



Key achievements in Yemen

- 2019: Programme for small ruminant animal breeding is launched in Yemen's highlands.
- 2017: Training for staff at the Brachytherapy Cancer Centre in Sanaa advances.
- 2016: Highland farmers in Shibam Kawkaban, Bani-Mater and Khulan Affar begin cultivating two new barley varieties produced with nuclear techniques.
- 2016: A new wheat variety adopted in the Amran Governorate increases yields and farmer incomes.

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.



Yemeni farmers participate in IAEA supported field training to learn about producing higher crop yields. (Photo: A Saif/AREA)

Recent project successes

Livestock production

Rearing livestock, particularly small ruminants, provides one of the main sources of food and income to Yemen's rural communities. The IAEA supported Yemen's Agricultural Research and Extension Authority (AREA) to improve the management of small farms and build breeding capacity in the central highland region. Assistance included nine fellowships and training for AREA staff in artificial insemination, animal nutrition analysis and best practice, and diagnosis of animal diseases – focusing on reproductive health. The country is now better positioned to manage its small ruminant farms and enhance overall food security.

Cancer care

The IAEA helped enhance the skills of medical staff at the Brachytherapy Cancer Centre at the 48 Model Hospital in Sanaa. This included specialized training in gynaecological and non-gynaecological cancers for medical doctors and a radiation therapist. Fellowships were also provided with hands-on training in the application of the latest medical protocols in nuclear medicine diagnostics and radiotherapy treatment, the use of equipment and safety and radiation protection. This assistance has ensured the continuity of brachytherapy services for Yemen's cancer patients.

Food security

Agriculture is a major source of employment in Yemen and an increasingly important sector for the country's economy. However, major issues due to soil salinity, droughts, pests and diseases have threatened the sustainability of crop production.

The IAEA supported the Government of Yemen in developing new crop varieties, including wheat, barley, lentils and sesame, with greater drought tolerance, better disease resistance and shorter growing times. Assistance included workshops, scientific visits, fellowships and training courses in using advanced nuclear and isotopic techniques, nitrogen fertilizers and water management. Farmers in the Amran area have now adopted a new wheat variety which increases yields. The newly developed potato and cabbage crops require half the amount of water and fertilizer. In addition, two barley varieties are currently being cultivated in the rain

fed highlands of Shibam Kawkaban, Bani-Mater and Khulan Affar.

Yemen's growing expertise has not only increased food security and farmer incomes throughout the country, but it has also led to the establishment of a crop mutation breeding programme which is now being shared with neighbouring countries, including Oman, Qatar and Saudi Arabia.

Active national projects

- Enhancing Sorghum and Legume Crop Productivity through Induced Mutations with Supportive Breeding and Bio-Technologies (YEM5015)
- Rehabilitating National Capabilities in Radiotherapy and Nuclear Medicine (YEM6015)

Yemen also participates in 30 regional and 5 interregional projects, mostly in the area of nuclear and radiation safety, radiation medicine and human health, and food and agriculture.

Previous IAEA support to Yemen

In recent years, the IAEA has supported nuclear safety, human health and agriculture in Yemen. Biotech laboratories were established at Dhamar and Sayion research stations with IAEA support for the procurement of equipment and materials for chemical analyses.



The IAEA supported Yemen's development of wheat varieties with greater tolerance to disease. (Photo: A. Saif/AREA)

IAEA support to Yemen, 2009–2019



593

trained
(including 127 women)

10

international
experts
provided

93

attended specialist
meetings
(including 7 women)

Priority areas of support

- Enhancing crop production
- Improving crops for drought tolerance and disease resistance
- Enhancing molecular techniques for sustainable crop production
- Enhancing animal productivity
- Improving integrated management for water resources
- Supporting human health by expanding capacities for radiotherapy, cancer management and nuclear medicine services throughout the country

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



18
expert and lecturer
assignments provided
by Yemen

Based on data available as of April 2020

Cancer control iMFACT Review conducted: July 2007

www.iaea.org/technicalcooperation

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

