

# DEVELOPING CAPACITIES IN RADIOACTIVE WASTE MANAGEMENT

As the Agency's main service-delivery mechanism, the IAEA's technical cooperation (TC) programme plays a large part in supporting radioactive waste management around the world, helping to share information on the topic, and training personnel in the proper treatment and disposal of radioactive waste. The TC programme supports the development of policies and strategies, the assessment and upgrading (if necessary) of existing facilities, and the implementation of new management facilities, especially for near surface disposal. The programme also helps to develop competence in geological disposal for Member States operating nuclear power plants. This article presents just a few project examples to illustrate the scope of the programme.

In Africa, the main radioactive waste challenges that Member States face are related to the lack of adequate national infrastructure and properly trained personnel. Through the TC programme, the IAEA is helping African Member States improve their capabilities in radioactive waste management, and acquire experience through comprehensive, tailored capacity-building programmes that support the transfer of knowledge and technology.

For example, the Tanzania Atomic Energy Commission operates a central radioactive waste management facility, which was established with the assistance of the IAEA's TC programme. Disused radioactive sources are collected from various places around the country and are placed in the facility for safe, long term storage. The United Republic of Tanzania has also received assistance on the technical and safety aspects of radioactive waste interim storage, management, monitoring, control and handling. As a result, public exposure control measures are in place, together with a radioactive waste management strategy and a radioactive waste legal framework for the country. Today, radioactive waste of all types in the United Republic of Tanzania is properly managed, using appropriate technology, and in line with international safety standards.

The United Republic of Tanzania is also currently participating in a regional TC project on improving waste management infrastructure in Africa. Among other topics, this project focuses on improving the inventory



of radioactive sources, cradle to grave management of radioactive sources, and the application of waste management and remediation technologies in naturally occurring radioactive material (NORM) industries.

Tanzania Waste Storage Centre.

(Photo: Tanzania Atomic Energy Commission, Tanzania)

In another project in Asia and the Pacific, more than 90 experts from 22 Member States are taking part in a regional TC project to establish radioactive waste management infrastructure. The project focuses on the modular design of processing and storage facilities for small volumes of low and intermediate level radioactive wastes, including disused sealed sources, and supports training in the management of disused sealed radioactive sources (DSRSs) using the IAEA borehole disposal concept and cradle to grave management of sources, and on NORM waste management.

Radioactive waste management is guided by national policies and strategies, for which the IAEA also provides important support. Under the same project, Bangladesh, Oman, Thailand and Viet Nam have received support in the preparation of national policies and strategies for the management of radioactive waste and disused sources. Indonesia has received assistance on the characterization of solid radioactive waste and the selection of disposal options for radioactive waste and DSRSs. The

**The IAEA's technical cooperation programme provides Member States with essential skills and capacities in radioactive waste management.**

**Here are some statistics on assistance over the past decade.**

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| Technical cooperation projects         | 122  |
| Fellows                                | 130  |
| Scientific visitors                    | 397  |
| Non-local training course participants | 740  |
| Meeting participants                   | 1567 |

Islamic Republic of Iran has been helped to assess its national inventory and national capabilities, and to draft an action plan for the management of DSRs.

An example from Europe is the help provided through the TC programme in the assessment of Romania's policy and strategy for radioactive waste management, which included reviewing documents and providing advice on IAEA guidelines, international best practices and regulatory guidance on radioactive

was provided for the staff responsible for regulatory activities and for managers of radioactive waste.

Interactions between countries with different levels of experience in nuclear science and technology support better waste management practices. The IAEA has established several knowledge networks in different areas of radioactive waste management. The Network on Environmental Management and Remediation hosts documents related to environmental remediation, while the International Low Level Waste Disposal Network offers information on near surface waste disposal, and the International Network of Laboratories for Nuclear Waste Characterization provides assistance for accurate and quality assured characterization of the radionuclide inventory, which is essential for decisions about waste management options. Such networks provide a forum for information exchange and dissemination among the Agency's Member States, strengthening their ability to safely manage any radioactive waste.

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management. This project has facilitated national dialogue and greatly strengthened the capacity of Romania's Nuclear and Radioactive Waste Agency to address nuclear fuel and radioactive waste management issues.

Finally, in Latin America, regional projects have strengthened national infrastructure and regulatory frameworks for the control of public exposure and safe management of radioactive waste in the region. Countries have received assistance in building national policies on the management of radioactive waste, in line with international recommendations, and training

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