

## Selected achievements

**2021:** A pilot project applying advanced agricultural practices for the management of soil, nutrients and water in cotton production results in an increased average yield of five tonnes per hectare.

**2020:** A gamma irradiation complex is established.

**2016:** Azerbaijan's first Nuclear Medicine Centre is opened in Baku. Its cyclotron facility can produce more than 15 different radiopharmaceuticals for cancer and neuroendocrine tumour imaging.



Climate smart agriculture practices are introduced in Azerbaijan to increase cotton production. (Photo: M. Zaman)

## National priorities

- Regulatory framework for radiation and nuclear safety
- Human health, in particular cancer treatment and early diagnosis
- Management of radioactive waste
- Monitoring radioactive contamination of the environment
- Combatting climate change

## Main areas of IAEA support

- Nuclear and radiation safety
- Environmental protection
- Agriculture
- Human health
- Transport safety
- Nuclear technologies

## Project successes

### Nuclear research and nuclear technologies

With IAEA support, Azerbaijan established a radiation processing technology laboratory in 2020. This included a gamma irradiation device — actively used for sterilization in the medical, healthcare, and food sectors. This has contributed to enhancing product safety.

Additionally, Azerbaijan established nuclear spectroscopy and forensics laboratories with IAEA support, acquiring modern equipment for materials analysis.

This has helped enhance monitoring capabilities and the identification and analysis of nuclear materials, including detecting a Caesium-137 source in 2023.

### Environmental protection

With IAEA support, Azerbaijan established a network of ten automatic stations to assess heavy metal and radioactive pollution in rivers and other water bodies.

The equipment procured in this manner has enabled the efficient assessment of pollution levels and strengthened environmental monitoring, promoting sustainable, long term water and soil quality management in the country.

## Agricultural water and soil management

The IAEA has been supporting Azerbaijan's adoption of climate-smart agricultural practices.

Isotopic techniques are employed to optimize fertilizer use, enhance agricultural production efficiency, and maintain soil health.

In a recent pilot project, these measures resulted in a significant increase in the average cotton yield per hectare — from three to eight tonnes — demonstrating the success of this approach.

## Participation in the major initiatives

- ZODIAC



Former IAEA Deputy Director General Dazhu Yang is there to witness the opening of Azerbaijan's first Nuclear Medicine Centre in Baku in April 2016. (Photo: Azerbaijan Nuclear Medicine Centre)

## IAEA support received in the 21st century



## Contributions to South-South and triangular cooperation

