



Enhancing human capacities to ensure the safety of radioactive sources in Africa

The challenge

One of the biggest challenges facing Member States in Africa is human resource development. Significant advances have been made to address long term capacity building needs, in line with the vision of the African Regional Co-operative Agreement for Research, Development and Training Related to Nuclear Science and Technology (AFRA) that every AFRA country should have the possibility to train its citizens to apply nuclear science and technology to meet its needs and bridge gaps in required human resources.

As part of these advances, three regional designated centres for higher and professional education in Africa have been recognized to provide regional education and training programmes in radiation safety. Information and communication technology, the subject of AFRA projects over the last decade, will be integrated into AFRA education and training programmes as a supporting tool. AFRA's efforts to promote research will also be accommodated within the framework of the regional programme.

The IAEA has provided African Member States with support to develop national strategies for education and training in radiation, transport and waste safety. However, much more work is needed in all Member States to promote and ensure sustainability in this area. There are insufficient competent human resources available to maintain adequate levels of protection and support safety culture.

The project

Through this project, and based on the extension to 2020 of the IAEA Strategic Plan on Education and Training in Radiation, Transport and Waste Safety, the IAEA aimed to cooperate with Member States to build national competence through regional postgraduate educational courses (PGECs) and train-the-trainer events in radiation safety, and to collect and disseminate information on best practices on education and training. The IAEA also helped Member States to develop national training strategies based on national needs.

The project contributed towards the training of 124 regulators, radiation protection officers, and other



PGEC students at the Graduate School of Nuclear and Allied Sciences, Ghana, 2018. (Photo: SNAS, Ghana Atomic Energy Commission)

personnel with responsibilities in radiation safety from 32 Member States in Africa. The trainees acquired the educational and training qualifications required of graduate level staff earmarked for senior positions in radiation protection and the safety of radiation sources through participation in two PGECs in radiation protection and the safety of radiation sources. The first PGEC, for French-speaking countries, was hosted by Morocco's National Centre for Energy and Nuclear Science and Technology. The second PGEC, for English-speaking countries, was hosted by the Graduate School of Allied and Nuclear Sciences, University of Ghana.

Nine professionals from nine Member States were also awarded a two-year fellowship for the Masters' Programmes in Nuclear Science at the University of Alexandria, Egypt, and the University of Ghana. The beneficiaries are expected to contribute to the dissemination of nuclear knowledge and skills in their countries through tuition and publications, and to support the implementation of national projects and programmes.

The impact

A recent evaluation on PGECs conducted in previous years by the IAEA Division of Radiation, Transport and Waste Safety reported that one year after training the PGEC had a significant impact on the professional development of 56% PGEC graduates with the percentage rising to 71% more than 5 years after the training. Furthermore, the majority of the PGEC graduates that are regulators states that they applied the knowledge and skills acquired during the course to strengthen their home countries' radiation safety infrastructure.

Most PGEC participants serve as local trainers in their countries, and most postgraduate students also pursued a PhD programme, while others were recruited as mid-level professional staff in national atomic energy commissions and nuclear research centres.

PROJECT INFORMATION

Project No: RAF9056

Project title: Strengthening Education and Training in Radiation Safety and Sustaining Human Resources Development and Nuclear Knowledge Management

Duration: 2016-2019 (4 years)

Budget: €2 588 760 (including funding from US, PUI and AFRA Fund)

Contributing to:



Partnerships and counterparts

The project was partially supported with funding from the European Commission, which helped to increase the number of graduates from the PGEC course, and to build collaboration with European experts to deliver training modules where regional expertise was lacking. The strategic partnerships with Ghana and Morocco in organizing the PGEC were very important, facilitating the use of local expertise and infrastructure for tuition and practical sessions.

Facts and figures

- 124 radiation protection officers from national regulatory bodies and other relevant organizations have been trained since 2016;
- 20 participants were trained to build sustainable competencies and train radiation protection officers; and
- Three national strategies for education and training in radiation safety were completed and endorsed by Member States.