



**REPORT OF THE FIRST MEETING OF THE
INTER-GOVERNMENTAL COMMITTEE ON
AFRICAN SCIENCE, TECHNOLOGY AND
INNOVATION INDICATORS (ASTII)**

**17-18 SEPTEMBER 2007
MAPUTO, MOZAMBIQUE**

CONTENTS

Introduction	2
Attendance	2
Chairmanship	2
Opening ceremony	
Terms of reference for the intergovernmental committee on ASTII	5
Election of committee bureau of the inter-government committee on STI indicators	5
Role of indicators in science, technology and innovation policy making and implementation	6
Experiences in developing and using science, technology and indicators	6
African guidelines for science, technology and innovation indicators	7
Criteria for selecting countries to participate in the pilot STI indicators surveys	8
Work plan October 2007-October 2009	9
Consideration and adoption of decisions	10
Date and venue of the next meeting	10
Closing Ceremony	11
Annex I : List of Participants	p.12
Annex II : Agenda	p.23
Annex III : Terms of reference for the intergovernmental committee on ASTII	p.24
Annex IV : Criteria for selecting countries to participate in the pilot STII surveys	p.25
Annex V : Work plan October 2007-October 2009	p.26

INTRODUCTION

1. The first meeting of the Inter-Governmental Committee on African Science, Technology and Innovation Indicators (ASTII) took place from 17 to 18 September, 2007, in Maputo, Republic of Mozambique. The Meeting was organized by the New Partnership for Africa's Development (NEPAD) Office of Science and Technology (OST).
2. The meeting was attended by representatives of twenty-nine African Union (AU) Member States, and representatives of the Southern African Development Community (SADC), the African Development Bank (AfDB), the United Nations Educational, Scientific and Cultural Organisation (UNESCO), the United Nations Economic Commission for Africa (UNECA), the Organization for Economic Cooperation and Development (OECD), the University of Lund, the University of Pretoria, the Human Sciences Research Council (HRSC) of South Africa, the International Food Policy Research Institute (IFPRI), and Steadman Company. The list of participants is attached to this report as **Annex I**.

CHAIR

3. Prof. Berrah of the Republic of Algeria chaired the meeting while Dr. Marcelino Lucas, the National Director of Planning the Ministry of Science and Technology of Mozambique was the programme director.

OPENING CEREMONY

Welcoming Remarks – Dr. Lohero

4. In his welcoming remarks, Dr. Lohero, Director of Mozambique's National Institute for Statistics, stated that Mozambique was privileged to host the first meeting of the Inter-governmental Committee on ASTII. He recalled that the NEPAD Ministerial Conference on Science & Technology of November 7, 2003, in South Africa endorsed the compilation of indicators for scientific research, technological development and innovation activities. He therefore viewed the Maputo meeting as an opportunity for African countries to conclude discussions on modalities for rolling-out a continent-wide programme on science, technology and innovation indicators.
5. Dr. Lohero explained that information technology was key to national and continental development agendas. He called on African leaders to pay special attention to the development of STI indicators in their respective countries so as to effectively monitor progress towards the attainment of NEPAD and the United Nations Millennium Development Goals (MDGs).

6. He highlighted the role of the National Statistics Institute of Mozambique in the collection and dissemination of STI indicators. He said Mozambique views the collection indicators as an indispensable tool in the socio-economic development of the country. Mozambique was therefore keen to share its experiences and to learn from other countries. In concluding, he wished all the delegates a pleasant and memorable stay in Mozambique.

Welcoming Address by Dr John Mugabe

7. Dr. Mugabe, Director, NEPAD Office of Science and Technology welcomed delegates on behalf of NEPAD. He thanked the Government of the Republic of Mozambique for hosting the meeting. He also thanked the countries' representatives and international partners for having found time to attend the meeting.

8. Dr. Mugabe gave an overview of the evolution of the ASTII Initiative. He said that at the first NEPAD Ministerial Conference on Science and Technology, held in November 2003, African countries endorsed the compilation of indicators for scientific research, technological development and innovation activities to inform policy making. The second ministerial conference held in September 2005 decided that an inter-governmental committee be established to agree on a common framework for compiling STI indicators. In response to this decision, the NEPAD Office of Science and Technology designed a programme for ASTII and the production of an African Innovation Outlook (AIO). A number of studies were commissioned. An experts' working group was also created to provide intellectual support to development of ASTII Initiative. ASTII Initiative is embodied in the AU/NEPAD Science and Technology Consolidated Plan of Action (CPA).

9. Dr. Mugabe further informed the meeting that African leaders have agreed that when countries undertake peer review of their political and economic governance, science, technology and innovation considerations should be taken into account (i.e. STI indicators should be mainstreamed into the African Peer Review Mechanism (APRM)).

10. Dr Mugabe elaborated on the expected outcomes of the meeting which included:

- Agreement on the process for producing guidelines for collecting STI indicators;
- Agreement on common definitions;
- Agreement on the criteria for selecting pilot countries;
- Agreement on a common work plan with appropriate timeframes and indicative outputs and responsibilities;
- Use the Intergovernmental meeting as a platform for sharing experiences in conducting surveys on STI and developing related policies.

Opening Remark by the Minister - Prof. Dr. Venancio Simao Massingue

11. In his opening speech, the Honourable Professor Dr. Venancio Simao Massingue, the Minister of Science and Technology of Mozambique, welcomed the participants and thanked NEPAD for bringing the meeting to Mozambique. He said that the meeting was important because it will help create awareness and understanding about the role of science, technology and innovation in socio-economic development of African countries. He challenged the scientific community to demonstrate to society that science and technology can positively impact on social change and sustainable development. He reiterated the importance that the Government of the Republic of Mozambique has attached to science, technology and innovation.

12. The Minister also said that intergovernmental meeting draw its mandate from the AU Summit in January 2007 which was dedicated to the theme of “Science, Technology and Scientific Research for Africa’s Development”. At the Summit, the Heads of State and Government adopted a declaration in which they committed their countries to undertake a number of measures to strengthen their scientific and technological development. These include commitment by each country to develop science, technology and innovation strategies, and increase expenditure on Research and Development (R&D) to at least one percent of their Gross Domestic Product (GDP).

13. He informed the meeting that the implementation of NEPAD is based on partnership by African countries and mobilization of resources. The Government of Mozambique considers STI as prerequisite to producing products and services for its citizens. In pursuance of this realization, Mozambique has produced a 10 years Strategic Plan on Science, Technology and Innovation. One of the pillars in this plan is to address the severe need for additional properly trained human resources in STI. The plan calls for a stepped approach to meeting Mozambique’s full target potential from the current 600 to 6500 MSc and PhD researchers by 2010. A critical mass of human resource capacity is needed in order to effectively collect indicators on development in areas such as ICT, indigenous knowledge systems (IKS) and biodiversity, etc. He challenged the meeting to quickly produce proceedings of the meeting which would guide policy making. The political leadership urgently requires answers as to the impact of STI on the socio-economic status of our people, he said. He emphasized the need to produce a plan of action specifying what needs to be done, when and by whom.

14. He wished all the delegates a successful meeting and declared the meeting officially opened.

Adoption of the Draft Agenda and the Work Programme

15. The draft Agenda and the work programme were adopted with minor changes. The adopted version is attached to this report as **Annex II**.

TERMS OF REFERENCE FOR THE INTERGOVERNMENTAL COMMITTEE ON ASTII

16. Dr Mugabe presented the Terms of Reference (TOR) for the Intergovernmental Committee on ASTII. He reported that the TOR were presented for information purpose as they had been developed by a committee of experts and adopted by Ministers in 2005. The meeting noted the TORs which are attached to this report as **Annex III**.

ELECTION OF THE BUREAU OF THE INTERGOVERNMENTAL COMMITTEE ON ASTII

17. Dr Mugabe introduced the item of the Agenda to set up a bureau for the Intergovernmental Committee on ASTII. He recommended that in order to promote consistency of and coherence in decisions, the meeting should consider using the existing Steering Committee of the African Ministerial Council on Science and Technology (AMCOST) as the Bureau for the ASTII.

Discussion

18. Participants discussed the proposal and made the following observations:

- The Bureau is a subset or a subsidiary body of the Intergovernmental Committee and as such it shall make decisions on behalf of the full Intergovernmental Committee in between meetings of the full Committee;
- Regional organizations such as AfDB and Regional Economic Communities (RECs) can be invited to meetings of the Intergovernmental Committee on ASTII;
- AMCOST may have a number of funding mechanisms for the implementation of its programmes including ASTII; and the
- funding mechanisms may include the proposed African Science and Innovation Fund (ASIF).

19. Based on the above discussion, Malawi proposed that the recommendation as presented by Dr. Mugabe be adopted. The Democratic Republic of Congo, Ghana and Cameroon seconded the motion.

20. Consequently, the proposal was adopted and read: "The Steering Committee of the African Ministerial Council on Science and Technology (AMCOST) shall

serve as the Bureau of the Inter-Governmental Committee on STI Indicators". The following countries constitute the first Bureau: Algeria, Congo Brazzaville, Cote D'voire, Ghana, Malawi, Madagascar, Mozambique, Rwanda, South Africa, Senegal and Tunisia.

THE ROLE OF INDICATORS IN SCIENCE, TECHNOLOGY AND INNOVATION POLICY MAKING AND IMPLEMENTATION

Developing and Using STI Indicators - Prof Fred Gault

21. Professor Fred Gault from OECD Natural Experts on Science and Technology Indicators (NESTI) and Statistics Canada highlighted the challenges of developing and using STI indicators, why they are required, the activities that are needed in order to collect them and their application.

22. Among the challenges faced by producers and users of STII, Prof. Gault elaborated two, namely: (i) the necessity to provide the Minister of S&T with indicators and policy advice comparable to that received by the Minister of Finance; (ii) How to present the STI indicators in a way that they are accessible to the policy community and to civil society.

23. Prof. Gault highlighted the importance of STI indicators in monitoring, benchmarking, foresight, and accountability for spending of public funds. He elaborated on the various categories of indicators which are collected namely: indicators for activities, linkages outcomes, and for impacts assessment. He provided an overview of the Frascati family of manuals and the underlying work of experts involved in their production.

24. He emphasised the importance for Africa to have indicators which tell African stories to African policy makers while keeping strong links with the wider international community. He recommended a common African approach in the development and use of STI indicators

EXPERIENCES IN DEVELOPING AND USING SCIENCE, TECHNOLOGY AND INDICATORS

25. In this session countries and international partners were given an opportunity to share their experiences in developing indicators in general and STI indicators in particular. The following countries and institutions made brief presentations:

- **Countries:** Mozambique, Nigeria, Kenya, Democratic Republic of Congo, South Africa and the Sudan.

- **International partners:** UNESCO Institute for Statistics, Human Sciences Research Council (HRSC) of South Africa, African Development Bank (AfDB), International Food Policy Research Institute (IFPRI) and United Nations Economic Commission for Africa (UNECA) and the Research Policy Institute at the University of Lund.

AFRICAN GUIDELINES FOR SCIENCE, TECHNOLOGY AND INNOVATION INDICATORS

26. In his presentation, Professor Anastassios Pouris pointed out that NEPAD should develop and adopt a common set of indicators that will make the national and regional systems of innovation comparable within Africa and with the rest of the world. To this end, he proposed that African countries should use the Frascati family and Oslo manuals and highlighted reference materials to guide the development of science, technology and innovation indicators in Africa.

27. He said that the system of indicators will track the development and functioning of the African national systems of innovation and the outcomes will be reported in the African Innovation Outlook. The Outlook will report on the developments in ST I in Africa, at national, regional and continental levels and will be produced by the NEPAD.

Discussions

28. Delegates discussed the importance of STI indicators, experience in developing such indicators, and African guidelines for STI indicators. The following issues were highlighted:

- Africa should adopt existing internationally recognized manuals on indicators and gradually modify them to suite the African context;
- Africa should define the scope of R&D indicators surveys to suit its needs ;
- It is important that the continent develops some common understanding of what indicators to measure;
- Countries in the pilot phase shall use the existing international manuals particularly the Frascati and Oslo manuals.
- Some countries may not be ready to do both R&D and Innovation surveys at the same time. Some countries may opt to do just one of the two to start with.
- Pilot countries should designate national focal points or competent authorities.

CRITERIA FOR SELECTING COUNTRIES TO PARTICIPATE IN THE PILOT STII SURVEYS

29. Dr Mugabe highlighted some proposed criteria to be used in selecting countries that will participate in the pilot phase of the STI surveys. He said that each participating country will be required to designate a focal point for the national surveys. He informed the meeting that the first AIO should be produced by the year 2009. The following nine proposed criteria were presented:

- i. Membership of the African Peer Review Mechanism (APRM) and indication of when the peer review will be conducted;
- ii. Demonstrated participation in at least one meeting of AMCOST;
- iii. Commitment to adopt and use NEPAD framework/guidelines;
- iv. Demonstration of an existing overall STI policy process;
- v. Commitment to provide at least 25% of the total costs/budget for undertaking the national STI survey;
- vi. Commitment to make available to NEPAD and share with other countries data/statistics as well as the national STI survey reports;
- vii. Commitment to allow NEPAD/AMCOST to use the national STI data/survey report to undertake regional comparisons as well as produce the African Science and Innovation Outlook;
- viii. Commitment to use the national STI data/survey report to improve existing policies and institutional arrangements;
- ix. Commitment to the overall ASTII work plan.

Discussions

30. The meeting discussed the proposal and made the following observations:

- It is desirable that all countries start surveys at the same time.
- Regional balance should be taken into account when selecting pilot countries so that the surveys are representative of the five regions of Africa.
- The selection should take into account the less as well as the more advanced countries in the development of S&T on the continent
- Intergovernmental Committee on ASTII is not in a position to make a decision on the proposed 25% contribution by country in the total

project budget. . Such a decision can only be made by the Ministers in charge of S&T.

- For those countries without Ministries of S&T flexibility will be exercised to enable them to participate in the surveys.
- Participants wanted to know which countries were participating in the APRM.
- Clarified that to date 26 countries had or were participating in the APRM
- It was noted that some countries may want to fund the surveys at 100% of the budget but will still want to be part of the NEPAD process which allows sharing of information.
- Given that human resources are critical to conducting effective STII surveys countries should commit themselves to developing human resources.
- The constituted Bureau of the ASTI Indicators Initiative will do the final selection of countries to participate in the pilot surveys.

31. After discussions, the meeting added a tenth criterion which read: “Ensure regional balance as much as possible”. Thereafter the proposed criteria for selecting countries to participate in the pilot survey were adopted. The adopted version of criteria for selecting countries to participate in the pilot STII surveys is attached to this report as **Annex IV**.

WORK PLAN OCTOBER 2007-OCTOBER 2009

32. Dr Mugabe introduced Dr. Phillipe Mawoko, who will coordinate the ASTII Initiative. Dr Mawoko presented a draft work plan to the Inter-governmental Committee.

Discussions

33. The meeting discussed the proposed work plan and made the following observations:

- The work plan should include an activity involving identification and validation of activities to be undertaken;
- National experts should meet and agree on the type of data to be collected;
- The work plan should have a timeframe for experts meet to discuss the preliminary data collected during the pilot phase;
- As presented, the work plan was too congested and as such did not give ample time to participants to seek commitments to participate from their respective governments;
- The work plan should be further developed by the NEPAD OST for a final approval by the ASTII Bureau (**Annex V**).

34. The meeting endorsed the work plan subject to the revisions suggested above.

CONSIDERATION AND ADOPTION OF DECISIONS

35. The meeting considered all the decisions of the intergovernmental Committee on ASTII as discussed during the two days of the meeting and adopted them by a motion raised by Ghana and seconded by the Democratic Republic of Congo. All decisions are reported in Annex II-V.

DATE AND VENUE OF THE NEXT MEETING

36. No date was fixed for the next meeting. Tunisia offered to host the next meeting of the Inter-governmental Committee on African Science, Technology and Innovation Indicators.

CLOSING CEREMONY

Remarks from NEPAD- Dr. John Mugabe

37. Dr Mugabe announced that AMCOST III will be held in Kenya on 12-16 November 2007. Ministers will be focusing on sharing experiences on S&T policy making and implementation. This is yet another opportunity for countries to begin talking about indicators. Decisions of the Inter-governmental Meeting on ASTII will be presented to AMCCOST III for endorsement.

38. In terms of the way forward, Dr Mugabe said that the following will take place:

- ❖ NEPAD will write to countries requesting them to designate national focal points or competent authorities for the ASTII initiative;
- ❖ At AMCOST III lists of focal points will be announced;
- ❖ Countries will be requested in writing to present statements of interest to participate in the pilot survey;
- ❖ In collaboration with the Research Policy Institute at University of Lund in Sweden, NEPAD Office of Science and Technology will produce course materials, announce dates for training courses and types of candidates to attend the courses and selection criteria;
- ❖ NEPAD Office of Science and Technology will establish an electronic platform for countries to share experiences on ASTII.

39. Dr. Mugabe thanked the Government of Mozambique for hosting the meeting. He was grateful to SIDA for the financial support to the ASTII Initiative.

He also acknowledged the active participation of all international partners and expert inputs to the initiative. He further acknowledged the role played by the staff of the NEPAD OST in organizing the meeting. All participants were also thanked and he looked forward to seeing them again at AMCOST III and at the next meeting of the Committee.

Remarks from Government of Mozambique - Mr. Evaristo Baquete

40. In his closing remarks, Mr. Evaristo Baquete from the Ministry of Science and Technology of Mozambique observed that from the resolutions presented, it was evident that the meeting had been a success. He congratulated the participants and especially the Chairman for the job well done. He wished all participants success in the challenges ahead and thereafter he closed the meeting.

41. The Meeting ended at 13:15 on day two.

ANNEX 1: List of Participants

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ANNEX 2: Agenda

FIRST MEETING OF THE INTER-GOVERNMENTAL COMMITTEE ON AFRICAN SCIENCE, TECHNOLOGY AND INNOVATION INDICATORS (ASTII)

Maputo, Mozambique: 17-18 September 2007

16 September 2007

16:00-20:00 Registration of Delegations/Participants

17 September 2007

7:30-8:30 Registration of Delegations/Participants

Official Opening Session

8:30-8:45 Welcome Remarks by Official of Government of Mozambique

8:45-9:00 Statement by NEPAD Representative

9:00-9:30 Address by Minister for Science and Technology, Mozambique

10:00-10:30 Terms of Reference for the Committee and Election of Committee Bureau

10:30-11:00 Coffee/Tea Break

Background Papers and Discussions

11:00-11:20 The Role of Indicators in Science, Technology and Innovation Policy Making and Implementation

11:20-13:00 Experiences in Developing and Using Science, Technology and Innovation Indicators

13:00-14:30 Lunch

14:30-15:00 Proposed NEPAD Guidelines for Science, Technology and Innovation Survey

15:00-16:00 Discussions

16:00-16:15 Coffee Break

16.15-18:00 Regional consultations on the proposed NEPAD Guidelines for STI Surveys

18:30-20:30 Reception/Dinner

18 September 2007

8:30-10:30 Regional Reports

10:30-11:00 Coffee Break

11:00-13:00 Criteria for identifying pilot phase countries

13:00-14:30 Lunch

15:00-16:30 Consideration and adoption of decisions

17:00-19:00 Tours and informal consultations

ANNEX 3: Terms of reference for the Intergovernmental Committee on ASTII

Paragraph 13 of the resolutions of the second African Ministerial Conference on Science and Technology establishes an inter-governmental committee comprising of relevant national authorities to develop, adopt and use common indicators to survey and prepare an African Science, Technology and Innovation (ASTI) report/outlook. The inter-governmental committee shall:

1. Consider and agree on specific science, technology and innovation definitions, methodologies and indicators;
2. Design and adopt modalities and work-plan for preparing the African Science, Technology and Innovation Outlook;
3. Promote sharing of experiences and information on national science, technology and innovation surveys;
4. Develop comprehensive African manuals for science, technology and innovation indicators;
5. Consider and agree on modalities for establishing and governing an appropriate science, technology and innovation observatory;
6. Participate in international committees and/or processes on science, technology and innovation indicators; and
7. Review national surveys and propose common policies for promoting science, technology and innovation activities.

ANNEX 4: Criteria for selecting countries to participate in the pilot STI indicators surveys

1. Membership of the APRM and indication of when the peer review will be conducted;
2. Demonstrated participation in at least one meeting of AMCOST;
3. Demonstration of an existing overall STI policy process;
4. Commitment to provide at least 25% of the total costs / budget for undertaking the national STI survey;
5. Commitment to make available to NEPAD one share with other countries data/ statistics as well as the national STI survey reports;
6. Commitment to allow NEPAD/AMCOST to use the national STI data/ survey report to undertake regional comparisons as well as produce the African Science and Innovation Outlook;
7. Commitment to use the national STI data/survey report to improve existing policies and institutional arrangements;
8. Commitment to the overall ASTII work plan.

ANNEX 5: Work plan October 2007-October 2009

ACTIVITY	DURATION (October 2007 – October 2009)							
	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 5	Qtr 6	Qtr 7	Qtr 8
Development and adoption of Science, Technology and Innovation survey guidelines (Secretariat/Countries)								
Preparation of background studies on experiences and approaches (Secretariat)								
Establishing national focal points and surveys teams (Countries)								
Conducting training and data validation workshops (Secretariat)								
Conducting pilot surveys (Countries)								
Conduct second round surveys (Countries)								
Production of the first African Innovation Outlook (AIO) Secretariat/Countries)								
Publication and dissemination of the AIO (Secretariat/Countries)								
Conducting public media sessions and outreach (Secretariat/Countries)								