Connecting the dots: linking technical cooperation projects on transboundary groundwater resources in Africa

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Geographic scope

In Africa, many countries share similar characteristics, including extremely arid climates, scarce surface water resources, low and irregular rainfall, persistent drought, and fragile ecosystems. Groundwater resources have been identified as the biggest future source of water to meet growing demands and development goals in the region, offering the potential to mitigate water scarcity, enhance food and human health security, and ensure environmental sustainability.

Nubian Sandstone Aquifer System

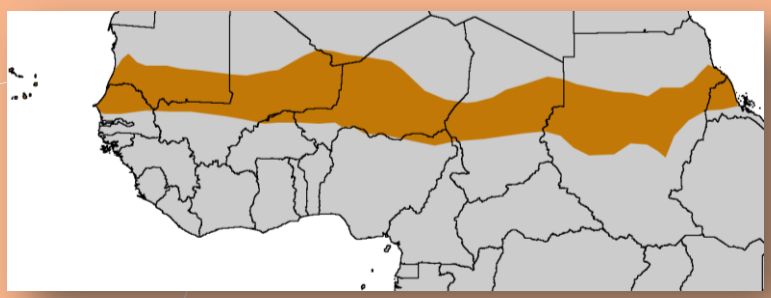
1 aquifer shared by Chad, Egypt, Libya and Sudan

The Nubian Project is a successfully completed joint IAEA/UNDP-GEF technical cooperation project. This project established a regional strategy for the integrated management of the Nubian Sandstone Aquifer System, which is shared by Chad, Egypt, Libya and Sudan. The development of the Strategic Action Programme (SAP) set up the policy and institutional reforms necessary for the establishment of a framework for agreed collective management of the shared groundwater resources. The project followed two key strategies: first, to enhance the scientific data on the aquifer by applying isotope hydrology techniques, and second, to strengthen cooperation between the countries sharing the aquifer.

Sahel

5 aquifers /river basins shared by Algeria, Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Ghana, Guinea-Bissau*, Mali, Mauritania, Niger, Nigeria, Senegal, The Gambia* and Togo *non-IAEA Member State

The Sahel Project is a complex, large scale on-going project which aims to promote the integrated management and sustainable development of the shared groundwater resources in the Sahel region. This project covers five water systems: the Iullemeden Aquifer System, the Liptako-Gourma-Upper Volta System, the Senegalo-Mauritanian Basin, the Chad Basin and the Taoudeni Basin. The five transboundary systems are shared by 13 Member States. Like the Nubian project, the Sahel project aims to provide the scientific basis for the preparation of a Strategic Action Programme (SAP) for each water system. The SAP is expected to support the establishment of the policy and institutional framework required for multiparty management and rational use of the shared aquifer systems.



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Data gaps and methodology

The Nubian and the Sahel projects address key gaps in the methodology, data and human resource capacity needed in order to gain understanding of the selected aquifer systems. Both involve the compilation of hydrological data from previous IAEA groundwater projects in the region, the generation of hydrological data for the characterization of aquifer systems, and the completion of a groundwater flow model for each aquifer.

Connecting the dots

The two projects not only promote integrated management of transboundary groundwater resources, but both also follow the same strategy to reach their goals: the establishment of a Strategic Action Programme for each aquifer. The successfully implemented Nubian can be regarded as a pilot for the Sahel project. The lessons learnt from the development and implementation of the SAP in the Nubian project will be a valuable input to subsequent phases of the Sahel project, enhancing the sustainability of project outcomes.

For more information on IAEA technical cooperation activities related to the Nubian Sandstone Aquifer System, the Nile Basin and the aquifers and river basins of the Sahel, please contact the Division for Africa, Department of Technical Cooperation, IAEA.

www.iaea.org/technicalcooperation

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