The UN Reform: towards a joint approach at the national level

Action that is coherent and coordinated at the country level: such is the new objective of United Nations agencies. This new 'One UN' approach aims to increase the national impact of development programmes. UNESCO has espoused this new approach and is bringing added value in its fields of competence.

UNESCO's science policy programme: a unique international role

UNESCO is the leading international agency with a mandate covering science systems management and coordination, as well as the elaboration and implementation of science policies at national and regional levels.

This unique mission was highlighted by the committee established by UNESCO's Director-General to review the Organisation's science programmes from a strategic perspective. It was subsequently confirmed by the participants in the Ministerial Roundtable on Science and Technology organized during UNESCO's General Conference in October 2007.

In UNESCO's *Medium-Term Strategy* for 2008-2013, fostering policies and capacity-building in science figures as one of the Organization's strategic programme objectives. *'UNESCO will support Member States, notably in Africa, LDCs and small island development states, in developing their national science, technology and innovation policies and building human and institutional capacities in the sciences.'*

Additionally, UNESCO's biennial science programme for 2010-2011 focuses on strengthening the STI policies and planning capacities of African Member States.

Importance of national, regional and international cooperation

Today, cooperation in research is a necessity due to the broad scope and high cost of modern research. In particular, cooperation is needed to:

- acquire knowledge vital for the well-being of societies through collaboration with researchers in industrialized countries;
- advance research of strategic importance at regional and sub-regional levels, by sharing resources in order to implement more ambitious programmes and better specialist training.

In this regard, UNESCO has an essential advisory and catalytic role to play. It can: identify priority areas where cooperation can take place; assist countries in setting up structures and procedures in all aspects of science policy; strengthen potential and existing partnership networks such as multilateral/bilateral organizations, governmental bodies, civil society and the private sector.

Prof. Folarin Osotimehin
Project Officer

Senior Science Policy Adviser
Chief, Science Policy & Reform Section
1, rue Miollis
75732 Paris Cedex 15
UNESCO HQs, Paris

Email: f.osotimehin@unesco.org / sc.stp@unesco.org
Tel : +33 1 45 68 35 41 / 35 71
Fax : + 33 1 45 68 58 28

United Nations Educational, Scientific and Cultural Organization

JAPAN Official Development Assistance

Unité Travail Progrès

REPUBLIC OF CONGO / UNESCO

Project for strengthening

SCIENCE AND TECHNOLOGY POLICY CAPACITIES

in the **Republic of Congo**

Repositioning the National Science System

Science and technology AS DRIVERS OF ECONOMIC GROWTH

The importance of science and technology for achieving the **Millennium Development Goals (MDGs)** and other internationally agreed goals has been highlighted by most development agencies.

Both the Task Force on Science, Technology and Innovation (STI) of the United Nations Millennium Goals Project and the United Nations Conference on Trade and Development (UNCTAD), in its report on Least Developed Countries (LDCs) in 2007, recommend the integration of science, technology and innovation in the social and economic development strategies of developing countries in order to ensure growth and sustainable development. This position is shared by UNESCO and most of the development agencies, including the United Nations Industrial Development Organization (UNIDO) and the World Bank.

Science and technology FOR DEVELOPMENT IN AFRICA

Aware of this challenge, the Heads of State and Government of the African Union adopted the **Declaration on Science, Technology and Scientific Research for Development** in January 2007 undertaking to *'promote and support research and innovation and the requisite human and institutional capacities.'*

Africa's Science and Technology Consolidated Plan of Action (CPA), adopted in 2005, also includes programmes for capacity-building in STI and for repositioning national science systems.

CONGO: ON THE ROAD TO REFORMING ITS SCIENCE AND TECHNOLOGY SYSTEM

COUNTRY CONTEXT

Congo falls into the category of very poor countries, despite its natural wealth. With the return to peace, Congo has made a fresh start towards reconstruction. Science and technology have an important role to play in the country's socio-economic recovery.

A post-conflict country, Congo is characterized by: a relatively small population; a labour force which is primarily employed in traditional agriculture; a vast territory that abounds in tapped and untapped resources; a scientific traditions which is a legacy from the past and an extensive scientific infrastructure which has also suffered great destruction; there are enormous opportunities for research but scientists remain deeply isolated from the wider international community.

ORIGIN OF THE PROJECT

In 2004, the Congolese government requested UNESCO's assistance in strengthening national capacities in science and technology to revitalize the science system after all the lost years during the Congolese civil war.

Through its **Division of Science Policy and Sustainable Development**, UNESCO has accompanied this effort to reform the country's science system step by step, with the financial support of the Government of Japan. This assistance has turned out to have a strategic impact with longer-term implications for science, in a context where the urgency of considerations linked to reconstruction is of crucial importance.

PILOT PROJECT FOR THE SUB-REGION

The science policy project in Congo may be considered a pilot project that could serve as a model for other countries in Central Africa.

PROJECT PHASES:

THE SCIENCE POLICY PROJECT IN CONGO HAS BEEN IMPLEMENTED IN FOUR STAGES, ARTICULATED AS FOLLOWS:

1) **Preparation of a General Report**, in the first quarter of 2004, providing an overall description of the decision-making and implementation processes for science and technology policy, and recalling the main discussion points for the country in this regard. The report was produced in close collaboration with the national stakeholders, after several expert missions to Congo to meet with local officials and a large number of researchers working in public institutions and the university sector, as well as representatives of the private sector, relevant international agencies and non-governmental organizations.

2) **Elaboration of a series of recommendations** to the Government of the Republic of the Congo, in a separate report, on the formulation, organization and implementation of the science and technology policy. These recommendations were made after collecting feedback from officials on the diagnosis made in the General Report. These recommendations were subject to extensive consultations before being forwarded to the government in early 2006.

3) **Organization of a National Policy Forum for Scientific Research and Technological Innovation**, in Brazzaville, in May 2007, during which nearly 60 officials from all stakeholder groups validated the diagnosis and UNESCO's proposals, while suggesting new institutional adjustments and identifying the main priorities for the national science and technology policy, in conjunction with the country's development efforts.

4) **A series of seminars and training sessions** on such themes as the governance of science and technology and innovation policies were organized during project implementation. Held in Brazzaville, they were attended by officials from various organizations within the national science system.

Major Findings

The General Report assessed the state of science and technology in Congo:

- In theory, the country presents a well-structured science governance system but, in practice, it is dysfunctional. Not all structures are in place and research funding is still wanting: at 0.13% of GDP, funding of public research is still well below the initial target of 1% of GDP;
- Research activities are highly fragmented. Research institutes, universities and industry remain isolated from one another and the entire system suffers from a lack of networking and intersectoral cooperation;
- The scientific community has no common representative structure, such as an academy (or academies) or professional associations;
- Research institutions suffer from a severe shortage of facilities, equipment, logistics and administrative and technical personnel;
- Public research is placed under the auspices of the Ministry of Scientific Research and Technological Innovation but remains isolated from other sectors (agriculture, industry, etc.);
- Since the end of the civil war, Congolese scientists have enjoyed little interaction and rare exchanges with foreign scientists; in addition, their involvement in regional and international cooperation is limited;
- The capacity of science policy-makers and managers is very low.

Results so far:

The impact of UNESCO's assistance has been explicitly acknowledged by the national authorities and notably the minister himself:

- A full-fledged ministry responsible for scientific research and technological innovation was created in January 2005 to deal with STI, an area that had previously come under the responsibility of the Ministry for Higher Education;
- Within the new ministry, a Directorate for Technological Innovation was established, thus acknowledging the need to develop specific policies to harness science and technology to development;
- Specific statutes for research workers have been developed and are now in the final stages of adoption, being under consideration by the Supreme Court;
- A reform of the research infrastructure is similarly under way, in order to group the large number of research units within three major institutes (those for agricultural sciences, health sciences, and exact and life sciences);
- Several research facilities are being rebuilt and greater resources have been allocated to strategic areas, such as the *Agence nationale de valorisation de la recherche (ANVAR)*;
- A post-graduate school has been established at the Marien Ngouabi University, which is supported by the university's Centre of Information Technology *(Campus numérique de l'Université Marien Ngouabi)*;
- A science policy document and an action plan for research and innovation in 2010-2013 have been elaborated and were approved in April 2009;
- A chapter on science and technology figures in President Denis Sassou-Nguesso's Vision document for the Congolese society, covering 2009-2016, *'Le Chemin d'Avenir'*.

RECOMMENDATIONS ADOPTED BY THE GOVERNMENT

- **Governance**
  Several key mechanisms are foreseen by law but are not functioning properly. The entire institutional framework for science policy needs to be given the means to fulfil its role effectively with the requisite resources.
- **Management**
  The national STI system must be able to rely on a wide range of institutions with rehabilitated infrastructure, reconstituted documentary records, the means to revive cooperation with other countries and a sufficient number of research posts and posts for technicians with adequate running costs. Training activities for researchers and research managers need to be put in place.
- **Programming and priorities**
  Specific research priorities have been defined. These are in keeping with the major objectives of the country's development policy and ensuring the continued logistical support and funding that are indispensable to research.
- **Plan of action**
  A plan of action has been formulated that will pave the way to implementing these research priorities and translating these into programmes that are run and coordinated by the relevant bodies. The overall objective of allocating 1% of GDP to public research and development must be reaffirmed and translated into concrete measures by allocating and disbursing funds for capital and recurrent expenditure.
- **Research budget**
  The budgeting process needs to be adjusted to allow for a multi-year budgetary programming cycle with a long-term vision, accompanied by greater flexibility in the use of funds. The Directorate General for Scientific and Technological Research should fulfil the essential role of coordination and supervision, in close partnership with the Ministry of Finance.
- **Emergence of a scientific community**
  The scientific community is currently too fragmented to play the role of partner in a permanent process of interaction with the state authorities and civil society. It is up to the scientific community to organize itself into fully representative bodies, such as an academy(s) or association(s).

Next step: development of a programme and recommendations for adoption by the government

The project for strengthening capacity in science and technology policy in the Republic of Congo has launched the first phase of a comprehensive programme for revitalizing research and innovation which could include the following projects:

- Review of research institutions
- Development of a STI financing system
- Strengthening of human resources in science policy
- Science and Parliament: launch of a sub-regional forum
- Setting up of university teaching and research programmes on STI
- Science and innovation in the private sector
- Promotion of innovation and technological entrepreneurship taking into account of the informal sector
- Establishment of an intellectual property protection system
- Review of participation in regional and international scientific activities