

Costa Rica

IAEA Member State since March 1965

Selected achievements

2023: Costa Rica's secondary standards dosimetry laboratory (SSDL) at CICANUM Costa Rican University (UCR) enhances its technical capacity.

2022: Health care waste at the National Children's Hospital is reduced through the introduction of new plasma-based technology for mitigating infections associated with health care.

Since 2020: The effectiveness of the governmental and regulatory infrastructure for radiation safety is enhanced.

National priorities

- Agriculture and the environment
- Radiation protection and safety
- Human health
- Industry

Main areas of IAEA support

- Radiation therapy and radiosurgery
- Radiation safety
- Human health
- Environment

Project successes

Food safety

Costa Rica has achieved notable successes with IAEA support since 2016. Notably, the capabilities of the National Laboratory for Diagnosis and Research in Animal Health (LANASEVE) were improved for the analysis and monitoring of toxic metals, marine biotoxins, pesticides and veterinary drugs in animal products.

As a result, the laboratory is better equipped to meet the stringent regulations of the European Union and other international food export markets for the safety of animal products.



Project team from the San Juan de Dios and National Children's hospitals. (Photo: L. Badilla/National University Costa Rica)

The ongoing validation of toxic metals analysis (with plans to incorporate additional tests) further underscores the country's commitment to food safety and contaminant control.

At a regional level, Costa Rica has provided valuable contributions on food safety risk assessment in the Latin American Network of Analytical Laboratories (RALACA) and the Data-Sharing Committee (RALACA-DSC).

Human health

With support from the IAEA (since 2019), Costa Rica has enhanced diagnostic and treatment capabilities for heart diseases through the integration of advanced radiological and more recently with 3D printing technologies at the San Juan de Dios and National Children's hospitals.

In 2023, a Computer Tomography Scanner and specialized training for hospital staff were organized with IAEA support.

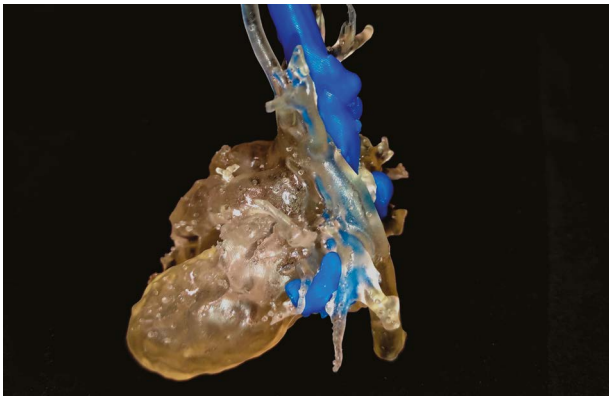
Agriculture and environment

In collaboration with the IAEA and the FAO, the National Rice Corporation (CONARROZ) and the Environmental Pollution Research Centre (CICA) have been employing isotopic techniques to optimize nitrogen fertilizer practices for rice plantations, determine precise fertilizer quantities and chemical compositions and optimize application times during the plant life cycle. CICA, as an IAEA Collaborating Centre, has been sharing its nuclear expertise

in the region and has so far trained over 2000 experts in climate-related topics.

Additionally, Costa Rica has been utilizing isotope hydrology to study rainfall patterns and manage underground water sustainably.

In 2023, CICA received IAEA assistance to procure new equipment and training for identifying contamination sources in vulnerable aquifers through isotopic and conventional techniques. These measures have helped farmers to manage their water resources more effectively and enabled policymakers to devise appropriate conservation policies.



Printed model of a three-month-old patient's heart, manufactured using 3D stereolithography technology and based on medical images from X ray tomography.
(Photo: L. Badilla/National University (UNA) Costa Rica)

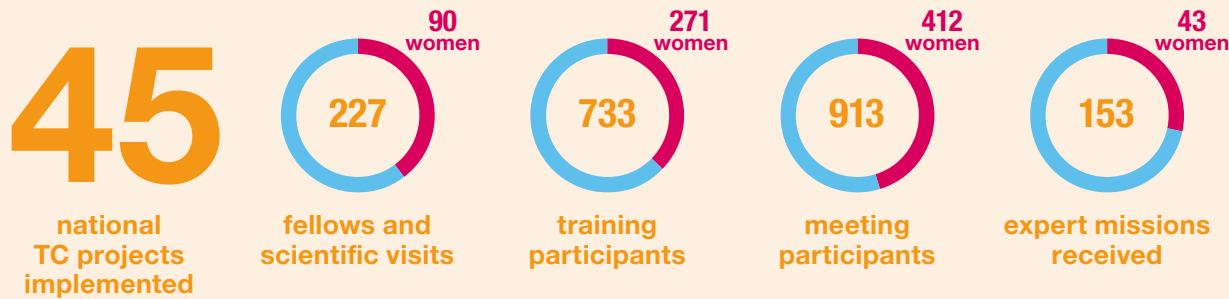
Participation in the major initiatives

- NUTEC Plastics
- Rays of Hope
- ZODIAC

Date of imPACT Review(s)

2014

IAEA support received in the 21st century



Contributions to South-South and triangular cooperation

