Atoms for peace and development

The International Atomic Energy Agency is the world’s central intergovernmental forum for scientific and technical cooperation in the nuclear field. It works for the safe, secure and peaceful uses of nuclear science and technology, contributing to international peace and security.

The IAEA’s technical cooperation programme helps countries to use nuclear science and technology to address key development priorities, 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.

Key achievements in Zambia

- 2019: Cancer Diseases Hospital hosts first radiotherapy course for radiation therapists.
- 2018: Cancer Diseases Hospital applies for regional designated centre status in oncology.
- 2007: Inauguration of Zambia’s first cancer centre – the Cancer Diseases Hospital.

Recent project successes

Food security

With IAEA support, Zambia’s laboratory capacity was expanded to use stable isotope compounds that increase the precision and reliability of tools that analyse a range of toxins in food. With these screening tools, fewer suspected samples require costly confirmatory analyses. Project support has resulted in increased awareness and regulation of toxins produced by fungi in foods. In 2017 alone, around 11,000 containers (approx. 2.8 tons) of peanuts were withheld from sale following detection of poisonous toxins, thus safeguarding consumers. These analyses have boosted trade confidence and the project has laid the foundation for establishing satellite laboratories in remote parts of the country.

Food and agriculture

The IAEA provided staff at the University of Zambia’s School of Agricultural Sciences and the Ministry of Agriculture and Cooperatives with training in various techniques and topics related to the nitrogen stable isotope technique and carbon isotopic discrimination for assessing the efficient use of nitrogen. With IAEA assistance, a study was carried out to evaluate how the use of nitrogen stable isotopes could determine the optimal application rates of slow-release coated fertilizers. Essential equipment was also provided through the project to upgrade laboratories.
Active national projects

- Establishing Teaching Programmes in Nuclear Science and Technology (ZAM0007)
- Evaluating the Impact of Nitrogen and Water Use Efficiency in Upland Rice (ZAM5029)
- Improving the Yield of Selected Crops to Combat Climate Change (ZAM5031)
- Strengthening and Expanding Analytical Capacity to Monitor Food Contaminants using Nuclear/Isotopic and Complementary Tools (ZAM5032)
- Strengthening Nuclear Medicine Service Delivery, Phase III (ZAM6021)
- Supporting the Expansion of the Delivery of Radiotherapy (ZAM6022)
- Assessing Radioactive Contamination of Surface, Groundwater and other Resources in Mining Areas (ZAM9010)
- Strengthening National Regulatory Infrastructure for Radiation Safety (ZAM9011)
- Supporting Capacity Building for Characterizing Environmental Contamination (ZAM9012)

Zambia also participates in 43 regional and 6 interregional projects.

Previous IAEA support to Zambia

In recent years, nuclear safety, agriculture and human health have been the three main areas under the IAEA-supported technical cooperation programme. With the creation of the Zambian Radiation Protection Authority in 2013, assistance focused on helping the authority to improve its core functions.

In the areas of human health, the focus was on helping Zambia launch a reputable training programme in one of the key disciplines in radiation medicine. In agriculture, there was marked success in helping Zambia to develop drought- and low-nitrogen tolerant maize genotypes and to improve livestock health and reproduction.