IAEA Technical Cooperation Programme

Radiological emergencies: Ready to respond in Africa

The challenge

Radioactive materials are used in a host of scientific fields and industrial contexts, from measuring the nutrient content of soils to administering life-saving medical interventions. However, radiological emergencies can occur due to accidents, natural disasters, human failure or malicious acts. If such emergencies occur, the prompt and effective action of first responders and emergency teams can save lives.

Coherent emergency preparedness plans are needed to coordinate a safe response when radiation sources are involved in emergency situations. Whether a Member State is embarking on a nuclear power programme or is broadening its application of nuclear technologies, emergency preparedness plans are critical to ensure the safety of the environment, the public and the professionals working with radioactive sources. In order to ensure that the safety requirements are met by Member States, the IAEA provides training on the necessary safety standards, and helps develop Member State capacities to respond to nuclear or radiological emergencies.

First responders arrive at the national emergency exercise conducted in Botswana (photo: J.M.Roncero Martin/IAEA).

The project

The IAEA provides specialised support in emergency preparedness and response to Member States through its technical cooperation programme, with the goal of further strengthening and harmonizing national arrangements to respond to radiological emergencies, and of improving their compliance with international standards.

A regional technical cooperation project initiated in 2014 provided participants with comprehensive training in the implementation of IAEA safety standards, especially regarding preparedness for and response to nuclear or radiological incidents and emergencies. Support was extended to the participating Member States with the aim of strengthening their response capabilities at all levels: operator, local, regional, national and, where appropriate, international.

Appraisal services—most notably, Emergency Preparedness Review (EPREV) missions—were also included in the regional project. Through exercises and emergency simulations, Member States were able to assess their national emergency preparedness and response (EPR) arrangements, identify gaps in their capabilities and eventually fill those gaps.

The project targeted the different national organizations which might be involved in radiological emergencies, from first responders (including paramedics, police or firefighters) to policy-makers and national regulatory bodies.

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The impact

Regional and national systems, and arrangements and capabilities for responding to radiological and nuclear emergencies, have been strengthened and harmonized. Compliance with the international standards has also increased. In addition, the project has increased national and regional awareness of the relevance of well-established emergency response mechanisms.

The project has also strengthened regional cooperation and information sharing. Member States have opened national exercises to other countries in the region, thus promoting the exchange of good practices and experiences and fermenting a harmonized approach throughout the region. For example, a national emergency exercise conducted in Botswana in 2016 with IAEA support was open to observers from all around Africa. With the support of the IAEA technical cooperation programme, 23 experts from 21 other African countries attended this exercise, experiencing first-hand how radiological emergency exercises are organized and executed, and learning form the Botswanan experience.

Participating Member States' capacities for developing and implementing national radiation emergency plans were also enhanced.

Simulated motor vehicle accident at the national emergency exercise conducted in Botswana (photo: J.M.Roncero Martin/ IAEA).

PROJECT INFORMATION

Project No: RAF9052

Project title: Strengthening and Harmonizing National Capabilities for Response to Radiation Emergencies

Duration: 2014–2015 (2 years)

Budget: €728 931

Contributing to: Nuclear safety contributes to achieving all SDGs where nuclear science and technology plays a developmental role.

Partnerships and counterparts

The European Commission and the United States of America, through the Peaceful Uses Initiative (PUI), provided technical and financial support to the project. The United States and the European Commission support several IAEA activities in the field as part of a broader initiative to enhance nuclear safety and security around the world. The funding provided to the Agency facilitates the design and launch of activities with the objective of backstopping EPR arrangements around the world with newer equipment, newly-trained staff and the newest international safety guidelines.

Facts and figures

- Five Emergency Preparedness Reviews services fully delivered.
- One emergency exercise conducted in Botswana.
- Seven training courses conducted, and seven international meetings held.

The science

The project addressed certain safety aspects related to the use of nuclear and radiation technologies, specifically the response to emergencies arising from the use of these technologies.