

Madagascar

IAEA Member State since March 1965

Selected achievements

2019: Hospital Joseph Raseta de Befelatanana reopens, equipped with a new cobalt-60 radiotherapy machine donated by India and a brachytherapy unit provided by the IAEA.

2019: A first nuclear medicine service is established at the public Andohatapenaka Hospital in Antananarivo.



With the right soil conservation techniques, identified with the help of nuclear technology, farmers in Madagascar are able to protect their land from soil erosion. (Photo: M. Gaspar/IAEA)

National priorities

- Human health
- Agriculture and stockbreeding
- Water resources management
- Radiation safety

Main areas of IAEA support

- Human health
- Livestock production
- Environmental protection
- Water resources management

Project successes

Cancer control

With support from the IAEA, Madagascar has successfully re-established its public radiotherapy infrastructure, which had been out of service since 2009. This involved equipping Hospital Joseph Raseta Befelatanana with a cobalt-60 machine donated by India, complemented by a brachytherapy unit and a treatment planning system provided by the IAEA. Through extensive fellowship training for oncologists and medical physicists, the IAEA facilitated the return of public radiotherapy services in 2020. Additionally, the IAEA has supported the establishment of nuclear medicine services at Andohatapenaka Hospital, supplying a gamma camera and conducting training for medical staff.

Animal production and health

Madagascar has many indigenous cattle breeds. The IAEA supported an integrated livestock improvement approach whereby local staff were trained in artificial insemination and modern technologies related to livestock breeding and reproduction, nutrition and the health of dairy cows in periurban, smallholder dairy farms. As part of this initiative, 200 DNA samples were collected from three of the main indigenous cattle breeds for genetic characterization. This data will assist national efforts to conserve and manage livestock, maintain agricultural productivity and help to preserve biodiversity. The IAEA's support has been instrumental in improving the livelihoods of smallholder farmers and enhancing Madagascar's food security.

Soil and water management

Scientists at the National Institute of Nuclear Sciences and Techniques (INSTN-Madagascar) have used isotopic techniques to investigate and compare soil erosion rates in terraced and non-terraced agricultural areas. Their studies revealed that traditional terracing systems reduced soil erosion by 40 per cent, equivalent to retaining three tonnes of soil per hectare every year. The results of this study are used to encourage Madagascar's farmers to revert to using traditional terracing systems to better conserve their land.

Participation in the major initiatives

- Rays of Hope
- ZODIAC

Date of imPACT Review(s)

2015, 2007



Water sampling for CFC (Chlorofluorocarbon)/SF6 (Sulfur Hexafluoride) analysis in Ambohimambola-Madagascar. (Photo: INSTN-Madagascar)

IAEA support received in the 21st century



Contributions to South-South and triangular cooperation

