Panama

IAEA Member State since March 1966

IAEA Technical Cooperation Programme

Key achievements in Panama

- 2019: The only public cancer centre in Panama, the National Oncology Institute, regains its operating license from the National Regulatory Authority, with IAEA expert advice.
- 2019: A national cancer control programme is established with support from the IAEA and the World Health Organization.
- 2017: A national phytosanitary pest surveillance system for fruit flies is installed, setting-up over 3700 traps at key locations including borders, and air and sea ports.

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.

The Institute of Agricultural Research in Panama (IDIAP) organised field training for 60 rice farmers at the Mama Elisa Mill farm in Tonosi, Los Santos Province, to demonstrate the results of an IAEA supported project to enhance crop yields through better water and nutrient management. (Photo: IDIAP)

SUSTAINABLE DEVELOPMENT GOALS

Recent project successes

Food security

By upgrading its water and soil management systems with IAEA support, Panama made an important step towards increasing rice productivity, the most consumed grain at national level, and overall food security. Supported by the IAEA and the Food and Agriculture Organization of the United Nations (FAO), Panama used the nitrogen-15 isotope technique to determine the efficiency of fertilization and the most optimal nitrogen dose for the rice crop. New monitoring systems enabled water and fertilizers to be more effectively used, helping to maintain soil quality and water resources while also improving rice yields in some cases from 4 to over 6 tonnes per hectare. This equates to increasing a farmer's income to more than US$40 000 per hectare of rice.

Industrial applications

Panama must constantly dredge the Panama Canal to ensure that the link between the Atlantic and the Pacific remains open for the 252 million tonnes of goods that pass along it each year. This costly process is further complicated by seasonal tropical storms.

With IAEA support, national experts have built their radiation technology capacity, enabling them to generate models of how sediment moves in the Panama Canal. IAEA assistance included training and the procurement of nucleonic gauges to measure sediment profiles.

In late 2019, the first nucleonic gauge was successfully deployed to measure sediment profiles on the Atlantic side of the Canal. Once measurements from the Pacific side are complete, the Panama Canal Authority will finalise a Sediment Profile Measurement Plan that will contribute to more effective dredging operations, and to better water management, supporting the efficient passage of ships through the Canal.

Human health

In close cooperation with the World Health Organization, the IAEA provided expert assistance to help develop Panama's National Cancer Control Plan for 2019–2029. Panama's capacities in radiation oncology and nuclear medicine were strengthened with training for its nuclear physicians, medical physicists, radiation oncologists and technologists. Improved safety measures for patients undergoing radiotherapy were also established. As part of its support, the IAEA provided 10 fellowships and scientific visits to the United States of America, Brazil, Spain, Canada and Bulgaria, as well as 21 expert missions and regional training courses.

Active national projects

- Strengthening Capacity to Enhance the Use of Nuclear Applications for Development (PAN0008)
- Strengthening Analytical Capabilities for Risk-based Monitoring of Agricultural Products for Internal Consumption (PAN5027)
- Improving the Quality of Organic Cocoa Production by Monitoring Heavy Metal Concentrations in Soils and Evaluating Crop Water Use Efficiency (PAN5028)
- Strengthening Capabilities for Improved Quality and Safety in Radiotherapy (PAN6013)
- Strengthening National Infrastructure for Radiation Safety and Security (PAN9010)
- Strengthening the National Infrastructure for Radiation Safety (PAN9011)

Panama also participates in 45 regional projects and 1 interregional project, mostly in the area of food and agriculture.

Previous IAEA support to Panama

In human health, the IAEA provided significant assistance to help train and support medical and paramedical staff to address the accidental overexposure of patients to radiation at the National Oncology Institute (ION) in 2000. In 2003, the authorities requested an appraisal of ION's compliance with the International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources. An imPACT Review was later conducted in 2014 to assess the status of cancer services in the country and provide recommendations to strengthen and expand its accessibility. In 2019, the IAEA and PAHO supported the development and completion of the National Cancer Control Plan. ION, the only public provider of oncology treatment in Panama, regained its operating license from the National Regulatory Authority in July 2019 with IAEA assistance.

IAEA support to Panama, 2009–2019

409 trained (including 156 women)

51 international experts provided

91 attended specialist meetings (including 28 women)

Priority areas of support

- Improving the legal framework
- Supporting nuclear safety and security
- Strengthening the food and agriculture sector
- Supporting human health and nutrition
- Protecting water and the environment
- Improving energy and the industrial sector
- Developing human resources

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

10 expert and lecturer assignments provided by Panama

11 training courses hosted

22 fellows or scientific visitors hosted

Based on data available as of April 2020

Cancer control imPACT Review conducted: February 2014

Strategic documents supported

- United Nations Development Assistance Framework 2016–2020
- Country Programme Framework 2020–2025, signed in February 2020
- National Cancer Control Plan 2019–2029

A civil engineering team from Panama Technical University (UTP) and the Centre of Hydraulic and Hydrotechnical Investigations (CIHH) work with an IAEA expert to use nuclear techniques to better manage sediment and marine navigation in the Panama Canal. (Photo: Cenpen CIHH)

www.iaea.org/technicalcooperation

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