

Nicaragua

IAEA Member State since September 1957

Selected achievements

2023: The national policy and strategy on education and training in safety and radiological protection is updated.

2022: The laboratory for testing and monitoring food contaminants and residue at the Institute of Agricultural Protection and Health installs an inductively coupled plasma mass spectrometry (ICP-MS) instrument, enhancing analytical and human capacities.

2016: The national 'Energy Demand and Supply Studies 2015-2050' document is prepared using IAEA's energy planning tools.



The country's first linear accelerator radiotherapy machine is officially inaugurated in Nicaragua in May 2019. (Photo: National Radiotherapy Center, Nicaragua)

National priorities

- Human health and nutrition
- Nuclear and radiation safety and security
- Food and agriculture
- Water resources and the environment
- Energy and industry

Main areas of IAEA support

- Nuclear energy and safety
- Food security and irradiation technology
- Water and the environment

Project successes

Human health

The National Radiotherapy Centre in Managua has expanded its cancer detection and treatment services with significant support from the IAEA. Enhanced technology and skills enabled the transition from 2D to 3D conformal radiation therapy, resulting in greater precision in radiation dose delivery for treatment.

Support was provided to procure a new cobalt-60 source, a modern treatment planning system and high dose rate brachytherapy equipment. The IAEA also contributed to the construction of a double bunker to host two linear accelerators.

Fellowships in advanced radiotherapy techniques and nuclear medicine were provided to Nicaraguan health professionals along with training and equipment, boosting safety and quality in treatment planning and delivery.

Between 2017 and 2018, Nicaragua also received IAEA support to develop its national cancer control plan in close coordination with the World Health Organization.

Radiation protection

The Laboratory of Radiation Physics and Metrology (LAF-RAM) in Managua has significantly advanced its radiation protection services with IAEA support for more than 20 years.

Since 2013, dosimetry services for nuclear medicine were provided in addition to other calibration, verification, and monitoring services and the verification of radioactive source seals.

The IAEA assisted with procurement, training, and the development of a quality management system aligned with ISO 17025:2017 and ISO 9001.

This support enabled LAF-RAM to specialize in dosimetry, calibration, workplace monitoring, and establish a national dose registry.

LAF-RAM staff now actively contribute to the implementation of the national strategy for training in safety and radiological protection, enabling long term impact and international collaboration.

Energy planning

Since 2005, collaboration between the Ministry of Energy and Mines and the IAEA has strengthened Nicaragua's energy planning capabilities. National stakeholders have benefited from training provided on IAEA energy planning tools such as MAED, MESSAGE, FINPLAN, and SIMPACT.

This has facilitated the development of the 'Energy Demand and Supply Studies 2015-2050' and other crucial strategic national planning documents on energy indicators and financial analysis.

These studies, incorporating energy indicators and financial analysis, have enhanced the capabilities of Nicaraguan experts to prepare other policy documents such as the Indicative Plan for Expansion of Electricity Generation, Strategic Plan for the National Energy Sector, and the National Energy Balance.

The enduring partnership with the IAEA has strengthened Nicaragua's national energy planning and its ability to calculate future power demands and optimize energy supplies.

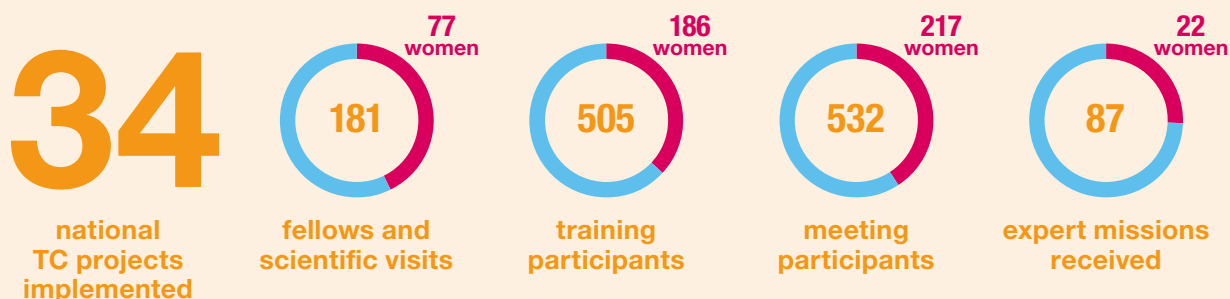
Participation in the major initiatives

- NUTEC Plastics
- ZODIAC

Date of imPACT Review(s)

2006

IAEA support received in the 21st century



Contributions to South-South and triangular cooperation

