



Key achievements in Viet Nam

- 2019: Viet Nam, Lao People's Democratic Republic and Cambodia sign two Practical Arrangements with the IAEA for triangular cooperation on non-destructive testing, industrial applications, nuclear medicine and mutation breeding.
- 2018: The Vietnam Atomic Energy Agency signs a partnership with the Australian Nuclear Science and Technology Organisation on the peaceful applications of nuclear science and technology.
- 2018: Over 3 million farmers benefit from the new 'DT-10' variety of rice which has 40 per cent higher yields than traditional varieties.

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.



At the Research and Development Centre for Radiation Technology in Ho Chi Minh City a technique was introduced in 1999 with support from the IAEA and FAO, in which food products undergo an irradiation process to extend their shelf life and kill potentially harmful microorganisms. (Photo: E. Marais/IAEA)

Recent project successes

Radiation processing

Irradiation to improve food quality was first introduced by the Viet Nam Atomic Energy Institute in 1999. The project began by irradiating 259 tonnes of food per year. By 2017, this number had increased to 14 000 tonnes. The IAEA provided assistance through the procurement of a gamma irradiator in 1999 and an electron beam irradiator in 2013. The facility's staff were also trained and expert advice was provided with IAEA support.

A large market for irradiated products has since emerged, significantly increasing the ability of companies to export their food products, and contributing to the country's agricultural competitiveness.

The Research and Development Centre for Radiation Technology (VINAGAMMA) in Ho Chi Minh City has grown from 20 employees since its formation in 1999 to 79 today. It also sterilizes medical products, pasteurises foodstuffs, and conducts commercial research and development work related to protecting crops from disease, pests and weeds, as well as on gold and silver nanogels used in medicine.

Today, the Centre provides national and regional training opportunities in radiation technology, and works with international partners to identify ways to improve irradiation technology.

Insect pest control

Fruit flies damage crops and the livelihoods of farmers. To help counter this major problem the Plant Protection Research Institute (PPRI) in Hanoi and the Agriculture and Rural Development Department of Binh Thuan province, together with the IAEA and the Food and Agriculture Organization of the United Nations (FAO), launched an integrated pest management pilot project in 2016.

This fruit fly suppression project was tested on 1500 hectares of dragon fruit crops. The IAEA and FAO supported the collection of baseline data, the establishment of a fully equipped laboratory at the PPRI, and training, fellowships and scientific visits. Three years later, Viet Nam has observed a significant decrease in the fruit fly population.

The next step is the integration of the sterile insect technique (a radiation-based method of insect pest control) into area-wide management of insect pests, to further suppress the fruit fly population.

Active national projects

- Promoting the Reactor Safety Development Programme — Phase III (VIE1010)
- Strengthening the National Nuclear Infrastructure - Phase II (VIE2014)
- Integration of the Sterile Insect Technique with Other Suppression Methods for Control of Bactrocera fruit flies in Dragon Fruit Production (VIE5021)
- Promoting Interlaboratory Comparison and Accreditation in Testing Chemical Contamination for Food Safety (VIE5022)
- Reducing the Incidence and Impact of Transboundary Animal and Zoonotic Diseases (VIE5023)
- Developing an Education and Training Programme for Medical Physics (VIE6030)
- Promoting Applications of Permanent Iodine-125 Seed Implant in the Treatment of Localized Prostate Cancer (VIE6031)
- Improving Capacity in Head and Neck Cancer, and Cervical Esophageal Cancer Treatment by Intensity Modulated Radiotherapy and Volumetric Modulated Arc Therapy (VIE6032)
- Strengthening Clinical Applications of Therapeutic Targeted Radionuclides for Improving Cancer Management (VIE6033)
- Assessing Flow Regimes and River Biogeochemistry of Lower Red River in an Integrated Manner Using Isotope Techniques (VIE7006)
- Enhancing the Regulatory Infrastructure for Medical and Industrial Facilities (VIE9020)

Viet Nam also participates in 46 regional and 13 interregional projects, mostly in the area of health and nutrition, food and agriculture, and radiation protection and nuclear safety.

Previous IAEA support to Viet Nam

In recent years, IAEA assistance to Viet Nam has focused on enhancing radiation and nuclear safety infrastructure, strengthening national nuclear infrastructure, and promoting a reactor safety development programme to enhance national research capabilities. The country also benefitted from training programmes for medical physicists, inter-laboratory comparisons, and accreditation for food safety testing.

IAEA support to Viet Nam, 2009–2019



856 trained
(including 245 women)

251 international experts provided

263 attended specialist meetings
(including 66 women)

Priority areas of support

- Improving the nuclear power infrastructure to enhance nuclear safety, security and safeguards
- Developing human resources in nuclear technology applications
- Supporting radiation safety and radioactive waste management
- Strengthening industrial applications of radioisotope technology
- Improving the human health infrastructure
- Developing the food and agriculture sector
- Protecting the environment

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



41 expert and lecturer assignments provided by Viet Nam

247 training course participants

53 fellows or scientific visitors hosted

Based on data available as of April 2020

Cancer control imPACT Review conducted: October–November 2006

Strategic documents supported

- One Strategic Plan 2017–2021, the UN's programmatic and operational framework to support the Government
- Country Programme Framework 2016–2021, signed in November 2015

www.iaea.org/technicalcooperation

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