

Key achievements in Qatar

- 2019: The Qatar Central Food Laboratory receives an ISO 17025 accreditation for testing and calibrating equipment to measure gamma radiation.
- 2018: The Qatar Medical Physics Society approves national diagnostic reference level guidelines for the optimal use of radiopharmaceuticals in medical imaging.
- 2016: Qatar Emir Decree authorizes Ministry of Municipality and Environment to supervise and control radioactive material and sources.

Atoms for peace and development

Widely known as the world's 'Atoms for Peace and Development' organization within the United Nations family, the IAEA is the international centre for cooperation in the nuclear field. The Agency works with its Member States and multiple partners worldwide to promote the safe, secure and peaceful use of nuclear technologies.

The IAEA's technical cooperation (TC) programme helps countries to use nuclear science and technology to address key development priorities in areas including health, agriculture, water, the environment and industry. The programme also helps countries to identify and meet future energy needs. It supports greater radiation safety and nuclear security, and provides legislative assistance.



An assessment of the Central Food Laboratory at the Qatar Ministry of Public Health is conducted by the US accreditation organization ANAB to prepare for the ISO 17025 certification of its technical competencies in determining gamma ray emitting radionuclides. The IAEA supported training and procurement of equipment for the laboratory. (Photo: Ministry of Municipality and Environment)

Recent project successes

Water management

Qatar is a country most affected by the scarcity of water due to its arid climate. With IAEA support, the Government is improving its agricultural production of more salt-tolerant crops and improving its water management methods for irrigating land with renewable brackish and treated sewage water for animal feed crops grown in saline areas.

The IAEA provided training to help optimize irrigation schedules in extremely saline and high temperature conditions using nuclear neutron probes, which measure moisture in soil. Nuclear techniques were also used to assess the nutrient content of salt-tolerant crops and to monitor changes in soil fertility to maximize yields. Qatar is currently scaling-up the use of these techniques for commercial purposes.

Food and agriculture

Qatar's Central Food Laboratory (CFL) is responsible for monitoring radioactivity in imported food to ensure its compliance with national and international regulations and standards. Operated by the Ministry of Public Health and in collaboration with customs and border authorities, the Laboratory ensures the safety of food and drinking water by testing for the presence of any radioactive contaminations.

The IAEA supported the establishment of a radiochemistry separation laboratory, the development of human resources, and the procurement of equipment to measure contamination. Based on this new expertise, CFL obtained an ISO 17025 accreditation for determining gamma ray emitting radionuclides.

Health and nutrition

With IAEA support, nuclear medicine and diagnostic imaging equipment was procured and installed at Qatar's PET/CT Hot and Quality Control Laboratory Operation Training Installation, together with items to assist with quality assurance. IAEA experts helped monitor progress, supported existing nuclear medicine physicists through training, advised on the actions for a PET-CT full quality assurance programme and expanded capacities for skeletal and cardiac imaging. Training was also provided through expert missions, fellowship programmes and scientific visits focused on the basics of cyclotron/PET control, operation and maintenance,

radiological protection, PET radiopharmaceuticals production, and on QA/QC performance in a PET/CT cyclotron centre.

An upgraded nuclear medicine department with a state-of-the-art PET-CT centre is now providing diagnosis and staging for cancer patients at a reduced cost.

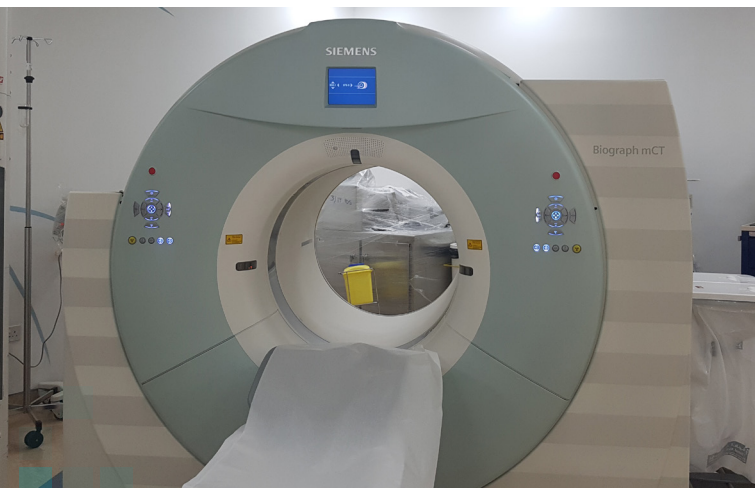
Active national projects

- Developing Best Soil, Nutrient, Water and Plant Practices for Increased Production of Forages under Saline Conditions and Vegetables under Glasshouse Using Nuclear and Related Techniques (QAT5008)
- Strengthening the Quality Management System of Positron Emission Tomography-Computed Tomography Centres and a Cyclotron Facility (QAT6007)
- Establishing a Secondary Standards Dosimetry Laboratory (QAT6006)
- Strengthening National Emergency Preparedness and Response Capabilities - Phase III (QAT9014)
- Establishing Internal Dosimetry Services (QAT9015)

Qatar also participates in 31 regional projects and 1 interregional project, mostly in the area of health and nutrition, and food and agriculture.

Previous IAEA support to Qatar

In recent years, the IAEA has focused its support on improving the productivity of date palms through the efficient use of fertilizer and water irrigation systems, assessing national educational needs in medical physics and radiation protection, and on strengthening radiation protection for health care workers. Additional support was provided to improve emergency preparedness and response, and enhance infrastructure to manage naturally occurring radioactive waste from oil and gas production.



IAEA support to Qatar, 2009–2019



145 trained
(including 54 women)

59 international experts provided

42 attended specialist meetings
(including 13 women)

Priority areas of support

- Improving human health infrastructure
- Supporting the food and agriculture sector
- Monitoring the environment
- Enhancing the legal framework and safety infrastructure

Qatar's contribution to South-South and triangular cooperation, 2009–2019



2 expert and lecturer assignments provided by Qatar

129 training course participants

Based on data available as of April 2020

Strategic documents supported

- Country Programme Framework 2016–2021, signed in August 2016

With IAEA support, the radiation safety and quality assurance programme for the PET-CT Cyclotron Centre at the Hamad Medical Corporation was established, providing quality health services to patients. (Photo: Ministry of Municipality and Environment)

www.iaea.org/technicalcooperation

The IAEA collaborates with National Liaison Officers and Permanent Missions to deliver its TC programme.

