future AFRA activities and to emphasize the commitments and responsibilities of AFRA countries. The ten project proposals were then endorsed and recommended for submission to the Agency by the beginning of June 1996. The TWGM has also discussed and recommended a set of operational measures which will ease and simplify the implementation of AFRA activities and further consolidate the role and responsibility of the AFRA Field Management. Before closing the meeting, the TWGM requested the AFRA chairperson to undertake several actions in connection with the funding of AFRA, the evaluation of the first five-years of AFRA and AFRA's position vis-à-vis TCDC. The meeting accepted the invitation of Tunisia to host the eighth TWGM in 1997 with Sudan as an alternate venue.

All participants expressed their gratitude to the Government of Nigeria and to CERT for the excellent arrangements made for the meeting, for the hospitality and for bearing the cost of accommodation and transportation of all participants.

(xiv) Seventh Meeting of AFRA Representatives, Vienna, 17 September 1996

The Seventh Meeting of AFRA Representatives took place at 10:15 on Tuesday, 17 September 1996 and lasted until 12.45. It was attended by Representatives from Algeria, Egypt, Ghana, Kenya, Madagascar, Morocco, Namibia, Nigeria, South Africa, Sudan, Tanzania and Tunisia. Cameroon, Côte d'Ivoire, Ethiopia, Libya, Mauritius, Niger, Sierra Leone, Zaire and Zambia were not represented.

Observers from France (Mr. D. Giovansily, CEA), United Kingdom (Ms. L. Palmer), OAU, (Mr. Ghabrial), Uganda (Mr. B.Z. Dramadri, Ministry of Natural Resources, Mr. Emaru Mackay, IAEA Liaison Officer, also from the Ministry of Natural Resources), AAEA (Prof. Barakat), South Africa (Dr. W. Stumpf, Chief Executive officer of the Atomic Energy Corporation of South Africa) and Zimbabwe attended the meeting. Nigeria replaced South Africa as the chairperson of the year.

Mr. Qian, DDG-TC, Mr. S. Machi, DDG-RI and senior staff members from TC and the Technical Divisions attended as well.

The meeting considered the AFRA Annual report and adopted it without modifications. Several Representatives commented on the report and made suggestions aimed at consolidating the programme's achievements and at optimizing the available resources.

The outgoing chairperson and AFRA National Co-ordinator for South Africa, Mr. Don Mingay, opened the meeting. He said that this has been a watershed year in the history of AFRA - the days of capacity building have been shed and that AFRA is now focussing on Application and End-Users. But the former status quo remains with respect to continued request for capacity building and infrastructure provision, while still relying heavily on the guardian role of the IAEA for financial support. It is the aim of AFRA to reduce this dependency and achieve a 50:50 funding ratio (IAEA/donor) by 2000. A further vital aspect is the need for commitment and ownership from both the participating Governments and the representatives. However, there remains a certain lack of commitment when considering what should be expected financially.

He welcomed Mr. Ademola Bawaallah, AFRA National Co-ordinator from Nigeria who was elected new chairperson for the current year.

The new chairman thanked Mr. D. Mingay for all results achieved under his chairmanship and said that it would be very difficult for him to replace the outgoing chairperson. He stated that he will need the co-operation of every AFRA member state.

Mr. El-Saiedi, DIR-TCIM, was then invited to deliver the welcome address on behalf of Mr. Qian, DDG-TC. (Mr.Qian joined the meeting later).

After expressing thanks to AFRA Representatives, observers and donors for their interest in AFRA, Mr. El-Saiedi said that the year which has passed since the last meeting in September saw a great deal of work done to turn the development objectives that were identified by AFRA Member States for the next five years into technically sound projects. He praised AFRA Field Management for its strong involvement in the planning, the design concepts and formulation of the programme. It is good to hear that the actual programme design and its formulation was done mainly by African scientists and experts. For the first time in the history of technical co-operation between the Agency and its African Member States, real planning and design work took place using to a large extent the capabilities and expertise that exist in Africa.

He added that the momentum AFRA has gained through the establishment of the Field Management and the speed with which this entity is undertaking certain managerial activities makes it ideal to press for priorities, to explore alternative scenarios for sustainable development and to work for its Member States.

He invited the participants to consider making use of the TCDC modality for fund raising as the latter has over the last decade attracted the attention and support of the donor community and the UN system.

The most important decision taken by the meeting was the adoption of the Annual report and the endorsement of the new five-year programme of AFRA for the period 1997-2001. The important issue of fund raising was debated at length. Mr. Qian invited AFRA countries to consider making full use of TCDC modality as an effective instrument for fund raising and "self-help effort". In particular, "triangular funding" (funding by a donor of activities undertaken by AFRA countries at bilateral or multilateral level) was highly recommended as it can effect real transfer of technology with high visible impact. The meeting has endorsed the AFRA strategy for the promotion of the use of TCDC modality for the implementation of co-operative activities.

On invitation, DDG-RI commented on AFRA activities with particular reference to CRPs. He invited AFRA countries to make full use of the technical opportunities offered by his Department, particularly regarding CRPs and research contracts. It was announced at the 7th TWGM that Tunisia had offered to host the 8th TWGM in April 1997. Tunisia reiterated its offer which was accepted by AFRA Representatives.

(xv) Eighth Technical Working Group Meeting, Hammamet, Tunisia, 21-25 April 1997

The meeting was hosted by the Tunisian Atomic Energy Commission and held in Hammamet Garden Hotel in Hammamet. It was attended by 12 National Coordinators from Algeria, Egypt, Ethiopia, Madagascar, Morocco, Namibia, Nigeria, South Africa, Sierra Leone, Sudan, Tunisia and Zambia as well as observers from France, the OAU, the Arab Atomic Energy Agency and the Vienna-based African Group. The Agency was represented by a delegation led by Mr. Qian J., DDG-TC.

The opening session was addressed by the on-going Chairperson of AFRA, Mr. M.B. Ademola-Bawaallah, Mr. A. Mahjoub, the Director General of the Tunisian Nuclear Research Centre (CNSTN), Mr. Qian J. and Mr. Mongi Safra, the State Secretary for Scientific Research and Technology.

The Chairperson of AFRA welcomed all participants and expressed warm thanks for the arrangements made by the Tunisian Competent Authorities. Mr. A. Mahjoub also welcomed every one present and assured the participants of the Tunisian's commitment to AFRA ideals and activities.

Mr. Qian spoke about the work that has been accomplished in the last two years, especially the critical role of the AFRA Field Management and its coordination with the IAEA. He said that AFRA has gained considerable momentum in a short period of time and emerged as a leader in translating into concrete actions the reforms and innovations adopted by the Agency over the past five years. He hoped that AFRA-FMC also plays a central role in monitoring and evaluation of AFRA activities to secure sustainability and self-reliance. He put much emphasis on the need to deploy more efforts for the mobilization of adequate funds to enable the programme to expand to the desired level of cooperation and to reach the target by the 2000 of equal funding of AFRA by the Agency and donors. He then highlighted the need to remain accountable for the quality of the inputs we provided and the results we expect to achieve.

The official opening of the meeting was conducted by Dr. M. Safra, who warmly welcomed all participants and stressed his Government's efforts in the field of nuclear science and technology and its firm commitment to AFRA programme and ideals. He stressed the steps taken by the Government of Tunisia for the promotion of South-South cooperation and hoped that AFRA would provide the necessary ingredients for a stronger regional cooperation in the field. He also thanked the observers and donors for their interest in AFRA and their financial contributions and hoped that this support will be enhanced to meet the countries requirements in technical assistance.

After electing Mr. Férid Hérelli, the Tunisian National Coordinator, Chairperson of the meeting, the participants adopted the provisional Agenda and proceeded with the review of the various topics, including the review of the implementation of 1997 activities, the review of the 1998-2001 programme, as well as the AFRA TCDC activities. The meeting adopted a series of recommendations which were made by Project Coordinators and requested the AFRA-FMC to compile them and to submit them to the Governments of AFRA countries

through the Permanent Missions accredited to the IAEA. The following issues were also discussed and adopted with minor changes:

- The AFRA strategy and Workplan for the promotion of TCDC activities;
- AFRA strategy for fund raising, including the platform for collaboration with the Vienna-based African Group;
- Duties and responsibilities of the Project Scientific Consultant (PSC) with a change in the name (previously Gatekeeper)
- Format of the Annual report of National Coordinators;
- AFRA procedures for design and formulation of AFRA projects; and
- The action plan for accelerating the promulgation and the enforcement of legislation on radiation protection in AFRA countries.

The meeting also made recommendations for approval by the 8th Meeting of Representatives, particularly regarding the evaluation and monitoring of AFRA activities and, the creation of servicing teams/centres of excellence and the representation of AFRA National Coordinators and Project Coordinators at AFRA meetings.

The meeting accepted the invitation of Ethiopia to host the Ninth TWGM in April 1998.

All participants expressed their gratitude to the Government of Tunisia and to the CNSTN for the excellent arrangements made for the meeting, for the hospitality and for bearing the costs of full accommodation and transportation of all participants.

II. REVIEW OF ACTIVITIES AND ACHIEVEMENTS

II - REVIEW OF ACTIVITIES AND ACHIEVEMENTS

II-1. REVIEW OF IMPLEMENTATION OF FUNDED PROJECTS

The AFRA Programme approved for 1997-98 includes a total of 11 projects representing a number of priority areas for the region. The programme consists of 3 projects approved under the previous programme cycle and 7 new projects in the fields of radiation safety (radiation protection and waste management), radioimmunoassay techniques (for human health and animal reproduction), agriculture (crop production) and industry (radiation processing, maintenance and non-destructive testing). All 11 projects fall under the four themes which were decided by the AFRA Representative Meeting of September 1996.

Seven on-going projects are fully financed from the Agency's regular funds (TACF) and 4 projects have seed funding from the Agency while awaiting donors funding.

The implementation of the projects followed closely the workplan approved by AFRA Representatives in their meeting of September 1996 and refined by Project Coordinators during their meetings held between January and March 1997.

The new five-year programme of AFRA adopted several new features which make its implementation, monitoring and evaluation more rational and accurate and its management further streamlined. Each cooperative project has clearly defined objectives, expected outputs, inputs, required activities and success criteria. Thanks to intensive upstream work carried out in 1995 and 1996, the quality of project documents represents a marked improvement as compared to those of the previous five-year term. Moreover, all new projects have been designed and formulated for five years with all required implementation inputs and modalities. Therefore, only minor adjustments will be necessary over the next programming cycle **leaving more time for monitoring, follow-up and evaluation.**

With these important improvements in place on one hand and thanks to the stronger managerial role played by the AFRA Field Management on the other, the new programme has all necessary ingredients to attain its objectives by the year 2001.

II-1.1 Coordination Meetings

During the period January-March 1997, the following Coordination Meetings were held:

Project	Host Country	Dates
RAF/4/012	Cairo, Egypt	22-26 February 1997
RAF/4/014	Nairobi, Kenya	24-28 February 1997
RAF/4/015	Cairo, Egypt	15-19 February 1997
RAF/5/041	Dar Essalam, Tanzania	24-28 February 1997
RAF/5/042	Accra, Ghana	3-7 February 1997
RAF/6/014	Rabat, Morocco	24-28 March 1997
RAF/6/018	Grand Bay, Mauritius	17-21 February 1997
RAF/8/024	Lusaka, Zambia	24-28 February 1997
RAF/8/025	Accra, Ghana	13-17 February 1997
RAF/9/022	Rabat, Morocco	13-17 February 1997

The organization of ten (10) Coordination Meetings within the first quarter was part of AFRA's strategy plan to initiate the implementation process as early as possible in the year as to avoid any delays from the onset.

(a) Host countries arrangements

On the whole, the host countries made excellent arrangements for transportation, accommodation and entry visas, which played an essential role in the success of these events. Of particular importance to note is the commendable efforts made by Mauritius and Zambia which hosted for the first time AFRA Coordination Meetings.

The decision to hold the coordination meetings in the hotel instead of at national institutes saved much time as well as funds and was found more convenient by the participants.

(b) General comments

The decision taken by the Agency to pay full daily subsistence allowances (DSA) in the city of the meeting to project co-ordinators put an end to the usual complaints regarding insufficient funds for accommodation and food.

Previously, only a stipend was paid. Moreover, the well designed and formulated project documents, which were submitted in advance to the project coordinators, contributed significantly to the general understanding of the problems to be solved and the strategy to be followed.

The participation of the Project Scientific Consultants (PSCs) was very useful and they fully fulfilled this role as technical advisers, while enhancing regional ownership and accountability. They stimulated the discussions, proposed new ideas, advised on technical issues and helped prepare the meetings' reports. The revised duties and responsibilities of PSCs which will be presented for approval to the 8th Meeting of AFRA Representatives will certainly further enhance their contribution.

On the less positive side, however, the following is noted:

- Despite the early design and formulation of the 1997-2001 programme in 1996 and its review by the 7th TWGM and 7th Meeting of Representatives, several AFRA Countries confirmed their participation in projects with a much delay, which prevented the Agency from arranging for their project coordinators to attend coordination meetings;
- Despite the established procedure that project coordinators should submit **to the Agency at least one month before the meeting commences** the annual report, and taking into consideration the various reminders sent to all concerned (NCs and PCs), several national reports **were received with delays**. Moreover, the quality of the majority of reports received as well as the reliability of data and statistics was not up to the standards required. Several project coordinators use the same text/statistics/data in all coordination meetings **without any analysis of successes/failures nor new ideas/proposals for improving the implementation of AFRA activities and enhancing regional cooperation**.
- The most serious weakness and probably also the most damaging one is the participation of some project coordinators without **full acquaintance with the nuclear techniques to be used and the problems to be tackled**. These project coordinators come usually from countries without basic infrastructure in the field of the project, including trained manpower. Their participation **was not really cost effective** as they were not able to contribute ideas and thoughts and take part in the discussions.

Except for the weakness dealing with the lack of appropriate infrastructure, all others could have been rectified in due time had the National Coordinators concerned exercised close monitoring and follow-up, and briefed their project coordinators prior to attending Coordination Meetings. This does not of course exonerate project co-ordinators from discharging their duties and responsibilities which are clearly defined in the document "AFRA Guidelines".

The nomination of appropriate project coordinators is essential for the successful implementation of any AFRA activity that aims at achieving a visible socio-economic impact with lasting effect. Furthermore, the cost of participation of one person in a one-week meeting held in any African country requires an average amount of US\$4,000.

Although this figure should be read with caution because it is an average, it leaves however ample room for concern and, eventually, for criticism, particularly when the project coordinator is not knowledgeable about the nuclear techniques to be applied and has no solid scientific background. AFRA funds are limited and should therefore be optimally utilized.

II-1.2 Training Events

During the period under review, 23 training courses and workshops were implemented with valuable assistance from the host countries. Nine Training Courses and Workshops were implemented in the period September-December 1996 under the previous AFRA projects and 14 training events took place between January and June 1997 within the framework of the new projects. The implementation of these training events required the recruitment of 107 lecturers, of whom 67 are from within Africa (62 per cent). The training events have trained 343 scientists and technicians in all fields of nuclear techniques as foreseen under the programme.

(a) Host Countries' Arrangements

On the whole, host countries made noteworthy efforts towards the successful implementation of the training events through the provision of local transportation, laboratory facilities, adequate logistic facilities and local lecturers.

South Africa provided full accommodation to the participants in one training course implemented under the project AFRA-VI (RAF/8/017), while the Agency provided for international transportation and incidentals only.

All host countries provided cost-free local lecturers to the maximum extent possible. Lecturers from outside Africa handled topics for which the expertise is not available locally.

(b) General comments

- As in previous years, about 8 percent of selected candidates were not able to participate due to visa or transit visa problems. Another 5 percent of the total trained manpower during the period under review attended the training events with an average of one day delay. Translated in financial terms, the losses caused by these deficiencies are not negligible and need to be quantified. It should be noted that the cost of training one scientist in a one-week workshop in any place in AFRA Countries amounts to about \$US3,500.

- The decision taken by AFRA-FMC requesting host countries to prepare entry visas for all participants in training events was not applied by all of them . It is strongly recommended that:

1. the decision taken regarding entry visas should be systematically applied by host countries for all AFRA training events they host;
2. Host countries inform each participant of the availability of the entry visa at arrival so that the air companies will not prevent him/her from boarding; and
3. the nominated candidates to any training event should submit together with their application forms all biodata required for the preparation of entry visas.

The above-mentioned recommendations will certainly improve the attendance rate if applied by all AFRA Member States. We strongly recommend that AFRA Field Management consider them favourably.

- Despite the early submission of all training events prospectuses (2 December of year N-1 for year N) some countries failed to comply with deadlines and therefore missed certain training opportunities. It would be helpful if National Coordinators assign somebody from their collaborators to the task of monitoring and follow-up with project coordinators.

- AFRA training events foreseen under the new five-year programme are all need-driven and targeted to a specific category of personnel. Several countries continue to nominate candidates without paying sufficient attention to this. Their nominees are in most cases rejected to the detriment of their programmes.

In conclusion, it is our opinion that significant savings can be made and value for money can be increased, by managing the training programme more efficiently and effectively. To achieve this objective, one would need the contribution of all partners concerned, starting from the Project Coordinators (who are responsible for nominating the appropriate people) and National Coordinators (who are responsible for submission of nominations in time). Close monitoring and regular evaluation of training events by AFRA-FMC and the Project Scientific Consultants will help improve the quality of training provided and reduce the costs.

II-1.3 Expert Services

Short expert missions were made to Ghana, Mauritius, Egypt, Morocco, Tunisia and Zambia to help the project coordinators to undertake specific activities foreseen under AFRA projects. The procedure of requesting short expert services by simple letters signed by the National Coordinators seems to be not well understood by all Project Coordinators. Several reminders were sent to AFRA Countries requesting them to submit their needs in terms of

expert services and equipment. Moreover, several countries in need of expert services did not make full use of the Project Scientific Consultants' (PSCs) expertise in their particular fields. This can be explained by the lack of clear duties and responsibilities of PSCs. It is expected that the situation will improve from this year onward as a result of the adoption of the new duties of PSCs.

Experts visiting AFRA Countries have to produce reports which are submitted to the countries concerned. The reports contain recommendations to all concerned (the Agency and the recipient institution). Although the Agency requests the recipient institution to undertake the necessary steps for the implementation of the recommendations, we do not receive in most of the cases feedback about the completion of this action. It is therefore recommended to work out a mechanism whereby effective monitoring of the activity can be performed on a routine basis.

II-1.4 Provision of minor Equipment and Consumables

Minor equipment, consumables and supplies are provided to all AFRA Countries. The major part of available funds for this component was spent on reagents for both human and animal investigations and on repair and maintenance of medical as well as scientific instruments and equipment. Special consideration was given to LDCs AFRA Countries as their needs are usually of broader scope and more diversified.

As activities foreseen under the new five-year programme are better defined and the required inputs identified at all levels, it is expected that more and more emphasis will be placed in the future on preventive maintenance of medical and scientific instruments and safety (dosimetry, calibration) of radiation equipment used in radiotherapy. This trend emerged during the last few months and is expected to take better shape in 1998.

The provision of equipment does not generally pose particular problems in terms of management. The only remark which needs to be brought to the attention of AFRA Member States is the application of the "least intervention principle" of AFRA which means in this particular context that priority should be given to goods and consumables manufactured in Africa. Certain African Countries are already manufacturing various equipment (detectors, monitors, etc.). Attempts were made to promote this concept, however, a thorough investigation is needed to develop a list of available goods of interest to nuclear applications and to promote their marketing through the respective AFRA projects.

It is proposed that AFRA-FMC consider developing a database to enhance TCDC within AFRA during 1997-98.

II-2 1997 FINANCIAL SITUATION

The total budget allocated to the AFRA programme in 1997 amounts to US\$2,185,080 from the LAEA Fund (TCF) and US\$1,547,790 expected from donors. As of June 1997, the contributions received from donors are as follows:

France	:	US\$60,000 for AFRA II-16 (RAF/6/018)
USA	:	US\$50,000 for AFRA IV-20 (RAF/4/014)
OPEC Fund	:	US\$20,000 for AFRA III-18 (RAF/5/042)

The Agency has also added a total amount of US\$217,000 to the following projects:

- AFRA IV-20 (RAF/4/014): US\$153,200 in 1997 and US\$ 87,900 in 1998
- AFRA I-15 (RAF/4/015): US\$30,000
- AFRA II-17 (RAF/5/041): US\$33,800

The project AFRA IV-12 (RAF/4/012) made a saving of US\$13,200 which has been transferred to the above-mentioned projects. Table 1 gives the details of the 1997-98 budget.

As it stands now, the implementation of all AFRA activities foreseen in 1997 under the 11 projects **still requires from donors an amount of US\$1,284,590**. These funds are needed to implement activities planned under the projects AFRA III-18 (RAF/5/042) and AFRA II-12 (RAF/6/014). Both projects have been submitted to potential donor countries and organizations for funding. South Africa and Nigeria made commendable efforts in their capacity as countries of the AFRA Chairperson and contacted several donors for funding. These lobbying activities did not achieve yet the expected results. New initiatives are being taken with assistance from the Vienna-based African Group and the OAU who have agreed to sponsor AFRA projects.

Despite the uncertainties surrounding the funding of AFRA activities in 1996 and probably also in 1997, the implementation of the high priority activities was performed smoothly. This was possible thanks to the modular design of each project activities. The total implementation rate of the programme in 1996 was **72,31%** (details are shown in table 2).

It has to be noted that details of the in-kind contributions provided by AFRA Member States was not made available to us and therefore was not included in this report. It is understood however that the 1997 figures will be included in the National Coordinators' reports of 1997 and therefore will be part of the next year Annual Report of AFRA.

II-3 COORDINATION AND MANAGEMENT

Programme coordination and management at both country-and-regional levels is the responsibility of AFRA Member States, the AFRA Field Management and the Agency. At the country level, the management, monitoring, follow-up and evaluation of all AFRA activities rest with the AFRA National Coordinator. He/she discharges these duties and responsibilities with assistance from Project Coordinators who are responsible for the aforementioned activities at the project level.

At the regional level, these activities are usually performed by the AFRA Field Management Committee (composed of the AFRA Field Management and the IAEA AFRA Coordinator) in accordance with the established AFRA Guidelines and the Agency's rules and procedures for the provision of technical assistance.

There are several indicators of an efficient and effective coordination and management of multi-disciplinary and multi-institutional activities in a country. Among there are good communication between all operators concerned, existence of adequate personnel funds and laboratory facilities, availability of national workplans for each particular activity and of an operational monitoring and evaluation mechanism.

II-3.1 Country Level

On the whole, the mechanism in place for coordination and management of AFRA activities has contributed to the general improvement of the programme delivery at national level and to the better dissemination of improved practices and results within the participating countries. We have noticed that more and more real end-users and private companies are interested in AFRA activities and a large number of them have in fact expressed strong wish to be involved from the outset. This positive attitude was particularly visible in projects dealing with health and industrial applications (NDT, radiation processing, food preservation) for which the **project coordinators made the necessary efforts and established networks of partners sharing common interests**. This relative success was achieved in both advanced as well as less advanced countries and **seems to result essentially from project coordinator's motivation and personal interest and not from the availability of national workplans and strategies**.

It is expected that this situation changes in the near future as a result of the new procedures that make national workplans mandatory for participation in AFRA projects. Moreover, the strong emphasis placed on coordination, monitoring and evaluation and the related new procedures will certainly yield positive results since responsibilities are much better defined and the performance of each partner will be assessed systematically.

In conclusion, coordination and management at national level presently **depend essentially on the personal interest and motivation of the Project and National Coordinators**. Most of the countries have no workable strategies and workplans to enable the National Coordinators and the decision-makers to better coordinate the promotion of nuclear techniques and to manage efficiently the implementation of AFRA activities. This important deficiency should be given the highest priority by the AFRA-FMC and the National Coordinators so that

by the end of the present cycle (1998) the function of coordination and management is more effectively and systematically exercised.

AFRA National Coordinators are strongly solicited to exercise the much needed role of catalytic hub and coordinator and **to devote a substantial part of their time to monitoring, follow-up and evaluation of AFRA activities in their countries.**

II-3.2 Regional Level

The mechanism in place for coordination and management proved to be extremely useful and has already achieved promising results. This mechanism consists of the AFRA Field Management, the Project Scientific Consultants (PSC) and the regional organizations, particularly the OAU. The Vienna-based African Group also supports the AFRA Field Management activities particularly in fund mobilization and networking.

Within two years of existence, this mechanism provided strong leadership for interaction through streamlining of procedures and policies, coordination of the programme's activities and resources and field management of important aspects of implementation. By means of monitoring and guidance, the AFRA Field Management has been actively involved in the programme implementation and management and, whenever necessary, helped devise timely and appropriate adjustments to overcome implementation difficulties.

Close collaboration between the AFRA Field Management and the Agency through regular meetings and consultation as well as constant performance review has greatly facilitated the coordination and management of the programme at regional level. This essential achievement in the way to full ownership of the programme by its Member States should be further consolidated and sustained. To this end, it is recommended that the AFRA Field Management be given the necessary means and support from AFRA Member States as well as the appropriate "political" influence and confidence, to enable it to play this important leading role in all stages of programme design, formulation, implementation, monitoring and evaluation. **Keeping closer contact with Member States and taking initiatives whenever necessary**, particularly regarding the relevance, effectiveness and impact of AFRA activities in the light of their objectives are also essential to achieve sustainability.

II-3.3 Monitoring and Evaluation

Monitoring and evaluation are also aspects of management and therefore primary responsibilities of the AFRA Member States. It is our impression that both aspects have not received yet adequate attention in the context of AFRA; neither at country nor regional level. This weakness is particularly severe at national level as several AFRA Countries have not established yet their own mechanism for the monitoring and evaluation of AFRA activities and still rely on Agency experts. During the first five-year term of AFRA, these management techniques were not an imperative as AFRA projects/activities were mainly of general nature without clearly defined objectives, inputs, outputs and criteria of success. Today, all AFRA projects enjoy the above-mentioned features; in addition to national workplans for each country. With a five-year programme fully designed, formulated and agreed upon by all participating countries, strict monitoring and continuous evaluation at national and regional levels become pre-requisites for achieving the expected objectives. Moreover, both

monitoring and self-evaluation usually help create the "culture" conducive to good quality work and to methodical integrated approaches which are essential elements for sustainability. At regional level, the programme now has several mechanisms for the monitoring and evaluation of activities, such as annual reports by Project and National Coordinators, coordination meetings and annual reports by Project Scientific Consultants (PSCs). Certain large-scale projects as well as TCDC demonstrations have a six-month reporting system (interim progress reports).

Lessons drawn from previous experience show that the desired improvements should be made at the country level (first line management); starting by the project, then the theme and finally the country as a whole. A proposal by the AFRA-FMC is shown in Appendix 1.

II-4 CONCLUSIONS AND RECOMMENDATIONS

From discussions with project co-ordinators during the co-ordination meetings, several issues were raised regarding deficiencies or weaknesses that appeared during implementation, which require urgent actions by AFRA countries. The major ones are the following:

- (i) It was noted in several co-ordination meetings that certain participating countries in AFRA projects have neither laboratory facilities nor trained manpower which could enable them to benefit effectively from the project achievements and contribute to its implementation. In our opinion the participation in AFRA projects should be seriously rethought and new criteria should be set up to regulate this activity.
- (ii) Several of project co-ordinators did not bring to the coordination meetings their national workplans which should normally integrate their own plans of action in the field with the regional ones (described in the project documents). This deficiency should be corrected as the new programme of AFRA requires strict monitoring of any progress made at the national level.
- (iii) Communication between the AFRA National Co-ordinators and Project Co-ordinators was the concern of all co-ordination meetings (please see recommendations to National Co-ordinators in Appendix 2). Several project co-ordinators affirmed that they have never been briefed by their National Co-ordinator on AFRA matters.
- (iv) The concept of "Gatekeeper" was not well understood by project co-ordinators. Even the name "Gatekeeper" was questioned on several occasions. It is, therefore, proposed to endorse the new name "Project Scientific Consultants" as well as the new duties and responsibilities.
- (v) The co-ordination meeting of project AFRA XI (research reactor utilization and operation) expressed great concern about the situation of research reactors in Africa. Except for two research reactors, all others suffer from an acute lack of funds for overheads, lack of proper maintenance and more important, they are under-utilized. It is proposed that the AFRA-FMC works out the terms of a comprehensive study that should be initiated to assess the present situation and recommend remedial actions.

TABLE 1 - AFRA BUDGET 1997-98

(As per June 1997)

Project	Approved budget(US\$)		Upgrading (US\$)		Total available	
	1997	1998	1997	1998	1997	1998
RAF/0/010	163 400 (IAEA)	172 400 (IAEA)	-	-	163 400	172 400
RAF/4/012	129 600 (IAEA)	137 900 (IAEA)	-13 200 (IAEA)	-	116 400	137 900
RAF/4/014	192 800 (IAEA) 9 790 (donors)	187 900 (IAEA) 165 360 (donors)	+153 200 (IAEA) 50 000 (USA)	+87 900 (IAEA)	346 000 50 000 (USA)	275 800
RAF/4/015	212 880 (IAEA)	303 430 (IAEA)	+30 000 (IAEA)	-	242 880	303 430
RAF/5/041	246 000 (IAEA)	259 750 (IAEA)	33 800 (IAEA)	-	279 800	259 750
RAF/5/042	286 000 (IAEA)	363 700 (IAEA)	-	-	286 000	363 700
	461 100 (donors)	385 780 (donors)	+16 791 (OPEC Fund)	-	477 891	385 780
RAF/6/014	222 800 (IAEA)	215 (IAEA)	-	-	222 800	215 800
	773 700 (donors)	582 900 (donors)	-	-	773 700	582 900
RAF/6/018	173 600 (IAEA)	185 095 (IAEA)	-	-	173 600	185 095
	40 000 (donors)	100 000 (donors)	+60 000 (France)	-	60 000 (France)	100 000

RAF/8/024	186 000 (IAEA)	255 800	-	-	186 000	255 800
RAF/8/025	186 000 (IAEA)	269 750 (IAEA)	-	-	186 000	269 750
RAF/9/022	186 000 (IAEA)	209 750 (IAEA)	-	-	186 000	209 750
Total	2 185 080 (IAEA)	2 567 275	203 800 (IAEA)	87 900 (IAEA)	2 388 880 (IAEA)	2 655 175 (IAEA)
	1 284 590 (donors)	1 234 040 (Donors)	126 791 (Donors)	-	126 791 (Donors)	-

TABLE 2
IMPLEMENTATION OF AFRA PROJECTS AS AT 31 DECEMBER 1996

Project Number	Adjusted Programme	Net New Obligations	Implementation Rate	Earmarkings
RAF/0/010	71, 681.99	67,241.99	93.8%	4,440.00
RAF/4/009	428,416.10	361,795.87	84.4%	66,620.23
RAF/4/012	131,018.46	66,228.33	50.5%	64,790.13
RAF/5/021	33,228.21	32,695.62	98.4%	532.59
RAF/5/027	239,260.98	236,488.17	98.8%	2,772.81
RAF/5/029	134,702.38	79,545.12	59.1%	55,157.26
RAF/6/007	219,887.21	168,953.10	76.8%	50,934.11
RAF/6/014	285,857.35	129,301.86	45.2%	156,555.49
RAF/8/016	(4,330.06)	(4,330.06)	0.0%	0.00
RAF/8/017	143,027.03	104,835.06	73.3%	38,191.97
RAF/9/007	180,927.52	112,024.81	61.9%	68,902.71
RAF/9/011	100,541.76	62,287.05	62.0%	38,254.71
TOTAL	1,964,218.93	1,417,066.92	72.1%	547,152.01

III. 1998 PROGRAMME OF AFRA

III. 1998 PROGRAMME OF AFRA

(i) Introduction

The five year programme of AFRA 1997-2001 was designed and formulated in 1995-96 in accordance with the decisions made by the 6th and 7th TWGMs regarding the themes to be considered as well as the topics within each theme. The 1998 programme of AFRA is part of the five-year one and has already been endorsed by the 7th TWGM and the 7th Meeting of AFRA Representatives as well as by the Agency. The project coordinators reviewed again each project and made certain adjustments during the project coordination meetings. These adjustments were to update certain countries' needs and to introduce improved methods or techniques which proved to be reliable. These minor changes do not affect the projects objectives and expected outputs but aim at fine tuning the programme's outputs to enable it to answer in a more efficient and effective manner AFRA countries' priority needs. Furthermore, the proposed changes will not entail financial implications as they deal basically with scientific matters (improved methods and/or techniques) rather than activities. Appendix III-1 shows the list of AFRA coordination meetings and training events.

(ii) Features of the 1998 programme of AFRA.

As mentioned earlier, the proposed programme was reviewed, discussed and endorsed by all project coordinators who attended the Coordination Meetings of their respective projects. This represents an additional improvement as compared to the previous five-year programme of AFRA. Moreover, the implementation of AFRA projects did not in the past pay attention to the way the assistance provided to AFRA countries was used by the recipient institutions. There was no mechanism to control this process. The new requirement of providing national workplans for each participation in any AFRA project, is expected to improve significantly monitoring and evaluation. This prerequisite is being applied now and will be a routine exercise in 1998.

The projects' success criteria have also been reviewed and endorsed by project coordinators. Only realistic and achievable ones have been retained so as to minimize the uncertainties thereby optimizing the chances for success. The minor changes were reviewed by the 8th TWGM and the approved version has been included in each project document.

One of the most salient innovation of the 1998 programme is the inclusion of TCDC activities in most of the projects (please refer to Chapter V). For each TCDC activity, a realistic and detailed workplan has been prepared together with the mechanism of follow-up and evaluation. Funding schemes were also discussed and adopted by the participants. Moreover, where possible, cooperation with regional and interregional institutions was sought and built in the programme. Regional institutions including the OAU, ECA, FAO, ICRISAT, ICARDA, ITTA, were approached for collaboration or sharing of facilities and expertise.

Another important feature of the programme is the increased awareness of project coordinators about their role, duties and responsibilities, which should normally result in a significant improvement at the implementation level and ultimately in a more visible impact.

Moreover, the proposed implementation modalities and procedures (please refer to Chapter VII) will consolidate much of what has been achieved in terms of managerial skills and expertise at both national and project coordinators and enhance the countries' ownership of the programme.

The year 1998 will be devoted to the translation into concrete actions of all procedures and guidelines which were developed over the last years and which are now ready for application. Time will also be allocated to upstream work for the design and formulation of sound projects/activities for inclusion in the 1999-2000 programme cycle. It is believed, however, that only a very limited number of new projects will be considered for inclusion in the 1999-2000 programme cycle, as the major new opportunities will be designed as components to be included under the on-going projects.

The above-mentioned features will not really affect the desired impact unless the National Coordinators play their full role and strictly monitor the implementation of AFRA activities at the national level. It was noted that more significant achievements were attained in countries where the National Coordinator monitors the programme, has a visible presence and interacts regularly with project coordinators.

III. AFRA TRAINING EVENTS AND CO-ORDINATION MEETINGS IN 1998

Project No.		Activitiy	Venue	Dates	Experts/ lecturers	HOST BENEFICIARY/ COUNTRY Commitments
THEME I:		RADIATION SAFETY				
1. Harmonization of radiation protection practices in AFRA countries AFRA 1-15 RAF/9/022	1	Workshop on emergency planning and preparedness	Pretoria, South Africa	20-24 April 1998	-Local lecturers -Project scientific consultant	Host country: Cost- free lecturers, conference room, local transportation Beneficiaries: Radiation protection officers to attend
	2	Radiation protection in mining and milling	Lusaka, Zambia	22-26 June 1998	-Reg. lect. -T.O., if necessary	same as above
	3	Harmonization of analytical procedures in food stuff contamination	Cairo, Egypt	7-11 Nov. 1998	-Local and -regional lecturers -T.O.	same as above

Project No.		Activity	Venue	Dates	Experts/ lecturers	HOST BENEFICIARY/ COUNTRY Commitments
2. Upgrading of Waste Management Infrastructure AFRA 1-14 RAF/4/015	1	Workshop (Task team) to review and/or adopt the IAEA guidelines on management of medical radioactive wastes	Zaria, Nigeria alt. Cairo, Egypt	23-27 March 1998	-Local and -regional lecturers, -T.O., if necessary	Host country. Cost- free lecturers, conference room and local transportation Beneficiaries: Senior Waste Management technologists from selected countries
	2	Workshop on use and Management of the IAEA Sealed Radiation Sources Registry	Pretoria, South Africa	26-30 January 1998	-Local lecturers -outside lecturers -T.O., if necessary	same as above
	3	T.C. Management of radioactive medical wastes	Pretoria, S.A.	24-28 August 1998	-Local lecturers -outside lecturers -T.O., if necessary	Host country. Cost- free lecturers, conference room and local transportation Beneficiaries: WM officers in charge of radioactive medical waste (trainers)

Project No.		Activitiy	Venue	Dates	Experts/ lecturers	HOST BENEFICIARY/ COUNTRY Commitments
	4	T.C. on evaluation of hazards associated with wastes from naturally occurring radionuclides	Zaria, Nigeria alt. Lusaka, Zambia	4-8 May 1998	-Local and outside lecturers -T.O. if necessary	Host country. Cost-free lecturers, conference room and transportation Beneficiaries: National inventory of data from all sites, adequate staff for training
THEME II: CLINICAL APPLICATION OF RADIO-IMMUNOASSAY TECHNIQUES						
1. Consolidated RIA capabilities for tumour markers AFRA II-16 RAF/6/018	1	T.C. on production of basic reagents for RIA tumour markers	Harare, Zimbabwe	13-17 July 1998	-Local and -regional lecturers -T.O., if necessary	Host country: Cost-free lecturers, conference room and local transportation Beneficiaries: Adequately trained staff to participate in the T.C. (only for countries using tumour markers)

Project No.		Activitiy	Venue	Dates	Experts/ lecturers	HOST BENEFICIARY/ COUNTRY Commitments
2. Development and field evaluation of animal feed supplementation packages AFRA II-17 RAF/5/041	1	Workshop on modalities and procedures for field testing supplementation packages	Accra, Ghana alt. Nairobi, Kenya	20-24 April 1998	-Local and -regional lecturers -T.O., if necessary	Host country: same as above Beneficiaries: Qualified staff from the national institution in charge of animal nutrition
	2	T.C. on external quality control (EQC) for RIA	Lusaka, Zambia alt. Arusha, Tanzania	2-6 Nov. 1998	-Local and -regional lecturers -T.O., if necessary	Host country: same as above Beneficiaries: Qualified scientists from the analytical laboratories in charge of animal reproduction

Project No.		Activitiy	Venue	Dates	Experts/ lecturers	HOST BENEFICIARY/ COUNTRY Commitments
3. Improvement of Clinical Radiotherapy AFRA II-12 RAF/6/014	1	T.C. on radiotherapeutic management of head and neck tumours	Douala, Cameroon	4-8 May 1998	-Local and - regional lecturers -T.O., if justified	Host country: same as above Beneficiaries: Qualified radiotherapists
	2	Workshop on mould room techniques	Tunis, Tunisia	9-13 March 1998	-Local and -regional lecturers -T.O., if justified	Host country: same as above Beneficiaries: One qualified radiotherapist and one mould room technician should be made available for training.
	3	T.C. on treatment planning techniques and quality assurance	S.A. Bloemfoetein Cape Town	3-10 October 1998	-Local lecturers -T.O., if justified	Host country: same as above Beneficiaries: Qualified medical physicists to be trained as trainers

Project No.		Activitiy	Venue	Dates	Experts/ lecturers	HOST BENEFICIARY/ COUNTRY Commitments
THEME III: INCREASED CROP PRODUCTIVITY USING INTEGRATED NUCLEAR TECHNIQUES						
1. Development and promotion of improved crop varieties, AFRA III-18, RAF/5/042	1	T.C. on selection methods for drought tolerance in cereals and legumes	Pretoria, S.A.	16-27 February 1998	-Local and -regional experts -T.O., if necessary	Host country. Cost-free local lecturers, conference room and local transportation Beneficiaries: Qualified team of breeders and agronomists/physiologists to be trained as trainers
	2	Workshop to review results of experiments	Cairo, Egypt	5-9 September 1998	- Project Scientific Consultant -Local lecturers -T.O.	Host countries: Cost-free lecturers/experts, conference room and local transportation Beneficiaries: To make available: -Principal investigators of this component -all available national data

Project No.		Activitiy	Venue	Dates	Experts/ lecturers	HOST BENEFICIARY/ COUNTRY Commitments
THEME IV: RADIATION TECHNOLOGY						
1. Radiation processing of food and industrial products AFRA IV-19 RAF/8/024	1	Workshop to train personnel on safe operation of radiation facilities	Cairo, Egypt	14-18 March 1998	-Local and -regional lecturers -T.O., if necessary	Host country: Cost-free local lecturers, premises and local transportation Beneficiaries: Qualified technologists and staff from the Regulatory Body to attend
	2	T.C. on good management practices for optimal use of radiation facilities	Accra, Ghana	25-29 May 1998	-Local and -regional lecturers -T.O., if necessary	Host country: Cost-free local lecturers, premises, facilities and local transportation Beneficiaries: Qualified technologists from AFRA countries with irradiation facilities

Project No.		Activitiy	Venue	Dates	Experts/ lecturers	HOST BENEFICIARY/ COUNTRY Commitments
	3	T.C. on production and radiation sterilization of biological tissues and related topics	Pretoria, S.A.	6-10 July 1998	-Local and -regional experts -T.O., if necessary	Host country: Cost-free local lecturers, premises, facilities and local transportation Beneficiaries: Qualified scientists from AFRA countries with tissue banking programmes
	4	Workshop on ISO procedures and modalities for radiation sterilization	Lusaka, Zambia	9-13 Nov. 1998 (one week)	-Local and -regional lecturers -T.O., if necessary	Host country: Cost-free local lecturers, premises and local transportation Beneficiaries: Qualified technologists from AFRA countries with facilities

Project No.		Activitiy	Venue	Dates	Experts/ lecturers	HOST BENEFICIARY/ COUNTRY Commitments
2. Consolidation of regional capabilities for maintenance of medical and scientific instruments AFRA IV-20 RAF/4/014	1	T.C. on trouble-shooting, repair and maintenance of analogue nuclear systems and quality control of nuclear instruments	Tunis, Tunisia	16-20 June 1998	same as above	Host country: Cost-free local lecturers, premises and local transportation Beneficiaries: Qualified electronic engineers to be trained as trainers
	2	T.C. in PC interfacing of nuclear measurements	Accra, Ghana alt. Cairo, Egypt	4-8 May 1998	same as above	same as above
	3	Workshop on servicing and maintenance of linear accelerators	Cairo, Egypt	16-27 November 1998	same as above	Host country: same as above Beneficiaries: Qualified servicing electronic engineers in charge of maintenance of linear accelerators
	4	Workshop on PM and QC of Cobalt-60 and radiotherapy units	Nairobi, Kenya	23-27 February 1998	same as above	Host country: same as above Beneficiaries: Qualified electronic engineers to be trained as trainers

Project No.		Activitiy	Venue	Dates	Experts/ lecturers	HOST BENEFICIARY/ COUNTRY Commitments
3. Research reactor operation, utilisation and safety AFRA IV-11 RAF/4/012	1	Third project Co- ordination Meeting	Zaria, Nigeria	16-20 November 1998	-Project Co- ordinators -T.O.	Project Co- ordinators
	2	Workshop on measurement of reactor physics parameters	Cairo, Egypt	14-18 March 1998	-Local and -regional lecturers -T.O., if necessary	Host country: Cost- free local lecturers, premises and local transportation Beneficiaries: Qualified nuclear physicists to attend
	3	Workshop on neutron scattering research	Pretoria, S.A.	19-23 October 1998	same as above	same as above
	4	T.C. on research reactor instrumentation technology and trends	Zaria, Nigeria alternate Algiers, Algeria	11-15 May 1998	same as above	same as above, except candidates should be qualified electronic engineers in charge of instrumentation

Project No.		Activitiy	Venue	Dates	Experts/ lecturers	HOST BENEFICIARY/ COUNTRY Commitments
4. Non-destructive testing techniques in industry AFRA IV-21 RAF/8/025	1	Workshop to prepare a student package of concrete construction and in-service inspection	Cairo, Egypt alt. Rabat, Morocco	7-11 March 1998	same as above	Host country: Cost-free local lecturers, premises and local transportation Beneficiaries: Qualified ND personnel in charge of training
	2	Workshop to assess National IS needs and priorities and establish appropriate programmes and methods	Nairobi, Kenya	15-19 June 1998	same as above	same as above
	3	Workshop on condition monitoring of civil/engineering concrete structures	Tunis, Tunisia	9-13 November 1998	same as above	same as above

**IV. OPPORTUNITIES FOR NEW PROJECTS FOR
CONSIDERATION UNDER THE 1999-2000 PROGRAMME
OF AFRA**

IV. OPPORTUNITIES FOR NEW PROJECTS TO BE CONSIDERED UNDER THE 1999-2000 PROGRAMME OF AFRA

The meeting of the AFRA-FMC held in Vienna 23-27 June 1997 reviewed a number of opportunities which represent high priority for the region in the short and medium terms. Two of these opportunities have already been discussed and recommended by the 8th TWGM:

- The use of isotope techniques for leak detection in dams and artificial reservoirs (already discussed and recommended by the 8th TWGM);
- Naturally occurring radioactive material wastes generated from borehole logging in oil industry (already discussed and recommended by the 8th TWGM);
- Creation of a specialized team for repair and maintenance of gamma cameras in Africa;
- Establishment of a regional emergency preparedness capability;
- Distance learning package for training nuclear medicine technologists in Africa (proposed by the Agency's Technical Division);
- Use of isotopes for inspection of tanks for storage of oil and other liquid products.

After discussing these opportunities, the AFRA-FMC made the following comments and recommendations:

1. The use of isotope techniques for detection of leakages in dams and artificial reservoirs

The meeting discussed a summary of project document submitted during the meeting and recommended it in general. The Agency has already sent a questionnaire to all AFRA Member States regarding leakages in dams and reservoirs and the results are being compiled and analysed. A meeting took place in Vienna from 9 to 11 July 1997 to analyse the results and to prepare a detailed workplan. It is expected that the Agency will establish a Reserve Fund project to support initial activities in the field. In the light of the results of the questionnaire, the AFRA-FMC will discuss again this issue in its meeting in September to determine the magnitude and scope of the project and to decide on modalities of design and formulation (see project proposal under Appendix 1)

2. Naturally Occurring Radioactive Material (NORM) wastes generated from borehole logging in oil industry.

The meeting recommended to include this topic under the on-going project AFRA I-14 (RAF/4/015); component "identification and assessment of hazards of occurring radionuclides". The Agency will get in touch with the Project Scientific Consultant to work out the detailed workplan and the implementation modalities.

3. Creation of specialized team for repair and maintenance of gamma camera in Africa

The AFRA-FMC discussed the project summary which was circulated during this meeting and recommended to establish this particular team under the on-going projects AFRA IV-20, medical component. In fact, there is a specialized team in Ghana, who has already provided repair and maintenance services of gamma cameras in four AFRA Member States. The available staff will probably form the core of the future specialized team. The Agency will work out the detailed workplan with the PSC.

4. Establishment of a regional emergency preparedness capability

The objective of the establishment of this capability through the creation of a well trained team is to assist AFRA Member States in establishing their emergency preparedness and to perform regular simulations of radiological emergency situations at sub-regional level and, ultimately, at regional level.

AFRA-FMC believes that this opportunity has a high priority but still requires some elaboration to define all technical, managerial and administrative aspects. It is proposed to further elaborate on this opportunity and to discuss the final draft proposal during the next AFRA-FMC meeting in September 1997. The meeting recommended that the Project Scientific Consultant of AFRA I-15 (RAF/9/022) approaches the project coordinators in South Africa and Egypt and prepares the draft proposal for the September meeting.

5. Distance learning package for training nuclear medicine technologists in Africa

The proposal was submitted by the Agency Technical Officer for consideration at this meeting. The latter discusses the proposal in the light of the information given in the report of Mrs. G. Philotheou, taking into consideration the lessons learned from RCA experience in the field. The meeting made the following comments:

- a. Training of nuclear technologists in Africa is one of the highest priorities of AFRA.
- b. As the successful implementation of the proposed distance education programme depends heavily on adequate communication infrastructure and reasonable logistics, there may be a need to investigate thoroughly the available infrastructure, to assess the interest of the nuclear medicine community in Africa as well as the commitment of the national competent authorities.
- c. Against the above background, the meeting recommends to seek clarification from the Agency's Technical Officer, the Project Scientific Consultant as well as RCA.
- d. This proposal will be discussed again during the AFRA-FMC September meeting in the presence of the PSC, the Technical Officer and in the light of the clarifications to be obtained.

6. Use of isotopes for inspection of oil and liquid products storage tanks

The meeting reviewed a paper on this subject, and discussed its relevance to AFRA countries. Given the large number of African countries producers of oil and other products, the meeting believes that this application can have a high impact provided that it is technically feasible and economically viable. The meeting recommends to seek further information on this application to ensure its reliability. The meeting also requested the assistants to investigate in their own countries the current practices regarding the examination of tanks for oil storage and other liquid products. The final decision regarding the inclusion of this activity in the on-going project AFRA IV-21 (RAF/8/025) from 1999 onwards will be taken during the AFRA-FMC meeting in September.

It has to be noted that most of the above-mentioned opportunities will be incorporated into on-going projects once they are approved by the Representatives of AFRA. There is, however, a need for intensive upstream work in order to secure all necessary ingredients for the successful implementation of these activities. The final version of each project/activity will be presented to the 9th TWGM for consideration.

**ACTION PLAN FOR ESTABLISHING CENTRES
OF EXCELLENCE AND SPECIALIZED TEAMS
TO SOLVE SPECIFIC AND EMERGENCY PROBLEMS
IN AFRA MEMBER STATES**

PREAMBLE

During its 8th Meeting held in Hammamet, Tunisia, 21-25 April 1997, the AFRA Technical Working Group strongly recommended the establishment of a **'network of centers of excellence and teams to support solving specific and emergency problems with concrete impact (ad-hoc actions) by using regional expertise and capability'**. The recommendation resulted from extensive discussions between the AFRA National Coordinators to which the Agency contributed concrete illustrative examples as well as lessons learned from similar experiences.

Regional self-reliance and cost-effectiveness were the most important considerations for making this recommendation. The aim is to utilize the best that exists in Africa at the lowest possible cost; in terms of available facilities and expertise, and, at the same time, to translate into concrete actions the political commitment of AFRA countries to regional cooperation, particularly TCDC.

Before concluding their meeting, the participants requested the Agency and the AFRA Field Management to further elaborate on this approach and to find ways and means for setting up, as a first step, one or two centres/teams that can handle urgent and specific tasks on a **'when needed basis'**.

This note seeks to contribute thoughts and suggestions for establishing this new type of projects that are exclusively oriented towards providing multi-national services for solving urgent problems.

SCOPE AND OBJECTIVES

The recommendation of the 8th TWGM calls for setting up centres of excellence and teams in countries where adequate infrastructure that supports the technology concerned is well established and therefore there will be no particular need for additional investment. Upgrading of certain basic equipment and/or provision of specific training sessions could however be envisaged.

In terms of geographical or physical coverage, several options could be envisaged, in accordance with sub-regional, language or group of countries special requirements. As far as AFRA is concerned, the issue of geographical coverage will not constitute an obstacle as the present network established under AFRA functions very smoothly and covers the whole of Africa. It should be noted that AFRA countries have always resisted the temptation of sub-regionalisation of AFRA activities and favoured need-driven approaches to development problems.

The magnitude and extent of services to be provided by these centres/teams can in principle cover all nuclear applications. However, a gradual approach is favoured in order to test the viability and sustainability of such a concept and create the appropriate environment conducive to mutual trust.

The immediate objective of this particular activity is to assure to AFRA countries in need **multi-national services** in various fields of nuclear technology at the lowest possible costs, of high quality in meeting efficiently the region's most pressing needs and which can produce a high and visible impact.

The ultimate objective is **the attainment of self-reliance** in the field in the most economical way through effective use of TCDC.

LEGAL STATUS AND MAIN FUNCTIONS OF CENTRES OF EXCELLENCE

Considerable "centres of excellence" supported by United Nations system or countries/institutions appear to have been created without having the kind of intergovernmentally-agreed legal status and, as a consequence, disappeared within a short period of time without achieving any significant impact.

In the context of AFRA, this requirement is met since the agreement is an inter-governmental undertaking. With the legal framework and the needs in place, and a fairly acceptable technological development stage in certain countries, Africa is well prepared to make full use of regional centres of excellence provided that there is:

- (i) a **compatibility of interest** of and firm commitment from participating countries;
- (ii) a **marked economy of scale** in the services to be provided to the participating countries;
- (iii) a **clear multiplier effect** of the centres' outputs and impact;
- (iv) a **clear leadership** as a body of knowledge in the field concerned.

The desired type of centres of excellence should not be an "ivory tower", i.e. academic strongholds isolated from development realities, but is rather a reliable and recognized leader in its technical field of activity which offers widely accepted services to the African users and which could therefore attract strong support from all participating countries. In particular, AFRA centres of excellence should be capable of mobilizing a powerful intellectual thrust to generate developmental changes desired by its Member States and to render multi-national services with similar quality and reliability as any private Western supplier. As a consequence, the centre should promote and facilitate the integration and coordination of activities in its respective substantive fields, supplement, support and catalyze the activities of relevant national institutions, and disseminate their benefits as widely as possible through well planned actions.

To be cost-effective in this respect, the centres should have a good understanding of Member States' expectations and a clear vision of the nature of the desired future to be able to influence changes and gain credibility and viability.

From interactions with African nuclear institutions, it emerges that most of them are tempted by the desire of being accredited by the Agency as centres of excellence. In most cases, this request is dictated by personal motivations or by the need for additional equipment and training. In other cases, personal prestige seems to be the driving motivation. To avoid uncertainties that may damage the credibility of AFRA in this respect, maximum assurance should be secured through a systematic and transparent selection of these centres using well defined and measurable criteria.

The following criteria can be used as the basis for selection of centres of excellence:

- (i) Availability of the necessary infrastructure (laboratory facilities, well trained and skilled manpower, legal framework) at the time of application for becoming a centre of excellence;
- (ii) Availability of references (achievements) in the field of expertise; such as services rendered satisfactorily at the national and, possibly, regional level;
- (iii) Availability of logistics, communication facilities as well as a capacity of mobilizing rapidly teams and means;
- (iv) Confirmed reliability in servicing and skills in management;
- (v) Financial autonomy or at least solid sources of funding when required;
- (vi) Ability of providing leadership for inter-action through linkage mechanisms, networking, and use of TCDC modality.

For each specific activity, additional criteria may be required.

MANAGEMENT AND FUNDING OF CENTRES OF EXCELLENCE

Supervision and monitoring of the activities of centres of excellence are aspects of management and therefore primary responsibilities of the participating governments. As AFRA Member States have mandated the AFRA Field Management to discharge these responsibilities for activities implemented under AFRA, **it seems logical that the AFRA Field Management should be charged with this task at the regional level.**

At the national level, the managerial activities of the Centres remain with the institutions concerned with the clear understanding that **the manager of the centre should also be accountable to the AFRA Field Management.** If the Agency has to provide assistance to a centre, this entitles her also to have due regard on the activities of the centre as well as on its performance at national and regional level. The monitoring of centres of excellence should include regular assessment of their performance by audits; those duties and mandate should be defined by the AFRA Field Management Committee in collaboration with the Member State concerned.

The funding of centres of excellence is primarily secured by incomes from the services rendered at national and regional levels. The costs of the services rendered at national level should be covered by the beneficiary institution. At the regional level, the costs of services should be in the long term covered by the beneficiary country. In the short term, however, there might be a need for seed money from the Agency to cover part of the costs involved

such as international transport and incidentals. The LDCs AFRA countries are not expected to contribute towards the costs of such services.

The assistance to be provided by the Agency is limited in time and in scope and should end as soon as the centre demonstrates its ability to sustain its activities.

Although the need for establishing centres of excellence under AFRA seems to be justified and desired, a gradual approach is rather recommended. It seems more realistic in this context to approach this issue from the practical angle of multi-national services to solve urgent problems. To this end, specialized teams can make a significant impact and enhance AFRA credibility. Accordingly, their creation should be considered as early as possible to pave the way for the establishment of centres of excellence.

CONCRETE ACTION PLAN

AFRA needs to demonstrate the technical feasibility and economic viability of this concept by initiating as soon as possible a few demonstrations that have the best chances to succeed and to achieve highly visible impact with low initial investment. The 8th TWGM proposed a demonstration to investigate leakages in dam reservoirs and artificial lakes. The AFRA-FMC has also reviewed the regional priority needs and urgent problems and proposes another demonstration that will tackle the urgent problem of repair/preventive maintenance of gamma camera. The proposal's details are attached.

The first demonstration will need the establishment of a Reserve Fund project as AFRA has no on-going project in the field of isotope hydrology (please refer to the project summary in the attachment). The selection of the team will be performed as soon as possible in accordance with the established criteria, and also in the light of past and present performance. Once the Reserve Fund project is approved, the team will undertake a mission to Ethiopia to investigate the origin of leakages observed in the Legadadi dam reservoir. In the meantime AFRA countries will be informed on the formation of the team, including the project's objectives and requirements.

The second demonstration does not require the establishment of a new project as AFRA has an on-going one dealing with maintenance of medical equipment. Under this on-going project, the Agency has already created a team in Ghana to deal with installation, commissioning, preventive maintenance, repair and quality control of gamma cameras. The team has already performed several missions (Uganda, Ethiopia, Kenya, Sudan) to tackle various problems with gamma cameras. The existence of this team and its task is not well known to AFRA Member States, nor are its achievements. The sub-project will highlight the duties and achievements of the team and promote its services. There is no need for additional funds to cover the costs of the team activities.

CONCLUSIONS

This new type of services-oriented projects need further thoughts by AFRA as it differs from a regular project. They are well suited to regional agreements as **they use basically the concept of TCDC** in their activities and mode of funding. They also can be implemented through **sub-contracts** between the Agency and an institution or between the latter and the regional agreements. The third basic feature of this type of projects is their close relationship with Model Projects. In fact they can be seen as **an extension** of the Model Project's achievements to other users in the region.

Other considerations to be accounted for are:

- the mode of funding of this type of projects;
- the legal status;
- Management modalities and arrangements; and
- sustainability of services.

As far as AFRA is concerned, these considerations will be given due consideration by the AFRA Field Management Committee which will present a comprehensive report to the 9th TWGM of AFRA on this matter.

SPECIFIC AFRA PROJECTS TO PERFORM AD-HOC ACTIONS

I. PROJECT TITLE:

INVESTIGATION OF LEAKAGES IN DAMS AND ARTIFICIAL RESERVOIRS (RESERVE FUND)

L1 Objectives: To create an operational team of experts in the field to help AFRA Member States to identify the origins of leakages in dams and artificial reservoirs and to advise on appropriate corrective solutions.

L2. Background:

AFRA Member States are concerned about the maintenance of costly hydrological infrastructures, such as dams and artificial reservoirs; particularly regarding leakages that are often difficult to detect, and about the limitations of conventional methodologies used to identify the physical origins of these problems. Leakages in dams and reservoirs are causing considerable losses in valuable water resources and, in some cases, contribute to the early deterioration of dams' structures.

Presently conventional methods are normally used for the purpose to determine the cause and location of leakages. However, these suffer from limitations, particularly when the origin of the leakages is located inside the dam reservoir or because of the topographic conditions of the area to be investigated.

The investigation of leakages from dams and artificial reservoirs requires the continued use of different techniques to cover the full range of diagnosis, starting by geological and hydrogeological reconnaissance and ending with the use of artificial and natural tracers to locate the physical origin of leakages. The investigations are absolutely necessary before undertaking any non-emergency repair work, since the costs involved are tremendous in comparison with the expenses required for the investigation. Recent investigations for leakages in dams have demonstrated the cost-effectiveness due to accuracy of results of using environmental isotopes before the real repair takes place. Other examples have clearly confirmed the important wastage of money and time when the conventionally-identified leakages are repaired without prior confirmation of their physical origins and causes.

L3. Project Workplan

The project intends to make full use of the infrastructure and expertise available in AFRA Member States for the creation of a suitable team with the required laboratory facilities, managerial skills and financial autonomy. This team will be audited by independent experts for all operational, financial and reliability aspects. Once confirmed, the team will be established and made known to all AFRA Member States. It will be contracted on "when need basis" to perform specific tasks at the request of AFRA Member States. It is assumed that the team will make use of its instruments and laboratory facilities for the completion of the task. The funding of any activity to be undertaken by this team will follow the Agency rules and procedures for the provision of technical assistance as well as AFRA Guidelines.

The performance of the team will be closely monitored by the AFRA Field Management as well as the Agency through regular evaluation by the recipient Member States and independent experts.

L4 Regional Commitment

The country that shall provide the team should demonstrate its firm commitment to the concept of team creation by allocating seed money for local overheads and allowing the team to travel on "when needed basis". The country should also agree and act accordingly to sustain the required multi-national services expected from the team and to ensure that these services are reliable and of high quality. In the short term, the Agency shall contribute seed money to cover the costs of international transportation of the team to the recipient Member State. In the long run, the recipient countries are expected to cover all costs involved in the performance of team's duties. The AFRA Field Management and the Agency are expected to monitor and assess the performance of the teams and ensure that the work done is of TCDC nature.

L5 Agency inputs

In 1997, the Agency is expected to arrange for the team of experts to visit AFRA Member States to investigate leakages in dams and reservoirs; to evaluate the available hydrogeological data for the dam/reservoir selected sites and to sample surface and groundwater for isotopic and chemical analysis. This Reserve Fund project will contribute funds to cover the costs of missions.

L6 Project Impact:

Accurate identification of leakages in dams and artificial reservoirs and lakes will lead to substantial economical savings in addition to the preservation of valuable water resources. In the long run, the project is expected to prepare the optimal conditions for regional sustainable TCDC activities in Africa.

II. SUB-PROJECT TITLE:

MAINTENANCE AND REPAIR OF GAMMA CAMERAS IN AFRICA

II.1 Objectives: To create a team of specialists for the installation, commissioning, maintenance, repair and quality control of gamma cameras and related data acquisition systems in Africa.

II.2 Background:

Most of AFRA Member States have operational hospitals equipped with gamma cameras and data acquisition systems which often are out of order due to the lack of proper preventive maintenance, adequate spare parts and skilled personnel. The problem of immobilization of vital equipment in hospital such as gamma cameras, represents a serious concern to all AFRA countries who decided to make use of Technical Cooperation Amongst Developing Countries (TCDC) modality to create teams of itinerant specialists to service regularly medical institutions in Member States. The creation of teams who will perform ad-hoc actions on a "when needed basis" was favoured over other options as this will optimize available facilities and expertise and, through economy of scale, reduce the costs of maintenance and repair. Moreover, there are a certain number of well-equipped maintenance centres with skilled staff, which can be considered as serious candidates for such a mission. The selection of one team from an AFRA Member State to deal with the acute problem of gamma cameras represents the first test of this concept which will be enlarged to cover other vital equipment and scientific instruments if proved to be economically viable and technically feasible.

II.3 Project Plan

The team of specialists will prepare a detailed action plan based on requests from Member States. Missions to neighbouring countries will be grouped to the maximum extent possible to reduce costs and provide better coordinated services. The team will make use of its instruments and laboratory facilities for discharging the duties.

An umbrella agreement will be used for all interventions by the team at the regional level.

At a later stage, it is envisaged to make use of the accumulated expertise of the team to provide specific on-the-job training to maintenance personnel in AFRA countries. It is also envisaged to help the team obtain a set of vital spare parts and electronic components which will be used for emergency actions.

II.4 Regional Commitment

The AFRA Country that will provide the team and supporting laboratory facility should sign the umbrella agreement. The recipient countries will bear the costs of accommodation while the Agency will provide for international transportation; at least for the first stage of the project.

AFRA Field Management shall monitor the performance of the team and control the quality of the services provided. Regular assessment by the users will also be performed.

IL5 Agency inputs:

The Agency will arrange for the team to perform its duties in accordance with the umbrella agreement.

IL6 Project Impact:

The prompt response to defective gamma cameras in Africa will improve the services expected from the hospitals, increase the number of clinic investigations and reduce their costs. In the long run, the project will pave the way to the creation of other teams which will, in turn, promote TCDC activities in the country and strengthen self-reliance.

NOTE: This sub-project will be incorporated into the on-going project on maintenance RAF/4/014.

III. SUB-PROJECT TITLE:

REGIONAL EMERGENCY PREPAREDNESS CAPABILITY

III.1 Objectives: The development objective is to establish an independent multipurpose centre that will provide emergency response services, train regulators, and conduct safety analysis.

The specific aim of the sub-project is to form a regional team of specialists who will provide advisory services to AFRA countries in connection with national emergency preparedness programmes, supervise emergency actions in case of accidents and train the staff.

III.2 Background: Almost all Africa Member States are using radioactive sources and materials in the peaceful applications of nuclear energy. This involves beneficial use in medicine, industry, research and development and agriculture. Seven African countries have research reactors and other important nuclear facilities which also produce and use radioactive materials. Moreover, several types of sources with different radioactivity levels are widely distributed in other non-AFRA countries which might be considered as a source of radiation hazards to the ionizing radiation workers, the public and the environment if not properly handled according to the Basic Safety Standards. In the case of emergency, the team will provide, at request, the necessary advisory services and, if necessary, supervise remedial actions to eliminate or reduce to an acceptable level any radiation overexposure. The team will also provide training to regulators and technicians responsible for the processing and handling of radioactive materials and help AFRA countries prepare their national emergency preparedness programmes. As a second phase, it is expected that a regional early warning environmental monitoring network be established within the selected multipurpose centre. The second phase will also cover the establishment of a selected centre in Africa to be a multipurpose centre with several functions such as revising regular training programmes, simulating radiological emergency situations and inspect, on request, nuclear installations to ensure optimum safety and utilization.

III.3 Project Plan: The project will be implemented in two phases: Phase one will focus on the formation of a specialized team chosen from an AFRA country to discharge the above-mentioned duties. Preparation of national emergency plans and the establishment of a regional network will receive high priority during this phase. The second phase (2000 onwards) will focus on the establishment of multipurpose regional centre which will provide emergency response services, training to regulators and technicians and, on request, supervise emergency remedial actions and conduct simulations of radiological emergency situations. The centre is also expected to host the emergency information data bank, act as the headquarters for the early warning environmental monitoring network and liaise with regional and international organizations such as the OAU, the Palindaba Treaty and the IAEA.

III.4 Agency Inputs: The Agency is expected to provide expert advisory assistance in setting up the specialized team, computer codes and small equipment.

III.5 Project Impact: The prompt response to any unforeseen incident will minimize subsequent side effects so as to assure a positive impact for the utilization of radiation sources to meet the ever increasing day-to-day needs. On the long run, the successful implementation of this phase will lead to the establishment of a multipurpose centre offering wider spectrum services in the field within TCDC framework.

V. AFRA TCDC ACTION PLAN AND ACTIVITIES

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INTRODUCTION

The AFRA action plan (please see Appendix V-1) for the promotion of TCDC modality was prepared by the AFRA-FMC during its meeting in September 1996. It was then sent to all AFRA National Coordinators for information and comments.

The draft version of the action plan was then discussed and recommended by the 8th TWGM together with a set of 9 AFRA activities that fall under the TCDC modality. The present version of the action plan takes into consideration the comments and suggestions made by the 8th TWGM and the AFRA-FMC and is based on the recommendations made by the Tripartite Meeting AFRA/ARCA/RCA which took place in Vienna, 1-2 August 1996. It is also consistent with the IAEA guidelines for the promotion of TCDC modality in its technical cooperation programmes.

The action plan intends to promote TCDC modality at both regional and interregional level. To this end, it includes actions by AFRA countries (National Coordinators, Project Coordinators) and the AFRA Field Management (regional and interregional interactions) and emphasizes the spirit of sharing facilities and expertise in all AFRA activities. This particular aspect is reflected in the activities which are proposed for inclusion under TCDC modality (please refer to Appendix V-2).

AFRA ACTION PLAN FOR THE PROMOTION OF TCDC MODALITY

In order to promote intra- and inter-regional collaboration to further extend TCDC collaboration, several actions should be undertaken:

I. INTRA-REGIONAL

(i) AFRA will compile all available data on TCDC in its Member States including the focal point of TCDC in each country, the on-going TCDC activities, the annual budget allocated for TCDC, as well as the present and future needs which can be answered through TCDC modality. National Co-ordinators will be requested to help collect and compile data on their countries. A list of TCDC promotional and operational activities under AFRA, giving a short summary of each project's activity will be prepared and sent to all AFRA Member States as well as to ARCAL and RCA.

(ii) AFRA will assist African Member States wishing to embark on TCDC activities to initiate inter-country TCDC programming. As part of AFRA's upstream work for the design and formulation of technically and developmentally sound projects.

(iii) AFRA Field Management will follow-up closely the implementation of TCDC activities and report to the AFRA Technical Working Group Meetings and Meetings of Representatives. Regular assessment of opportunities, weaknesses, strengths and achievements of the countries' contributions and impact should be performed by the AFRA Field Management with financial assistance from the IAEA.

(iv) The planned actions and achievements attained through TCDC should be highlighted in a special booklet to be used by the AFRA Field Management and the Agency for fund mobilization.

(v) The results obtained through the above-mentioned actions should be carefully reviewed during the next Technical Working Group Meeting and meetings of Representatives and further actions should be recommended in order to achieve the desired level of co-operation in the region using TCDC modality.

II. INTER-REGIONAL

(i) The role of AFRA Field Management specified above could be considered to be duplicated in the other two agreements to provide executive groups to handle inter-regional interactions during the course of the year. This would otherwise tend to await communal meetings, which are all too infrequent.

(ii) Mechanisms should be established whereby details of successful ventures, innovations or improved practices established in one group are rapidly communicated

and transferred to the other two for possible implementation. This also implies that inventories of the above be maintained by the three groups.

(iii) Cross-regional joint ventures between member states of different groups should be encouraged where synergy prevails or where direct relevant assistance can be provided with a mutual benefit situation arising from such collaboration.

(iv) At a higher level, an Inter-Regional TCDC Field Management could be established consisting of members of the individual TCDC Field Managements of each regional agreement to encourage and precipitate further collaborative endeavours on a global scale.

(v) As the standard of projects improves, it can be envisaged that this joint venture approach could attract participation from outside the regions in collaborative efforts without sacrificing mutual benefits which is essential for success. This would extend the support network for TCDC significantly to include Developed Countries in the technical interface region, not only as donors but as participators.

It would be useful to initiate "public relations" activities to increase the awareness of the value of TCDC modalities and especially the short-term deployment of experts, consultants and trainees in the development process. This would visibly demonstrate to developing and developed Member States the viability of TCDC in the implementation of technical co-operation projects

AFRA TCDC ACTIVITIES (1997-2001)**INTRODUCTION**

The 1997-2001 programme of AFRA includes several activities which are being implemented by AFRA countries for the benefit of other AFRA countries in the region. These activities use essentially facilities and expertise available in AFRA countries. To illustrate the efforts of AFRA in the field, it was decided to single out these activities and to closely monitor their implementation. As a subsequent step, it is planned to issue a booklet that will describe these activities, emphasize their achievements and draw lessons for future similar activities.

The selected activities were reviewed and endorsed by project coordinators during coordination meetings as well as by the 8th TWGM. For each activity, detailed workplan has been prepared and agreed upon by the countries concerned. Monitoring and regular evaluation of these activities are receiving special attention from the countries concerned, the IAEA and the AFRA Field Management.

AFRA I-14: Waste disposal in boreholes.

The first phase of this study will be carried out by South Africa with the aim to design, including safety analysis, a concept for the disposal of radioactive wastes, including radium sources. The concept is based on the disposal in borehole with all safety features. The IAEA will subcontract South Africa for this purpose and final results will be provided to all AFRA countries. If the concept proves to be technically feasible and economically viable, AFRA will promote its use by assisting AFRA countries to adopt it.

AFRA I-15: Provision of calibration services, training and inter-comparison exercises.

Algeria and South Africa offered to provide irradiation facilities for intercomparison. Algeria and South Africa offered to provide irradiation facilities for intercomparison. Algeria will provide such services for this exercise to Egypt, Tunisia, Libya and Morocco. South Africa will provide such services to Tanzania, Kenya and Zambia. Furthermore, Algeria and South Africa are offering their facilities for calibration of radiation measuring instruments for AFRA Member States. The provision of services to countries will be the same as for the inter-comparison of external individual dosimetry.

AFRA II-16: Regional preparation and distribution centres for tumor markers.

Three countries namely Algeria, Egypt and Sudan are able to produce reagents for T3 and T4 assays. They also can supply tracers. The first step will be to test the produced reagents within the region. The evaluation will take place through the interchange of the produced reagents between both countries and also by the dispatch of representative samples for additional testing by several other laboratories in Ghana, Tunisia and Zimbabwe before being accredited for distribution.

AFRA III-18: Validation and release of improved crop varieties.

Six improved crop varieties (sesame, safflowers, cotton, banana, cocoa and cassava) were developed by Egypt, Ghana and Sudan through previous bilateral and multilateral assistance. As several AFRA countries are interested in testing these varieties under their own conditions, the countries of origin will perform the validation and release of these varieties before providing enough seeds to other AFRA countries. The transfer of seeds is expected to take place by 1998.

AFRA IV-19:

1. Demonstration of the efficacy of gamma radiation in the improvement of Sterility Assurance Levels (SAL's) of locally produced intravenous fluids.

This demonstration will be performed by the Ghana Atomic Energy Commission in collaboration with a Ghanaian and a South African private companies. The final product including the protocols will be made available to all AFRA Member States.

2. Enhancement of radiation sterilization of biological tissues.

Algeria has been testing the radiation sterilization of biological tissues over the last five years. The results obtained are promising particularly in the treatment of burns of various degrees. At the request of AFRA Member States, Algeria will finalize the protocols and refine the methodology and will make available this package to AFRA countries with radiation facilities.

3. Radiation decontamination of sewage sludge.

Tunisia has been exploring various alternatives for the treatment of sewage sludge which obviously pose a problem to the environment. Radiation processing is one of the suitable methods. The demonstration will be performed by Tunisia using the irradiation facility available in Libya and in collaboration with India (RCA) and Argentina (ARCAL). This demonstration represents an intra-and-inter regional TCDC activity.

4. Quarantine application of radiation processing on citrus.

In view of the ban on Methyl-Dibromate for quarantine purposes, AFRA countries have expressed strong interest in the use of radiation processing. This demonstration will be performed by Morocco in collaboration with several AFRA countries which produce citrus. The results will be compiled in a report and made available to all AFRA countries.

AFRA IV-20: Servicing of Chinese Cobalt-60 radiotherapy machines in Africa.

The services will be provided by Ghana acting as the sub-contractor of the Chinese supplier. This is a bilateral arrangement to which AFRA will lend support by facilitating the provision of services to all AFRA countries that have Chinese radiotherapy cobalt machines.

AFRA IV-21: Regional Centres for qualification and certification of NDT personnel in industry (levels I and II).

The first phase of this activity consists of selecting through commonly accepted criteria two or three regional laboratories for training in the four NDT methods. Once accredited, and the curricula accepted, certification and qualification activities will start.

**VI. FOLLOW-UP ACTIONS ON RECOMMENDATIONS
MADE BY THE 8TH TWGM**

VI. FOLLOW-UP ACTIONS ON RECOMMENDATIONS MADE BY THE 8TH TWGM

INTRODUCTION

The 8th TWGM requested AFRA-FMC to take actions on several issues of particular interest to AFRA and to make proposals for approval by the 8th Meeting of AFRA Representatives. AFRA-FMC met in Vienna 23-27 June, discussed the most important issues and recommendations and considered proposals made by the Agency. Annex 6 shows the minutes of the AFRA-FMC's meeting.

The main recommendations made by the 8th TWGM are the following:

- (i) The conclusions and recommendations made by project coordinators during their coordination meetings should be singled out, compiled and submitted by AFRA-FMC to all concerned. Appendix VI-1 shows the actions taken and the list of recommendations.
- (ii) The AFRA fund raising strategy and implementation modalities should be finalized and submitted to the 8th Meeting of Representatives for approval. Appendix VI-2 shows the proposed strategy and action plan.
- (iii) The duties and responsibilities of the AFRA Project Scientific Consultant (PSC) should be finalized and submitted to the 8th Meeting of AFRA Representatives for approval. Appendix VI-3 shows the final version of the PSC's duties and responsibilities (the updated version takes into consideration the role of PSCs in project monitoring and evaluation).
- (iv) AFRA-FMC was requested to propose clear and transparent criteria for participation in AFRA projects. Appendix VI-4 gives ample information regarding the necessity of applying criteria and the modalities for their applications and lists the criteria to be applied.
- (v) AFRA procedures for the design and formulation of AFRA projects should be finalized and submitted to the 8th Meeting of Representatives for approval. Appendix VI-5 shows the proposed procedures to be applied for the design of future activity under AFRA.
- (vi) Given the importance of the achievements expected from 1997-2001 programme of AFRA, the 8th TWGM requested the AFRA-FMC to propose clear and realistic procedures for the monitoring and evaluation of AFRA activities at both national regional levels. Appendix VI-6 gives more information about the need to closely monitor the programme and lists the duties and responsibilities of each partner.
- (vii) The format of the National Coordinators' report should be simplified and finalized. Appendix VI-7 shows the new format which should be used in the future for the preparation of the National Coordinators' annual reports.
- (viii) The action plan for accelerating the promulgation and enforcement of legislation on radiation protection should be submitted to the OAU for consideration. Appendix VI-8 shows the action taken as well as the final action plan.

SUMMARY OF RECOMMENDATIONS MADE BY PROJECT COORDINATORS

Based on recommendations given in the ten (10) reports of the project coordinator meetings held this year and following discussions during the 8th TWGM, it was suggested that the recommendations of common nature should be singled out, compiled by theme and target partner and submitted to AFRA-FMC for implementation. The target partners were requested to report on the progress made and to monitor the implementation of the recommendations at national level.

General recommendations:

- Project workplans should be realistic, implementable and have achievable aims, considering the limited contributions by AFRA Member States, the IAEA and the donors.
- Project Scientific Consultants should receive adequate facilities and logistical support to enable them to discharge successfully their duties and play the crucial role in the programme design, formulation, implementation, monitoring and evaluation.
- There is a need to receive feedback to monitor progress from the IAEA; including the project full status report.

Recommendations to AFRA Member States and National Coordinators:

- Communication with Project Coordinators should improve along the line recommended by the AFRA-FMC. In particular, at least four (04) briefing/debriefing meetings should be held during the year, preferably pre- and post-TWG Meetings and also Representatives Meetings.
- All governments of AFRA Member States should commit all necessary resources for the implementation of the various AFRA projects and report annually on the details of expenditures on AFRA activities.
- All participating AFRA Member States must ensure private sector involvement in relevant AFRA projects at all stages of development, implementation and evaluation, and report on private sector's contributions and benefits on annual basis.
- AFRA Member States without adequate facilities should be encouraged to make use of existing facilities in other AFRA Member States for carrying out their research activities.

- The nominees for training events should be restricted only to those involved in the national workplans of the appropriate projects and submitted to the IAEA through the AFRA National coordinators within the deadlines.
- National Coordinators should make sure that bio-data are provided together with nomination forms in order to facilitate the issuance of entry visas by host countries of training events.
- National Coordinators should ensure that all relevant national institutions are involved and benefit from the project outputs.
- There should be effective and timely communication and consultation between the National and Project coordinators before National Coordinators commit themselves at TWGMs and Representatives' Meetings.

Recommendations to the IAEA:

- In view of increasing participation of AFRA Member States and rising costs, the IAEA budget should be reviewed upwards to allow successful implementation of the project activities.
- Adequate and timely logistical and financial support should be made available by IAEA to AFRA Member States for the implementation of AFRA activities at the national level.
- In view of the importance of communication between AFRA Member States for the successful implementation of AFRA projects, the Agency is requested to help with E-mail facilities.

Recommendations to Project Coordinators:

- Project Coordinators should make sure that they are directly involved in the decision-making process related to their specific project and regularly briefed about AFRA activities and procedures.
- Request for the technical and scientific materials should be communicated directly to the Agency with copies to National Coordinators for record purposes. However, request for substantial funds should be submitted to the Agency through the National Coordinators.

Recommendations to the AFRA Field Management:

- Recognizing the importance of research programmes implemented by regional and international centres, the AFRA Field Management is requested to explore all possible means to promote and develop cooperation with these centres for the successful implementation of AFRA activities.
- AFRA Field Management should acceleration the establishment of the AFRA Expert Roster and make it available to the IAEA for use in Technical Cooperation programmes.
- Urge National Coordinators to improve communication with Project Coordinators.
- Promote faster means of communication among AFRA Member States; including E-mail system.
- To take the necessary initiative and actions for implementing the action plan with the OAU in order to accelerate the promulgation and enforcement of legislation in AFRA countries.

The meeting recommended that recommendations to the Governments of AFRA Member States and National Coordinators are submitted by the AFRA-FMC to the Permanent Missions of AFRA Member States based in Vienna with copies to National Coordinators.

AFRA FUND RAISING STRATEGY AND ACTION PLAN

Preamble

The AFRA-FMC reviewed the activities carried out for mobilizing funds and took note of the actions taken by the Embassy of Nigeria in Vienna in its capacity as the country of the AFRA Chairperson.

The four AFRA projects that require extrabudgetary funding were sent by the Embassy of Nigeria to all potential donors.

Given the very modest contribution received so far from donors (France, USA, OPEC Fund), the meeting expressed concern about the implementation of the entire programme in 1997/98 and recommends that urgent actions should be taken by AFRA Representatives during the September meeting. In particular, it is proposed to reactivate the visit by AFRA and Agency representatives to New York and to make use of the influence of Vienna-based African Group to impress on the OAU for assistance in fund raising. To this end AFRA-FMC has already submitted to the OAU the four AFRA projects requiring additional funding and requested OAU sponsorship.

The AFRA-FMC has also reviewed the outcome of previous recommendations made during AFRA meetings and **noted that on the whole AFRA countries did not take the necessary actions towards their implementation.** In particular the countries did not report on any fund raising activities carried out by them at national or regional level, and did not even identify their national focal point for TCDC activities.

AFRA-FMC feels that the 8th Meeting of Representatives in September 1997 should make clear decisions regarding the participation of AFRA countries in fund raising.

The 8th TWGM, held in Hammamet, Tunisia, in April 1997, also reviewed this issue and recommended that the AFRA strategy for fund raising should be based on the following corner stones:

1. **'Self-help' principle** which means that AFRA countries should contribute, in the first place, funds for the implementation of AFRA activities in their countries and in the region as well. The contribution towards the implementation of AFRA activities in the region is usually made by transferring funds to the IAEA for administration. LDCs Member States of AFRA are not expected to contribute toward the implementation of AFRA activities at the regional level.
2. **Sound and well documented projects.** The project document is the key element in the relationship between donors and recipient countries. AFRA projects should be well designed and formulated, need-driven and solutions-oriented and show clearly the objectives, inputs, expected outputs and success criteria.
3. **Sponsorship.** This activity is essential in any exercise of fund raising. Fortunately for AFRA, the OAU as well as the Vienna-based African Group have lent strong support to the programme and offered to make use of their political influence to help AFRA mobilize the required funding.
4. **Use of TCDC Modality.** This modality proved to be instrumental in mobilizing funds. AFRA should promote and make use of this modality in all its cooperative projects.

The AFRA-FMC believe that any future action for fund raising should take into consideration these afore-mentioned factors. In particular, it is recommended that the following action plan should be endorsed by AFRA representatives and serve as AFRA strategy for mobilizing funds.

Proposed action plan:

- (i) All AFRA countries, except LDCs, should contribute cash funds towards the implementation of AFRA Projects. The full implementation of the AFRA programme in any year requires an additional amount which has to come from donors as well as from AFRA Member States. **It is proposed that at least 25% of that amount should come from AFRA Member States as cash contribution to be administered by the Agency.** To secure these funds as early as possible in the year, it is proposed that the Ambassador of the Chairperson's country takes the full responsibility for collecting from AFRA Member States that amount on voluntary basis. The countries' annual contributions to AFRA projects will be acknowledged in the AFRA annual report.
- (ii) All AFRA countries are also requested to contribute in kind towards the implementation of AFRA activities in their country. In-kind contributions should be estimated and recorded in the AFRA annual report.
- (iii) AFRA cooperative projects should be need-driven, solutions-oriented and involve identifiable end-users and, where possible, the private sector in all stages of project design formulation and implementation.
- (iv) AFRA should make full use of the political influence and lobbying ability of the African regional organizations (OAU, ECA) and the Vienna-based African Group. Whenever possible, they should be invited to participate in the programme design and evaluation.
- (v) The Ambassador of the Chairperson's country shall submit to potential donors AFRA projects that require extra budgetary resources. To this end, AFRA-FMC shall endeavour to make available the project documents within the first quarter of the preceding year of projects implementation.
- (vi) The Vienna-based African Group shall continue to use its good offices for the organization of round table discussions with potential donors annually.
- (vii) Acknowledging the usefulness of nuclear technology in solving some of our socio-economic problems in the continent, the OAU shall endeavour to persuade ADB and other potential donors to make regular allocations for the implementation of AFRA projects.
- (viii) AFRA should ensure that intra- and inter- regional TCDC activities are incorporated in all its projects.
- (ix) AFRA Member countries shall allocate funds from their own TCDC budget for the implementation of AFRA TCDC activities.

DUTIES AND RESPONSIBILITIES OF AFRA PROJECT SCIENTIFIC CONSULTANTS

The concept of Gatekeeper was introduced and recommended during the 6th TWGM held in Johannesburg in April 1995. Two Gatekeepers were appointed during that meeting to serve two AFRA projects. This concept proved to be useful and therefore was extended to all AFRA projects included in the AFRA programme 1997-2001.

During the project co-ordination meetings held in 1997, it was noted that the concept itself was not well understood by some project co-ordinators. The name "gatekeeper" was questioned. It is therefore felt necessary to better define this concept in terms of duties and responsibilities and to propose an alternative name that reflects this function. After discussion, the AFRA-FMC reached the consensus that **'Project Scientific Consultant (PSC)'** would be the most appropriate name instead of gatekeeper.

The meeting has also agreed on the following duties and responsibilities of the Project Scientific Consultant: They have the vital mandate to provide technical backstopping to (1) national institutions interested in the technology, (2) African scientists who are users of the technology and (3) the AFRA Field Management to enable it take appropriate decisions. They are expected to discharge the following tasks:

- (i) In general, to provide upon request, technical backstopping in his field of expertise to AFRA Member States (national institutions, individual scientist and users), and technical advice to the AFRA Field Management;
- (ii) To attend the project co-ordination meetings and:
 - a) act as the technical secretary and adviser to the AFRA project co-ordinators;
 - b) help prepare the meeting's report;
 - c) help identify and set up the region's priority needs, objectives and main orientations in his/her particular field of nuclear techniques;
 - d) present to the meeting a concise report describing the state of technology, innovations and new practices which might impact the development of this technology in the region and draw attention to any problems which may occur during utilization.
- (iii) Submit to the AFRA-FMC, National Coordinators and project coordinators an Annual Project Evaluation Report (APER) before 31 January of the following year for the year under review. The report should describe the activities foreseen and implemented during the year under review, highlight the results achieved, the constraints encountered and the risks that might endanger the project objectives, **with particular emphasis on the individual performance of project coordinators from both the scientific and managerial viewpoint.** (Format of the report is enclosed.)

- (iv) Undertake short missions to participating countries to help solve serious managerial, administrative or scientific problems that might endanger the project's objectives. During these missions, the PSC should collect all necessary information about the country's degree of commitment in terms of logistics, financial contributions and staff accountability and assess any progress made;.
- (v) Report on ad-hoc basis to the AFRA-FMC any shortfalls or constraints that may represent a threat to the project and propose appropriate solutions;
- (vi) Plan and arrange for special evaluations, when needed and justified, and participate in the evaluation exercises, if required;
- (vii) Monitor the implementation of recommendations made in evaluation reports and report to the AFRA-FMC.
- (viii) Attend regional or international meetings/seminars in the field and prepare and submit the relevant report to all project co-ordinators, AFRA-FMC and the Agency, within one month.

In addition to the above-mentioned duties, the Project Scientific Consultant may be requested to undertake specific tasks such as the participation in project formulation meetings and any other relevant activities.

While recognizing that AFRA does not pay honorarium to African experts and consultants, the costs involved (transportation and DSA) in the performance of above duties will be charged to the project in accordance with the IAEA's rules and procedures.

It is expected that, as a special incentive, the IAEA will consider providing to the PSC a five (05) days Daily Subsistence Allowances (DSA) in his/her town of residence upon receipt of the APER.

It should be understood that the duties and responsibilities of the PSC are complementary to and do not overlap with those of the IAEA's technical staff who are requested to continue providing at request their valuable technical backstopping to AFRA projects.

REQUIREMENTS FOR THE PARTICIPATION IN AFRA PROJECTS

PREAMBLE

Despite the general understanding and accepted fact that the regional Agreement AFRA does not provide for the establishment of basic infrastructure, certain AFRA Member States keep requesting assistance for this purpose. We have also noticed that these countries are more and more tempted by the desire to participate in all AFRA projects despite the absence of basic requirements for absorbing the requested assistance. This trend was not really visible during the first five-year term of AFRA as the emphasis was at that time to enhance the general expertise in the countries to enable them to cooperate together. AFRA inputs during that term was basically training of scientists on a few nuclear techniques. The new five-year term put however emphasis exclusively on solutions-oriented activities whose implementation requires basic facilities, trained manpower and even enforced legislation and regulations. Accordingly, the countries which lack this necessary infrastructure are facing serious problems related to the implementation of AFRA activities in their countries. It is therefore felt necessary to rethink the participation in AFRA projects in order to avoid this type of situations.

LEGAL FRAMEWORK

Paragraph 1 of Article IV of the AFRA Agreement states that "any government party may participate in a co-operative project established in accordance with Article III, ...".

In Article V of the same Agreement, the commitment and inputs required from the participating countries for the implementation of an AFRA activity have been clearly defined. In particular, the article states that "..., each participating Government shall make available the necessary scientific and technical facilities and personnel for the implementation of the co-operative project ..."

Moreover, paragraph (2) of Article VII of the Agreement requests the Agency to apply its rules, procedures and principles to all AFRA projects and activities by stating that "Subject to available resources, the Agency shall endeavour to support cooperative projects established in accordance with this Agreement by means of technical assistance and its other programmes. **The principles, rules and procedures that are applicable to the Agency's technical assistance or other programmes shall, as appropriate, apply to any such Agency support ...**".

The above-mentioned three legal dispositions define clearly the conditions and requirements for the participation of any government party in AFRA projects. In particular, it states clearly the commitment and inputs expected from any AFRA country wishing to participate in a project, on one hand, and relate the Agency's support to AFRA to the Agency normal principles and procedures for providing technical assistance to its Member States on the other hand. One of the essential conditions for providing Agency's assistance to a Member State is the availability of **adequate infrastructure**. The latter means **laboratory facilities, trained manpower and legal framework** (legislation, regulations, codes of practices). Applied to the AFRA projects and activities, this condition prevents AFRA countries without appropriate infrastructure from benefitting from a particular project.

Moreover, it has been an accepted principle from the inception of AFRA that this programme shall exclusively promote and develop nuclear science and technology in Africa by optimizing the utilization of available laboratory facilities and expertise for the benefit of all countries concerned. In other words, AFRA is not expected to establish basic infrastructures in its Member States; but rather to make effective and efficient use of the best that exists in the region for building regional capacity and, ultimately, assuring self-reliance in the field.

Finally, AFRA Agreement is based on the concept of regional co-operation. For partners to cooperate, there must be a flow of knowledge/information/services between recipients and donors and a sufficient absorptive capacity. Countries without laboratory facilities, trained manpower and operational programmes in the field will not be able to absorb the volume of knowledge promoted by the project. Moreover, their project coordinators will not even be able to exchange views/experience/comments with the other colleagues during coordination meetings. **This fact was observed in several cases during this year's coordination meetings.**

PROPOSED CRITERIA FOR PARTICIPATING IN AFRA ACTIVITIES

Against the above-mentioned background, it emerges that the participation in AFRA projects should be regulated to (a) preserve AFRA credibility and its achievements, (2) use more efficiently and effectively the rather limited programme financial resources, (3) optimize the programme's impact and (4) help the least advanced countries undertake remedial actions to their particular deficiencies before joining AFRA projects and/or plan the introduction of the technology under bilateral programmes.

The following criteria stem from the legal dispositions of the Agreement and the Agency's principles and procedures for the provision of technical assistance to its Member States:

- (i) Availability at the time of the request to join a given AFRA project of the necessary basic infrastructure (basic laboratory facilities, adequate graduated scientists and technicians in the field; legislation/regulations promulgated and enforced) for the successful implementation of the project activities in the country;
- (ii) Availability of an on-going national programme of activities in the field which will support the successful implementation of the project in the country, **absorb the assistance received and disseminate the results of AFRA projects to the real end-users;**
- (iii) Healthy financial situation of the recipient institution, including funds for overheads and in-kind contribution towards AFRA projects
- (iv) The project coordinator's commitment and dedication are vital for the successful implementation of the AFRA project in the country and for the dissemination of innovations to the real end-users. His/her full commitment from the outset must be assured;
- (v) Firm commitment of the recipient institution to share facilities and expertise with other institutions in AFRA countries.

MANAGEMENT AND RESPONSIBILITY

According to AFRA procedures and rules the AFRA Field Management Committee (AFRA-FMC) has the overall responsibility for the formulation and submission of new project proposals to the AFRA Representatives and the Agency for consideration. These project proposals result from new ideas/opportunities that were discussed and agreed upon by the TWGMs. Along the same line, it is proposed that the **AFRA-FMC be assigned the responsibility of applying the above-mentioned criteria to ensure that all requirements are met.**

The review of participation should take place during the AFRA-FMC meetings of the year; particularly the meetings of July and September which are usually used for refining the new projects and assessing the countries' performance.

To enable the AFRA-FMC to discharge this task, it would be necessary that AFRA countries give ample information along with their request for participation about the recipient institution's available infrastructure, financial situation and relationship with real end-users. Moreover, it would be much more helpful if a **National Workplan** is provided together with the request. It has to be mentioned that the national workplan has now become mandatory for effective participation in any AFRA activities. All participating countries are required to submit one to the Agency prior to receiving any assistance. By providing the national workplan in advance, AFRA countries will save time, and at the same time, show their interest in the project.

**PROCEDURES
FOR THE DESIGN AND FORMULATION OF AFRA PROJECTS**

PROGRAMME CYCLE: (N+1, N+2)

PROGRAMMING YEAR: YEAR: (N)

1. During the TWG Meeting in April (N-1), the Technical Working Group identifies priority themes and development problems to be addressed during the programme cycle (N+1, N+2), including venues for project formulation meetings and lists of participating experts.
2. The Meeting of Representatives in September (N-1) approves the proposed themes and modalities of design and formulation.
3. The Agency starts the arrangements for the project formulation meetings to take place according to the approved list and refined (when needed) in collaboration with the AFRA Field Management. If a co-ordination meeting is foreseen during this period, it is usually used to decide on the main orientations of the project proposal. The project formulation meetings will then use these orientations as guidelines and draft the project document.
4. The prepared project documents (or proposals) are reviewed during the Field Management Meeting in March of the year (N) and then included in the working document which is sent in March (N) to all AFRA National Co-ordinators for consideration during the TWGM of the year (N). It is expected that participation in the new projects shall be made known during the TWGM (N).
5. The TWGM (N) reviews the project proposals and recommends a set of them to be submitted in May (N) by the Field Management to the Agency for consideration.
6. The results of the evaluation by the Agency shall be reviewed during the AFRA FMC in July of the year (N). At the same time, the participation by AFRA countries in the various projects will be deliberated in accordance with the established Guidelines for participation in AFRA projects.
7. The final evaluation by the Agency shall be reviewed by AFRA Field Management during its meeting with DIR-TCPM in September (N), and endorsed by the AFRA Representatives' Meeting during the General Conference (N).
8. Following the approval by the AFRA Representatives' Meeting in September (N) and of TACC in November (N), the implementation of selected projects shall commence in January (N+1).
9. Notices/prospectuses for all AFRA training events and co-ordination meetings foreseen in the year (N+1) shall be submitted to the participating countries on the first of December of the year (N). The host countries of these training events and meetings shall not be approached again for further confirmation of venues and dates. Host countries shall contribute, at no cost, laboratory facilities and local lecturers. Outside lecturers from AFRA countries shall be provided with a round trip air ticket and DSA (no honorarium) in accordance with IAEA procedures and rules.

MECHANISM AND PROCEDURES FOR MONITORING AND ASSESSING THE PERFORMANCE OF AFRA PROJECTS

PREAMBLE

The 8th Technical Working Group Meeting (TWGM) of AFRA held in Hammamet, Tunisia, 21-25 April 1997 recommended that "AFRA project performance should be assessed" and requested that "the AFRA Field Management Committee (AFRA-FMC) works out an appropriate mechanism for assessing AFRA project performance. This draft mechanism should be presented to the 8th Meeting of Representatives".

OBJECTIVE

The evaluation subject matter of the above-mentioned recommendation should not be seen as a duplication of that carried out regularly by the Evaluation Section of TC. It is in fact an instrument **for use by the AFRA Field Management** to monitor the implementation of AFRA activities at national and regional level, to measure any achievement attained, to get updated information on national and regional problems/constraints that hamper the smooth implementation of AFRA activities and, consequently, to decide rapidly on corrective measures. Ultimately it will reaffirm the clear recognition among all concerned that the AFRA countries, through their Field Management, have the overall management authority and responsibility over the AFRA programme.

PRACTICAL CONSIDERATIONS

1. The procedures to be adopted should be flexible enough to allow short notice evaluation of a given project and related coordinators without going through time-consuming and costly formalities and preparation.
2. The evaluation should be carried out regularly, preferably on annual basis, as well as in urgent cases when the smooth implementation of an AFRA activity is put at risk.
3. The proposed evaluation should have three major tasks to discharge: (a) to determine the effectiveness and impact of AFRA activities in the light of their objectives, with special emphasis on its relevance and socio-economic return on investment; (b) to determine to which degree the recipient institution has fulfilled its commitments in terms of logistic and administrative support to AFRA activities and accountability of its staff, particularly the project coordinator; and (c) to identify any action needed to sustain the impact of the assistance provided at national and regional level.

4. The findings of the evaluation should be made available to all concerned (the AFRA country, the AFRA Field Management, the project Scientific Consultant, the African association if any etc...) within two months after the completion of the mission.

The effective fulfillment of the above-mentioned considerations -particularly in terms of follow-up actions and monitoring- will impose additional workload upon the AFRA-FMC and the Projects Scientific Consultants. Strict planning of evaluation activities by the AFRA National Coordinator and the Agency is therefore necessary.

MECHANISM FOR EFFECTIVE EVALUATION

Present Situation

Evaluation and monitoring of AFRA activities are part of the duties and responsibilities of all concerned; i.e. AFRA Field Management, Project Scientific Consultant, AFRA National Coordinator and the Agency. In this particular context however, the evaluation activities should be the primary concern and responsibility of the AFRA Field Management. At the project level, the representative of the AFRA Field Management is the project Scientific Consultant who should feel free to call upon the Agency for assistance in evaluation, and could have recourse to outside specialists for evaluation if necessary. The objective, scope and modalities of the evaluation exercise should however be endorsed by the AFRA Field Management before submission to the Agency for assistance. We have to distinguish between regular evaluation exercises and urgent (ad-hoc) evaluations when major constraints or slippages occur during implementation; which require corrective measures. Presently, regular evaluation of AFRA projects is performed during the project coordination meetings which are held at two-year intervals. An evaluation at the national level is normally performed on a yearly basis by the National Co-ordinator. The project is finally assessed by the Agency before completion.

this procedure has been in use during the first five-year term of AFRA and has shown its limitations as it didn't reflect the ownership of the programme by its Member States. Moreover, there is not at present an established mechanism for monitoring the implementation by AFRA countries of the recommendations made to them in the evaluation reports.

Proposed procedures

The proposed procedures intend to make use of the existing system **with certain additions to reflect the central role of the AFRA Field Management in programme monitoring and evaluation**. As it was mentioned earlier, this role will have to be played at the project level by the Project Scientific Consultant (PSC) who should perform the following tasks in addition to his/her other duties and responsibilities:

- (i) Submit to the AFRA-FMC an Annual Project Evaluation Report (APER) before the 31 January of the following year for the year under review. The report should describe the activities foreseen and implemented during the year under review, highlight the results achieved, the constraints encountered and the risks that might endanger the project objectives, **with particular emphasis on the individual performance of project coordinators from both the scientific and managerial viewpoint**. (Format for the report is attached.)

(ii) Undertake short missions to participating countries to help solve serious managerial, administrative or scientific problems that might endanger the project's objectives. During these missions, the PSC should collect all necessary information about the country's degree of commitment in terms of logistics, financial contributions and staff accountability and assess any progress made.

(iii) Report on Ad-hoc basis to the AFRA-FMC any shortfalls or constraints that may represent a threat to the project and propose appropriate solutions;

(iv) Plan and arrange for special evaluations, when needed and justified, and participate in the evaluation exercises, if required;

(v) Monitor the implementation of recommendations made in evaluation reports and report to the AFRA-FMC.

The AFRA Field Management is expected to discharge the following tasks with respect to evaluation and monitoring of AFRA activities:

(i) submit to the AFRA Governments (Permanent Missions accredited to the IAEA; with copy to the AFRA National Coordinators) the findings and recommendations of the evaluation and draw their attention to corrective measures;

(ii) decide on Ad-hoc evaluation of AFRA projects and request Agency assistance if necessary;

(iii) take appropriate decisions regarding poor performance of individual project coordinators or their staff.;

(iv) monitor the implementation of recommendations and, where necessary, make use of regional organizations (OAU, ECA) to impress on AFRA countries;

(v) liaise with the Agency's Evaluation Section regarding evaluation of AFRA projects and of the programme as a whole.

The Agency is expected to discharge the following tasks in this respect:

(i) to arrange for special evaluations at the request of the AFRA Field Management;

(ii) to follow-up on actions by AFRA Member States and report to the AFRA Field Management;

(iii) to help the AFRA Field Management draft letters to Governments of AFRA countries regarding the findings of the evaluation and problems encountered;

(iv) to consider providing incidentals (5 DSAs in the country of origin) to the PSC for timely preparation and submission of the APER.

Projects that are funded entirely or partially by donors should involve **experts designated by the donors in the evaluation exercise.**

When necessary, a representative from the regional organizations in Africa (OAU, ECA) shall also be invited to participate in the final evaluation of the five-year term programme of AFRA.

MONITORING

Monitoring of AFRA activities is the duty and responsibility of all partners involved in the programme starting from the project coordinator through the National Coordinator, the project Scientific Consultant, the IAEA AFRA Coordinator and the AFRA Field Management. In practice however, there are several bottlenecks which have prevented a continuous flow of information between the various partners. At the national level, lack of communication between project coordinators and the National Coordinator was repeatedly reported as the major constraint for a smooth monitoring of AFRA activities.

At the regional level, proper monitoring methods have been introduced only recently together with procedures to regulate this important activity and to clearly define responsibilities. The 8th TWGM went a step further along this line by requesting the AFRA Field Management to ensure that relevant recommendations made at all levels are channelled to the governments of AFRA countries through their Permanent Missions in Vienna, with copies to the National Coordinators of AFRA. The same meeting has also strongly recommended that AFRA countries should improve communication at national level and fixed to a minimum of four per year the number of meetings between the National Coordinator and project coordinators. With these improvements in place, it is expected that AFRA activities will be managed more effectively by all concerned. The AFRA-FMC should however strive to sustain this achievement by continuous follow-up and by being alert to any neglect or lack of motivation. The various meetings of the AFRA-FMC should be used to monitor progress made in this regard and to urge corrective measures where necessary.

REVISED FORMAT FOR THE NATIONAL COORDINATORS' ANNUAL REPORT *

1) Basic Data

- Name of the country
- Name of the AFRA National Coordinator
- Period covered

2) Coordination Summary

- Meetings and training events organised at national level under AFRA
- AFRA Meetings and training events hosted by the country
- National inputs (analysis), technical expertise, contributions in-kind, cash contributions, etc.
- National/regional outcome (with particular emphasis on TCDC activities)
 - Impact on end-user needs
 - Impact on AFRA
- Summary of main data (see Annex - Table 1)

3) Swot analysis (Strengths, Weaknesses, Opportunities, Threats), observations

4) Recommendations

5) Conclusions

* The Annual Report should be received by the IAEA AFRA Coordinator in Vienna latest on 31 December of the year under review.

ACTION PLAN FOR ACCELERATING THE PROMULGATION AND ENFORCEMENT OF LEGISLATION IN AFRA COUNTRIES

Preamble

During the first coordination meeting of the project AFRA I-15 (RAF/9/022) on Harmonization of radiation protection practices, the project coordinators discussed ways and means for accelerating the promulgation and enforcement of legislation on radiation safety in AFRA countries. Although, assistance in the field by the IAEA has been provided to all African countries over the last two decades, the situation in most countries as far as radiation safety is concerned is still far from being satisfactory. One of the tactical means is to make use of the political influence of the OAU to impress on AFRA countries to achieve the desired objective by the year 2000.

Background

The introduction and promotion of nuclear science and technology for socio-economic development requires adequate radiation safety standards as a means of protecting man and the environment and ensuring safe utilisation of ionizing radiation.

The adequate enforcement in the Africa region of radiation safety standards, in compliance with the Agency's requirements depends heavily on the level of political and financial commitments of the member states.

At present, the Organisation of African Unity as well as the IAEA share a high degree of awareness of the need to promote actions that would facilitate the development of radiation protection and waste management infrastructure in the region. This awareness was clearly shown on several occasions, particularly during the first seminar on "Africa's role in nuclear science for peace and development" where a series of recommendations was formulated for submission to all OAU Member States. However, the present status of radiation safety in the region calls for urgent actions to further increase the awareness and commitment of the countries in the region by reaching the real decision-makers so that the created momentum can lead to concrete improvements. To this effect, it is important to devise through a concerted effort by the OAU and the IAEA, a realistic and achievable strategy to upgrade radiation protection and waste management infrastructure in the region.

Depending on the magnitude of the inputs required to correct the existing deficiencies, the African countries concerned may approach potential donors and organisations for assistance directly or through the OAU and the IAEA. The role of the OAU in sensitizing African countries which are not members of the IAEA is determinant as the IAEA has no direct access to them.

FRAMEWORK FOR THE IMPLEMENTATION OF THE CONCERTED ACTIONS

Significant improvements of the presently available infrastructure of radiation protection and waste management in Africa can be achieved through more concerted efforts to be made by the African Member States, the OAU and the IAEA. The modalities for conceptual design and implementation of mutually agreed actions will be defined in due time in accordance with the established principles and rules governing the provision of technical assistance by the IAEA and in conformity with the OAU requirements for development projects. The availability in the region of the operational African Regional Co-operative Agreement for research development and training related to nuclear science and technology (AFRA) represents a potential framework for the conceptual design and implementation of agreed actions.

THE AFRA MEMBER STATES ARE REQUESTED TO:

- Assign high priority and confirm commitment to establishing adequate radiation safety infrastructure, so as to comply with the international Basic Safety Standards for protection against ionizing radiation and for the safety of radiation sources.
- To draw up action plans aimed at developing the required radiation safety infrastructure elements, including the legislative framework, regulations enforcement mechanisms and technical capabilities. Such plans must enunciate clearly the priorities to be tackled, specific needs and indicate government commitments in terms of manpower, facilities and funds for the implementation of the required activities.
- Elaborate sound project proposals for technical assistance in the area of radiation safety for consideration by the IAEA or by other donors in accordance with their national action plan .
- To provide information on their existing facilities and available expertise which can be used by other Member States, thus strengthening the regional co-operation.
- To harmonize regional protection activities through the implementation of the International Basic Safety Standards for protection against ionizing radiation and for the safety of radiation sources.

THE IAEA IS TO MAKE USE OF ITS TECHNICAL EXPERTISE TO:

- assist Member States in the preparation of sound action plans in the field of radiation safety, including the identification of specific needs and the necessary inputs to answer them.
- act as an executing agency for the implementation of projects whose funding will be secured by donor countries and organisations
- advise the OAU and the AFRA Member States upon request on technical issues relating to radiation safety.
- promote through bilateral and regional co-operation effective development and harmonization of radiation safety programmes in Africa.

THE OAU IS TO MAKE USE OF ITS POLITICAL INFLUENCE AND LOBBYING CAPACITY TO:

- urge the African Member States of the IAEA to attach higher priority and to increase their commitment to establishing and/or sustaining adequate radiation safety infrastructure.
- help identify regional and sub-regional common interests for co-operation to enhance radiation safety programmes in Africa.
- help mobilize adequate funding for the implementation of sound projects in the region in radiation safety.
- draw the attention of the non-Agency Member States in Africa to the urgent need to establish and/or maintain adequate radiation safety infrastructure in accordance with the International Basic Safety Standards.

THE AFRA FIELD MANAGEMENT TO :

- liaise between the OAU, IAEA and AFRA Member States in accordance with the action plan.
- mobilize adequate funding for the implementing of the action plan.
- Monitor the success in achieving the objectives of the actions plan and commitment of the AFRA Member States

AFRICAN REGIONAL CO-OPERATIVE AGREEMENT FOR RESEARCH, DEVELOPMENT
AND TRAINING RELATED TO NUCLEAR SCIENCE AND TECHNOLOGY

WHEREAS the Governments Parties to this Agreement (hereinafter referred to as the "Governments Parties") recognize that, within their national atomic energy programmes, there exist areas of common interest wherein mutual co-operation can promote the more efficient utilization of available resources;

WHEREAS it is a function of the International Atomic Energy Agency (hereinafter referred to as the "Agency") to encourage and assist research on, and the development and practical application of, atomic energy for peaceful uses, which function can be fulfilled by furthering co-operation among its Member States and by assisting them in their national atomic energy programmes; and

WHEREAS, under the auspices of the Agency, the Governments Parties desire to enter into a Regional Agreement to encourage such co-operative activities;

NOW, THEREFORE, they have agreed as follows:

ARTICLE I

The Governments Parties undertake, in co-operation with each other and the Agency, to promote and co-ordinate co-operative research, development and training projects in nuclear science and technology through their appropriate national institutions.

ARTICLE II

1. There shall be a meeting of representatives of the Governments Parties (hereinafter referred to as the "Meeting of Representatives") to be convened by the Agency as required and, at least once every year, at the headquarters of the Agency.

2. The Meeting of Representatives shall have the authority:
 - (a) to determine a programme of activities and to establish priorities therefor;
 - (b) to consider and approve the co-operative projects proposed by States parties to this Agreement;
 - (c) to review the implementation of the co-operative projects established in accordance with paragraph 2 of Article III;
 - (d) to consider the annual report submitted by the Agency pursuant to paragraph 3(e) of Article VII; and
 - (e) to determine the conditions upon which a State that is not a party to this Agreement or an appropriate regional or international organization may participate in a co-operative project;
 - (f) to consider any other matters related to or connected with the promotion and co-ordination of co-operative projects for the purposes of this Agreement as set forth in Article I.

ARTICLE III

1. Any Government Party may submit a written proposal for a co-operative project to the Agency, which shall, upon receipt thereof, notify the other Governments Parties of such proposal. The proposal shall specify, in particular, the nature and objectives of the proposed co-operative project and the means of implementing it. At the request of a Government Party, the Agency may assist in the preparation of a proposal for a co-operative project.

2. In approving a co-operative project pursuant to paragraph 2(b) of Article II, the Meeting of Representatives shall specify:

- (a) the nature and objectives of the co-operative project;

- (b) the related programme of research, development and training;
- (c) the means of implementing the co-operative project and verifying the achievement of project objectives; and
- (d) other relevant details as deemed appropriate.

ARTICLE IV

1. Any Government party may participate in a co-operative project established in accordance with Article III, by means of a notification of participation to the Agency, which shall notify the other Governments Parties of such participation.
2. Subject to paragraph 2 of Article VII, the implementation of each co-operative project established in accordance with Article III may start after receipt by the Agency of the third notification of participation in the co-operative project.

ARTICLE V

1. Each Government participating in a co-operative project in accordance with Article IV (hereinafter referred to as "Participating Government") shall, subject to its applicable laws and regulations, implement the portion of the co-operative project assigned to it in accordance with paragraph 3(b) of Article VI. In particular, each Participating Government shall:
 - (i) make available the necessary scientific and technical facilities and personnel for the implementation of the co-operative project; and
 - (ii) take all reasonable and appropriate steps for the acceptance of scientists, engineers or technical experts designated by the other Participating Governments or by the Agency to work at designated installations, and for the assignment of scientists, engineers or

technical experts to work at installations designated by the other Participating Governments for the purpose of implementing the co-operative project.

2. Each Participating Government shall submit to the Agency an annual report on the implementation of the portion of the co-operative project assigned to it, including any information it deems appropriate for the purposes of this Agreement.

3. Subject to its domestic laws and regulations and in accordance with its respective budgetary appropriations, each Participating Government shall contribute, financially or otherwise, to the effective implementation of the co-operative project and shall notify annually the Agency of any such contribution.

ARTICLE VI

1. Each Participating Government shall appoint a high ranking official of appropriate technical competence as a national co-ordinator charged with responsibility for projects within its territory or in which the government is involved.

2. There shall be a Technical Working Group composed of the national co-ordinators referred to in paragraph 1 of this Article.

3. The functions of the Technical Working Group shall be:

(a) to determine details for the implementation of each co-operative project in accordance with its objectives;

(b) to establish and amend, as necessary, the portion of the co-operative project to be assigned to each Participating Government, subject to the consent of that Government;

(c) to supervise the implementation of the co-operative project; and

- (d) to make recommendations to the Meeting of Representatives and to the Agency with respect to the co-operative project, and to keep under review the implementation of such recommendations.

4. The meeting of the Technical Working Group shall be convened by the Agency as required and, at least, once every year.

ARTICLE VII

1. The Agency shall perform Secretariat duties as required under this Agreement.

2. Subject to available resources, the Agency shall endeavour to support co-operative projects established in accordance with this Agreement by means of technical assistance and its other programmes. The principles, rules and procedures that are applicable to the Agency's technical assistance or other programmes shall, as appropriate, apply to any such Agency support.

3. On the basis of recommendations made by the Technical Working Group pursuant to paragraph 3(d) of Article VI, the Agency shall:

- (a) establish annually a schedule of work and modalities for the implementation of the co-operative project;
- (b) allocate among the co-operative projects and the Participating Governments the contributions made in accordance with paragraph 3 of Article V and paragraph 1 of Article VIII;
- (c) assist the Participating Governments in the exchange of information and in compiling, publishing and distributing reports on the co-operative project, as appropriate;
- (d) provide scientific and administrative support for the meetings of the Technical Working Group; and

- (e) prepare annually an overall report on the activities carried out under this Agreement, with particular reference to the implementation of the co-operative projects established in accordance with Article III, and submit it to the Meeting of Representatives.

ARTICLE VIII

1. With the consent of the Meeting of Representatives, the Agency may invite any Member State other than the Participating Governments or appropriate regional or international organizations to contribute financially or otherwise to, or to participate in, a co-operative project. The Agency shall inform the Participating Governments of any such contributions or participation.
2. The Agency shall, in consultation with the Meeting of Representatives, administer the contributions made pursuant to paragraph 3 of Article V and paragraph 1 of this Article for the purposes of this Agreement, in accordance with its financial regulations and other applicable rules. The Agency shall keep separate records and accounts for each such contribution.

ARTICLE IX

1. In accordance with its applicable laws and regulations, each Government Party shall ensure that the Agency's safety standards and measures relevant to a co-operative project are applied to its implementation.
2. Each Government Party undertakes that any assistance provided to it under this Agreement shall be used only for peaceful purposes, in accordance with the Statute of the Agency.

ARTICLE X

Neither the Agency nor any Government or appropriate regional or international organization making contributions pursuant to paragraph 3 of Article V or paragraph 1 of Article VIII shall be held responsible towards the Participating Governments or any person claiming through them for the safe implementation of a co-operative project.

ARTICLE XI

Any Government Party to this Agreement and the Agency may, where appropriate and in consultation with each other, make co-operative arrangements with appropriate regional or international organizations for the promotion and development of co-operative projects in the areas covered by this Agreement.

ARTICLE XII

Any dispute which may arise with respect to the interpretation or application of this Agreement shall be settled through consultations between the parties concerned, with a view to the settlement of the dispute by negotiation or by any other peaceful means of settling disputes acceptable to them.

ARTICLE XIII

Any Member State of the Agency in the African region according to the Statute of the Agency may become a Party to this Agreement by notifying its acceptance thereof to the Director General of the Agency, who shall inform each Government Party of the acceptances received by him.

ARTICLE XIV

1. This Agreement shall enter into force upon receipt by the Director General of the Agency of notification of acceptance by three Member States belonging to the African region in accordance with Article XIII.
2. This Agreement shall continue in force for a period of five years from the date of its entry into force and may be extended for further periods of five years if the Government Parties so agree.

STATUS OF
THE EXTENSION* OF THE
AFRICAN REGIONAL CO-OPERATIVE AGREEMENT FOR
RESEARCH, DEVELOPMENT AND TRAINING RELATED TO
NUCLEAR SCIENCE AND TECHNOLOGY (AFRA)

STATE	DATE OF RECEIPT OF NOTIFICATION OF ACCEPTANCE	ENTRY INTO FORCE
1. Tunisia	3 Nov. 1994	4 Apr. 1995
2. Egypt	11 Jan. 1995	4 Apr. 1995
3. Madagascar	16 Jan. 1995	4 Apr. 1995
4. South Africa	24 Feb. 1995	4 Apr. 1995
5. Ethiopia	2 Mar. 1995	4 Apr. 1995
6. Algeria	23 Mar. 1995	4 Apr. 1995
7. Mauritius	31 Mar. 1995	4 Apr. 1995
8. Sudan	3 Apr. 1995	4 Apr. 1995
9. Tanzania	3 Apr. 1995	4 Apr. 1995
10. Cameroon	7 Apr. 1995	7 Apr. 1995
11. Kenya	29 May 1995	29 May 1995
12. Zaire	7 June 1995	7 June 1995
13. Morocco	16 June 1995	16 June 1995
14. Sierra Leone	5 July 1995	5 July 1995
15. Namibia	24 July 1995	24 July 1995
16. Nigeria	21 Sept. 1995	21 Sept. 1995
7. Ghana	25 Sept. 1995	25 Sept. 1995
18. Niger	30 Oct. 1995	30 Oct. 1995
19. Libyan Arab Jamahiriya	13 June 1996	13 June 1996
20. Mali	2 Dec. 1996	2 Dec. 1996

* Pursuant to Article XIV.2, (of the original Agreement) the extension entered into force on 4 April 1995, upon expiration of the original Agreement, and will remain in force for an additional period of 5 years, i.e. through 3 April 2000.

JGoodman/jg (21265)
1996-12-05

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Updated 11 August 1997

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MINUTES OF THE SEVENTH MEETING OF AFRA REPRESENTATIVES VIENNA, 17 SEPTEMBER 1996

The Seventh Meeting of AFRA Representatives took place at 10:15 on Tuesday, 17 September 1996 and lasted until 12.45. It was attended by Representatives from Algeria, Egypt, Ghana, Kenya, Madagascar, Morocco, Namibia, Nigeria, South Africa, Sudan, Tanzania and Tunisia. Cameroon, Côte d'Ivoire, Ethiopia, Libya, Mauritius, Niger, Sierra Leone, Zaire and Zambia were not represented.

Observers from France (Mr. D. Giovansily, CEA), United Kingdom (Ms. L. Palmer), OAU, (Mr. Ghabrial), Uganda (Mr. B.Z. Dramadri, Ministry of Natural Resources, Mr. Emaru Mackay, IAEA Liaison Officer, also from the Ministry of Natural Resources), AAEA (Prof. Barakat, South Africa (Dr. W. Stumpf, Chief Executive officer of the Atomic Energy Corporation of South Africa) and Zimbabwe attended the meeting.

Mr. Qian, DDG-TC, Mr. S. Machi, DDG-RI and senior staff members from TC and the Technical Divisions attended as well.

The outgoing chairperson and AFRA National Co-ordinator for South Africa, Mr. Don Mingay, opened the meeting. He said that this has been a watershed year in the history of AFRA - the days of capacity building have been shed and that AFRA is now focussing on Application and End-Users. But the former status quo remains with respect to continued request for capacity building and infrastructure provision, while still relying heavily on the guardian role of the IAEA for financial support. It is the aim of AFRA to reduce this dependency and achieve a 50:50 funding ratio (IAEA/donor) by 2000. He thanked Dr. Ademola-Bawaallah for organising an excellent Technical Working Group Meeting in Zaria in April 1996. He stated that Sierra Leone and Namibia have been welcomed as new members which brings the membership to 21. AFRA has now the largest membership of the three regional agreements. But it is not quantity but quality that drives AFRA and membership has to be guarded closely. A further vital aspect is the need for commitment and ownership from both the participating Governments and the representatives. However, there remains a certain lack of commitment when considering what should be expected financially. Ten projects have been developed through extensive use of Formulation Meetings attended mainly by African experts. The advantage of this is that local experts can identify more closely the true needs and demands of the region. With respect to financing of AFRA, ten project proposals have been submitted to the Agency for consideration. It is hoped that they will be approved and funds secured. Advances have been made to the World Bank and in principle a positive reply has been received. However, they operate on a loan repayable basis and do not grant financial support outright but they have a special place for LDCs. The FMC have contacted the African Group in Vienna. They will support a mission to the N.Y. office of the Regional UNDP Programme to promote project proposals for possible funding. African Groups in N.Y. Brussels, Geneva and Addis Ababa will also be made aware of AFRA activities. He praised the activities of the AFRA Field Management Committee (AFMC) and urged individual National Co-ordinators to translate into concrete actions their commitment to AFRA.

He welcomed Mr. Ademola Bawaallah, AFRA National Co-ordinator from Nigeria who was elected new chairperson for the current year. (Proposed by Mr. Omer Ibrahim El-Amin of Sudan and seconded by Prof. Hisham Ali from Egypt).

The new chairman thanked Mr. D. Mingay for all results achieved under his chairmanship and said that it would be very difficult for him to replace the outgoing chairperson. He stated that he will need the co-operation of every AFRA member state.

The provisional agenda of the meeting was adopted by all Members (ANNEX 1).

Mr. El-Saiedi, DIR-TCIM, was then invited to deliver the welcome address on behalf of Mr. Qian, DDG-TC.

After expressing thanks to AFRA Representatives, observers and donors for their interest in AFRA, Mr. El-Saiedi said that the year which has passed since the last meeting in September saw a great deal of work done to turn the development objectives that were identified by AFRA Member States for the next five years into technically sound projects. He praised AFRA Field Management for its strong involvement in the planning, the design concepts and formulation of the programme. It is good to hear that the actual programme design and its formulation was done mainly by African scientists and experts. For the first time in the history of technical co-operation between the Agency and its African Member States, real planning and design work took place using to a large extent the capabilities and expertise that exist in Africa. This approach, which is in fact one of the recommendations made by the special Evaluation of AFRA, is a clear sign of the determination of AFRA Member States to own and control programmes, to establish regional priorities and to decide on the appropriate steps to achieve the development objectives of the region.

He added that the momentum AFRA has gained through the establishment of the Field Management and the speed with which this entity is undertaking certain managerial activities makes it ideal to press for priorities, to explore alternative scenarios for sustainable development and to work for its Member States. This driving force must be proactive in programme implementation, monitoring and evaluation. He said that he is optimistic about the future and the AFRA Field Management and convinced that, by the year 2000, it will assume a large share of the programme management in the field.

He also praised AFRA for resisting the temptation to propose a large number of projects for which there is no guarantee of funding. The small number of projects that were selected comply with the Agency's approach for "fewer but better" and should be presented to donors for financing after the Board's approval. He said that the implementation of the new five-year programme will need special attention not only by the Agency but mainly by the AFRA National Co-ordinators and the AFRA Field Management. Active participation of both entities in the implementation, the monitoring and the evaluation will be essential for the successful delivery of the programme and the gradual shifting of some managerial activities to the region.

He invited the participants to consider making use of the TCDC modality for fund raising as the latter has over the last decade attracted the attention and support of the donor community and the UN system. TCDC activities can generate success stories which reflect

the region's "self-help effort" to leave behind poverty and malnutrition. Such activities also attract more funds from the donor community. The Agency is prepared to assist developing Member States wishing to embark on TCDC activities under the auspices of AFRA. He invited the National Co-ordinators and distinguished observers to allow time to openly debate this issue, and, if possible, to build into the five-year programme of AFRA promotional as well as operational TCDC activities.

He also reminded the meeting of Mr. Qian's statement in September 1995 regarding the need for a long-term strategy and a vision at national level that reflect the aspirations of the national scientist and which can address the real and high priority needs of end-users in AFRA countries. He said that he is today more than convinced that the African atomic energy commissions badly need such a strategy and that some countries in Africa are now designing their own development plans or are on the verge of doing so, but, the majority are still forced to concentrate on the needs that ensure daily survival. The way AFRA is planning and realizing its development objectives could be used as an example to stimulate reforms, design long-term strategies and set up implementation modalities.

Mr. Ademola Bawaallah then summarized the conclusions and recommendations of the 7th TWGM of AFRA. He stated that good work was done by all participants. A full report of this meeting can be found in Part I of the AFRA report. Major problems identified were related to communication between National Co-ordinators, project co-ordinators and IAEA. He mentioned that important recommendations were made to improve the implementation and monitoring of the programme and to enhance the dissemination of AFRA results, innovations and new practices. He invited the meeting to consider and approve the recommendations. He said that the organisation of the meeting was a valuable experience which benefitted the organizing committee in particular and the whole country in general.

Mr. Maksoudi, the Regional Projects Co-ordinator, was invited to present the AFRA Annual Report 1995-96. He said that the AFRA programme approved for 1995-96 consisted of 13 projects representing a number of priority areas. The implementation of the funded projects followed closely the workplan adopted by AFRA Representatives during their last meeting in 1995 with slight modifications to address some pressing needs. All training courses foreseen for the period Sept. 95-96 took place with minor changes. The lack of communication between certain AFRA National Co-ordinators and project co-ordinators is still the major obstacle at the national level facing the smooth implementation of AFRA activities as well as the efficient dissemination of resulting innovations and improved practices. Agricultural institutions and hospitals seem to be suffering more than others from this problem. The attendance at co-ordination meetings and training events was generally satisfactory. About 300 scientists and technicians have been trained in all fields of AFRA activities. 87 lecturers were recruited to help run and supervise the training events. 64% of them came from within Africa.

Much time was devoted this year to upstream work for the design and formulation of thematic programmes for the cycle 1997-98. Nine project formulation meetings were held and in all cases the host countries made exceptional efforts in terms of logistics and administrative support which played a great role in the success of the meetings. It was good to note that the African scientists who attended the meetings showed a strong commitment and motivation. This "bottom-up" approach should be strengthened even more and its use

broadened to cover all future activities of AFRA. The involvement and active participation of the AFRA Field Management throughout the year contributed to a great extent to the smooth implementation of AFRA activities; notably through participation in the decision-making process as well as by galvanizing the will of AFRA National Co-ordinators and African scientists. The linkage is set in motion and seems to be working well. What is now needed is in fact a more active participation of the AFRA National Co-ordinators at both national and regional levels so as to give concrete shape and more significant impact to the benefits deriving from the role played by the AFRA Field Management.

Regarding the financial situation, the Agency received an extra-budgetary contribution of \$ 150.000 from France for AFRA V (\$100.000), and USA for AFRA IV (\$ 50,000). The total funds made available to AFRA for the implementation of funded projects in 1996 amounts to \$ 1.840.000 (an additional amount of \$ 1.420.800 is still expected from donors). The implementation rate of end of August is 45 per cent.

The programme for 1997-2001 identified 4 themes i.e. Radiation Safety, Clinical Applications of Radioimmunoassay Techniques, Increased Crop Productivity using Integrated Nuclear Techniques and Radiation Technology. It consists of ten projects. The projects' budget was kept to the minimum possible without, however, jeopardizing the expected achievements. It has been found that it would be advisable in future to start the upstream work and project formulation activities at least 18 months before the submission of the proposed programme to the IAEA for consideration.

The chairperson invited comments from the participants.

Comments were made regarding training courses - some were thought to be too long and repetitive. It was suggested that C.V.s should be obtained from applicants beforehand as there is no need for training people when they can't use what they learnt back home. Also, feedback on courses from the trainees as well as the National Co-ordinators is needed for self-evaluation and monitoring.

Mr. Mingay stated that hosting a TWGM would be a burden for LDCs and it was a recommendation that the IAEA might support the LDCs to accomplish the organisation of such meetings.

Mr. El-Saiedi pointed out the fact that the report does not give ample information regarding the implementation problems and achievements of each project. He recommended that AFRA-FM and the countries also contribute to the report. Mr. Maksoudi commented positively on this proposal and said that this will be taken into consideration in the next Annual Report.

The Tunisian representative mentioned the African nuclear weapon-free zone treaty and said that AFRA has to be more consistent about the projects it formulates. He added that duplication of efforts and projects should be avoided. The Egyptian representative recommended that actions taken since the TWGM should be listed in the report. Mr. Ademola Bawaallah replied that the next Annual Report should have a column added stating "Action, done by whom and when". The question arose if action has to be taken between April and September, or should we wait until the September Meeting? This issue will be

discussed by the AFRA-FMC and a proposal will be made at the 8th TWGM. The representative from Algeria commended the results achieved and thanked the AFRA group for the work done. He recommended that follow-up should be done on a regular basis to ensure the success of the projects. Mr. Maksoudi replied that the new programme has a built-in monitoring mechanism which will ensure close follow-up by all concerned.. The representative of Morocco stated that AFRA had carried out important projects despite financial difficulties. The future is clear - local expertise should be used. He asked for clarification on the codes which appear on the list of experts attached to the report and how the experts are selected. Mr. Maksoudi replied that the preliminary list of AFRA experts was prepared using African experts who served the Agency as well as CVs submitted by AFRA countries. He invited the countries to submit suitable candidates for this purpose.

The Annual Report and minutes of the 7th TWGM were approved.

Mr. Machi, DDG-RI, said that he remembered the AFRA meeting in Cairo in 1990 and added that TCDC is an important policy in the Agency (61% from the region). Nuclear safety cannot survive in one region - one ought to use experts from Asia and Pacific and Latin American regions as well as technical expertise available to the Agency.

DIR-TCPM expressed his appreciation regarding the ownership of projects and recommended that AFRA should design a suitable strategy for fund raising. He also advised AFRA countries to put their money first and expect donors to come.

Mr. Qian was then given the floor to make comments.

He said that Africa is high on the Agenda of the UN, as reflected in the UN New Initiative for Africa. The Agency has also committed itself to this UN effort and has in fact translated this commitment in an increased budget for technical co-operation in Africa. Africa has the largest share of our budget, he said. He mentioned that the target by AFRA for 50:50 (donor/IAEA) is an ambitious target, but should be pursued as it will in any case serve as a learning process for fund raising. He appreciates that Africa has already started to take ownership of the programme. He reckons that regional project implementation should be higher than that of national projects. The chairman replied that AFRA accepts the challenge and will try to eliminate weak spots.

Mr. Boussaha, Head of Africa Section, recommended that it would be very useful if AFRA could have a self-evaluation process. The Representative of Egypt stated that AFRA needs a regional office to which Member States will address their contributions, queries and requests for assistance. The chairman took note of this.

The issue of fund raising was also discussed and AFRA countries were requested to assist the AFRA-FMC in the implementation of the AFRA strategy for fund mobilization. France, USA and the OPEC Fund were thanked for their continued support and also for their interest in AFRA. Member States were asked to inform the chairman if they have influence on some donors in order to facilitate AFRA's access to them.

Mr. Giovansily, France, said he was pleased to see that some comments and advice he gave at previous meetings were taken into account. His country will try to continue its support. He was particularly thanked for his regular attendance at AFRA-FMC meetings and TWGMs.

Mr. D. Mingay noted that the assistants to the chairperson serve for at least 2 years and their countries have to give one year's notice before leaving the duty. This issue will be further discussed during the 8th TWGM.

Tunisia confirmed its offer to host the 8th TWGM and this offer has been accepted. has been accepted as host of the 8th TWGM.

The newly elected chairperson thanked everybody who made AFRA a success, especially Mr. Maksoudi for his untiring efforts, the donors for their support and the Representatives for their individual contributions.

The meeting closed at 12.45.



IAEA



AFRA

PROCEEDINGS OF THE MEETING OF
THE EIGHTH TECHNICAL WORKING GROUP
OF AFRA, HAMMAMAT, TUNISIA, 21-25 APRIL 1997

AFRA
MAY 1997

EIGHTH TECHNICAL WORKING GROUP MEETING (TWGM), Hammamet, Tunisia 21-25- April 1997

1. INTRODUCTION

The proceedings of the Eighth Technical Working Group Meeting of AFRA, that was held in Hammamet Garden Hotel, Hammamet, Tunisia, from 21-25 of April 1997, are presented in this report.

The meeting was attended by 12 AFRA member states, two representatives from the African Group in Vienna and observers from France, OAU and AAEA. A list of these National coordinators as well as the observers is included in Appendix 1. The IAEA delegation was composed of Mr. J. Qian, Deputy Director General, Head, Technical cooperation Department, Mr. A. Boussaha, Head, Africa section, and Mr. M. Maksoudi, Regional Projects co-ordinator.

2. OPENING SESSION

Dr. Abdelmajid Mahjoub, the Director General of the National Center for Nuclear Sciences and Technology (NCNST), welcomed everyone present at the 8th TWGM of AFRA. In his quality as the new D.G. of NCNST, Dr. Mahjoub expressed his gratitude to the President of the Republic of Tunisia for the confidence he put in him and thanked his predecessor Dr. Ali Cheikh Khalfallah. Dr. Mahjoub mentioned the full support of the government officials to the efforts which will allow Tunisia to join the rank of advanced countries at the end of this century. Dr. Mahjoub expressed his gratitude in having personally contributed in AFRA-RAF/8/024 project and noted that the 8th TWGM is an occasion to look closely at the next five year programme.

Dr. Ademola-Bawaallah, the incumbent AFRA chairperson 1996/1997 thanked the Government of Tunisia for hosting the meeting. He expressed that 1996 was a successful year for AFRA in terms of activities, workshops, training courses and expert missions.

Mr. J. Qian, addressed the meeting on behalf of the Agency's Director General. He spoke about the work that has been accomplished in the last two years; especially the critical role of the AFRA Field Management at the national and regional level and their coordination with the AIEA. He expressed the agency's hope that the Field Management will take full ownership of the programme by the year 2000. Furthermore, Mr. Qian said the Agency has strongly supported the shifting from project-by-project approach to thematic programmes with the emphasis on the principle of 'fewer but better', which will lead to greater chances of attracting donor funding. Mr. Qian talked also about the strategy that must be followed in fund raising. He stressed that the goal is to combat poverty and mal-nutrition and to work together for the common objectives of promoting regional development.

The official opening of the 8th TWGM of AFRA was conducted by the Honorable Secretary of State for scientific research and technology and chairman of the National Commission of Atomic Energy, Dr. Mongi Safra. Dr. Safra welcomed the participants and expressed his gratitude for choosing Tunisia as the venue for this meeting. He stressed the Government efforts in the field of sciences and technology and especially in the nuclear field. He informed the participants that

3.3 GENERAL INFORMATION

Mr. Maksoudi informed the participants that the African Group based in Vienna was invited for the first time to attend the meeting. Accordingly, the representatives of the permanent missions of Morocco and Nigeria participated in the meeting.

It was noted that two Member States had not yet formally forwarded notification to the IAEA of the renewal of their membership of AFRA despite reminders.

4 COUNTRY REPORTS ON 1996 ACTIVITIES

Each National Coordinator presented a summary of AFRA activities carried out by his/her country in 1996 (attached in Appendix 4). These reports were discussed and the impact of such activities on the national and the regional levels were mentioned. It was noted that most of these activities were a success although communication and, to a lesser extent, procedures were common problems encountered by most countries. Most of these problems result from a lack of communication, whether it is on the national level or the international level (IAEA and AFRA Member States).

The question of a comprehensive list of African scientists and experts was also brought up. Mr. Maksoudi answered this issue by pointing to the AFRA Roster that is being compiled. This roster, which started in 1996 is a register of African experts in different fields. During its next meeting, the AFRA-FMC will use the IAEA selection criteria in scrutinizing the list

The South African National Coordinator gave an extended talk on the local constraints and the lack of a national consensus on how to manage the nuclear infrastructure in the country because of the political change. He gave a short presentation on the anticipated summit on the national nuclear technology to be held in South Africa in November 1997. This summit should present an overview of the status of the national nuclear technology capacity in the country.

Other problems that were discussed during these presentations concerned the lack of infrastructure and the inadequacy of the logistics in certain African countries which make them unable to host activities or to carry out projects. The length of some of the training courses was also a concern for certain countries since a long period represents a burden on the host country.

The meeting took up the issue of the future format and structure of the annual report of the National Co-ordinators taking into account the current development of the AFRA activities. A small group was designated to draft a proposal on this matter that will be discussed before the closing of this meeting and a final version will be submitted for approval by the next Representatives' meeting. This group consisted of Dr. Djefal (AFRA-FMC), Dr. Murphy (South Africa), and Dr. El-Amin (Sudan).

6. TECHNICAL REVIEW OF IMPLEMENTATION OF OPERATIONAL PROJECTS

6.1 General Presentation

Mr. Maksoudi, presented the themes as identified earlier by the 7th Technical Working Group Meeting for the period 1997 - 2001. The meeting of National Co-ordinators reviewed the implementation of these projects one by one and commented on them.

6.2 THEME I : Radiation Safety

6.2.1. Strengthening Waste Management Infrastructure: AFRA I-14 (RAF/4/015)

The outcome of the first coordination meeting of AFRA I-14 (RAF/4/015) which took place in Cairo from 15 to 19 February 1997 was discussed after which, the floor moved to the adoption of the recommendations. All recommendations given by the project coordinators were accepted with the suggestion that for recommendation number 3 it will be better to make the software available to member states instead of holding a workshop. It was also suggested that instead of applying for a fellowship from AFRA, the Agency should be solicited for such a request. It was also recommended that the issue of NORM wastes generated from borehole logging in oil industry should be given higher priority.

6.2.2. Harmonization of Radiation Protection Practices: AFRA I-15 (RAF/9/022)

The outcome of the report of the first coordination meeting held in Rabat, Morocco, 13-17 January 1997 was discussed, after which, the floor moved to the adoption of the recommendations with no objection.

6.3. THEME II : Clinical Application of RIA Techniques

6.3.1. consolidated RIA capabilities for Tumor Markers: AFRA II-16 (RAF/6/018)

The report of the first coordination meeting of the project held in Grand -Baie, Mauritius, 17-21 February 1997 was discussed, after which, the floor moved to the adoption of the recommendations with no objection.

6.3.2. Development and Field Evaluation of Animal Feed Supplementation Packages: AFRA II-17 (RAF/5/041)

The outcome of the first project coordination meeting held in Dar- Es- Salaam, 24-28 February 1997 was discussed, after which, the floor moved to the adoption of the recommendations with no objections.

6.3.3. Improvement of clinical Radiotherapy: AFRA II-12 (RAF/6/014)

The outcome of the first project coordination meeting that took place in Rabat, Morocco, during 24-28 March 1997 was discussed. Mr. Maksoudi mentioned that there were some minor changes to the programme with no overall effect. After discussion, the floor moved to the adoption of the recommendations with no objection.

6.5.4. Non Destructive Testing in Industry: AFRA IV-21 (RAF/8/025)

The outcome of the report of the first coordination meeting of the project AFRA IV-21 held in ACCRA, Ghana, 13-17 January 1997, was discussed. It was pointed out that the coordination meeting discussed issues concerning the accreditation and harmonization of different training systems and it was decided that the ISO standards will be followed throughout the number states. The meeting moved next to the approval of the recommendations with objections..

6.6 conclusions and Recommendations

Before the closing of this session, it was decided to examine the conclusion and the recommendations of the AFRA FMC meeting as stated in the minutes of the report AFRA-FMC (Vienna, 3-7 March, 1997) which was agreed upon.

Based on recommendations given in all reports of the project coordinators and following discussions during this meeting, it was suggested that the recommendations of common nature should be singled out, compiled by theme and target partner and submitted to AFRA-FMC for implementation. The target partners were requested to report on the progress made and to monitor the implementation of the recommendations at national level.

General

- Project workplans should be realistic, considering the limited contributions by AFRA Member States and the IAEA.
- Project Scientific Consultants should receive adequate facilities and logistical support to enable them to discharge successfully their duties.
- There is a need to receive feedback to monitor progress from the IAEA; including the project full status report.

To AFRA Member States and National Co-ordinators:

- Further encourage the utilization of regional experts and facilities.
- Communication with Project Co-ordinators should improve along the line recommended by the AFRA-FMC.
- That all governments of AFRA Member States should commit all necessary resources for the implementation of the various AFRA projects.
- That all participating AFRA Member States must ensure private sector involvement in the project at all stages of development of AFRA projects.
- That AFRA Member States without adequate facilities should be encouraged to make use of existing facilities in other AFRA member states.
- That the nominees for training events should be restricted only to those involved in the action plan of the appropriate projects.

- To take the necessary initiative and actions for implementing the action plan with the OAU in order to accelerate the promulgation and enforcement of legislation in AFRA countries.

The meeting recommended that recommendations to the Governments of AFRA Member States and National Co-ordinators are submitted by the AFRA-FMC to the Permanent Missions of AFRA Member States based in Vienna with copies to National Co-ordinators.

7. AFRA TCDC ACTIVITIES : STRATEGY AND WORKPLAN

7.1. AFRA TCDC Workplan

Mr. Maksoudi gave an overview of the TCDC activities which use the expertise of AFRA advanced countries to help other Member States to solve certain specific problems. Then, he presented the AFRA action plan 1997 - 1998 for the promotion of TCDC modality and activities. The meeting discussed the potential areas of cooperation that were recommended by the AFRA - FMC and commented on them.

Activity AFRA I-14 on waste disposal in boreholes was approved as it is.

Activity AFRA I -15 on provision of calibration services, training and intercomparison exercises was approved with the clarification that the provider countries mentioned agreed to make available their SSDs for calibration services and that the recipient countries are not limited to those countries listed but all other African countries are welcome to use this service.

Activity AFRA II-16 on regional preparation and distribution centers for tumor markers approved as it is.

Activity AFRA III -18 on validation and release of improved crop varieties approved as it is.

Activity AFRA IV-19 includes :

1. Demonstration of the efficacy of gamma radiation in the improvement of Sterility Assurance Levels (SALs) of locally produced intravenous fluids.
2. Enhancement of radiation sterilization of biological tissues.
3. Radiation decontamination of sewage sludge.
4. Quarantine applications of radiation processing on citrus.

Project AFRA IV-20 - Servicing of Chinese cobalt 60 radiotherapy machines in Africa.

Project AFRA IV-21 - Regional centers for qualification and certification of NDT personnel in industry (levels/ and II).

During the discussion, the following points were highlighted :

- There is a need to assess the collaboration between AFRA Member States
- AFRA should be careful in choosing projects. They should be of importance to African Member States and not only to please donors.
- For the financial commitment; there should be creation of a kind of TCDC fund to assure continuity of TCDC programmes
- Financial statements reflecting country contributions in the AFRA projects should be included in the country reports.

The action plan has been recommended for approval by the AFRA representatives.

8.3. Management Responsibility and Methodology

AFRA-FMC: after detailed discussions, the following was agreed upon: The chairperson of AFRA acquires the full responsibility for managerial matters related to all functions of the FMC so as to assure successful performance of AFRA project objectives and related events.

8.4. Representation of National Co-ordinator and Project Co-ordinators.

With reference to observations from different AFRA meetings and according to the agreement, only the designated National Co-ordinators are entitled to attend Technical working group meeting, and the Project Co-ordinators are entitled to attend project Co-ordination Meetings.

8.5. Criteria for participation in AFRA projects

The AFRA-FMC will look to this issue during its next meeting and a proposal of the necessary criteria for participation in AFRA projects will be submitted to the national representative meeting in September to be approved before being applied.

8.6. AFRA Procedure for Design and Formulation of AFRA Projects

Appendix 2 of Annex VI of the 8th TWGM document was discussed. It was agreed to endorse those guidelines as presented.

8.7 Mr. Qian's Remarks

Mr. J. Qian made comments on various important issues and highlighted the following areas of concentration :

- 1) As an intergovernmental agreement, AFRA has acquired its own managerial capacity through the FMC which showed its ability to discharge successfully certain managerial activities in the field.
- 2) The Agency is giving high priority to Africa in general and to AFRA in particular and has been providing financial support to allow Africa to benefit more effectively from nuclear technology.
- 3) AFRA, being an intergovernmental organization, should make use of the political influence of regional organizations when approaching donor countries and organizations for supportive actions and funding.
- 4) Fund raising can be only assured for well designed projects with clear objectives to solve problems of regional nature ; indicating existing resources, infrastructure, capable personnel, and cost effectiveness.
- 5) Regional projects operated by Africa Section; such as manpower development, isotope hydrology and water resources, inter-regional radiation protection, Tse-Tse and Rindpert projects, have different but complementary objectives to AFRA projects and therefore will keep their particularity until AFRA demonstrates that it can manage better than the IAEA. At that time we will consider transferring these projects to AFRA

9. FUTURE ACTIVITIES

Isotope techniques for detection of leakage in dams or reservoirs was proposed by Morocco and supported by Egypt. Justification will arrive to the AFRA-FMC before July 1997. The proposal was agreed upon and ad-hoc action will be taken when ever applicable.

9.1 Action Plan for accelerating the promulgation and the enforcement of legislation on radiation protection in AFRA countries

- (i) Mr. Boussaha suggested that the AFRA-FMC shall mandate a representative to attend the regional conference on Radiation Protection Legislation which will be held in Ethiopia.
- (ii) It was recommended by the meeting to compile the data on status of radiation safety legislations in Africa and make it available to AFRA member states by July 1997.
- (iii) After discussion, the meeting approved the action plan for accelerating the promulgation and enforcement of the legislation in AFRA countries as elaborated by the AFRA-FMC.

9.2. Venue of the 9th TWGM

Sudan expressed its readiness to host the next TWGM meeting provided that the UN resolution is lifted in time. IAEA declared that according to that resolution, no UN meetings can be organized in Sudan. FMC regretted this situation and expressed its determination to give priority to Sudan when such a restriction ceases.

Egypt and Ethiopia expressed their desire and readiness to host the next meeting. The Ethiopian motion was seconded by Zambia and Sierra Leone. The meeting decided that the 9th TWGM will be organized in Ethiopia since Egypt has had the opportunity to host such an event.

10. CONCLUSIONS AND RECOMMENDATIONS

After reviewing the final report, the meeting recommended the following:

1. Setup a network of centers of excellency and create teams to support solving specific and emergency problems with concrete impact (ad-hoc actions) by using regional expertise and capability. AFRA Field Management will report to the next AFRA meeting in Vienna about modalities to implement this issue.
2. Participation of National Co-ordinators in TWGMs is very important. AFRA Field Management should address governments for participation and report on the attendance of National Co-ordinators to the next meeting of AFRA Representatives.
3. The Agency and the AFRA Field Management should take note of the OAU's initiative to organize the 2nd seminar on peaceful uses of nuclear sciences and technology under the theme: Radiation Safety and Waste Management, and in collaboration with the OAU ensure its sucessful implementation.

APPENDIX I

LIST OF PARTICIPANTS

Participation list

List of Observers

Pays	NOM & PRENOM	Organization
AIEA	Mr. QIAN	DDG - TC
	Mr. Ali BOUSAHA	Head - Africa Section
	Mr. M. MAKSOUDI	AFRA Coordinator
Egypt	Mr. Abdel RASSOUL	Assistant to the AFRA Chairperson
Algeria	Mr. Salah DJEFFAL	Assistant to the AFRA Chairperson
Algeria	Mr Benayoub Med	Representative of the N.C.
Egypt	Mr. Hisham ALY	N.C.
Ethiopia	Mr. Mulugeta AMHA	N.C.
Madagascar	Mr. Wilfrid chrysante SOLOFOARISINA	Representative of the N.C.
Morocco	Mr. Lhousine MANAR	N.C.
Morocco	Mr. Mohamed Arrouchi First Secretary	Permanent Mission of the Kingdom of Morocco. Representative of the African Group
Namibia	Ms. J. N. NAJOMA	N.C.
Nigeria	Mr. M. BAWALLAH	N.C. (Chairperson of AFRA)
	Mr Agev Demenongu Counsellor, Permanent Mission/ Embassy of the Federation Republic of Nigeria, Vienna, Austria	Permanent Mission of Nigeria in Vienna
	Ms Matse Orere Assistant Director, Department of planning, Resources and Statistics, Ministry of Petroleum Resources	Observer
Sierra Leone	Mr. Denis S. AMARA	N.C.
S. Africa	Mr. Mojalefa MURPHY	N.C.
Zambia	Mr. Samson C. BANDA	N.C.
Sudan	Mr. Omer EL-AMIN	N.C.
OUA	Atef Ghabriel	Representative of the OAU
	Mr. Salah El-Mashri Head, Training and development Dept Arab Atomic Energy Agency	Observer
Tunisia	Mr. Mahjoub	Director General, CNSTN, Tunisia
	Mr. Taïeb Jerbi	Observer, Tunisia
	Mr. Férid Herelli	N.C.
	Mr. Nefâa Reguigui	Rapporteur
	Mr. Ridha Hamada, CNFCA	Observer
France	Mr. D. GIOVANSILY Assistant to the Director of International Relations CEA (ie Commissariat a l'Energie Atomique) France	Observer

APPENDIX II

WELCOME SPEECHES OF

Dr. Abdelmajid Mahjoub, Director General, the National Center for Nuclear Sciences and Technology (NCNST),

Mr. J. Qian, Deputy Director General, Head, Technical cooperation Department, IAEA

Dr. Mongi Safra, Secretary of State for scientific research and technology and chairman of the National commission of Atomic Energy,

**Welcome Speech of
Mr Abdelmajid MAHJOUB
Director General
of the National Center for Nuclear Sciences and
Technologies (N.C.N.S.T)**

Mr State Secretary for Scientific Research and Technology ,
Mr Deputy Director General of IAEA ,
Mr President of AFRA ,
The African Countries National Coordinators ,
Mr Governor of Nabeul ,
Mr Delgate of Hammamet ,
Mr Secretary General of the R.C.D Coordinating Committee ,
Honorable Guests, Ladies and Gentlemen .

It is my pleasure, on behalf of the National Center for Nuclear Sciences and Technologies to welcome you in Tunisia and wish you full success of your 8th Technical Working Group Meeting .

At this first occasion in my quality as Director General of N.C.N.S.T , I would like to express my great satisfaction for the confidence of our Président of the Republic and I hope to find all the help and support from Mr State Secretary for scientific Research and Technology to lead this prestigious and young centre to continue the work of my predecessor Mr Ali CHEICKH KHALFALLAH who is actually the head of the Railways Company , Thus contributing to the promotion of utilizing Nuclear Techniques for pacific applications .

In deed, Today, all people involved in the Economic and Social activities are engaged in the total up grading programme , which is receiving full support from high government officials, that will allow Tunisia to join the rank of advanced countries at the end of this century.

Within this frame , the nuclear techniques have been demonstrated to be usefull and competitive in many fields comparatively to traditional ones .

Check against delivery, 21 April 1997

8th Technical Working Group Meeting of AFRA

Hammamet, Tunisia

21-25 April 1997

**Welcome Address by Mr. Qian J. Deputy Director General
and Head of the Department of Technical Co-operation
International Atomic Energy Agency, Vienna, Austria**

Mr. Chairman, Honourable State Secretary for Scientific Research and Technology,
Governor of Nabeul, Dear AFRA National Co-ordinators, Ladies and Gentlemen.

I feel honoured to welcome you on behalf of the Director General of the International Atomic Energy Agency to this 8th Technical Working Group Meeting of AFRA Member States. I also wish to say a particular welcome to the National Coordinators who attend this meeting for the first time.

I wish to commend the host country - The Republic of Tunisia - for the great efforts deployed to arrange this important meeting. On your behalf and personally, I would like to express our appreciation to the Government of Tunisia through the National Atomic Energy Commission, and extend sincere thanks to the organizing committee for working so hard to make our stay in this beautiful country most enjoyable and, no doubt, fruitful.

Mr. Chairman:

The two years which have passed since I was last at an AFRA National Coordinators' meeting saw a great deal of work done. Countries became partners in seeing common problems, in proposing solutions, in taking responsibility and in working together to achieve the development objectives that you have set yourself for the region. I remember that during that meeting in South Africa, more aggressive management schemes were discussed. Since then, the AFRA programme has gained considerable momentum by establishing the AFRA Field Management and its involvement in all stages of programme design and implementation.

Mr. Chairman:

One of the important issues high on the Agenda of this meeting is the five-year programme for AFRA. Its implementation has just started. I am happy to see that you have resisted the temptation to propose a large number of projects for which there is no guarantee of funding. The small number of projects that you have selected complies with our aim for "fewer but better". They cover the four themes you have identified as priorities for the region. We all know that failures in the past have frustrated the donor community and have created what one could call "aid fatigue". To reverse this situation, you need to design and formulate better projects, be fully accountable for them, and take an energetic lead in fund raising. This will be a turning point in regional co-operation, and success stories will be written! To this end, I stand behind you and back up your efforts with appropriate administrative support from the Agency.

AFRA Field Management, National Coordinators and the Agency will need to pay special attention to the implementation of the new five-year programme. Monitoring of progress and evaluation will be essential to the success of the programme and the gradual shifting of the managerial activities to the region. Strong participation will result in achieving the targets you have set yourself by the year 2000, particularly with regard to funding and ownership of the programme.

Mr. Chairman,

Speaking of fund raising inevitably leads to the question of tactics. One modality which has attracted the attention and support of the donor community, and the United Nations System, is technical co-operation among developing countries (TCDC) or South-South co-operation. Such co-operation has proved to be right for the promotion of nuclear science and technology under AFRA. The TCDC activities reflect the region's efforts of "self-help" by appropriate and timely interventions to combat, for instance, poverty and malnutrition. It is those activities which can generate success stories and that have better chances to attract more funds from the donor community.

and much care has to be taken to consolidate that which has been achieved to create the indispensable “culture” that ensures long-term sustainability of your endeavours and greater responsibility for the programme. To a certain extent, the two partners in development, AFRA and the Agency, are following parallel paths toward the common aim of promoting regional co-operation. To the extent they are successful, both can gain much credibility and respect from the donor community, as well as esteem from AFRA Member States. Should the AFRA approach finally prove superior, the Agency pledges to continue to do its utmost to help the programme achieve its objectives, and to guide the region’s efforts for the promotion of nuclear science and technology.

Objective reviews and self evaluation will help us - AFRA and the Agency’s Secretariat - to remain accountable for the quality of the inputs we provide and the results we expect to achieve. With vision and imagination, you, the National Coordinators, can shape AFRA into the kind of undertaking that will safely carry Africa into the 21st century. This is a wonderful hope to have.

Thank you for your attention.

PROJET DE DISCOURS DE MONSIEUR MONGI SAFRA, SECRETAIRE
D'ETAT AUPRES DU PREMIER MINISTRE, CHARGE DE LA
RECHERCHE SCIENTIFIQUE ET DE LA TECHNOLOGIE
A LA 8^{ème} REUNION DES COORDINATEURS NATIONAUX
DU 21 AU 25 AVRIL 1997

Distinguished Governor of Nabeul
Distinguished General Secretary of the Constitutional Democratic Party
Mister Deputy Director general of the IAEA, Mr. Qian
Mister AFRA President,
Mister Gouvernor,
Mister Mayor of Hammamet,
Respectable AFRA coordinators,
Ladies and Gentlemen, guests.

It is my pleasure, and a great honor for me, on behalf of the Tunisian Government to welcome you and to host the AFRA eighth technical working group meeting.

The decision taken at the last technical working group meeting to designate Tunisia as the host country for this meeting clearly shows the level of cooperation and trust between the Tunisian Government and the AFRA member states.

I would like to take this opportunity to mention the fact that Tunisia was the first african country which ratified on April 4, 1990 the AFRA regional co-operative agreement for Research, Development and training related to Nuclear Science and Technology. This agreement stemmed from an initiative of several African States, members of the Agency, who requested the IAEA to help establish a regional arrangement for co-operation in the field of nuclear sciences and technology in Africa. Tunisia was also among the first countries which extended this latter agreement in 1995 for five more years.

This is an indication of our government's conviction and interest in effectively developping the south-south cooperation through organized regional structures.

I would also like to bring to your attention the fact that this meeting coincides with the fourtieth anniversery of the IAEA. I should also mention

In order to support these legislative measures, and to strengthen the national program for the pacific use of nuclear techniques I am pleased to mention that the Tunisian Government is acquiring a semi-industrial irradiation-treatment unit of food and agricultural products with the help of the IAEA and the french government.

This decision shows once more the determination of the government to apply scientific research results to improve in this case food quality and reduce post-harvest losses and food spoilage.

In line with this, few other medical applications are also planned with some institutions and specialized centers.

Since the signing of the AFRA regional agreement, Tunisia has put in place twelve national projects related to different sectors of the economy, such as agriculture, industry public health and environnement. To my satisfaction, these projects are having a positive impact on the development of these sectors.

I would like to take this opportunity to thank the Department of Technical Cooperation of the IAEA as well as the AFRA National Coordinators for the special place and honor they have given us by deciding to hold the 1997 AFRA Eighth Technical Working Group Convention in Tunisia and for their continuous support to our country through additional scientific programs with the school of food and industrial engineering (ESIA), the national center of radiation protection (CNRP), the veterinarian school, the medical school, etc...

I would also like to thank the project coordinators who showed a great level of competence in executing their projects despite the difficulties and impediments they might have encountered.

Finally, I would like to thank our african experts who accepted the IAEA invitation to participate in setting up the workplan of the next five years.

I shall now declare open the Eighth TWG meeting and wish you good continuation and full succcess in your undertakings.

Thank you for your attention.

APPENDIX III

THE AGENDA

Monday, April 21

08:30 - 09:00 - Registration

OPENING SESSION

09:00 - 10:30 - Welcome address by Dr. Abdelmajid MAHJOUB, Director General of CNSTN
- Welcoming remarks by Dr. Ademola BAWAALLAH, the AFRA Chairperson 1996/97
- Welcome address by his Excellency M. F. KHALIL, Permanent Representative of Tunisia to the IAEA and Member of the Board of Governors of the IAEA
- Welcome address by Dr. Jihui QIAN, DDG-TC Department, on behalf of the IAEA Director General
- Official Opening of the Eighth TWG Meeting by his Excellency Dr. Mongi SAFRA, Secretary of State to the Prime Minister in charge of the Scientific Research and Technology, Chairman of the National Atomic Energy Commission.

10:30 - 11:00 - Coffee Break

ADMINISTRATIVE SESSION

11:00 - 12:00 - Election of Chairperson
- Appointment of Secretary and Rapporteur
- Adoption of Agenda
- General information

12:00 - 14:00 - Lunch

TECHNICAL SESSION

14:00 - 15:30 - Countries' reports on activities hosted by them
15:30 - 16:00 - Coffee Break
16:00 - 18:00 - Continuation

Tuesday, April 22

08:30 - 10:30 - Continuation : Countries' reports
10:30 - 11:00 - Coffee Break
11:00 - 12:00 - Continuation : Countries' reports

12:00 - 14:00 - Lunch
14:00 - 14:30 - Report by AFRA Co-ordinator, IAEA
14:30 - 15:30 - Technical review of implementation of Operational projects :
 Theme I - Radiation Safety
15:30 - 16:00 - Coffee Break
16:00 - 18:00 - Continuation of technical review :
 Theme II - Clinical Applications of RIA Techniques

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MINUTES OF THE AFRA FIELD MANAGEMENT COMMITTEE MEETING
VIENNA, 3-7 MARCH 1997

The meeting of the AFRA-FMC started on Monday, 3 March 1997 and lasted until Friday, 7 March 1997.

The meeting took place at 9.30 a.m. in Room B0742 in the presence of:

Mr. Ademola-Bawaallah, AFRA Chairperson (Nigeria)
 Mr. Salah Djeflal, AFRA Assistant to the Chairperson (Algeria)
 Mr. Abdel Rassoul, AFRA Assistant to the Chairperson (Egypt)
 Mr. Mokdad Maksoudi, AFRA Regional Projects Co-ordinator, IAEA
 Mr. Mohamed Férid Hérelli, AFRA National Co-ordinator, (Tunisia).

After the opening of the meeting by the AFRA Regional Projects Co-ordinator, IAEA, the provisional agenda was discussed and endorsed (Annex I).

Session 1: Review of the implementation of AFRA activities for 1997-1998, including funding.

The technical officers of the different AFRA projects were invited to the meeting to brief the AFRA-FMC on the outcome of the coordination meetings they attended.

The following thematic programmes were discussed:

- AFRA-14 (RAF/4/015) - Strengthening Waste Management Infrastructure

Mr. C. Bergman, the IAEA Technical Officer for this project, presented to the AFRA-FMC the outcome of the first coordination meeting of AFRA I-14 (RAF/4/015) which took place in Cairo from 15 to 19 February 1997

- AFRA I-15 (RAF/9/022) - Harmonization of Radiation Protection Practices

Mr. Salah Djeflal, Project Scientific Consultant, presented the outcome of the report of the first coordination meeting held in Rabat, Morocco, 13-17 January 1997.

- AFRA II-16 (RAF/6/018) - Consolidated RIA Capabilities for Tumor Markers

Mr. Mokdad Maksoudi presented the report of the first coordination meeting of the project held in Grand Baie, Mauritius, 17-21 February 1997.

- AFRA II-17 (RAF/5/041) - Development and Field Evaluation of Animal Feed Supplementation Packages

Mr. Jayasuriya, Technical Officer, IAEA, presented the outcome of the first project coordination meeting held in Dar-es-Salaam, 24-28 February 1997

* Please note that the Annexes mentioned here are attached to the chapters of the Annual Report where they belong.

- AFRA II-12 (RAF/6/014) - Improvement of Clinical Radiotherapy

The first project coordination meeting is planned to take place in Rabat, Morocco, during the last week of March (24-28 March 1997)

- AFRA III-18 (RAF/5/042) - Development and Promotion of Improved Crop Varieties

Mr. Mokdad Maksoudi presented the report of the first project co-ordination meeting held in Accra, Ghana, 3-17 February 1997.

- AFRA IV-19 (RAF/8/024) - Radiation Processing of Food and Industrial Products

Mr. Mokdad Maksoudi presented the outcome of the first coordination meeting held in Lusaka, Zambia, 24-28 February 1997

- AFRA IV-20 (RAF/4/014) - Consolidation of Regional Capabilities for Maintenance of Medical and Scientific Instruments

Mr. Xie, IAEA Technical Officer, presented the outcome of the report of the first coordination meeting of the project held in Nairobi, 24-28 February 1997.

- AFRA IV-11 (RAF/4/012) - Research Reactors Utilization and Operation

Mr. Mokdad Maksoudi presented the outcome of the coordination meeting held in Cairo, Egypt, 22-26 February 1997.

- AFRA IV-21 (RAF/8/025) - Non Destructive Testing in Industry

Mr. Dobrowolski, IAEA Technical Officer, presented the outcome of the report of the first coordination meeting of the project held in Accra, Ghana,, 13-17 January 1997.

Copies of all the above-mentioned reports are attached to the present document (Annex-II).

After discussion in detail of the outcome of the reports, the AFRA-FMC summarized the following recommendations and conclusions of Session 1:

CONCLUSIONS AND RECOMMENDATIONS OF SESSION 1:

1. AFRA Member States without the basic infrastructure relevant to a particular AFRA project and wishing to participate in that project are advised to acquire first the basic infrastructure through bilateral cooperation with IAEA, donors, etc.
2. Recognizing that the success at the regional level depends on the clear articulation of the various national programmes, it is therefore, incumbent on participating countries to submit at the beginning of project implementation their own national workplan.

3. The decisions and recommendations made at various project coordination meetings and endorsed by AFRA-FMC should be followed by letters from the AFRA Chairperson to all relevant parties for implementation.
4. It is noted that communication between national and project coordinators is a common concern for all AFRA projects, the AFRA-FMC recommends that: (1) there should be a yearly pre-and-post TWGM meetings between NCs and PCs, (2) yearly meetings pre-and-post AFRA Representatives meeting and (3) that the minutes of these meetings should be attached to the Annual report of NCs
5. Recognizing the important role of the private sector in the promotion and development of nuclear technology at national and regional level, the AFRA-FMC recommends that their involvement in AFRA activities should be encouraged.

Session 2:

Mr. El-Saiedi, Director, TCIM, IAEA, joined the meeting during which the AFRA TCDC activities, strategy and action plan were reviewed and analyzed.

The potential AFRA TCDC activities for implementation in 1997-98 were identified as follows:

- AFRA I-14 - Waste disposal in boreholes;
- AFRA I-15 - Provision of calibration services, training and inter-comparison exercises;
- AFRA-II-16 - Regional preparation and distribution centres for tumor markers;
- AFRA-III-18 - Validation and release of improved crop varieties;
- AFRA IV-19 -
 - Demonstration of the efficacy of gamma radiation in the improvement of Sterility Assurance Levels (SALs) of locally produced intravenous fluids.
 - Enhancement of radiation sterilization of biological tissues.
 - Radiation decontamination of sewage sludge.
 - Quarantine application of radiation processing on citrus.
- AFRA IV-20 - Servicing of Chinese Cobalt-60 radiotherapy machines in Africa. The services will be provided by Ghana in collaboration with China and assistance from AFRA;
- AFRA IV-21 - Regional Centres for qualification and certification for NDT personnel in industry (levels I and II).

The meeting reviewed the AFRA 1997-98 action plan for the promotion of TCDC modality and noticed that no significant progress has been made so far, particularly regarding the compilation of data on TCDC in Member States. The meeting decided that a letter should be sent by the AFRA Chairperson to all AFRA National Co-ordinators urging them to bring the requested data to the 8th TWGM.

The meeting also reviewed and discussed the IAEA guidance for the use of TCDC modality in TC programmes. It was noted that both action plans are complimentary and aim at achieving the same objective. It is, therefore, recommended that the 8th TWGM discuss this action plan in relation to the AFRA TCDC strategy (Annex III)

Session 3:

3.1 Provisional Agenda of the 8th TWGM

The provisional agenda for the eighth (TWGM) Technical Working Group Meeting scheduled in Hammamet, Tunisia, 21-25 April 1997 was elaborated and finalized (Annex IV).

3.2 Selection of the Scientific Consultant for AFRA III-18 (RAF/5/042)

The meeting reviewed and discussed the qualification and personal capabilities of the three candidates submitted by Egypt, Ghana and Nigeria for the function of scientific consultant (Gatekeeper) of the project AFRA III-18 (RAF/5/42).

Taking into account the duties and responsibilities of the scientific consultant, and the broad scope of the project, the meeting has selected Mr. George Klu, Director, BNARI, Ghana for this function.

3.3 Duties and Responsibilities of the Project Scientific Consultant

The meeting also reviewed, discussed and elaborated duties and responsibilities of AFRA scientific consultants to be presented to the 8th TWGM (Annex V) for consideration.

3.4 AFRA Procedures for the Design and Formulation of AFRA Projects

The meeting discussed in length and elaborated the document relating to AFRA procedures for the design and formulation of AFRA projects (Annex VI), to be submitted for approval to the 8th TWGM.

Sessions 4 and 5 (Fund Mobilization)::

Mobilization of funds for the five-year programme of AFRA was discussed by the meeting and a decision was taken to approach potential donor countries and organizations through the Nigerian Embassy (in its capacity as the country of the AFRA chairperson) by making use of the influence of the African Group in Vienna.

The four AFRA projects which still require funding from donors will be sent with a covering letter to the following countries and organizations:

- USA, France, U.K., Germany, Italy, Spain, Norway, Sweden, Denmark, Japan, China
- OPEC Fund, IFAD, ADB, Islamic Bank and UN-NATAF.

Moreover, a visit to UN-specialized agencies in New York and to the OAU in Addis Ababa is expected to take place before June 1997. The arrangements and modalities are being made in collaboration with the African Group in Vienna and the OAU Secretariat in Addis Ababa.

Regarding the contribution expected from the UNDP Regional Bureau for Africa, the AFRA-FMC decided to bring this issue to the 8th TWGM in order to decide on a final strategic approach.

Session 6:

6.1. Situation of Research Reactors in Africa

During the review of the report of the co-ordination meeting of the project AFRA IV-11 (Research reactor utilization and operation) the attention of the AFRA-FMC was drawn to the many concerns expressed by project co-ordinators regarding the situation of the majority of research reactors in Africa. The report pinpointed many deficiencies such as lack of nuclear regulations, very low utilization, lack of maintenance capability, lack of funds and more importantly, the absence of workplans and research programmes for full utilization.

In the light of the conclusions of the report, the meeting of AFRA-FMC decided to bring this important issue to the attention of the 8th TWGM. Furthermore, the meeting proposed that a comprehensive study be undertaken within the framework of the project in order to:

- assess the performance of existing research reactors in terms of effective contribution to industry and the development of science and technology in the region;
- determine the cost effectiveness of the investment made by the owners of research reactors;
- recommend, in the light of the results of the above study, a realistic approach for the acquisition and installation of future research reactors in the region

This study is expected to give a clear picture of the present situation and may be used by decision makers for planning of nuclear research programme based on research reactors.

The cost of the study which will be carried out by a small task force (Project Scientific Consultant, AFRA co-ordinator, two outside experts), will be borne by the project.

6.2. Promulgation and Enforcement of the Legislation on Radiation Protection and Waste Management

The meeting discussed the conclusions and recommendations of the report of the first co-ordination meeting of the project AFRA I-15 on harmonization of radiation protection practices and decided to submit to the 8th TWGM for discussion and approval the action plan that was prepared (Annex VII).

The AFRA-FMC proposes to send the final version of the action plan (after approval by the 8th TWGM) to the OAU Secretariat for comments. It is further recommended that a visit to the OAU Secretariat be organized for the AFRA chairperson and the Project Scientific Consultant in the field to discuss with the competent authority the means and ways to improve the situation of radiation safety and decide on an agreed strategy which could be included in the agenda of the OAU's meeting of the Council of Ministers.

Session 7 (Meeting with the Vienna-based African Group):

The meeting of the AFRA-FMC with the African Group in Vienna was convened on Friday 7 March 1997 and attended by representatives from Algeria, Ethiopia, Egypt, Kenya, Morocco, Tunisia and South Africa (see Annex VIII).

The AFRA Chairperson welcomed the participants to the meeting and presented the Agenda which was adopted as previously distributed to members of the African group in Vienna by the Permanent Mission of Nigeria on behalf of the AFRA Chairperson (see Annex IX). He also summarized the main activities in the different AFRA projects during last year and the objectives for successful collaboration with the Africa group in Vienna to support AFRA programmes.

The following discussions took place:

- a) The representative of South Africa summarized the progress so far achieved since the meeting of September 1996 regarding the approach with the potential donors and organizations through the African Group in New York and informed the meeting that limited success took place specially with the UNDP office in New York who asked for detailed information about AFRA strategy and projects for consideration of future support. This will have a direct impact whenever a delegation of AFRA-FMC decided to visit New York to lobby donors for fund raising.
- b) AFRA strategy for fund mobilization was summarized by the Chairperson and informative details of respective action were clarified by Mr. Maksoudi and discussed by the participants and agreed upon.
- c) The AFRA TCDC strategy and workplan was presented, and nine demonstrations of TCDC nature were defined, discussed and noted.

- d) The concept of Troika proposed by the Ambassador of South Africa was discussed and found to be acceptable by the African Group in Vienna for their own use. However, AFRA-FMC will interact directly with the permanent mission of the country of the AFRA Chairperson.
- e) Concerning the idea of the round table discussions with potential donors, it was agreed that the Chairperson of the African Group in Vienna will request the task force to arrange for it in September 1997. However, there was a promise to update AFRA-FMC by July 1997 on progress made on this decision.
- f) AFRA-FMC proposed that it should be the ambassador in Vienna of the country hosting the TWGM that will be invited to attend the meeting. This was agreed upon with a request that the representative of this country will brief the Africa Group in Vienna on his return.

**MEETING OF THE FIELD MANAGEMENT OF AFRA
VIENNA 3 - 7 MARCH 1997 (Room B0742)**

PROVISIONAL AGENDA

Monday 3 March

- 09:30 - 10:00 : Administrative formalities (ground pass ...)
- 10:00 - 11:00 : Briefing with Mr. Qian, DDG-TC, Mr. Barretto, DIR-TCPM and Mr. Boussaha, Head, Africa Section
- 11:00 - 11:30 : Adoption of the Agenda
- 11:30 - 12:30 : **Session 1:** Review of the implementation of 1997 AFRA activities, including funding
- 12:30 - 13:30 : Lunch Break
- 13:30 - 15:30 : Continuation of Session 1
- 15:30 - 16:00 : Coffee Break
- 16:00 - 18:00 : Conclusion of Session 1

Tuesday 4 March

- 09:00 - 10:30 : **Session 2:** AFRA TCDC activities : strategy and action plan
- 10:30 - 11:00 : Coffee Break
- 11:00 - 12:30 : Continuation of Session 2
- 12:30 - 13:30 : Lunch Break
- 13:30 - 15:30 : Continuation of Session 2 (identification of potential TCDC activities for implementation in 1997-98, including funding modalities)
- 15:30 - 16:00 : Coffee Break
- 16:00 - 18:00 : Finalization of the document on TCDC to be presented to the 8th TWGM

Wednesday, 5 March

- 09:00 - 10:30 : **Session 3:** Procedures and implementation modalities

10:30 - 11:00 : Coffee Break

11:00 - 12:30 : Continuation of Session 3 (AFRA Field Management Committee to prepare procedures).

12:30 - 13:30 : Lunch Break

13:30 - 15:30 : Continuation of Session 3 (finalization of the document)

15:30 - 16:00 : Coffee Break

16:00 - 18:00 : Continuation of Session 3: Conclusions and recommendations to the 8th TWGM.

Thursday 6 March

09:00 - 10:30 : Session 4: Preparatory work for the 8th TWGM

10:30 - 11:00 : Coffee Break

11:00 - 12:30 : Continuation of Session 4 : Provisional Agenda and working documents for the 8th TWGM

12:30 - 13:30 : Lunch Break

13:30 - 15:30 : Session 5: Mobilization of funds for the five-year programme of AFRA

15:30 - 16:00 : Coffee Break

16:00 - 18:00 : Session 6 : Prepare letters and documents to be submitted to donors

Friday 7 March

09:00 - 10:30 : Session 7 : Meeting with the Vienna-based African Group

10:30 - 11:00 : Coffee Break

11:00 - 12:00 : Final review of the meeting's report

12:30 - 13:30 : Lunch Break

13:30 - 15:30 : Miscellaneous

Annex 7

**Minutes* of the AFRA Field Management Committee Meeting
Vienna, 23-27 June 1997**

The meeting of the AFRA-FMC started on Monday, 23 June 1997, and lasted until Friday, 27 June 1997.

The Meeting's opening session started at 10.00 a.m. and took place in Room BO742 in the presence of:

Mr. Qian DDG-TC, IAEA
Mr. Ademolla-Bawaallah, AFRA Chairperson (Nigeria)
Mr. Salah Djeffal, AFRA Assistant to the Chairperson (Algeria)
Mr. Abdel Rassoul, AFRA Assistant to the Chairperson (Egypt)
Mr. Mokdad Maksoudi, AFRA Regional Projects Coordinator, (IAEA)
Mr. Férid Hérelli, AFRA National Coordinator (Tunisia)

- Mr. Maksoudi welcomed everybody for attending this meeting and made a brief introduction of the most important issues to be discussed during the meeting.

- Mr. Abdel Rassoul took the floor. He thanked Mr. Qian on behalf of the AFRA-Field Management Committee, for his continuous support. He also thanked Mr. Herelli for the excellent arrangements made for the successful organization of the 8th TWGM held in Hammamet from April 21-25 1997. He made a brief summary of the AFRA-FMC activities carried out this year.

- Mr. Qian addressed the meeting, placing much emphasis on the role played by the AFRA Field Management since its establishment two years ago. He said that the first phase of establishing the required structure, procedures and guidelines to enable the Field Management to discharge its duties has now been completed and, therefore, the priority should be given to concrete actions that will show the added value resulting from the creation of this entity. He stressed the need for the AFRA Field Management to emerge as the driving engine for achieving the region's self-reliance in the field of nuclear science and technology and for promoting TCDC modality to accelerate socio-economic development. He invited AFRA Field Management to search for and grasp opportunities that have the potential to achieve a breakthrough and which can illustrate the added value resulting from regional cooperation and TCDC. He gave the examples of hydrology and maintenance as representing high priority areas where achievements can effect high and visible impact. He encouraged AFRA to establish a network of specialized teams and ultimately centres of excellence which can provide services to all AFRA countries in an efficient manner. He said that AFRA Field Management could be in the medium term the manager of this network thereby giving itself a recognized physical body and capacity in the region. Finally, he reiterated the Agency's support to AFRA, particularly for launching these innovative approaches.

After the opening of the meeting by Mr. Qian, DDG-TC, IAEA, the provisional agenda was reviewed and adopted with minor additions (Appendix I).

*** Please note that the Appendixes mentioned in the Minutes are in fact attached to the chapters of this report where they belong. We did not attach them again here to save paper.**

Session 1: Review of the implementation of the 1997 AFRA activities.

- The meeting reviewed the progress made so far and noted the relatively high implementation rate which amounts to 43% in June 1997.
- About 40% of the national workplans was received at present. AFRA-Field Management should send a letter to National Coordinators to remind them to send the project national workplans as soon as possible.
- Participation in AFRA coordination meetings has improved but there is room for further improvement.
- So far, 14 training events were organized (January-June 1997).

The cost of training one scientist in any place in Africa for one week amounts to 4000 US\$ (all fees included). AFRA-FMC should review this high cost and make proposals for possible reduction.

- 62% of total lecturers were recruited from within AFRA Member States. This confirms the trend observed since 1995.
- 8% of the total selected applicants do not attend the events due mainly to visa problems. Another 5% of the total selected applicants attended the meeting with delay of at least one day.

Action: A letter should be sent to all UNDP-offices in the region requesting them to refrain from giving air tickets to participants in AFRA Meetings and training events if they are not sure that the participants will arrive to the duty station a day before the activity starts.

- A total of 2 185 080 US\$ from the Agency fund (TCF) is available for 1997. Another amount of 1 547 790 US\$ is still expected from donors. As of June 1997, AFRA received extra contributions:

60 000 US\$ from France for AFRA II-16,

50 000 US\$ from USA for AFRA IV-20,

20 000 US\$ OPEC Fund for AFRA III-18.

Given the importance of some high priority activities, the Agency decided to add a contribution of 217 000 US\$ to the 1997 budget of AFRA IV-20, AFRA I-15 and AFRA II-17, as well as 87 900 US\$ to the 1998 budget of AFRA IV-20.

- The rate of implementation of AFRA programme in 1996 was 72,31%.

Coordination and Management of AFRA activities:

The meeting feels that a workable mechanism for monitoring, coordination and evaluation of AFRA activities at national level should be established and used by National Coordinators in their day-to-day work. The success of AFRA programme at the regional level depends considerably on the success at the national level. In particular, the availability of national workplans for each AFRA project should help the National Coordinators to perform the monitoring, evaluation and coordination of AFRA activities in their countries.

Action:

AFRA-FMC should assess the general situation on how the coordination and monitoring of AFRA activities are carried out at the national level. For this, a questionnaire will be elaborated and submitted to AFRA Member States for return by end of August 1997. The results of this study will be compiled and analyzed during the September meeting of AFRA-FMC.

Review of Main Recommendations made by Project Coordinators

The meeting reviewed, compiled and re-arranged the recommendations made by project coordinators during the 10 coordination meetings. The relevant recommendations have been sent by the AFRA-FMC to all concerned.

The main recommendations approved by the AFRA-FMC meeting are given in Appendix II.

Action

The AFRA-FMC should send a reminder to all AFRA National Coordinators requesting them to make use of the IAEA established E-mail services.

Session 2: Follow-up actions on Recommendations made by the 8th TWGM:

Theme I - Radiation Safety AFRA I-14 (RAF/4/015)

The AFRA-FMC reviewed the recommendation made by the 8th TWGM regarding the issue of NORM wastes generated from borehole logging in oil industry and decided that a questionnaire should be designed by the Project Scientific Consultant and the IAEA and submitted to all AFRA countries. The results of this investigation should be compiled, analyzed and presented to the September Meeting of AFRA-FMC for further discussion and decision. If an urgent problem has been identified, the AFRA-FMC recommends that a technical team be formed to assist AFRA countries on ad-hoc basis. The team should be created under the on-going project AFRA I-14.

- **Theme IV -**

AFRA IV-20

Regarding the issue of communication (E-mail system and Internet) the AFRA-FMC decided to send a reminder to the National Coordinator in Ethiopia regarding the assignment given to him by the 8th TWGM to investigate with ECA the possibility of cooperation in the field.

AFRA-11

Regarding the question of the training courses on research reactor instrumentation, technology and trends, the AFRA-FMC contacted the PSC for more clarification. Meanwhile, the venue Zaria, Nigeria, was kept with Algiers, Algeria, as alternate.

AFRA-TCDC activities:

The AFRA-FMC reviewed the TCDC activities of AFRA and recommends the following:

- 1- There is a need to prepare a small booklet which will highlight the main TCDC activities of AFRA with the aim of promoting this modality.
- 2- Further to the recommendations made by the 8th TWGM regarding the need to assess the collaboration between AFRA Member States, the AFRA-FMC recommends that a survey be conducted to examine how the political commitment of AFRA countries to regional cooperation is being fulfilled, to identify deficiencies and to recommend concrete remedial actions. This survey can be implemented in November 1997 and its results presented to the 9th TWGM. The approval of the 8th Meeting of Representatives is requested.

Promulgation and Enforcement of Legislation on Radiation Protection

The AFRA-FMC reviewed the recommendations made by the 8th TWGM and decided on the following:

- 1- To send Mr. Djeflal to Addis Ababa to attend the regional Conference on Radiation Protection Legislation.
- 2- The data on status of Radiation safety in Africa will be made available to the 8th meeting of AFRA representatives in September.
- 3- The approved action plan for accelerating the promulgation and enforcement of legislation in AFRA countries will be sent to the OAU together with a covering letter signed by the Chairperson of AFRA. Furthermore, the AFRA-FMC requested Mr. Djeflal to take the opportunity of his visit to Addis Ababa to discuss this matter with the representatives of the OAU.

Creation/establishment of Centres of Excellence and specialized Teams for solving urgent Problems (ad-hoc actions)

The meeting discussed the working paper on the above-mentioned subject, made changes and recommended that the final version be sent to all AFRA countries (see Appendix III) together with a questionnaire requesting them to take into consideration these criteria when applying for designation as Centres of excellence.

Regarding the creation of specialized teams for solving ad-hoc actions, the AFRA-FMC recommends to the 8th Meeting of Representatives to approve the proposed three projects (see Appendix IV).

Requirements for Participation in AFRA Projects

One of the recommendations of the 8th TWGM requests the AFRA-FMC to work out criteria for participation in AFRA projects, and make a proposal to the Meeting of AFRA Representatives in September 1997. A draft note explaining the needs to regulate participation in projects was discussed and agreed upon by the AFRA-FMC meeting. The final version of this document is shown in Appendix V.

Finalisation of the Format of the Annual Report of National Coordinators

The format of the Annual Report of National Coordinators which was discussed and agreed upon during the 8th TWGM was improved and will be submitted to the AFRA Representatives in September 1997 for approval (annexed under Appendix VI).

Mechanism and Procedures for Monitoring and Assessing AFRA_projects

The meeting reviewed the working document "Mechanism and Procedures for Monitoring and Assessing the Performance of AFRA Projects" and adopted a final version (Appendix VII) which will take into account the general duties and responsibilities of AFRA-PSCs as well as the role and duties of the Agency's technical staff. This document will be presented to the 8th Meeting of AFRA Representatives in September 1997 for approval. Once approved, it will be submitted to all parties concerned for action.

Accordingly, the proposed duties and responsibilities of PSCs as adopted by the 8th TWGM was reviewed and updated. This document is shown in Appendix VIII.

1998 AFRA Programme

The AFRA-FMC reviewed the 1998 AFRA programme particularly in the light of the minor changes made during the projects coordination meetings and the 8th TWGM. It has to be noted that the 1998 AFRA programme has already been approved by the AFRA Representatives during their seventh meeting as well as by the Agency as part of the programming cycle 1997/1998.

This review is therefore meant for deciding on the few changes and priorities as set by the project coordinators and the 8th TWGM. In particular, the 1998 AFRA training events and coordination meetings were reviewed and the final version is attached under Appendix IX.

Session 3**Ideas/Opportunities for new Projects
to be considered under the 1999-2000 Programme of AFRA**

The meeting reviewed a number of opportunities which represent high priority for the region in the short and medium terms. Two of these opportunities have already been discussed and recommended by the 8th TWGM:

- The use of isotope techniques for leak detection in dams and artificial reservoirs;
- Naturally occurring radioactive material wastes generated from borehole logging in oil industry.

The AFRA-FMC has also discussed the following additional opportunities:

- Creation of a specialized team for repair and maintenance of gamma cameras in Africa;
- Regional emergency preparedness capability;
- Distance learning package for training nuclear medicine technologists in Africa;
- Use of isotopes for inspection of tanks for storage of oil and other liquid products.

After discussing these opportunities, the AFRA-FMC made the following comments and recommendations:

- The use of isotope techniques for leak detection in dams and artificial reservoirs.

The meeting discussed a summary of project document submitted during the meeting and recommended it in general. The Agency has already sent a questionnaire to all AFRA Member States regarding leakage in dams and reservoirs and the results are being compiled and analysed. A meeting will take place in Vienna from 9 to 11 July 1997 to prepare a detailed workplan. It is expected that the Agency will establish a reserve fund project to support initial activities in the field. In the light of the results of the questionnaire, the AFRA-FMC will discuss again this issue in its meeting in September to determine the magnitude and scope of the project and to decide on modalities of design and formulation (see Appendix IV).

- Naturally occurring radioactive material wastes generated from borehole logging in oil industry. The meeting recommended to include this topic under the on-going project AFRA I-14 (RAF/4/015); component "identification and assessment of hazards of occurring radionuclides". The Agency will get in touch with the Project Scientific Consultant to work out the detailed workplan.
- Creation of specialized team for repair and maintenance of gamma camera in Africa.

The AFRA-FMC discussed the project summary which was circulated during this meeting and recommended to establish this particular team under the on-

going projects AFRA IV-20, medical component. In fact, there is a specialized team in Ghana, who has already provided repair and maintenance services of gamma cameras in four AFRA Member States. The available staff will probably form the core of the future specialized team. The Agency will work out the detailed workplan with the PSC.

- Regional emergency preparedness capability

The objective of the establishment of this capability through the creation of a well trained team is to assist AFRA Member States in establishing their emergency preparedness and to perform regular simulations of radiological emergency situations at sub-regional level and, ultimately, at regional level.

AFRA-FMC believes that this opportunity has a high priority but still requires some elaboration to define all technical, managerial and administrative aspects. It is proposed to further elaborate on this opportunity and to discuss the final draft proposal during the next AFRA-FMC meeting in September 1997. The meeting recommended that the Project Scientific Consultant of AFRA I-15 (RAF/9/022) approaches the project coordinators in South Africa and Egypt and prepare the draft proposal for the September meeting.

- Distance learning package for training nuclear medicine technologists in Africa:

The proposal was submitted by the Agency Technical Officer for consideration at this meeting. The latter discusses the proposal in the light of the information given in the report of Mrs. G. Philotheou, taking into consideration the lessons learned from RCA experience in the field. The meeting made the following comments:

1- Training of nuclear technologists in Africa is one of the highest priorities of AFRA.

2- As the successful implementation of the proposed distance education programme depends heavily on adequate communication infrastructure and reasonable logistics, there may be a need to investigate thoroughly the available infrastructure, to assess the interest of the nuclear medicine community in Africa as well as the commitment of the national competent authorities.

3- Against the above background, the meeting recommends to seek clarification from the Agency's Technical Officer, the Project Scientific Consultant as well as RCA.

4- This proposal will be discussed again during the AFRA-FMC September meeting in the presence of the PSC, the Technical Officer and in the light of the clarifications to be obtained.

- Use of isotopes for inspection of oil and liquid products storage tanks

The meeting reviewed a paper on this subject, and discussed its relevance to AFRA countries. Given the large number of African countries producers of oil and other products, the meeting believes that this application can have a high impact provided that it is technically feasible and economically viable. The

meeting recommends to seek further information on this application to ensure its reliability. The meeting also requested the assistants to investigate in their own countries the current practices regarding the examination of tanks for oil storage and other liquid products. The final decision regarding the inclusion of this activity in the on-going project AFRA IV-21 (RAF/8/025) from 1999 onwards will be taken during the AFRA-FMC meeting in September.

Session 4

AFRA Fund Raising Strategy - Review of Progress made

The AFRA-FMC reviewed the activities carried out for mobilizing funds and took note of the actions taken by the Embassy of Nigeria in Vienna in its capacity as the country of the AFRA Chairperson.

The four AFRA projects that require extrabudgetary funding were sent by the Embassy of Nigeria to all potential donors.

Given the very modest contribution received so far from donors (France, USA, OPEC Fund), the meeting expressed concern about the implementation of the entire programme in 1997/98 and recommends that urgent actions should be taken by AFRA Representatives during the September meeting. In particular, it is proposed to reactivate the visit by AFRA and Agency representatives to New York and to make use of the influence of Vienna-based African Group to impress on the OAU for assistance in fund raising. To this end AFRA-FMC has already submitted to the OAU the four AFRA projects requiring additional funding and requested OAU sponsorship.

The AFRA-FMC has also reviewed the outcome of previous recommendations made during AFRA meetings and **noted that on the whole AFRA countries did not take the necessary actions towards their implementation.** In particular the countries did not report on any fund raising activities carried out by them at national or regional level, and did not even identify their national focal point for TCDC activities.

AFRA-FMC feels that the 8th Meeting of Representatives in September 1997 should make clear decisions regarding the participation of AFRA countries in fund raising.

The 8th TWGM, held in Hammamet, Tunisia, has also reviewed this issue and recommended that the AFRA strategy for fund raising should be based on the following corner stones:

1. **"Self-help" principle** which means that AFRA countries should contribute, in the first place, funds for the implementation of AFRA activities in their countries and in the region as well. The contribution towards the implementation of AFRA activities in the region is usually made by transferring funds to the IAEA for administration. LDCs Member States of AFRA are not expected to contribute toward the implementation of AFRA activities at the regional level.

2. **Sound and well documented projects.** The project document is the key element in the relationship between donors and recipient countries. AFRA projects should be well designed and formulated, need-driven and solutions-oriented and show clearly the objectives, inputs, expected outputs and success criteria.
3. **Sponsorship.** This activity is essential in any exercise of fund raising. Fortunately for AFRA, the OAU as well as the Vienna-based African Group have lent strong support to the programme and offered to make use of their political influence to help AFRA mobilize the required funding.
4. **Use of TCDC Modality.** This modality proved to be instrumental in mobilizing funds. AFRA should promote and make use of this modality in all its cooperative projects.

The AFRA-FMC believe that any future action for fund raising should take into consideration these afore-mentioned factors. In particular, it is recommended that the following action plan should be endorsed by AFRA representatives and serve as AFRA strategy for mobilizing funds.

Proposed action plan:

- (i) All AFRA countries, except LDCs, should contribute cash funds towards the implementation of AFRA Projects. The full implementation of the AFRA programme in any year requires an additional amount which has to come from donors as well as from AFRA Member States. **It is proposed that at least 25% of that amount should come from AFRA Member States as cash contribution to be administered by the Agency.** To secure these funds as early as possible in the year, it is proposed that the Ambassador of the Chairperson's country takes the full responsibility for collecting from AFRA Member States that amount on voluntary basis. The countries' annual contributions to AFRA projects will be acknowledged in the AFRA annual report.
- (ii) All AFRA countries are also requested to contribute in kind towards the implementation of AFRA activities in their country. In-kind contributions should be estimated and recorded in the AFRA annual report.
- (iii) AFRA cooperative projects should be need-driven, solutions-oriented and involve identifiable end-users and, where possible, the private sector in all stages of project design formulation and implementation.
- (iv) AFRA should make full use of the political influence and lobbying ability of the African regional organizations (OAU, ECA) and the Vienna-based African Group. Whenever possible, they should be invited to participate in the programme design and evaluation.
- (v) The Ambassador of the Chairperson's country shall submit to potential donors AFRA projects that require extra budgetary resources. To this end, AFRA-FMC shall endeavour to make available the project documents within the first quarter of the preceding year of projects implementation.

(vi) The Vienna-based African Group shall continue to use its good offices for the organization of round table discussions with potential donors annually.

(vii) Acknowledging the usefulness of nuclear technology in solving some of our socio-economic problems in the continent, the OAU shall endeavour to persuade ADB and other potential donors to make regular allocations for the implementation of AFRA projects.

(viii) AFRA should ensure that intra- and inter- regional TCDC activities are incorporated in all its projects.

(ix) AFRA Member countries shall allocate funds from their own TCDC budget for the implementation of AFRA TCDC activities.

Other Business

- **Communication with and between AFRA Countries**

The meeting discussed the issue of communication in Africa and decided the following actions:

(i) Send a letter to all AFRA National Coordinators urging them to make full use of the available Agency e-mail system and reminding them of identifying their server of Internet.

(ii) Send a letter to the National Coordinator of Ethiopia reminding him to collect addresses of recipient counterparts in AFRA Member States and send them back to AFRA-Coordinator-IAEA.

- **Study on Research Reactor**

The AFRA-FMC revisited the issue and came to the conclusion that it should be addressed. To this end, it was decided to elaborate the studies objective scope and modality of implementation and to request comments on this proposal from the project participating Member States. The study is to define existing problems, and to provide effective solutions to assure optimum utilization of these facilities.

- **Roster of AFRA Experts**

The meeting reviewed the list of proposed AFRA experts and in view of the high number decided to establish clear and transparent criteria for selection during the September meeting. Moreover, a workplan should be established to proceed with the selection of experts in different fields. It is expected that a preliminary list of experts will be ready for the meeting of the AFRA-FMC by June 1998.

- **Cooperation with Regional and Interregional Organizations**

The meeting decided to discuss this issue in depth during the meeting of September.

- **Preparation/Arrangements for the 8th Meeting of Representatives**

The meeting discussed and prepared the provisional agenda of the 8th Meeting of the AFRA Representatives scheduled on 30th September 1997. (See Appendix X.) The tentative agenda of the General Conference Meeting of the AFRA-FMC has also been prepared and is shown under Appendix XI

- **Meeting with the Vienna-based African Group**

The AFRA-FMC met with the Vienna-based African Group to discuss issues pertaining to fund raising for the implementation of AFRA activities (the minutes of the meeting are attached under Appendix XII).

**MEETING OF THE FIELD MANAGEMENT COMMITTEE
OF AFRA, VIENNA, 23 - 27 JUNE 1997**

PROVISIONAL AGENDA

Monday 23 June

09:30 - 10:00	Administrative formalities (ground pass ...)
10:00 - 11:00	Briefing with Dr. Qian, DDG-TC, Mr. Barretto, El Saidi, Mr. Boussaha.
11:00 - 11:30	Adoption of the Agenda
11:30 - 12:30	Session 1: Review of the implementation of the 1997 AFRA activities
12:30 - 14:00	Lunch break
14:00 - 15:30	Continuation of session 1
15:30 - 16:00	Coffee break
16:00 - 17:30	Conclusion of session 1, including the list of main recommendations for submission to all partners involved in implementation

Tuesday 24 June

09:00 - 10:30	Session 2: Follow-up actions on recommendations made by the 8 th TWCM
10:30 - 11:00	Coffee break
11:00 - 12:30	Creation/establishment of centres of excellence and teams for solving urgent problems (ad-hoc actions)
12:30 - 14:00	Lunch break
14:00 - 15:30	Criteria for participation in AFRA projects
15:30 - 16:00	Coffee break
16:00 - 17:30	Finalization of the format of the Annual Report of NCS.

Wednesday 25 June

09:00 - 10:30	Mechanism and procedures for monitoring and assessing AFRA projects
10:30 - 11:00	Coffee break
11:00 - 11:30	1998 programme of AFRA
11:30 - 12:30	Session 3: New ideas/opportunities for new projects to be considered under the 1999-2000 Programme of AFRA
12:30 - 14:00	Lunch break
14:00 - 15:30	Continuation of previous issue
15:30 - 16:00	Coffee break
16:00 - 17:30	Conclusion of previous issue, including the list of potential opportunities

Thursday 26 June

09:00 - 10:30	Session 4: AFRA fund raising strategy - Review of progress made
10:30 - 11:00	Coffee break
11:00 - 12:30	Fund raising activities in 1997
12:30 - 14:00	Lunch break
14:00 - 15:30	Preparation/arrangements for the 8 th Meeting of Representatives
15:00 - 16:00	Coffee break
16:00 - 17:30	Other business (communication, study on research reactor, AFRA experts, cooperation with Regional & Interregional organizations, ...)

Friday 27 June

09:00 - 10:30	Meeting with the Vienna-based African Group
10:30 - 11:30	Recommendations
11:30 - 12:30	Adoption of the report
12:30 - 14:00	Lunch break
14:00 - 15:00	Conclusions and closing

GENERAL CONFERENCE MEETING OF THE
AFRA FIELD MANAGEMENT COMMITTEE
ROOM B0709

29 September - 3 October 1997

PROVISIONAL AGENDA

Monday 29 September 1997

09:30 - 10:30	Review of 1997-2001
10:30 - 11:00	Coffee Break
11:00 - 12:30	Continue
12:30 - 14:00	Lunch
14:00 - 16:00	Prepare for 8th AFRA Representatives' meeting

Tuesday 30 September 1997

10:00 - 12:30	AFRA Representatives' meeting
12:30 - 14:00	Lunch Break
14:00 - 17:00	Prepare and review minutes of meeting

Wednesday 1 October 1997

08:30 - 10:30	Completion of minutes of meeting
10:30 - 11:00	Coffee Break
11:00 - 12:30	Follow-up actions on recommendations by the 8th Meeting of Representatives
12:30 - 14:00	Lunch Break
14:00 - 15:00	Preparation of the meeting with DIR-TCPM
15:15 - 16:00	Meeting with DIR-TCPM
16:00 - 17:00	Preparation for the Meeting with the African Group

Thursday 2 October 1997

09:30 - 11:00	Meeting with the African Group
11:00 - 12:30	Preparation for the Tripartite Meeting (TCDC)
12:30 - 14:00	Lunch Break
14:00 - 15:00	Preparation for the Tripartite Meeting
15:00 - 17:00	Tripartite Meeting

Friday 3 October 1997

09:00 - 11:00	Follow-up actions on recommendations by the 8th Meeting of Representatives
11:00 - 12:30	AFRA FMC workplan 1997
12:30 - 14:00	Lunch Break
14:00 - 15:00	Minutes of AFM review
15:00 - 16:00	Finalize minutes and report

Minutes of the Meeting with the Vienna-based African Group
Room B0742, 9:00hrs - 11:30hrs

The meeting of the AFRA-FMC with the African Group in Vienna was convened on Friday 27 June 1997 and attended by representatives from the task force group (see list of attendees attached).

The AFRA Chairperson opened the meeting by welcoming and thanking the participants for honoring AFRA's invitation. He presented the agenda and commented on it. He also gave brief background on progress made so far on AFRA activities particularly on fund raising.

In his capacity as the Chairman of the African Group Task Force, Mr. John Davies took the floor, thanked the AFRA-FMC for inviting them and mentioned that the African Group is very keen in continuing to support AFRA activities. He reported on the progress made regarding the request to UNDP for funding AFRA. He also mentioned that letters were sent to potential donors by the Nigerian Permanent Mission on behalf of AFRA.

The AFRA Regional Projects Coordinator introduced the essential features of AFRA strategy for fund raising (see attached annex), as agreed upon by the 8th TWGM held in Hammamet, Tunisia, in April 1997.

The meeting discussed practical ways for the implementation of this strategy, particularly regarding the cash contribution from AFRA Member States. The concept and the content of the strategy were well received by the African Group who promised to lend support for its implementation.

Further discussions regarding the implementation modalities of this strategy will take place during the September meeting with the African Group.

The meeting recommended that the Troika approaches UNDP in New York for an urgent meeting to take place early September 1997. The objective is to clarify the position of UNDP regarding assistance to mobilize funds for AFRA and to acquaint UNDP staff with the potential of peaceful applications of nuclear techniques for socio-economic development in Africa.

The meeting also discussed the proposal for a Round Table meeting and decided to have a briefing meeting in September with potential donors who have already received AFRA documents and, eventually, to hold the Round Table meeting at the time of TACC meeting in November 1997.

MEETING A F R A - AFRICAN GROUP

27 June 1997

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