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## REPORT BY THE DIRECTOR-GENERAL ON THE IMPLEMENTATION OF THE UNESCO PLAN OF ACTION CONCERNING THE DECISIONS AND DECLARATION OF THE AFRICAN UNION SUMMIT ON SCIENCE, TECHNOLOGY AND SCIENTIFIC RESEARCH FOR DEVELOPMENT (JANUARY 2007)

### SUMMARY

**Source:** 177 EX/Decision 16, and in accordance with the strategic programme objectives of the Draft Medium-term Strategy for 2008-2013 (34 C/4), as amended by the Executive Board (34 C/11). (177 EX/16; 177 EX/78; 177 EX/79 Part II).

**Background:** In 177 EX/Decision 16, the Executive Board invited the Director-General to submit to it a progress report on the implementation of UNESCO's Plan of Action for science and technology in Africa that was formulated for the relevant programme areas, as a response to the request by the African Union Heads of State and Governments.

The financial and administrative implications of the reported activities fall within the parameters of document 34 C/5.

**Purpose:** This report reviews UNESCO's activities contributing to its Plan of Action for Science and Technology in Africa since the 177th session of the Executive Board, with particular emphasis on the flagship projects.

**Action expected by the Executive Board:** Proposed decision in paragraph 26.

1. By 176 EX/Decision 56, the Africa Group requested the Director-General to prepare a Plan of Action showing how UNESCO intends to contribute to the implementation of the decisions adopted and declaration made by the African Heads of State and Government at their eighth summit, which took place in Addis Ababa, Ethiopia, in January 2007. Notably, they wished to know how UNESCO intended to contribute to the implementation of the Consolidated Plan of Action (CPA) over the next medium-term period (2008-2013 – 34 C/4).

2. In November 2007, the Board and the General Conference approved the UNESCO Plan of Action proposed by the Director-General as a response and as outlined in document 177 EX/16 (177 EX/Decision 16).

3. Following consultations with the Africa Group, and with a view to concentrating efforts in certain priority areas, the UNESCO Plan of Action was designated to focus on three flagship activities namely: (1) capacity-building in science policy; (2) science and technology education; and (3) establishment of an African Virtual Campus (AVC).

## **I. Implementation framework**

4. **United Nations Science and Technology (United Nations S&T) Cluster:** In cooperation with the African Union Commission, Department for Human Resources, S&T (AUC/HRST), UNESCO convened the third meeting of the Cluster on 29 April 2008 in Addis Ababa, Ethiopia. Eleven of the 13 United Nations agencies presented their activities in support of the CPA. To harmonize activities in science, technology and innovation (STI) policy, UNESCO convened a meeting with AUC/HRST and AU/NEPAD for United Nations agencies working on STI policies and indicators, in August 2008. Furthermore, the Natural Sciences Sector established a new website dedicated to the Cluster.

5. The United Nations S&T Cluster welcomed the proposal of AUC/HRST for the establishment of an African Cluster for Science and Technology (ACST) as a mechanism to harmonize activities in Africa that contribute to the implementation of the CPA for science and technology, in line with AUC decision-making procedures and structure. The ACST is composed of the AU represented by its HRST, the Office of S&T of NEPAD (OST), the United Nations S&T Cluster represented by the UNESCO Science Policy and Sustainable Development Division (SC/PSD), and the United Nations Economic Commission for Africa (UNECA). The African Ministerial Council on Science and Technology (AMCOST) Bureau meeting on 1 May 2008 approved the establishment of the ACST, which was endorsed by the AU Summit of Heads of States and Government (Egypt, July 2008).

6. UNESCO, as the Convener of the United Nations S&T Cluster, was invited for the first time to present the activities of the Cluster to the AMCOST Steering Committee on 1 May 2008, in Addis Ababa. In recognition of its important role in the implementation of the CPA, UNESCO was unanimously nominated as a member of the AMCOST Bureau.

## **II. Flagship project 1: Initiative for capacity-building in science policy**

7. UNESCO has launched the African Science, Technology and Innovation Policy Initiative (ASTIPI) to build capacities in STI policy formulation and to develop national STI policies for all those African countries that lack such a policy. UNESCO is working with these countries to reform their science systems and assist them in elaborating and implementing strategies and programmes.

8. Fourteen Member States (Benin, Botswana, Burundi, Central African Republic, Côte d'Ivoire, Democratic Republic of Congo, Madagascar, Malawi, Mauritania, Niger, United Republic of Tanzania, Togo, Zambia and Zimbabwe) have made formal requests through their governments to UNESCO to assist them carry out national science policy reviews or formulation during the period 2008-2009. In the first phase of the implementation of the review exercise, mobilization of the necessary expertise and identification of national and international experts are being carried out jointly with the country representation to UNESCO SC/PSD and the Africa Department. Thanks to financial support from Japan, Libya, and Spain, science policy formulation has commenced in Tanzania (December 2007), Madagascar (May 2008), Burundi (June 2008), Central African Republic (July 2008), Benin (July 2008) and Zimbabwe (August 2008).

9. The CPA recommended the monitoring of Africa's S&T development through the use of STI statistics and indicators. UNESCO, through its Institute for Statistics, is the organization in the

United Nations system responsible for collecting and disseminating statistics in education and science. Data from all African countries is gathered through biennial surveys and partnerships with key organizations. The planning of the capacity-building implementation phase is being carried out in close collaboration with the AUC/HRST. Training programmes for policy analysts were implemented in the area of mapping science statistics and indicators by UIS and SC/PSD, in cooperation with the AUC/NEPAD for the 14 Member States of the South African Development Community (SADC) region. This training will be held on 27 August 2008 in Gaborone, Botswana, and was organized in close cooperation with the Botswana Ministry of Science and Technology. In addition, a training programme was developed and implemented in West Africa (Douala, Cameroon, 5-9 November 2007). These workshops aimed at increasing the number of countries in Africa regularly producing quality S&T indicators and at promoting the use of S&T indicators in evidence-based policy-making.

10. An STI policy review/reformulation meeting will be held in September 2008 in Gaborone, Botswana for the 14 Member States of the SADC region. Eight SADC countries have made requests to UNESCO for assistance in the review of their STI policy. The STI policy review meeting will provide a platform for the SADC countries to exchange views on national STI policy formulation with those countries already having benefited from the STI policy review either in cooperation with UNESCO or otherwise. UNESCO will invite international and national experts to share experiences and contribute to capacity-building in STI formulation.

11. Recognizing that both scientists and policy-makers are essential science policy advisors, UNESCO convened regional science policy fora with scientists and parliamentarians in Africa. Parliamentarians and civil servants met with scientists and representatives of civil society in Brazzaville to exchange ideas on how to structure inter-parliamentary cooperation and train parliamentarians and government officials in S&T policy in March 2008. African parliamentarians responsible for proposing or debating bills on science-related issues exchanged experiences and know-how in STI policy-making and science legislation.

12. The Director-General organized a Ministerial Round Table Breakfast during the ECOSOC High-Level Segment on 1 July 2008 in New York on the theme Science, Technology and Innovation Policy: key to sustainable development. The ECOSOC Ambassador from Madagascar, the Minister of Higher Education and Scientific Research from Egypt and the Minister of Communication, Science and Technology of Tanzania were invited speakers. Some 50 participants attended the meeting, including government officials, United Nations delegates, representatives of NGOs and the private sector. The round table debate focused on harnessing scientific knowledge through effective science policy as a key lever for achieving sustainable development in Africa and was used to raise awareness among the United Nations family and donors of the need to invest in STI policy in Africa.

### **III. Flagship Project 2: Science and technology and engineering education**

13. UNESCO, with its University-Industry-Science Partnership (UNISPAR) programme focused on capacity-building and technical assistance in the governance of S&T parks by promoting stronger partnerships and linkages between universities and industry, innovation and transfer of knowledge. A regional training workshop on the development and management of science parks was organized by UNESCO in Namibia (September 2007) in cooperation with the World Technopolis Association of the Republic of Korea. A feasibility study for the establishment of a pilot science park in Kenya was also carried out in July 2008.

14. Human capacity-building in S&T in Africa was promoted through the following activities: UNESCO together with the Libyan Biotechnology Centre organized a regional meeting from 23 to 25 June 2008 in Tripoli, Libya, to promote networking in biotechnology in Africa; teaching courses were organized in genomics and bioinformatics in Morocco and a lecture course on the molecular and cellular basis of infection was held in South Africa; a training course on neurodegenerative diseases was organized in Dakar, Senegal, from 26 to 28 June 2008.

#### **IV. Flagship project: establishment of an African Virtual Campus (AVC)**

15. To foster the implementation of the CPA and in line with the aspirations of the African Regional Action Plan for the Knowledge Economy (ARAPKE), the AVC project was developed as a continuation of the complementary efforts between the AUC, the European Union and UNESCO. One of the main obstacles to S&T education in Africa is the lack of teachers in these areas. The need to train large numbers of science teachers cannot be achieved using traditional teacher training methods. UNESCO is using contemporary Information, Communication and Technology (ICTs) to enhance the capacity of the Member States in Africa to train teachers of science, engineering and technology through e-learning by means of an AVC. The project is based on the Avicenna Virtual Campus, an EU funded project for the Mediterranean and North Africa region.

16. The first AVC centre was established in Cotonou, Benin in July 2008. The first training session for personnel (directors, technical and pedagogical experts) of the e-learning centres in West Africa will be held at the UNESCO Office in Dakar from 15 to 20 September 2008. Personnel will be trained in the concept of e-learning, the production of online course material and modules and the use of ICT infrastructure in S&T. E-learning courses in S&T will be produced by national experts and validated.

#### **V. Other activities in support of the CPA**

17. **Continental shelf:** Regarding the extended legal continental shelf, on 18 April 2008 the Executive Secretary of UNESCO's Intergovernmental Oceanographic Commission (IOC) organized an information meeting with the Permanent Delegations to UNESCO from Africa in order to inform them that States Parties to the United Nations Convention on the Law of the Sea (UNCLOS) may submit requests to the Commission on the limits of the Continental Shelf (CLCS) for the extension of their Continental Shelf beyond 200 nautical miles (Article 76). The deadline established for such submissions was 10 years from the date of ratification by that State, but in 1999, at the request of many States it was extended to 13 May 2009 for the State Parties for which the Convention entered into force before 13 May 1999. The Ambassadors were also informed of the procedures for making their submissions to CLCS.

18. In a bid to build capacities of African States to make these submissions, the IOC invited UNEP-GRID to its Advanced Leadership workshop for directors of marine science institutes in the West African region (Ghana, September to October 2007). Furthermore, in early 2008, IOC began cooperation with the German Federal Institute for Geosciences and Natural Resources to draft the Terms of Reference for professional consultants whose assistance may be required by the African Member States when making a submission to CLCS.

19. **Renewable energy:** Capacity-building in the use and application of renewable energy at the regional and national levels was enhanced through training platforms and training of trainers, including through further implementation of the African Chapter of the Global Renewable Energy Education and Training Programme. A training platform to conduct week-long seminars and training activities was developed and implemented in Burkina Faso. A pilot solar village was established in Cameroon. National renewable energy policies were developed, including strengthening of parliamentary capacities for renewable energy legislation and policy in the Economic Community of West Africa through a regional seminar for parliamentarians organized in Nigeria. Over 30 national representatives and local leaders benefited from the national information/training workshop organized in Tera, Niger, on the use and application of renewable energy as a tool to enhance access to electricity services and local development.

20. **Water resources management:** To promote capacity-building in the management of water resources, the International Hydrological Programme (IHP) organized, in collaboration with African Ministers of Water Resources Council, the Water Facility-African Development Bank and the General Water Authority of Libya, the third International Conference on Managing Shared Aquifer Resources in Africa, in Tripoli, Libya from 25 to 27 May 2008. Training courses were held to map

aquifer vulnerability in February 2008 in South Africa, and on groundwater management in Cotonou, Benin, in May 2008. Conferences were organized, including the International Conference on Integrated Water Resources Management, from 8 to 10 March 2008, the International Conference on Groundwater and Climate Change, Kampala, Uganda from 24 to 28 June 2008, and the second African Regional Meeting of the IHP National Committees, Cape Town, South Africa, 10 March 2008. In addition, an African regional network of experts to work on the Groundwater Resources Assessment under Pressures of Humanity and Climate Change was established.

21. **Ecological and earth sciences:** The Man and the Biosphere (MAB) programme is making important contributions to the CPA. The closing meeting of the Global Environment Facility (GEF) project on building capacities in dryland biosphere reserves in West Africa was held in Paris in June 2008. The project produced several important results, notably by strengthening the networks between biosphere reserves of the World Network so as to enhance the ability to share best practices and lessons for sustainable development. Furthermore, a ministerial round table was also held within the framework of the Third World Congress on Biosphere Reserves (Madrid, Spain, 4-9 February 2008), during which a tripartite declaration was issued by Congo, Uganda, and Rwanda that they would ensure the conservation of the unique biodiversity of the Central Albertine Rift Valley Transboundary Biosphere Initiative. Furthermore, Mr Henri Djombo, Minister of Forestry Economy of Congo-Brazzaville, was elected Chair of the MAB Council at its 20th session, which ran concurrent to the World Congress.

22. The third phase of the Regional School on Integrated Management of Tropical Forests and Territories (ERAIFT) is now secured thanks to €4.5 million in financing received on 15 July 2008 from the EU. This third phase, which will begin this year, will run until 2013.

## **VI. Promoting South-South cooperation in science and technology**

23. Support to African capacity-building in STI policies was adopted as a priority by the Governing Board and Scientific Council of the newly established International Centre for South-South Cooperation in Science, Technology and Innovation in Kuala Lumpur, Malaysia. The Director of AUC/HRST was elected as a member of the Science Council in order to forge closer ties between the Centre and the AU.

## **VII. Mobilization of extrabudgetary resources in cooperation with the AU**

24. The AVC is now recognized as one of the African Regional Projects on the Knowledge Economy by the AU, and as such is earmarked as one of the five projects to be funded by the European Union under the EU-Africa Strategic Partnership Agreement. SC/PSD is working in close collaboration with the AUC/HRST to mobilize funds.

25. Regarding funding for STI policies, the Director-General acknowledges with appreciation the financial support received from Member States and donors (Japan, Libya, Spain and the World Summit on the Information Society) towards the implementation of the flagship projects, and in particular capacity-building in science policy and the establishment of the AVC. UNESCO invites further support from other Member States in this regard.

### **Action expected by the Executive Board**

26. Taking into consideration the above, the Executive Board may wish to adopt the following proposed decision:

The Executive Board,

1. Recalling 176 EX/Decision 56 and 177 EX/Decision 16,
2. Having examined document 180 EX/8,

3. Expresses satisfaction with progress made and activities initiated to implement the UNESCO Plan of Action (the Plan) in support of the African Union Consolidated Plan of Action (AU/CPA) for Science and Technology and, in particular, in the area of science policy;
4. Requests the Director-General to further support activities in the Plan that aim at improving science and technology in Africa, and to address the other components of the AU/CPA, notably by ensuring that all sectors, divisions and Institutes are fully committed to the process;
5. Requests the Director-General to ensure that special attention is given to the development of the capacities of the African Union and the Regional Economic Communities, which are ultimately responsible for the implementation of the AU/CPA at the regional level;
6. Urges concerned Member States to promote and intensify their collaboration with UNESCO and African Member States to ensure coordinated and coherent implementation of the Plan; and
7. Invites the Director-General to submit a comprehensive report on the implementation of the Plan, to the 182nd session of the Executive Board.