

Five years on, Tanzania's progress in uranium exploration

By Aabha Dixit



Environmental sampling at the Mkuju River to measure background radiation conditions before mining begins.

(Photo: Firmi P. Banzi/Tanzania Atomic Energy Commission)

Tanzania is at an advanced stage of uranium exploration and plans to commence mining operations at its first approved mining site as soon as economic conditions become favourable and the price of uranium rises, local experts have said. The IAEA has supported the country in the introduction of its uranium mining programme, including through a 2013 advisory mission to get the project off the ground.

“Five years on, a lot of progress has taken place,” said Dennis A. Mwalongo, Head of the Department of Ionizing Radiation at the Tanzania Atomic Energy Commission (TAEC). “The government has worked actively to implement the IAEA Uranium Production Site Appraisal Team (UPSAT) recommendations, which include developing appropriate legal and regulatory measures that comply with international requirements.”

The government has completed the first construction phase of the TAEC laboratory complex, which will provide radioanalytical and calibration services to support regulatory oversight of uranium mining in the country and the wider region, he added.

Introducing uranium mining requires long-term planning, which includes surveys of the

selected exploration sites, soil assessments, building public awareness and capacity building, he said. “To achieve this, the IAEA UPSAT mission set the platform by providing a comprehensive assessment on uranium mining possibilities in Tanzania.”

The Mkuju River site, the most advanced uranium project in Tanzania, has measured and indicated resources of 36 000 tonnes of uranium and inferred resources of 10 000 tonnes. The site is to be operated by Uranium One, a Russian uranium mining company that plans to produce 1400 tonnes of uranium annually, Mwalongo said. “Uranium mining will contribute to successful and sustainable socioeconomic development for Tanzania. Another important goal is to develop the Dar es Salaam seaport for uranium transport and export.”

To meet its growing energy demand, Tanzania is planning to introduce nuclear power on the basis of the 2003 Atomic Energy Act, which authorizes the use of uranium to produce electricity. This law has stringent provisions for the safe use of uranium. The decision makes Tanzania the first country in East and Central Africa ready to introduce nuclear power to generate electricity.

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UPSAT mission enhances internal procedures

Key decisions to promote and implement uranium production were based on the IAEA UPSAT mission's recommendations, such as the establishment of regulatory infrastructure, appropriate legislation for safe uranium mining and the harmonization of regulations to protect people and the environment.

In the meantime, the TAEC has developed legislation for exploration, construction, mining and milling, packaging and transportation of uranium and the final decommissioning of identified uranium mine sites.

The government has clearly defined specific guidelines on managing radioactive materials and waste and on the protection of workers, the public and the environment, Mwalongo added.

Capacity building, competency-based training, international expertise and specific

skill development were provided by the IAEA, the European Commission, the United States Nuclear Regulatory Commission and the Canadian Nuclear Safety Commission.

Getting the public on board

Uranium mining is a diverse and complex activity that requires the involvement of all stakeholders, including the general public.

In support of this, a number of public awareness campaigns and workshops have been conducted by the government to increase awareness of the regulatory requirements of uranium mining. This outreach included central and local government officials, operators, the regulatory authority, non-governmental organizations, students, parliamentarians and civil society. The goal of the regulatory framework is to ensure that the operator manages uranium mining and milling effectively without compromising human health and the environment, Mwalongo said.



First construction phase of the Tanzania Atomic Energy Commission uranium laboratory.

(Photo: D. Mwalongo/Tanzania Atomic Energy Commission)



The uranium laboratory equipment includes a gamma spectrometry system, which will help authorities conduct a proper assessment for uranium found in the country.

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