

Developing a new generation of African nuclear scientists through education and training

The challenge...

In order to ensure the availability of qualified human resources for nuclear applications, the IAEA supports the preservation, maintenance and enhancement of nuclear knowledge in Member States through its technical cooperation programme. For African countries without nuclear higher education systems, it is most cost effective to rely on institutions outside their countries – possibly with donor assistance – to build stronger higher education systems. National and regional strategies are necessary if the region is to establish and implement appropriate and relevant higher education programmes for nuclear science and technology that can meet human resource requirements.

The project...

The project aimed to foster sustainable human resource development and nuclear knowledge management in the African region by addressing key issues such as insufficient data on human resources in nuclear science and technology and the lack of education and training in Africa for the management, operation and utilization of nuclear facilities.

The main strategy was to establish a network of Education for Nuclear Science and Technology under the African Regional Cooperative Agreement for Research, Development and Training Related to Nuclear Science and Technology (AFRA-NEST). The network supports the integration and sharing of available human resources and facilities to support education and training, while adopting existing regional mechanisms of technical cooperation among developing countries.

The project also promoted the use of information and communication technology for web based education and training, and recognized regional designated centres (RDCs) for professional nuclear education in nuclear science and technology. Harmonized and accredited programmes at the tertiary level have been organized, and fellowships/scholarships are being awarded to young, talented students for teaching and research in various nuclear disciplines. Capacity and expertise are thus being sustainably established in the management, operation and utilization of nuclear facilities in a safe and secure manner.

The impact...

In 2009, AFRA set up a high level steering committee. Its action plan focused on training and educating African scientists in fields related to nuclear science and technology, using AFRA-NEST. Under the project, a harmonized curriculum was adopted by AFRA as a requirement for awarding a master's degree in nuclear science and technology in Africa.

The Graduate School of Nuclear and Allied Sciences, University of Ghana and the Department of Nuclear Engineering, University of Alexandria, Egypt were appointed by Member States as AFRA RDCs for professional and higher education to cater for the needs of African Member States that do not yet have the capacity to implement the curriculum.

The AFRA Fellowship Programme is the first initiative of its kind. It was launched in 2010 and candidates from six African Member States have begun the two-year master's programme in nuclear science and technology. The programme will contribute to training a new generation of African scientists who will foster the peaceful use of nuclear applications for the socioeconomic development of the region.



Students studying PhD and master's degrees in Nuclear Science and Technology in Ghana.