

Panama

IAEA Member State since March 1966

Selected achievements

2023: Nuclear and isotopic techniques strengthen infrastructure for radiation safety and bolster the country's ability to monitor veterinary drug residues and contaminants in milk and honey.

2019: Panama's only public cancer centre, the National Oncology Institute, regains its operating license from the National regulatory authority.

2019: A national cancer control programme is established with support from the IAEA and the World Health Organization.



With IAEA assistance, Panama has significantly enhanced its water and soil management practises. (Photo: IAEA)

In collaboration with the IAEA and the FAO, Panama applied the nitrogen-15 isotope technique to optimize fertilization by determining the most efficient nitrogen dose for rice crops.

New monitoring systems have enabled water and fertilizers to be more effectively used, helping to maintain soil quality and sustain water resources. This led to a substantial increase in rice yields — in some cases from four to over six tonnes per hectare.

Industrial applications

In order to maintain an open passage for the 252 million tonnes of goods passing annually between the Atlantic and the Pacific oceans, Panama needs to constantly dredge the Panama Canal.

With IAEA support for training and procuring nucleonic gauges for sediment profiling, national experts have strengthened their capacity to track sediment movement in the Panama Canal using radiation technology models.

In 2019, the first gauge was successfully deployed to measure sediment profiles on the Atlantic side of the canal.

Once measurements are completed on the Pacific side, a Sediment Profile Measurement Plan will be finalized that will contribute to more effective dredging operations and better water management, supporting the efficient passage of ships through the canal.

Human health

In collaboration with the World Health Organization, the IAEA provided crucial expert advice to help shape Panama's National Cancer Control Plan for 2019–2029.

National priorities

- Nuclear safety and security
- Food and agriculture
- Human health and nutrition
- Water and the environment
- Energy and the industrial sector
- Human resources

Main areas of IAEA support

- Human health
- Water resource management
- Agricultural production
- Food safety
- Safety and radiation protection
- Medical applications
- Pest and disease management
- Radioisotopes and radiation technology

Project successes

Food security

With IAEA assistance, Panama significantly enhanced its water and soil management practices, boosting rice productivity and overall food security.

The IAEA also helped to strengthen Panama's capabilities in radiation oncology and nuclear medicine by training nuclear physicians, medical physicists, radiation oncologists and technologists.

Support was provided to develop improved safety measures for patients undergoing radiotherapy, extending to 10 fellowships and scientific visits, 21 expert missions and several regional training courses.

This concerted effort has significantly enhanced Panama's capabilities in cancer care and treatment.

Participation in the major initiatives

- NUTEC Plastics
- Rays of Hope
- ZODIAC



MIDA Laboratory's capacity to monitor veterinary drug residues and contaminants in milk and honey is strengthened using nuclear/isotopic techniques. (Photo: Ministerio de Desarrollo Agropecuario – MIDA)

Date of imPACT Review(s)

2014

IAEA support received in the 21st century



Contributions to South-South and triangular cooperation

