



Key achievements in Bangladesh

- 2017: Bangladesh begins the construction of its first nuclear power plant in Rooppur.
- 2017: Bangladesh triples its rice production through the introduction of plant mutation breeding, doubling yields in a shorter time with more harvests.
- 2010: Bangladesh uses cost effective nuclear techniques to identify sustainable sources of safe drinking water.

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.



Construction of the nuclear power plant at Rooppur in Bangladesh. The IAEA assisted the country with legal and expert advice on the plant's development as well as on the development of a radioactive waste management system. Upon completion, the power plant will generate 2400 megawatts of electricity.
(Photo: L. Gil/IAEA)

Recent project successes

Energy planning and nuclear power

By 2025, Bangladesh aims to produce 9 per cent of its electricity from nuclear power to reduce its dependence on fossil fuels. When completed, the country's first nuclear power plant in Rooppur – 160kms northwest of the capital, will generate electricity for more than 3.5 million homes.

Since 2017, the IAEA has assisted Bangladesh to revise its draft nuclear law so that it adheres to international conventions and legal instruments (e.g. conventions on the physical protection of nuclear material and early notification of nuclear accidents). The IAEA has also supported the development and review of regulations, the conduct of site evaluations and the development of a radioactive waste management system.

Food and agriculture

New rice varieties, developed using nuclear techniques, have helped Bangladesh increase its rice production three-fold since the 1970s. The IAEA and the Food and Agriculture Organization of the United Nations have provided support since 1993 to enable a more sustainable supply of rice and has now shifted from being an importer to an exporter of rice.

The Bangladesh Institute of Nuclear Agriculture has developed over 100 suitable high yielding rice varieties with improved characteristics. Among them are quick growing varieties such as Binadhan 7, which can be harvested around a month earlier than other varieties while producing a similar yield at a higher quality, and can be sold for a higher price. This helps increase incomes for farmers and provides more seasonal employment for workers in the north western part of Bangladesh.

Water and the environment

The health crisis associated with the discovery of naturally occurring arsenic contamination, together with the prevalence of diarrhoea and water borne diseases, meant that the country urgently needed a cost effective and sustainable solution for providing safe drinking water.

The World Bank and the IAEA supported isotope hydrology techniques to identify contamination free drinking water. The IAEA also helped establish a new laboratory for 12 trained scientists and engineers to independently analyse the results. Five scientific visits and six regional training courses were also conducted to strengthen the country's capacity to assess its groundwater resources.

Active national projects

- Strengthening Capacity in the Maintenance and Utilization of the Tandem Accelerator Facility (BGD0010)
- Strengthening Capacity in the Design and Development of Spent Fuel Storage and the Reactor Safety Testing Laboratory (BGD1013)
- Developing a Structured Licensing Programme for the Effective Regulatory Oversight of a Nuclear Power Plant During the Construction Phase (BGD2015)
- Developing Infrastructure and Support Systems for a Nuclear Power Plant During the Various Stages of Construction (BGD2016)
- Developing Infrastructure and Support Systems for a Nuclear Power Plant During the Various Stages of Construction — Phase II (BGD2017)
- Building Capacity in Improving Food Safety Using Nuclear and Other Complementary Analytical Techniques (BGD5032)
- Using Nuclear Techniques in Assessing River Bank Erosion (BGD5033)
- Building Capacity for Improved Cancer Management through Strengthening Human Resources in the Field of Radiation Oncology (BGD6026)
- Strengthening Cancer Management Through Capacity Building in Molecular Imaging Technology and Radiation Oncology (BGD6027)
- Developing Human Resources and Infrastructure for Cyclotron Based Diagnostic Positron Emission Tomography Radiopharmaceutical Production and Radiation Treatment Facilities for Cancer Patients (BGD6028)
- Assisting the Development of a Licensing Programme for Effective Regulatory Oversight of the First Nuclear Power Plant (Phase II) (BGD9016)
- Strengthening of Radioactive Waste Management (RWM) Capabilities (BGD9017)
- Strengthening the Regulatory Supervision Process to Ensure Effective Oversight during Nuclear Power Plant Construction (BGD9018)

Bangladesh also participates in 48 regional and 11 interregional projects, mostly in the area of health and nutrition, food and agriculture, and energy planning and nuclear power.

Previous IAEA support to Bangladesh

In recent years, the IAEA provided support and training to national staff on the development of the nuclear power infrastructure, supporting the successful introduction of nuclear power and facilitating the first steps towards the construction of Bangladesh's first nuclear power plant. The IAEA also supported the country in establishing a national nuclear technology training centre and assisted in procuring a full scope nuclear power plant training simulator, which was installed in June 2016.

IAEA support to Bangladesh, 2009–2019



930 trained
(including 240 women)

163 international experts provided

244 attended specialist meetings
(including 49 women)

Priority areas of support

- Improving nuclear power applications
- Strengthening the food and agriculture sector
- Strengthening the human health infrastructure
- Protecting the environment, soil and water resources
- Enhancing radiation protection and nuclear safety and security
- Strengthening the industrial sector

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

30 expert and lecturer assignments provided by Bangladesh

110 training courses hosted

7 fellows or scientific visitors hosted

Based on data available as of April 2020

Cancer control imPACT Review conducted: October 2013

Strategic documents supported

- United Nations Development Assistance Framework 2017–2020
- Country Programme Framework 2018–2023, signed in September 2018

www.iaea.org/technicalcooperation

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