

# **INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA)**

## **Support to NEPAD**

**Period of Report: August 2004 to April 2005**

### **IAEA support to NEPAD**

Through its technical cooperation programme, IAEA supports various activities aimed at addressing the needs of African member States in terms of strengthening institutional capacity building in nuclear science and technology and promoting the sustainable application of nuclear techniques for social and economic development.

In response to the needs expressed by Governments, technical cooperation plans and resources are focusing on improvements in healthcare, food and agriculture with special attention to control and eradication of pests, combating diseases in livestock, improving crop production, water resources development, and management of natural resources in the context of sustainable development. Continuing the trend of previous years, a high level of programme delivery was recorded in 2004 and project disbursements amounted to over US\$ 20 million with a financial implementation rate of 78%. The technical cooperation programme in Africa for 2005–2006 covers the needs of 34 Member States among which 20 are Least Developed Countries (LDCs).

IAEA shares its recognized core competencies and technical expertise in support of NEPAD goals and promotes regional cooperation in nuclear science and technology-related fields. Projects supporting NEPAD address regional and national developmental problems related to the following sectoral priorities: Agriculture and Market Access; Human Resource Development; Infrastructure; and Environment.

The delivery of the IAEA technical cooperation programme in Africa is supported by a strong Technical Cooperation Among Developing Countries (TCDC) component. For 2005, \$18.6 million have been allocated to Africa from the Agency's Technical Cooperation Fund (TCF), out of which \$6.4 million are earmarked to support regional cooperative projects. The IAEA technical cooperation mechanism includes support to the African Regional Co-operative Agreement for Research, Development and Training Related to Nuclear Science and Technology (AFRA), which has today a membership of 31 African countries. AFRA cooperative projects cover various areas, including diagnostic through nuclear medicine procedures, cancer therapy, radiation processing, utilization of nuclear research reactors, non-destructive testing for industrial quality control, maintenance and repair of instrumentation, and promoting self-reliance and sustainability of national nuclear institutions.

In total, eight AFRA Regional Designated Centres (RDCs) have been empowered by AFRA Member States to help promote peaceful applications of nuclear techniques. They target areas of non-destructive testing techniques, mutation breeding and biotechnology,

radiation oncology and medical physics, radioactive waste management, irradiation processing and maintenance of scientific equipment. Improving national nuclear institutions capability as well as management skills of African managers, decision-makers and scientists at all levels of responsibility is one of the highest priorities of the AFRA programme. Particular attention is being paid to service-oriented activities that can generate income and contribute towards the sustainability of scientific and technical institutions. In various areas, regional cooperation is being promoted to increase impact and to further self-reliance and long-term sustainability goals on the continent.

Human resources development continues to receive special attention as the main vehicle for technology transfer in Africa. A national project on human resources development and nuclear technology support has been programmed for each Member State. Furthermore, a regional project will aim to incorporate and strengthen the teaching of nuclear techniques that address important developmental problems in curricula of institutions of higher learning, especially in LDCs.

### **Collaboration with other UN agencies in support of NEPAD**

#### Health

The IAEA human health programme in the region focuses on the use of radiation and isotopes to prevent, diagnose, and treat disease. IAEA also assists counterparts with medical equipment maintenance and networking using the new Information and Communication Technologies (ICTs).

Among the most significant issues is the HIV/AIDS pandemic. A major regional project focuses on building the necessary technical capacities and human resources to enable Africa to undertake a programme of vaccine research and trials specific to African needs and requirements. It is expected that the involvement of the IAEA in the global effort towards tackling the HIV/AIDS scourge will bring institutional, operational and technical capabilities that can contribute to UNAIDS and its network in the region.

HIV/AIDS and malnutrition often operate in tandem. Another IAEA regional project aims to reduce all forms of malnutrition among the most vulnerable groups, including the HIV/AIDS infected, through the use of stable isotopes in evaluation and monitoring of nutrition intervention programmes/projects. Furthermore, a five-year programme under AFRA concentrates mainly on the management of the most common cancers, particularly HIV-related cancers.

A Memorandum of Understanding (MOU) has been developed with the Regional Office for Africa of the World Health Organization (WHO/AFRO) to build a strategic partnership around the Agency work in Africa on human communicable diseases.

#### Agriculture

Tsetse flies and trypanosomosis, the disease they transmit, are among the main persisting constraints to sustainable development in sub-Saharan Africa. Among the many projects identified by African countries, the IAEA is supporting the initiative of the African Union (AU) to carry out and co-ordinate the Pan African Tsetse and Trypanosomosis Eradication Campaign (PATTEC), which was launched in Ouagadougou, Burkina Faso in October 2001.

The Agency contributes to the implementation of PATTEC's Plan of Action by supporting activities in several countries. The Agency input focuses on the transfer of the Sterile Insect Technique (SIT) in the context of area-wide integrated pest management (AW-IPM) in support of creating tsetse-free zones in selected areas in African Member States. The Agency will continue providing support through national projects to activities in Botswana, Burkina Faso, Ethiopia, Kenya, Mali, Senegal, South Africa, the United Republic of Tanzania and Uganda. Under a regional project, support is provided to the Member States' relevant activities in terms of awareness raising, technical planning, training and institutional capacity building.

Another strategic area of significance to the IAEA TC programme in Africa pertains to the strengthening of the region's technical capabilities for diagnostic and control of animal diseases in support of national and regional sero-surveillance programmes. Co-operation with the African Union's Pan-African Bureau of Animal Resources (AU/IBAR) focuses on supporting the objectives of the Pan-African Programme for the Control and Eradication of Major Epizootics (PACE), with special emphasis on efforts towards contributing to global self-reliance and sustainability within the region in this field through development of a regional capability for production and distribution of critical diagnostic kits.

The IAEA and the Food and Agricultural Organization (FAO) have a Joint Division of Nuclear Techniques in Food and Agriculture through which cooperation between the two sister organizations on the above-mentioned activities is sustained.

### Water Resources

Water is an issue of increasing concern where regional co-operation plays a crucial role. Intensive assistance over the past years has helped the majority of African Member States gain a better understanding and quantifiable estimates of the groundwater and surface water resources and design and implement national strategies for exploitation and management of these resources and enhance the safety of dams and artificial reservoirs.

Support to national and regional activities in the water sector remains one of the major thrusts of the IAEA technical cooperation programme in Africa. The 2005–2006 programme includes 22 national and regional projects. Special emphasis will continue to be placed on the contribution of isotope hydrology techniques addressing practical problems related to water resource management in shared aquifers. These include projects on (i) the sustainable development and equitable use of the common Nile Basin water resources, (ii) the Nubian Sandstone Aquifer, (iii) the Iullemeden Aquifer, and (iv)

the North Western Sahara Aquifer. The Agency will pursue its efforts to strengthen the developing partnership with the United Nations Development Programme/Global Environment Facility (UNDP/GEF) with a view to promote and support the development of a framework for the sustainable management and use of the Nubian aquifer systems among the countries that share the aquifer (Chad, Egypt, Libya and Sudan).

### Energy Planning and Economics

The IAEA's technical cooperation activities in the energy sector aim at supporting countries in the region in critical areas such as (i) diversifying energy supply and increasing the proportion of energy obtained from renewable energy sources and (ii) increasing access to reliable, affordable, economically viable, socially acceptable and environmentally sound energy services and resources.

Through a regional technical cooperation project IAEA has, since 2001, assisted 12 countries to enhance their capacities for long-term strategic planning of energy systems (Democratic Republic of Congo, Ethiopia, Ghana, Kenya, Mali, Mauritius, Namibia, Niger, Nigeria, Sudan, United Republic of Tanzania and Uganda). As a result of the activities during the first phase of the project completed in 2004, participating Member States are now in a better position to develop energy demand projections that are consistent with their socio-economic and technological development objectives and are now able to apply the IAEA methodologies to develop future expansion plans for the electric power sector to meet increasing electricity demands associated with economic growth and electrification. The second phase of the project (2005-2006) will aim more specifically to enhance the national and regional capacity in preparing a sustainable energy development strategy through conducting country studies to determine future energy demand and the best corresponding long-term energy supply mix through 2025.

The IAEA is involved in the collaborative mechanism for UN agencies (UN-Energy/Africa) in the context of the operationalization of the sub-cluster on energy in support of NEPAD energy initiative. Further integration of IAEA work with NEPAD projects would contribute to capacity building and would facilitate regional networking and cooperation among energy system specialists.