United Republic of Tanzania
IAEA Member State since January 1976

Selected achievements

2023: The Government develops and approves a bankable document for cancer care management in the country, with plans to expand radiotherapy services to new locations.

2023: A Master of Science in Medical Physics is approved at Dar es Salaam University, and a Master and PhD programme on the applications of Nuclear Science and Technology in Agriculture and Industry at the Nelson Mandela African Institute for Science and Technology in Arusha are established.

2019: The Ocean Road Cancer Institute launches advanced 3D radiotherapy services.

National priorities

- Nuclear and radiation safety and security
- Food and agriculture
- Human health
- Water resource management
- Energy planning
- Industry
- Nuclear knowledge development and management

Main areas of IAEA support

- Human health and nutrition
- Radiotherapy and nuclear medicine
- Food and agriculture
- Livestock insemination

Project successes

Cancer control

With IAEA support, Tanzania has enhanced its cancer care services at several locations in the country. Ocean Road Cancer Institute expanded from 2D to 3D radiotherapy through a technical

Development of M6 rice mutation at Tanzania Agricultural Research Institute (TARI), Morogoro. (Photo: TARI).

upgrade, including new bunkers, two new linear accelerators, a CT simulator and brachytherapy equipment, serving 4000 patients annually.

Bugando Medical Center in Mwanza provides radiotherapy services to over 1000 patients annually, using a Co-60 teletherapy machine, simulator, brachytherapy equipment and a SPECT Gamma camera.

The ongoing construction in Dodoma and Kilimanjaro, and the planning of additional zonal referral hospitals, will further enhance Tanzania's cancer care capabilities.

IAEA support has included long term fellowships and on-the-job training, on-site expert services for testing and commissioning new equipment, and the development of quality control and assurance systems, including clinical protocols.

In 2023, the IAEA helped Tanzania to develop a bankable document to mobilize funds for the planned expansion of radiotherapy and nuclear medicine services.

Food security

Rice is a staple food in Tanzania and is the second most consumed crop in the country after maize. With IAEA support, Tanzania introduced the 'SUPA BC' rice variety, which was developed using nuclear techniques. In the 2017 to 2019 crop seasons, the harvest in Zanzibar approached 50 000 tonnes for the first time in history. This major milestone was further enhanced with IAEA support to identify three mutant varieties resistant to the rice yellow mottle virus.

IAEA support involved training local researchers and providing expertise for the establishment of research facilities.

Nutrition

Stunted growth and malnutrition are major health problems for children in Tanzania. The country has been using stable isotope techniques to provide precise diagnostic information that enables enhanced evidence-based decision making to address these challenges. The Tanzania Food and Nutrition Centre, in collaboration with the Muhimbili University of Health and Allied Sciences and the Ministry of Health, has developed considerable expertise in assessing nutrition programmes and has conducted comprehensive breastfeeding studies to evaluate the impact of social and behaviour change communication (SBCC) interventions in promoting exclusive breastfeeding. This has enhanced the well-being of Tanzania's population, particularly vulnerable children.

National training course on CT scan technology, Ocean Road Cancer Institute (ORCI), October 2023, Dar es Salaam, Tanzania. (Photo: ORCI)

Participation in the major initiatives

• Rays of Hope

• ZODIAC

Date of imPACT Review(s)

2006

IAEA support received in the 21st century

51 national TC projects implemented

502 fellows and scientific visits — 127 women

893 training participants — 160 women

855 meeting participants — 159 women

120 expert missions received — 19 women

Contributions to South-South and triangular cooperation

131 fellows and scientific visits hosted — 31 women

883 meeting participants hosted — 208 women

136 expert missions supported — 11 women

AFRA