

Selected achievements

2023: Procedures to effectively sample and measure soil, vegetation, water and food products are established.

2022: Oman's Ministry of Education integrates nuclear science into the 10th grade High School curriculum. As a result, over 50 000 students have received education in nuclear science and technology since 2022.

2017: National malaria rates decrease by 95 per cent thanks to enhanced detection and screening capabilities.



Technical staff employ nuclear techniques to detect genes associated with drug resistance in *Plasmodium vivax* in the laboratories of the Biochemistry Department, College of Medicine and Health Sciences, Sultan Qaboos University. (Photo: Sultan Qaboos University)

National priorities

- Food security and agricultural productivity
- Human health
- Management of water resources
- Protecting the environment
- National legal and regulatory framework
- Radiation safety and nuclear security

Main areas of IAEA support

- Radiopharmaceuticals production
- Emergency and response
- Environment radiation monitoring
- Nuclear analytical techniques
- Management of radioactive waste
- Management of naturally occurring radioactive materials from the oil and gas industries

Project successes

Agricultural water and soil management

High levels of salinity of soil and irrigation, coupled with considerable losses of irrigation water through evaporation, have led to low nutrient use efficiency in the sandy soils that are dominant in agricultural lands of Oman.

With IAEA support, Oman gained experience in using isotopes and nuclear techniques to better manage water, soil and nutrients and enhance crop productivity.

This involved expert missions, fellowships and procuring additional equipment such as a cosmic ray neutron sensor.

As a result, Oman has seen improved efficiency in water and nutrient use for date palm cultivation, showcasing long term benefits for sustainable agriculture in Oman.

Human health

The once major problem of malaria in Oman has been significantly curtailed in the last two decades due to the use of nuclear detection techniques.

The IAEA has been working with local institutions to introduce molecular methods and DNA sequencing for disease detection.

Building on this successful initiative, the IAEA is now supporting the country in ensuring preparedness and readiness to respond to any outbreaks of viral diseases, especially diseases caused by viruses migrating from animals to humans.

Participation in the major initiatives

- ZODIAC

Date of imPACT Review(s)

2013



Technical staff at the Biochemistry Department, College of Medicine and Health Sciences, Sultan Qaboos University. (Photo: Sultan Qaboos University)

IAEA support received in the 21st century



Contributions to South-South and triangular cooperation

