

## ***Water resource planning, development and management in Africa***

### ***The challenge...***

Water availability, quality and management are paramount to socioeconomic development and are linked to one third of the achievements of the United Nations Millennium Development Goals. In Africa, however, water scarcity is one of the major challenges facing the continent. About 65% and 23% of the rural and urban population respectively does not have access to an adequate supply of clean and safe water. Research shows that fresh water resources are shrinking, while demand for water is expected to increase with population growth, development and the increasing needs of food production. Water scarcity in Africa is exacerbated by ineffective resource utilization due to a lack of the technical knowledge and financial resources needed to access sources of water. The challenge therefore is to enable African countries to access, manage and sustainably utilize their precious water resources today and for future generations.

### ***The project...***

This regional AFRA project focuses on building expertise in isotope hydrology in Africa, and on improving knowledge of sustainable planning and management of water resources. Isotope hydrology is a nuclear technique that can help to identify the origin and flow/dynamics of water resources (rain, ponds, rivers, piped water, and groundwater), understand and evaluate recharge and discharge of aquifers, assess the risk of salt water intrusion or pollution, assess impacts of climate change on water resources, determine water balance of reservoirs, and trace sources of pollutant in water sources.



### ***The impact...***

The project is expected to assist in setting up a framework for integrating river basin assessment with the topic of surface water and groundwater interaction. The project is expected to also strengthen human capacity and enhance technical capabilities so as to provide critical information required for informed discussions and guided decisions on where to extract water, as well as how to protect resources and develop techniques to sustainably manage this resource for present and future generations.