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**EXTRAORDINARY CONFERENCE OF
THE AFRICAN MINISTERS COUNCIL ON
SCIENCE AND TECHNOLOGY (AMCOST)
20 – 24 NOVEMBER 2006
CAIRO, EGYPT**

EXT/AU/EXP/ST/Rpt.(II)

REPORT OF THE MEETING OF EXPERTS

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INTRODUCTION

1. The January 2007 Summit of Heads of State and Government has been assigned the theme “Science, Technology and Research for Africa’s Development”. The Heads of State and Government will have an opportunity to cast a fresh re-appraisal on the role of science and technology for Africa’s socio-economic development in view of the dynamic changes facing the Continent. In preparation for this Summit, the Department of Human Resources, Science and Technology organized an Extraordinary Meeting of the African Ministers’ Conference on Science and Technology (AMCOST) to consider recommendations on various issues. The meeting took place in Cairo, Egypt, 20 – 21 November 2006.

ATTENDANCE

2. The List of attendance is attached as annex.

OPENING SESSION

3. The opening session was marked by introductory and welcome remarks by Dr. Tema the Director of HRST. The objective of the meeting was to reflect on various recommendations from various presentations for consideration and endorsement by the African Ministers’ Conference on Science and Technology. This was in preparation for the January 2007 Summit of Heads of State and Government.

4. The Chairperson of the Extraordinary Conference, Professor Papa El Hassan Diop, Director General of the African Biotechnology Agency, welcomed the participants to the meeting. He thanked the Egyptian government for hosting the meeting, and applauded the efforts of local organizers, the New Partnership for Africa’s Development, (NEPAD), and the Department of Human Resources, Science and Technology for organizing the Extraordinary Meeting. He called on the participants to remain resolute and focused in determining the recommendations for the forthcoming Summit. He hoped that, after the 2007 Summit, Africa would never be the same again.

5. Egypt was nominated as the vice-chair of the meeting.

ORGANIZATION OF THE SESSION

Adoption of the Agenda

6. The agenda was adopted with the amendment that the report of the High-level Panel on Biotechnology and African Strategy on Bio-safety would be presented and discussed under the same session.

1	African Strategy for Bio-safety	EXT/AU/EXP/ST/4(II)
2	Draft Report of the High-level Biotechnology Panel	EXT/AU/EXP/ST/3(II)
3	Proposal for the formation of the Presidents' Council for Science and Technology	EXT/AU/EXP/ST/2(II)
4	African Strategy for Technology Transfer and Acquisition of Domestic Technological Capabilities	EXT/AU/EXP/ST/5(II)
5	Report of the Conferences of the Diaspora and African NGOs on the Popularization of S&T	EXT/AU/EXP/ST/6(II)
6	Establishing a Pan-African Intellectual Property Organization (PAIPO) – Concept Paper	EXT/AU/EXP/ST/8(II)
7	Report of the First African Union Congress of Scientists and Policy Makers	EXT/AU/EXP/ST/9(II)
8	Designing a Model for the African Science and Innovation Facility to Implement the Science & Technology Consolidated Plan of Action	EXT/AU/EXP/ST/11(II)
9	Criteria and Guidelines for Establishing African Networks of Centres of Excellence in Science and Technology	EXT/AU/EXP/ST/12(II)
10	The Cairo Declaration	EXT/AU/EXP/ST/13(II)

Agenda Item 1: African Strategy for Biosafety – Doc. EXT/AU/EXP/ST/4(II)

7. The presenter, Mr. Bather Koné, of the Biosafety Unit of HRST, highlighted the rationale of the Cartagena Protocol that sets minimum standards for the use, handling and trans-boundary movement of modified living organisms. It was pointed out that many aspects pertinent to the African continent were not covered, thus necessitating the need for additional safety measures for Africa. He noted that the AU Biosafety objective is to provide the AU with the necessary capacity and instruments to support Member States to implement the Cartagena Protocol and the African Model Law. The progress achieved so far in implementing the project include the establishment of the AU Biosafety Unit, the creation of the Technical Advisory Committee, the preparation of the Draft Biosafety Strategy, convening of meetings of experts, and supporting African delegations for biosafety negotiations and various reports written. The Model law revision process according to Africa's need is to be continued.

Points Raised and Recommendations

1. There is a request for experts' inputs to the draft Biosafety Strategy and recommendations for its presentation at AMCOST.
2. The main goal of the African Strategy on biosafety is to develop a regional framework and increase Africa capacities for negotiations on the Catagena Protocol.
3. The Strategy is underpinned by six pillars, namely:
 - a) Establishment and strengthening of institutional Arrangements for biosafety;
 - b) Awareness raising and Biosafety information exchange;
 - c) Capacity Building and Preparedness for Negotiations;
 - d) Policy and Legal Frameworks;
 - e) International Cooperation; and
 - f) Sustainability Mechanism.
4. Adoption of the Africa Strategy on Biosafety, and continue the process of revising the Model Law on safety in Biotechnology.
5. Conduct the AU Biosafety initiative and the AU-NEPAD African High-Level Panel initiative in a complementary manner.

Agenda Item 2: Draft Report of the High-level Biotechnology Panel – Doc. EXT/AU/EXP/3(II)

8. The co-Chairpersons of the AU Panel on Biotechnology, Professor Calestous Juma and Dr. Ismael Serageldin, expressed the need to couple biotechnological applications with biosafety measures so that technological advances relevant to Africa are seized for the benefit of the Continent. The experts noted that Africa needs to move away from paralysis induced by the inertia of risks. They called on Africa to respond to critical challenges by exploiting available biotechnological opportunities.

9. Further, they emphasized the importance of establishing regional biotechnology missions to solve specific problems. This approach would facilitate the growth of regional economic communities and enhance regional economic, integration. They also recommended the need to outline priority biotechnology areas, identify critical capabilities, create regulatory mechanism, and propose strategic options for biotechnological development in Africa. The great potential in developing North-South and South-South collaborations.

Key points of the presentation

- **Building regional innovation communities**
 - Formulate 20-year regional biotechnology missions;
 - Harmonize regulation: balancing development with safety;
 - Promote mutual recognition and acknowledge local specificity.

- **Strengthen local innovation areas**
 - Clustering of research capabilities;
 - Globalize technology prospecting;
 - University research, teaching, and out reach;
 - Building technology alliances.

- **Forge international partnerships**
 - Science and innovation diplomacy;
 - Globalization of knowledge: the Diaspora.

- **Diversify financing for innovation**

- **Improve technology governance**

Points Raised and Recommendations

1. Biosafety and biotechnology ought to be developed simultaneously for consistency since they are complementary.

2. African countries ought to take leadership in championing the utilization of modern biotechnologies. Local authorities should be involved since cities account for a greater percentage of the GDP.

3. The need to strengthen basic sciences (mathematics, physics, biology, etc) as the foundations for new applied sciences was highlighted. Similar initiatives should be mounted on the sciences of the future, e.g. space science and nanotechnology. Life sciences, should be boosted and more women should be encouraged to take up science careers, thus increasing the critical mass of scientists.

4. Africa should pursue regional biotechnology programmes and at the same time establish biosafety arrangements. Such programmes should operate as regional innovation communities.

5. The secretariat should formulate implementation strategy and lobby for partnerships.

6. Scientifically advanced countries and international organisations should seek greater collaboration with Africa in building biotechnological capacities, and strengthen regional networks.
7. Improve commercialization and business capacity of Africa by (a) fostering RRD Cooperative partnership; (b) creating policy instruments for business incubation and development; c) developing functional market infrastructure; and (d) incorporating biotechnology into SME development policy.

Agenda Item 3: Proposal for the formation of the Presidents' Committee for Science and Technology – Doc. EXT/AU/EXP/ST/2(II)

10. Dr. John Mugabe of the NEPAD Office of Science and Technology presented a proposal for the establishment of an African Presidents' Council for Science and Technology. He noted that the Third Meeting of the Bureau of AMCOST, held in June 15-16, 2006 in Dakar recommended that the January 2007 AU Summit should establish an African Presidents' Council on Science and Technology. He outlined the functions of the proposed Council as follows: review implementation of AU decisions on science and technology; promote cooperation on science and technology; consider recommendations of AMCOST; promote science, technology and innovation into development plans and the African Peer Review Mechanism; create specialized advisory panels; and leverage Africans as well as those in the Diaspora, to provide resources for the advancement of science, technology and innovation in Africa

Key Points of the Presentation

- Background information on the need to establish the Presidential Council on science and technology.
- Functions and Responsibilities of the proposed Presidents' Council.
- The Composition of the proposed President's Council.
- Advisory and Administrative services.

Points Raised and Recommendations

1. Attention at presidential-level would lead to broader championship and popularisation of Science & Technology continent-wide, hence a welcome proposal.
2. The roles and functions of the proposed Presidents' Council should be clearly articulated to avoid contradictions with those of AMCOST.

3. The Egyptian proposal for African Supreme Council for Scientific Research and Technology should be considered as complementary to proposed Presidents' Council.
4. The science and technology innovation Facility proposed could be managed under this Council for greater accountability.
5. The Selection of Advisory Committee should be clearly defined and should consist of high calibre scientists.
6. Terminology should be ironed out.

Agenda Item 4: African Strategy for Technology Transfer and Acquisition of Domestic Technological Capabilities – Doc. EXT/AU/EXP/ST/5(II)

11. Dr. Khalil Timamy, Coordinator, African Union Scientific, Technical and Research Commission (STRC) observed that a number of challenges at the global level have made it necessary for Africa to revisit the subject of technology transfer. In the past, technology transfer activities were not robust enough to evolve domestic technical opportunities, and hence significant learning opportunities were missed. Hence, the need to restate the technology transfer challenge to Africa.

Key Points of the Presentation

- Africa's technology transfer projects were not underpinned by AU all-encompassing vision; technological governance not integrally institutionalized; limited stakeholder participation and efforts to evolve a dynamic entrepreneurial base; transfer activities and prominent strategies not guided by technical targets and technology planning; and limited proactiveness by leadership.
- Dr. Timamy reminded participants of AU's vision, and outlined the S&T vision as well as the technology transfer vision. His presentation discussed the core principles of the strategy, and outlined the components of the strategic framework such as: technological governance, institutional arrangements, human resource development, commercialization of R&D output, intellectual property system, and funding proposals.
- There was need to situate Technology Transfer within National Systems of innovation.

Points Raised and Recommendations

1. African Strategy for Technology Transfer strategy required core principles and a strategic framework among member countries, from providing vision leadership, and institutional mechanisms for sustainability.

2. Convergence of science, technology industrial and economic policies have emerged as a trend, and hence the need to link science and technology policy with economic and industrial policy.
3. Link technological governance with wider issues of political and economic governance address technology transfer activities in the context of national systems of innovation.

Agenda Item 5: Report of the Conferences of the Diaspora and African NGOs on the Popularization of Science and Technology – Doc. EXT/AU/EXT/ST/6(II)

12. Dr. Ahmed Hamdy, Head of Science and Technology, HRST, reported on the role of the African Diaspora in the development of S&T in Africa and NGOs report on popularisation and public understanding of the importance of scientific research & technology for Africa's Development. The African Union called for total mobilization of all segments of the African population for the accomplishment of its objectives.

Key Points from the presentation

(A) *The 2006 AfriCANDO Hemispheric Summit on Science, Technology and Research for Africa's Development*

- Develop and create a scientific culture, to attract the youth and Women.
- Africans must define their own destiny through S&T (E.g. African scientific bodies and the Diaspora could jointly establish standards and protocol in S&T issues).
- Article 3(q) of the African Union Constitutive Act, defined various ways of collaboration between the AU and the African Diaspora.
- The African Diaspora was pledged to support the African science and Technology Consolidated Plan of Action through provision of human and technical resources, Lobbying governments, institutions, and foundations to support the African S&T programs and provision of advice on policies and technical issues among other things.
- The Presidents or African Universities and Historically Black Colleges and Universities (HBCUS) should meet to identify areas of cooperation in S&T and addressed "brain drain" issues.
- The proposal of the establishment of the African Diaspora Development Fund (ADDF) to facilitate the funding of R&D and relocation of science based SME's from the Diaspora to Africa was raised.

(B) 2nd African Congress for Scientific Research, and Technology

- Establish national steering committee to draw a “scientific road map” at national level.
- Establish an African Council for Scientific Research and Technology;
- Establish S&T fund to support R&D in Africa.
- Establish mutual cooperation mechanism among the African institutions and enhance the public understanding of S&T.
- Promote for enrolment of women in science & technology through role modes, mentioning programs.
- An exchange programme for African Youth and Women in science between Africa and the Diaspora should established.

Points Raised and Recommendations

1. African efforts to tap from the Diaspora should be well coordinated with a clear vision and lines of cooperation to avoid duplication.
2. Each Member State in the African Union should enact some policies that focus on Diaspora and brain drain.
3. There are a number of models that could be used to harness the Diaspora such as building universities in the host countries.
4. It was noted that a large percentage of the Diaspora were in industries hence were not easy to link-up with and they also expected countries back home to guarantee them of specific national long-term programmes.
5. The enrolment of women in S&T programmes and the involvement in technology transfer was highlighted. Media was also noted to be vital in the popularisation of S&T.

Agenda Item 6: Establishing a Pan-African Intellectual Property Organization (PAIPO) – Concept Paper – Doc. EXT/AU/EXP/ST/8(II)

13. Dr. Khalil Timamy, Coordinator, African Union Scientific, Technical and Research Commission (STRC) presented a concept paper on the need to establish a Pan-African organization on intellectual property (IP) that would serve as a cost-effective entity to streamline IP management in Africa. The Pan African Organization on IP was to provide a broad-based platform for African Member States to benefit from a coordinated intellectual property system that would promote innovation, techno-industrial competitiveness, and economic growth in Africa.

Key points from the presentation

- The rationale for creating an IP organization, that would represent all Member States,
- PAIPO to facilitate the utilization and protection of African knowledge, including indigenous knowledge.

- Experts to endorse in principle the formation of PAIPO.

Points Raised and Recommendations

1. PAIPO is an initiative much needed in Africa. It would help Africa participate more effectively in IP production and management of IP processes.
2. Would help address the broad issues of biopiracy.
3. Should be considered beyond IP protection to knowledge management,
4. AU should proceed and accelerate the formation of PAIPO with full participation of ARIPO and OAPI.

Agenda Item 7: Report of the First African Union Congress of Scientists and Policy Makers – Doc. EXT/AU/EXP/ST/9(II)

14. Dr. B. O. Tema, the Director for Human Resources, Science and Technology presented the report on the First African Union Congress of Science and Technology.

Key points from the presentation

- 1. AFRICAN SOLUTIONS FOR AFRICAN CHALLENGES THROUGH S&T**
 - (a) Building a culture of S&T innovation
 - (b) Documentation, protection and development of indigenous knowledge and technologies, as well as establishment of related databases.
 - (c) Community outreach and popularisation of S&T.
- 2. GROWING AND SUSTAINING AFRICAN HUMAN CAPITAL**
 - (a) Increasing the number of students who study science and technology (especially women and youth)
 - (b) Improving quality of science education
 - (c) Develop science and technology co-operation and networking centres of excellence
- 3. CREATING ENABLING ENVIRONMENT FOR SCIENCE AND TECHNOLOGY DEVELOPMENT**
 - (a) Science and Technology Policy

- Governments need to promote S&T policy development and implementation.
- Governments should create a framework of S&T policies as well as establish priority setting, minimum standards and statistics for infrastructure, capacity building, finance, and human resources.
- The African Congress of Scientists and policy makers should be held every two years to monitor and review progress in S&T.

(b) Funding of Science and Technology

- Governments should allocate 1% of GDP to S&T, and this should be monitored by the African Peer Review Mechanism.

Points raised in the discussion and Recommendations

1. Africa should facilitate the decoding and domestication of relevant technologies from all sources for its development needs.
2. Africa should facilitate and ensure value addition to its vast raw material resources particularly for export.
3. There should be increased collaboration with international organisation dealing with S&T such as UN Agencies, Conventions and NGOs
4. 2008 should be declared the year of S&T.

Agenda Item 8: Designing a Model for the African Science and Innovation Facility to implement the Science & Technology Consolidated - Doc. EXT/AU/EXP/ST/11(II)

15. Dr. John Mugabe, NEPAD Office of Science and Technology presented a report on the African Science and Innovation Facility, ASIF.

Key Points of the Presentation

- Designing ASIF is at request of AMCOST seeking a mechanism to fund the CPA.
- After wide consultations and studies, the model chosen for presentation to AMCOST is the Intergovernmental entity under AU governed by AMCOST and involving existing institutions with NEPAD OST as the ASIF Secretariat.

- MOUs and Charters will be used to spell out relationships and resolve conflicts.
- The functions of ASIF will be to:
 - Mobilize finance;
 - Encourage creative individual/institutions to generate science and technology output;
 - Develop research for innovation;
 - Mobilize resource, technical expertise, guidelines and procedures for mobilizing and allocating fund, developing networks of Centres of Excellence, monitoring and evaluation of performance, providing policy advise to AMCOST and AU;
- Possible governance model: ADB; Consortium of organizations; intergovernmental organizations.

Points Raised and Recommendations

1. There is need to clarify what ASIF is going to do that can not be done by existing institutions, such as the ADB, or other funding agencies?
2. The functions of ASIF need to be redefined to be built on innovative mechanisms that will lead to an effective model for developing of science and technology, particularly increase the development of science and technology products and their input to the market.
3. The role of the ADB in ASIF should be investigated further, so that the proposal reflects the new policies of the banks. One should also investigate using the sub-regional banks rather than the ADB.
4. The governance of ASIF needs further elaboration; should it be a political or should reflect the organizations that will provide funding? Also shouldn't the monitoring body be more independent?
5. There is need to clarify the option for a facility rather than a Fund, since the two notions have different implication in their function. A fund would seem more appropriate for the NEPAD.
6. Development of fundable projects – should not be the duty of the governing body of ASIF.
7. It is suggested that funded projects should be multi-national projects, requiring funding exceeding US\$ 1 million per project (for a small project).

8. Project selection should be based on scientific grounds in the context of Africa's priorities and needs.
9. A clear relationship between ASIF and centres of excellences has to be spelled-out in the document. To avoid duplication of efforts, ASIF should take into account other initiatives such as UNCCD efforts to establish National Desertification funds.
10. ASIF should be properly designed in order to be credible in the eyes of all stakeholders. In terms of governance:
 - AU Commission/AMCOST should provide high-level political leadership.
 - NEPAD Office of Science and Technology should provide technical and secretariat functions.
 - The Executive Board could be a reconstitution of the current Steering Committee in order to include principal stakeholders.
 - An appropriate fund manager should be identified.
 - An international science and technology advisory board should be relied upon.
11. There were some suggestions that ASIF's main focus should be coordination of all efforts concentrated around science and technology to ensure that Africa is focused in providing capacity and capability to address priority areas for its development. Also, it should monitor and evaluate the progress achieved in the selected specific areas.
12. ASIF should certainly see to the funding issues but it should not go into the tradition of sourcing funds and then programming projects just like many organizations are currently doing.
13. Need to clarify roles of ASIF, AfDB, donors and Networks of Centres of Excellence.
14. ASIF must deal with multinational, large projects (over US\$ 1 million each).
15. Sources of funds could include member countries, development partners and multinationals of those involved in extracting Africa's oil and gold resources.
16. ASIF should incorporate the private sector, for example through the Diaspora Development Fund which aims at enterprise development in Africa.
17. The intergovernmental model was endorsed, and further effort recommended to refine the design to ensure smooth implementation.

18. The deliberations on ASIF as regards the way forward did not reach a definitive conclusion, and the conference was asked to recommend the steps to be taken.

Agenda Item 9: Criteria and Guideline for Establishing African Networks of Centres of Excellence in Science and Technology – Doc. EXT/AU/EXP/ST/12(II)

16. Dr. John Mugabe, NEPAD Office of Science and Technology presented the following key points on the above agenda item:

Points Raised and Recommendations

1. AMCOST has taken the decision that CPA shall be implemented by Networks of Centres of Excellence.
 - (a) Criteria and guidelines have been developed to identify Centres of Excellence, including identity, governance, stability, relevance, capacity, etc.
 - (b) Selection criteria include geographical distribution, diversity of skills and capacities, regional outlook and utilization of existing institutions.
 2. Centres of Excellence grow organically, but also die.
 3. Need for mechanisms to scale up best practices.
 4. Need for minimum standards and benchmarking.
 5. To build excellence, Africa must be pragmatic including using imported expertise.
 6. Vetting of excellence must be dynamic, through a bidding process for CPA flagship programmes.
17. **Kenya reaffirmed its offer to host AMCOST 2007**

Agenda Item 10: The Cairo Declaration

18. The Declaration was adopted by the Senior Officials/experts.

Closing Session

19. In her closing statement, H.E. Prof. Nagia Essayed, Commissioner for Human Resources, Science and Technology thanked all the participants for their valuable deliberations on various issues of the agenda and the resultant recommendations.

20. She said that the expert meeting was in preparation for the Extraordinary Conference of the African Ministers Council on Science and Technology that was going to take place from 23 to 24 November 2006. She assured the participants that the Ministers were going to deliberate on these recommendations for further consideration by the Heads of State and Government at the January 2007 Summit in Addis Ababa.