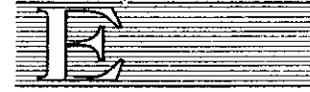




**UNITED NATIONS  
ECONOMIC AND SOCIAL COUNCIL**



**Distr.: Limited  
ECA/FSSDD/AB/S&T/00/13  
02 January 2001**

**ORIGINAL: ENGLISH**

---

**ECONOMIC COMMISSION FOR AFRICA**

**Report of the Third Meeting of the Advisory Board on  
Science and Technology**

**Addis Ababa, Ethiopia  
2-4 October 2000**

**ECAC  
ECA/FSSDD/AE  
/S&T/00/13  
R4255**

## **INTRODUCTION**

1. The Third Meeting of the Advisory Board on Science and Technology (ABST3) was held from 2 to 4 October 2000 at the Headquarters of the United Nations Economic Commission for Africa (ECA) in the United Nations Conference Centre, Addis Ababa (Ethiopia).
2. The meeting was attended by experts from Ethiopia, Cameroon, Ghana, Tunisia, South Africa, and Zimbabwe and by staff of the UNECA. A list of participants is provided in Annex.

## **OPENING OF THE MEETING**

### ***(a) Welcome statement (Agenda item 1)***

3. The meeting was formally opened by Ms. P.K. Makinwa-Adebusoye, Director of the Food Security and Sustainable Division of the Economic Commission for Africa. The Director welcomed the experts to the Third Meeting of the Advisory Board on Science and Technology. She expressed her appreciation for their commitment to effectively assisting ECA in streamlining its science and technology programme of activities so as to support the scientific and technological progress of Africa.
4. The Director observed that rapid technological progress and momentous globalization processes, resulting in an ever-increasing gap between the industrialized and developing world, pose great challenges for Africa. While many parts of the world benefit from an extended period of prosperity, economic growth and other positive transformations, Africa is still at the stage of trying to feed itself properly. Three out of four African countries produce less food per capita now than twenty years ago. In the Horn of Africa, including Ethiopia, several million peoples are now facing severe food shortages.
5. Ms Adebusoye noted that there has been a series of positive, sometimes spectacular, developments in science and technology application in Africa in the last few years. Rapid application of information and communication technology, including access to and use of the Internet, enables African countries to be connected to the rest of the world, while making them aware of the important technological innovations that significantly bear upon their countries' competitiveness. Many African countries are also paying particular attention to a host of valuable biotechnologies with great potential for improvement of the food security situation.
6. In this context, the Director asked what ECA can or should do to (i) successfully promote the absorption and diffusion of relevant new technologies; (ii) help jumpstart the African economy; (iii) support better management of the environment; (iv) increase food production and alleviate poverty; and (v) generally ensure sustainable development?
7. To this end, she proposed that the work programme be organized in four substantive sessions: (1) Report on ECA's Activities since the Second Meeting, (2) Advancement of the

ECA Science and Technology Network (ESTNET), (3) Review of Documents for Publications, (4) Key issues in Science and Technology: The Way Forward.

8. During the first session, she proposed that the Secretariat present a progress report on the Food Security and Sustainable Development Division's activities in the field of science and technology since June 1999. This includes the Division's organization and servicing of the First Meeting of the Committee on Natural Resources and Science and Technology (CNRST1) that took place in November 1999.

9. For the second session she suggested that the Secretariat report on the development activities carried out within the framework of the ECA Science and Technology Network (ESTNET). The report will highlight the current development efforts, including a draft newsletter that will be presented for comments. Members of the Advisory Board are all invited to directly contribute to the vitality of the network, its marketing, its use, its improvement, its expansion and its success.

10. While appreciating that time is short, she proposed that participants commence critical review of six monographs that are to be published. These were initially prepared by ECA consultants, resource persons and visiting scholars and may be widely distributed to the public and the African science and technology community through ESTNET. She said that the review work cannot be completed within the time allowed for this third session and that Board members will be expected to send written comments to ECA within an agreed time frame.

11. At the fourth session, she suggested that the meeting review and deliberate on a number of priorities identified for ECA's works by member States and Experts in the last couple of years, notably: (1) Information on best practices in science and technology policies from African countries; (2) Identification and exploitation of relevant expired patents, particularly those related to food security; (3) Description of S&T policies and profiles or National Innovation Systems of African countries; (4) Subregional training workshops on technology management; (5) Linking research to industries; and (6) Science and technologies relevant to the sustainable development of natural resources. She also proposed that the meeting discuss issues pertaining to the preparation of the second meeting of the Committee on Natural Resources and Science and Technology (CNRST2), which is scheduled to take place in October/November 2001. As the Work Programme of the Biennium 2002-2003 is expected to be submitted to UN Headquarters by November 2000, members of the Board are expected to initially review a draft Work Programme of the Biennium (2002-2003).

12. Ms Adebusoye concluded by expressing her gratitude and appreciation to all members of the Advisory Board for supporting ECA's work in the area of Science and Technology for Africa's development.

**(b) Adoption of Agenda and Programme of Work (Agenda item 2)**

13. The Chairman of the Advisory Board – Prof. Daniel Adzei Bekoe - chaired the meeting.

14. Mr. D. Mbah was elected Rapporteur of the Meeting.

15. Documents ECA/FSSDD/S&T/AB/S&T/00/1, ECA/FSSDD/S&T/AB/S&T/00/Info.1 and ECA/FSSDD/S&T/AB/S&T/00/Info.1/Add.1 were considered for this agenda item. After discussions the agenda was adopted as follows:

### 1. Organizational matters

- Adoption of the Agenda and Programme of Work
- Election of a Rapporteur

### 2. Substantive Sessions

- Session 1:** Report on ECA's activities since the second meeting  
**Session 2:** Advancement of the ECA Science and Technology Network (ESTNET)  
**Session 3:** Review of papers for publication  
**Session 4:** Key issues in science and technology: the way forward

### 3. Closing of the meeting

- Presentation and discussion of the draft report
- Adoption of report
- Closure

16. The Programme of Work was adopted with some minor changes.

17. Concerning the key issues in science and technology and the way forward for ECA, the Chair made a suggestion that each Board member present one issue/topic for FSSDD's work in the future. Those issues/topics will then be discussed by all Board members in Session 4.

## SUBSTANTIVE SESSIONS

### SESSION 1: REPORT ON ECA'S ACTIVITIES SINCE THE SECOND MEETING

18. The Secretariat presented a document (ECA/FSSDD/AB/S&T/00/9) on the activities carried out by ECA in science and technology since the last meeting of the Advisory Board, which was held in June 1999. The activities were grouped into four headings: (a) First Meeting of the Committee on Natural Resources and Science and Technology (CNRST1), (b) ESTNET development, (c) Papers, documents and monographs, (d) Other activities.

#### *(a) First Meeting of the Committee on Natural Resources and Science and Technology*

19. The Secretariat reported that the First Meeting of the Committee on Natural Resources and Science and Technology was held from 15 to 18 November 1999 at the UNECA Headquarters in Addis Ababa. The meeting was organized and serviced jointly by the Food Security and Sustainable Division (FSSDD) and the Regional Cooperation and Integration Division (RCID) of ECA in partnership with the United Nations Institute for Natural

Resources (UNU/INRA). Twenty-five member States and ten institutions were represented in the meeting.

20. Three topics were discussed at length and generated great interest: (a) Africa in the global arena: international commitments and national realities; (b) Strategic alliances in science and technology, and (c) National and regional systems of innovation. In addition to these substantive issues a panel discussion was held on competitiveness, sustainability and integration in the development and use of science and technology and natural resources in Africa.

21. Members of the Advisory Board suggested that the lectures given at the meeting of the Committee should be replicated around Africa at regional and subregional meetings in order to ensure a wide dissemination of the conclusions and reach a large audience. More African experts and policy makers should benefit and take advantage from the conclusions and findings of such events and lectures. However financial resources are limited and FSSDD should look for ways to ensure that the conclusions of the meeting have beneficial impacts on member States.

22. The organization of CNRST1 had a limited budget and the lectures could not be replicated elsewhere. In order to achieve the objective of reaching a larger audience, the recommendations of CNRST1 will be posted on the ESTNET web site. Moreover, the report with conclusions and recommendations will be sent to SRDCs and will be considered for inclusion in their programme of activities.

23. African experts and policy makers in Africa should further improve their capacity of exchanging and sharing information. Even if the current situation is substantially better than what it used to be, it could still improve to benefit the development of science and technology in African countries.

24. It was also reported by Board members that some countries could not participate in the CNRST1 because the invitation letters arrived too late. Members of the Board emphasized the need for invitation letters to be sent to Ministries of Foreign Affairs with copies to Focal Points for science and technology in member States and copies to Board members.

25. As regards the follow-up of the CNRST1 and the preparation of the second meeting of the Committee Board members urged the Secretariat to start negotiations immediately with the Government of Tunisia, which offered to host the meeting.

*(b) ESTNET Development*

26. The Secretariat presented a document (ECA/FSSDD/AB/S&T/00/9) on the main activities carried out within the framework of the ECA Science and Technology Network (ESTNET).

27. It was reported that some promotion activities were carried out in ECA and that ESTNET has been accorded a high priority in FSSDD (top 20% priority item). Although not a traditional activity of the ECA the ESTNET project is supported by top management and FSSDD has received some funds for its initial development. More funds may be available later. ESTNET has been incorporated into the ECA Mid-Term Plan (2002-2005), into the

Partnership Africa's document and is proposed in the programme of work of the next Biennium (2002- 2003). ESTNET is also mentioned in some of the Executive Secretary's speeches.

28. It was also reported that ESTNET has been promoted in some member States. Opportunities have been seized to present the ESTNET project at the CNRST1 meeting. Presentations were also made at national seminars in Ethiopia and Lesotho. ECA has also communicated with a number of selected member States to inform them about the ESTNET project and to generate interest and support.

29. Regarding the mobilization of funds for further development, a project proposal has been drafted to raise resources. The funds would be used to further develop the databases and for other activities.

30. The Meeting was also informed that ECA has supplied computer systems to Ethiopia and Cameroon. Lack of financial resources prevented ECA from supporting other countries with the necessary infrastructure to access ESTNET.

31. The Board agreed that ESTNET is a positive and welcome development of ECA activities and should therefore be given high priority.

32. Advisory Board members were concerned about the inadequacy of funds (\$63,400) proposed in the project proposal for the development of ESTNET. The Secretariat explained that this amount was expected to be made available from in-house resources for the development of phase II of ESTNET, and that a lot more funds will be needed to make ESTNET a viable project. It is estimated that about one million dollars (\$1,000,000) of extra-budgetary funds would be required to fully develop the network and to reach the fifty-three member States.

*(c) Papers and documents*

33. The Secretariat reported on a number of papers, documents and monographs that were produced with the assistance of consultants, resource persons and visiting fellows. Six documents were distributed to participants for comments and assessment.

34. Time constraints led to the recommendation that two priority papers, "Technological Transitions: Technical Upgrading of Indigenous Food Technologies in Africa" and "Management of Technology in Newly Industrialized Countries: Lessons for Africa", be examined while the remaining four papers are examined by Board members upon their return from ECA. A third paper, "Natural Resources and Technology: Competitiveness and Sustainable Development in Africa", was subsequently added to the two priority papers.

*(d) Other activities*

35. The Secretariat reported that ECA is in the process of upgrading and strengthening its Science and Technology Team. The recruitment of a Scientific Affairs Officer at P-3 level was completed at the end of April. In addition ECA is in the process of recruiting a Senior

Scientific Affairs Officer at P-5 level and a Senior Regional Adviser in Science and Technology. The process should be completed before the end of the year or early next year.

36. It was also reported that ECA is in the process of disengaging itself from many sponsored institutions, such as the African Regional Center for Technology (ARCT). Concerning the status of the Center, it was stated that ECA-sponsored institutions have been classified into three categories. ARCT has been classified into the second category and is expected to merge with ARCEDEM in order to strengthen its capacity and better serve its member countries. The merger has not yet been effected. The ECA position is that if there is no merger, ARCT will be allowed to evolve on its own.

37. As regards cooperation and liaison with member States, key international, regional and subregional intergovernmental and non-governmental institutions in science and technology the Secretariat informed participants that lack of resources had limited the activities carried in this area. As regards technical cooperation only two advisory services (to the governments of Lesotho and Ethiopia) were provided.

38. The Secretariat also noted that the Science and Technology Team made various contributions to the activities of the Food Security and Sustainable Development Division and the ECA, including a contribution to the PEDDA model – a computer-assisted model that simulates the long-term interrelationships between Population, Environment and Agriculture and their impacts on food security. The Team also contributed to a key document that is being prepared by the Division and that analyses the issues related to the nexus. The title of the document is “Linkages of population, environment and agriculture in Africa’s food security and sustainable development”.

39. Advisory Board members expressed an interest in having the PEDDA model presented to them. In compliance with the request, the Secretariat made arrangements for the model to be presented. Among the issues raised in the subsequent discussions was that of the validity of the model.

## **SESSION 2: ADVANCEMENT OF THE ECA SCIENCE AND TECHNOLOGY NETWORK (ESTNET)**

40. The Secretariat reported on the main activities carried out within the framework of ESTNET. It reported on the following: (a) a draft ESTNET Newsletter, (b) the ESTNET website, (c) the mobilization of funds

### *a) Draft ESTNET Newsletter*

41. The Secretariat presented a draft ESTNET newsletter (document: ECA/FSSDD/AB/S&T/00/11).

42. Members of the Board were invited to review the structure and contents of the ESTNET Newsletter. Participants asked what was its primary target as this is important regarding its form and content. They suggested separating the contents meant for the internal audience and

the contents for external users. Contents for the first issue may be too much for a newsletter meant for policy-makers.

43. Board members suggested producing two newsletters with the material contained in the draft. The first issue should be an easy reading introductory note, which should be sent to all potential users of ESTNET. Later issues may focus on the various aspects of ESTNET, one at a time. This would make it easier for absorption by busy policy-making readers.

44. The utilitarian aspects of ESTNET should be emphasized in the first issue.

45. The link and focus on Food Security and Sustainable Development should be highlighted in both the newsletter and website. Use of 'Africa' should be explained at the first instance in the website.

#### *b) The ESTNET Website*

46. The Secretariat gave a PowerPoint presentation (document: ECA/FSSDD/AB/S&T/00/10) on the current status of the ESTNET website. It was noted that the PowerPoint presentation will be improved and will be used for other meetings, seminars and conferences.

47. The presentation was structured in four parts: (a) ESTNET: What it is and for what...?; (b) ESTNET development work; (c) Overall site comments / explanation; and (d) What is next?

#### ESTNET: What is it and for what...?

48. ESTNET stands for ECA Science and Technology Network. It is web-based and a comprehensive 'one-stop-shop' or a virtual resource center for accessing and sharing information and knowledge, and for collaborating on issues related to science and technology policy, strategy and management in Africa. ESTNET is needed for improved access to adequate and relevant information in order to develop effective policy in an increasingly knowledge-based and complex global economy. It is also needed for better communication, interaction and cooperation among African science and technology policymakers and their respective institutions as well as between them and the outside world.

49. What is expected from ESTNET? It is expected that ESTNET will contribute to (1) speedy and timely access to relevant information, (2) improved communications and interactions among the science and technology policy-making community; (3) a reduction of reproduction and dissemination costs of documents; (4) an enhancement of regional cooperation; (5) support African scientists expatriates wishing to stay in touch with their colleagues in Africa; and (6) opportunity to participate in a learning community of S&T policy-makers.

#### On ESTNET Development Work

50. ESTNET was initiated in 1998 by an Expert Group Meeting convened by the ECA. Since then, a web site and various databases are being developed and several promotion activities are carried out. It is designed to meet specific needs. It is developed as a comprehensive portal or gateway that will save time and money for African users who often have limited

experience with information and communication technologies (ICT) and the Internet; do not have up-to-date computers and other hardware and are subject to slow transmission speeds; suffer from unreliable power supply; and have to pay expensive telephone and Internet communication charges.

#### Overall Site Comments/Explanation

51. ESTNET's design presents professional and aesthetically pleasing look utilizing African graphics elements. Its functionality utilizes modern web technologies to minimize administrator role and user pains. Its navigation system is designed for ease of use and intuitive browsing. Features of the site include: (1) Posting or uploading; (2) E-Discussion Forums; (3) Guest Book; (4) Best Practices Search, and (5) A clickable map.

#### What is next?

52. Future activities will aim at (1) paying greater attention to the issues of manageability and sustainability; (2) securing extra-budgetary funding; (3) developing further the databases, particularly the African content; (4) mobilizing collaborative partnerships with member States and institutions; (5) marketing the Network to potential users (Newsletter, CD-ROM, banners, etc.); and (6) improving and maintaining the website.

53. The Board expressed its appreciation to the Secretariat for the quality of the work already done towards the development of the Website. During the discussions, it was noted that the concept of "one-stop-shop" could be misleading and need further elaboration.

54. It was noted that the dichotomy of the databases - African Science and Technology Community and non-African Science and Technology Community poses some problems and some suggestions were made. It was also noted that the African content on science and technology was either weak and or not readily accessible for many countries. A call was made to the Board to help update the information and maintain the website and to get feedback especially from potential users.

55. There is a need to reformulate bullets 1 and 3 of Slide 8 to remove the negative connotations and eliminate bullet 2. A Board member provided a reformulated version of the slide.

56. Members of the Board were given the opportunity to browse the Website in small groups with the assistance of the ESTNET Team.

57. It was noted that some entries in the databases were wrongly categorized and that further work need to be done in this regard.

58. It was proposed that at this moment the members of the Advisory Board would serve as the ESTNET steering Committee so as to ensure that they are able to meet as this Board is already well established.

### Mobilization of funds

59. The Secretariat presented a document (ECA/FSSDD/AB/S&T/00/2) on the mobilization of funds for further development and maintenance of ESTNET.

60. A project proposal has been drafted to raise \$63,400 for the implementation of phase II of the project. The funds would be spent: (1) to improve upon the existing ESTNET website; (2) to expand and further develop the databases with particular emphasis on African countries' needs; (3) to enhance and promote connectivity through financial assistance to the S&T focal points of selected member States; (4) to train the network operators; (5) to launch and market the network, (6) to update the information and maintain the site, and (7) to assist member States in utilizing and benefiting from the network.

61. Members of the Advisory Board expressed the opinion that much more funding will be needed to make ESTNET a regional project serving the whole African science and technology policy-making community.

62. Participants emphasized the need to develop a marketing strategy for ESNET and to earmark substantial resources for this activity.

63. As regards training it was underlined that, in addition to the ESTNET Team, member States also need to be trained on ESTNET in order to benefit as much as possible from it. If this training is not carried out participants expressed fears that more non-Africans will use and take advantage of the network than Africans.

### **SESSION 3: REVIEW OF PAPERS FOR PUBLICATION**

64. The Secretariat introduced the following papers for critical review and evaluation:

- a) Management of Technology in Newly Industrializing Countries: Lessons for Africa.
- b) Technological Transitions: Technical Upgrading of Indigenous Food Technologies in Africa.
- c) Technological Capability Building in the South: Lessons and Opportunities for Sub-Saharan Africa.
- d) Investing in Science and Technology in Africa: Policy Options for the 21<sup>st</sup> Century.
- e) Science and Technology for African Development.
- f) Natural Resources and Technology: Competitiveness and Sustainable Development in Africa.

65. During the discussions that followed, the following issues were raised:

- a) Management of Technology in Newly Industrializing Countries: Lessons for Africa:

66. The title of the paper should be "Management of Technology in Korea and other Newly Industrializing Countries: Lessons for Africa", since the emphasis of the paper is on the Korean experience.

67. The intention of the review was to provide comments on the suitability of the papers for publication and whether there should be an introductory section. Another issue was that in a situation where the papers have been seriously edited, whether the papers could be published under the names of the authors.

68. The paper was considered a very challenging and useful paper. What was considered most important was not only the number of critical technological issues raised by the paper but also the way in which these issues have been weaved together.

69. Two of the issues which raised much discussions were "brain drain" and "crisis construction". Brain drain is a problem that many African countries are facing, as African scientists abroad need to be attracted back home in the process of industrialization. It is in this context that the paper underscored the importance of reverse brain drain in this process of industrialization in Korea. However, a question which was raised was "At what point should a country make a conscious effort to bring its scientists back home".

70. Although the meeting was not very comfortable with the term "crisis construction" used in the paper, it however agreed that precipitating a crisis in order to challenge industry to rise up to the technological and industrial expectations of a country is a suitable way of bringing about technological development.

71. The concept on technological learning adopted by Korea was similar to the process in many African countries while technological transfer through FDI in Korea is also relevant to African countries.

72. It was also felt that mastering and using existing technologies as a starting point in technological development of a country was more important than the acquisition of a large number of imported technologies.

73. An important issue which was raised is whether Africa can leap frog some of the technological stages which Korea went through.

74. Board members also raised the issue of the relevance of a Ministry of Science and Technology for formulating and implementing strategies in science and technology.

75. It was noted that transfer of technology from R&D institutions to industry did not appear to feature much in the Korean transformation.

76. It was also observed that the role of information technology in development is missing from the report.

77. The meeting felt that the paper did not mention the situation of the natural resources of Africa when dealing with the science and technological development in the region. In this connection, although the meeting underscored the importance of natural resources and the need to apply science and technology to develop them for food security and economic development, a question about their long-term role in economic development was raised. Are there any success stories based on the development of natural resources alone?

78. Another point not mentioned in the paper is the question of choices that were made in Korea and who made them. The meeting was of the view that choices have to be made by some body during the process of technological development.

79. In conclusion, the meeting agreed that the paper was a very dense and challenging one and that it should be published.

b) Technological Transitions: Technical Upgrading of Indigenous Food Technologies in Africa.

80. The document was rated good with appropriate examples of best practices. The two case studies on fish and crop technology were very welcome. An additional case study on meat products would be appropriate. In addition to technology identification the document could also discuss technology generation, including issues of research and development.

81. Funding for the research on upgrading indigenous food technologies was donor-driven. This type of funding usually does not support technological development.

82. The Board advised that the document require additional editorial work and proofreading before it is submitted for publication.

c) Natural Resources and Technology: Competitiveness and Sustainable Development in Africa.

83. The Board pointed out that the importance of human capital development and the fact that natural resources alone are not sufficient were well articulated in the document. However, the board also noted that the document does not deal with the way natural resource-based industry can be used for longer-term development.

84. The Board also noted that there was overlapping with three other documents and that this should be minimized.

85. The Board agreed that the document require a great deal of editorial work before it can be published.

d) The other documents

86. The Board agreed that the three other documents should be dealt with by electronic mail. Comments and assessments should be received by the Secretariat by the end of October 2000.

87. The need to send such documents for review well in advance to members of the Board was emphasized. It was proposed that if documents can not be sent in advance for some reasons then the Secretariat should bring members of the Board to the venue a day before the meeting in order to allow enough time to participants to read the documents.

#### **SESSION 4: KEY ISSUES IN SCIENCE AND TECHNOLOGY: THE WAY FORWARD**

##### *Issues for the preparation of the programme of work for the Biennium 2002-2003*

88. The Secretariat presented the proposed programme of activities in science and technology for the biennium 2002-2003 (ECA/FSSDD/AB/S&T/00/13). The activities aim at assisting member States in building an endogenous scientific and technological capability to address Africa's socio-economic development, particularly as it relates to food security and sustainable development. The activities aim at strengthening member States' cooperation in tackling regional and subregional issues in science and technology through two Ad Hoc Experts Group meetings and one meeting of the Committee on Natural Resources and Science and Technology (CNRST3).

89. The activities also include publications on key issues of interest to member States, such as policy briefs. It also include advocacy work, awareness raising, networking through the ECA Science and Technology Network (ESTNET) and technical cooperation through advisory services to member States and regional or subregional organizations. The activities will also strengthen international cooperation and inter-agency co-ordination, harmonization and liaison with institutions and organizations concerned with science and technology for the sustainable development of Africa.

90. The Secretariat proposed one non-recurrent publication for the Biennium. The title of the publication would be: "Globalization and National Systems of Innovation in Africa: Some Critical Issues". The publication will provide understanding of the conditions under which African economies are affected by the current knowledge-intensive globalization process. It will identify some key issues and trends as well as some policy options that favor technological capability building and innovation. The publication will also provide guidelines and methodologies for analyzing the strengths and weaknesses of national systems of innovation in Africa and will encourage African countries to take specific measures to strengthen their capacities to innovate and compete on the global scene.

91. The expected results of the proposed programme of activities are: (1) Enhanced member States awareness and commitment to apply science and technology effectively to ensure food security and sustainable development; (2) Promoted sound and effective science and technology policies and strategies for Africa's socio-economic development; (3) Shared relevant information, knowledge and best practices on science and technology issues and challenges and improved communication amongst science and technology community; (4) Strengthened partnerships between ECA and its member States; (5) Coordinated activities between ECA and other relevant development institutions in the area of science and technology

92. After explanations from the Secretariat the Advisory Board was in general agreement with the proposed programme. However it suggested that the Policy Brief be devoted to the substantial issue of ESTNET and the formulation of an information strategy for science and technology policy-makers and managers in Africa

*Issues and preparation for Second Meeting of the Committee on Natural Resources and Science and Technology (CNRST 2).*

93. The presenter of this item indicated that CNRST 2 is scheduled to take place in October/November 2001. He invited participants to provide ideas on how ECA can most effectively frame the discussions on the three themes identified at the first meeting of the committee. These themes are: (1) Enhancing Africa's competitiveness: Policy issues, (2) New and emerging technologies and Africa's natural resources, and (3) Enhancing science and technology systems to promote Africa's natural resources.

94. Participants suggested that a panel discussion on natural resources be held during the meeting. In discussions on possible sub-themes, a number of issues related to the role of natural resources in development were raised. There may well be a correlation between natural resources and sustainable development, but the relationship need not be a negative one. Cases in which natural resources are seen as a burden should be well documented and the causes of such a burden explored. The role of natural resources in the development process needs to be closely examined. The South African experience in mining could be usefully presented by an expert from South Africa who could give a good overview and perspective on the subject.

95. It was suggested that natural resources could be subdivided into (1) agriculture and natural resources or more appropriately renewable land resources (2) mineral resources and (3) marine resources, so that each can be looked at in detail.

96. Finally, a number of possible sub-themes were proposed for the panel discussion: (1) Natural resources in long term development, (2) New and emerging technologies for adding value, and (3) Transition from natural resource-based to knowledge-based economy. It was underscored that each presenter of the sub-themes be fully informed of the content to be treated by the other presenters in order to avoid repetition.

*Other key issues for consideration*

97. The issues related to the application of modern biotechnology and the 'biological revolution' should received greater attention from ECA.

## **1. CLOSING SESSION**

98. The Rapporteur presented a short draft report to the meeting for discussion. The report focused on recommendations. After discussion the following recommendations were adopted.

## **RECOMMENDATIONS**

**First Session:** Report on ECA's Activities in Science and Technology since the Second Meeting

99. After considering the report presented by the Secretariat, the Board discussed issues related to the first meeting of the Committee on Natural Resources and Science and Technology (CNRST1) and its follow up and issues related to the edition of documents.

100. Regarding the First Meeting of the (CNRST1), the Board recommended:

1. That the ECA Secretariat solve problems due to late arrival of invitations by sending invitations to Foreign Ministries with copies to target Ministries, Board members and Focal Points in member States
2. That, as a follow up to the first meeting, contacts be undertaken immediately with the Foreign Ministry of Tunisia for the organization of the second meeting of the Committee (CNRST2)
3. That terms of reference for resource persons specify page limits for expected documents

**Second Session:** Advancement of the ECA Science and Technology Network (ESTNET)

After considering the various documents presented by the Secretariat the Board discussed issues related to the ESNTET initiative, the ESTNET website, a draft ESTNET Newsletter and a project proposal to raise funds.

101. Regarding the ESTNET project

4. The Board strongly supports the ESTNET project given its enormous potential for promoting the development of science and technology on the African continent and recommended that additional and more substantial funding be sought from other sources, such as OECD and the meeting of donors soon to take place in Addis Ababa.

102. Regarding the ESTNET Newsletter, the Board recommended:

5. That given the amount of information contained in the draft newsletter, two newsletters be produced: a detailed one for science and technology Focal Points and a brief and lighter one for the general user public
6. That the newsletter be more detailed as regards the utilitarian aspects of ESTNET
7. That the newsletter be sent to as many institutions as possible
8. That the role of ESTNET in the promotion of food security and sustainable development be made more explicit

103. Regarding the ESTNET website, the Board recommended:

9. That corrections on the website be implemented after a critical review is carried out and that the website be launched as soon as possible
10. That member States be solicited to submit the information needed for its further development
11. That Board members assist the Secretariat in identifying potential consultants to further develop the ESTNET databases
12. That Board members contribute to the gathering of information in their respective countries to be included in the databases of ESTNET, with special reference to information not available on the Internet

104. Regarding mobilization of funds, the Board recommended:

13. That a project proposal be developed with a more realistic budget to raise more substantial resources from sources such as the meeting of donors which will soon take place in Addis Ababa and also from OECD
14. That staff training should include one or two persons per member State, particularly policy-makers. Sufficient resources should be budgeted for training to be conducted within the five subregions

**Session Three:**      Review of documents for publication

After being presented by the Secretariat the Board exchanged views related to the edition and publication of a number of documents and monographs on science and technology for Africa's development. These documents were prepared with the assistance of resource persons, visiting fellows and experts. After discussion:

105. The Board recommended:

15. That the two top priority documents, "Technological Transitions: Technical Upgrading of Indigenous Food Technologies in Africa", and "Management of Technology in Newly Industrialized Countries: Lessons for Africa", be submitted for publication subject to corrections as suggested by the Board.
16. That the document, "Natural Resources and Technology: Competitiveness and Sustainable Development in Africa", needs more work by the author and the editor before it can be submitted for publication
17. That the other three documents be reviewed by Board members during October and that comments and assessments be communicated to the Secretariat through e-mail

18. That for future reviews of documents for publication, the documents be sent sufficiently well in advance in order to allow participants enough time to study them before the meeting, or that participants be given one full day for preparation before the meeting starts

**Session Four:** Key issues in Science and Technology: The way forward

After being introduced by the Secretariat the Board examined a number of issues related to the suggested programme of work of FSSDD in science and technology for the Biennium 2002/3 and for the preparation of the 2<sup>nd</sup> meeting of the Committee on Natural Resources and Science and Technology.

106. Regarding the proposed programme of activities for the Biennium 2002-2003, the Board recommended:

19. That for the proposed recurrent publications the Policy Brief be substantive on information strategy and ESTNET, while the two proposed newsletters provide general news on ESTNET

107. Regarding preparation for the Second Meeting of the Committee on Natural Resources and Science and Technology (CNRST2), the Board recommended:

20. That the meeting include a panel discussion structured in three subthemes as follows: (1) Natural resources in long term development, (2) New and emerging technologies for adding value, and (3) Transition from natural resource-based to knowledge-based economy
21. That presenters of the subthemes be fully informed of the content to be treated by the other presenters in order to avoid unnecessary overlapping

**Adoption of report**

108. After the adoption of the short report presented by the Rapporteur the Board agreed that the full draft report will be completed by the Secretariat within ten days and circulated to the Board members for comments before being finalized.

**Closure**

109. The meeting was officially closed by the Director of the Food Security and Sustainable Development Division. The Director expressed her gratitude to the Board members for honoring her invitation and for contributing the ECA science and technology work programme. She also thanks her colleagues of the Secretariat for their support in organizing and servicing the meeting.

**Annex I**

**LIST OF PARTICIPANTS**

Dr. Akuro David Mbah  
Technical Adviser and Acting Director  
Office of the Minister and Division of Valorization and Technological Development  
Ministry of Scientific and Technical Research (MINREST)  
P.O. Box 1457Yaounde  
Cameroon  
Tel.: (237) 22 48 13/23 54 67  
Fax: (237) 22 1336  
E-mail: [dambah@sdncmr.undp.org](mailto:dambah@sdncmr.undp.org)

Dr. Beyene Kebede  
Agriculture and Environment Department  
Ethiopian Science and Technology Commission  
P.O. Box 3409Addis Ababa,  
Ethiopia  
Tel.: (251-1) 612633/15 55 04  
Mobile (09)203867  
Fax: (251-1) 611222/51 88 29  
E-mail: [artp@telecom.net.et](mailto:artp@telecom.net.et)

Professor Daniel Adzei Bekoe  
Ghana Academy of Arts and Sciences  
P.O. Box CT 3383, CANTONMENTS  
Accra; Ghana  
Tel.: (233-21)77 40 20  
Fax: (233-21)77 31 76  
E-mail: [dabekoe@ug.edu.gh](mailto:dabekoe@ug.edu.gh)

Dr. Mashupye Ratale Kgaphola  
Centre for Academic Development  
University of Venda for Science and Technology  
Private Bag x5050, Thohoyandou, 0950  
South Africa  
Tel.: (27-15) 9628150/(27-13) 269-0673  
Mobile (27-82) 27-82-842-4581  
Fax: (27-15) 9624742/4749  
E-mail: [kgaphola@univen.ac.za](mailto:kgaphola@univen.ac.za)

Prof. Mohamed Refaât Chaâbouni  
Ecole Nationale d'Ingénieurs (ENIT)  
BP 37 1002 le BelvédèreTunis  
Tel.: (216-1) 874 700  
Fax: (216-1) 872 729  
E-mail: [refaat.chaabouni@enit.rnu.tn](mailto:refaat.chaabouni@enit.rnu.tn)

Prof. C.J. Chetsanga  
Director General  
Scientific & Industrial Research & Development Centre (SIRDC)  
Home: 14 Northwood Rise, Mount Pleasant  
P.O. Box 6640  
Harare, Zimbabwe  
Tel : (263-4) 860320-9/860330-3/860351  
Fax : (263-4) 860351/860356  
E-mail: [cjchetsanga@sirdc.ac.zw](mailto:cjchetsanga@sirdc.ac.zw)  
[Http://www.sirdc.ac.zw](http://www.sirdc.ac.zw)

## **ECA SECRETARIAT**

Prof. P. K. Makinwa-Adebusoye  
Chief, FSSDD  
P. O. Box 3001  
Addis-Ababa, Ethiopia  
Tel: 251-1-517200  
Fax: 251-1-514416  
E-mail: [pmakinwa-adebusoye@uneca.org](mailto:pmakinwa-adebusoye@uneca.org)

Mr. Jacques. Louis Hamel  
Scientific Affairs Officer  
Team Leader, Science & Technology Team, FSSDD  
ESTNET Team Leader  
P. O. Box 3001  
Addis-Ababa, Ethiopia  
Tel: 251-1-517200  
Fax: 251-1-514416  
E-mail: [jhamel@uneca.org](mailto:jhamel@uneca.org)

Ms. Kim Seok-Ran  
Scientific Affairs Officer  
P.O. Box 3001  
Addis Ababa, Ethiopia  
Tel: 251-1-517200  
Fax: 251-1-514416  
E-mail: skim@uneca.org

Mr. Don Oben  
Economic Affairs Officer, FSSDD  
P. O. Box 3001  
Addis-Ababa, Ethiopia  
Tel: 251-1-517200  
Fax: 251-1-514416  
E-mail: doben@uneca.org

Mr. Abdoulaye Niang  
Senior Economic Affairs Officer, FSSDD  
P.O. Box 3001  
Addis-Ababa, Ethiopia  
Tel: 251-1-517200  
Fax: 251-1-514416  
E-mail: aniang@un.org

Mr. Ousmane Laye  
Team Leader on Environment, FSSDD  
P. O. Box 3001  
Addis-Ababa, Ethiopia  
Tel: 251-1-515761  
Fax: 251-1-514416  
E-mail: olaye@uneca.org

Mr. George Abalu  
Regional Adviser, FSSDD  
P. O. Box 3001  
Addis-Ababa, Ethiopia  
Tel: 251-1-516336  
Fax: 251-1-514416  
E-mail: gabalu@uneca.org

Mr. Evans Mwangi  
Regional Adviser on Environment, FSSDD  
P. O. Box 3001  
Addis-Ababa, Ethiopia  
Tel: 251-1-517200  
Fax: 251-1-514416  
E-mail: emwangi@uneca.org

Mr. Moulie A. Gibril  
TAS Specialist, FSSDD  
P.O. Box 3001  
Addis-Ababa, Ethiopia  
Tel: 251-1-517200  
Fax: 251-1-514416  
E-mail: mgibril@uneca.org

Mr. Kodjo Abassa  
Economic Affairs Officer, FSSDD  
P.O. Box 3001  
Addis Ababa, Ethiopia  
Tel: 251-1-517200  
Fax: 251-1-514416  
E-mail: kabassa@uneca.org

Mr. A. Lamine Gueye  
Team Leader on Population, FSSDD  
P. O. Box 3001  
Addis-Ababa, Ethiopia  
Tel: 251-1-517200  
Fax: 251-1-514416  
E-mail: lgueye@uneca.org

Mr. Maurice Tankou  
Team Leader on Agriculture, FSSDD  
P. O. Box 3001  
Addis-Ababa, Ethiopia  
Tel: 251-1-517200  
Fax: 251-1-514416  
E-mail: mtankou@uneca.org

Ms. Donatella Giubilaro-Demonio  
Associate Economic Affairs Officer  
P. O. Box 3001  
Addis-Ababa, Ethiopia  
Tel: 251-1-517200  
Fax: 251-1-514416  
E-mail: [dgiubilaro-demonio@uneca.org](mailto:dgiubilaro-demonio@uneca.org)

Mr. Georges Reniers  
Associate Expert, FSSDD  
P.O. Box 3001  
Addis-Ababa, Ethiopia  
Tel: 251-1-517200  
Fax: 251-1-514416  
E-mail: [greniers@uneca.org](mailto:greniers@uneca.org)

Mr. Asefa Gorfu  
Consultant, Information Management  
(DISD/ECA)  
P. O. Box 3001  
Addis-Ababa, Ethiopia  
Tel: 251-1-517200  
E-mail: [gassefa@uneca.org](mailto:gassefa@uneca.org)

Ms. Anat Lewin  
Information Technology Consultant  
P.O.Box 3001  
Addis Ababa, Ethiopia  
Tel.: 251-1 51 72 00 Ext:33303  
Fax: 251-1 51 10 20  
E-mail: [alewin@uneca.org](mailto:alewin@uneca.org)

Ms.Aster Gebremariam  
Information Technology Consultant  
P.O.Box 3001  
Addis Ababa, Ethiopia  
Tel.: 251-1 51 72 00 Ext.: 33231  
Fax: 251-1 51 10 20  
E-mail: [agebremariam@uneca.org](mailto:agebremariam@uneca.org)

Mr.Melliodyt Mwangi  
Economic Affairs Officer  
Development Management Division  
Tel: 251-1-517200  
E-Mail: [mmwangi@uneca.org](mailto:mmwangi@uneca.org)