IAEA
International Atomic Energy Agency

GloWAL Network

Global Water Analysis Laboratory Network

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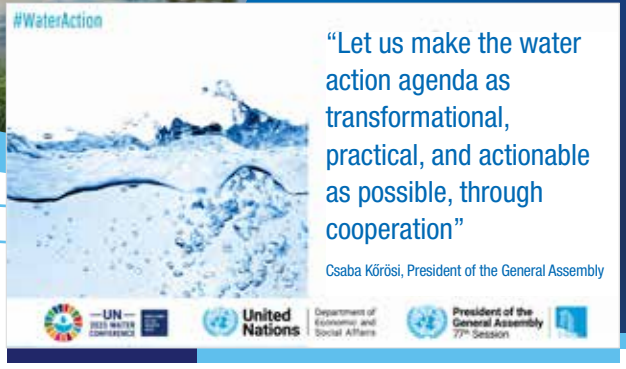
The Context

Climate change is redistributing water around the globe. Some areas are becoming drier, while some are becoming wetter. The way in which water is received is also changing with more intense but shorter precipitation events posing challenges to water management. On top of this, the world's water resources are also under increasing pressure from different forms of pollution and contamination.

Groundwater is proposed as an adaptation mechanism to address these challenges, but areas that have long abstracted groundwater are seeing serious declines in the water table that impact the natural environment. In coastal areas these declines lead to salinization of the groundwater, further reducing the availability of fresh potable water. Data availability is one of the core challenges facing countries in their efforts to manage their water resources effectively and address the challenges of climate change.

The IAEA GloWAL Network enables countries to independently generate the data needed to develop tailored water management strategies.



The Challenge

Many issues hinder the attainment of SDG6, including financial and scientific sustainability of actions, disparities in adequate infrastructure and capacities, and availability of data and information. Laboratories capable of generating reliable data, in a timely manner, are the cornerstone of any country's capacity to understand and manage their water resources, and to support national water governance. However, many countries do not have the technical and scientific resources to independently generate their own data. The IAEA GloWAL Network is intended to address this challenge.

The Benefits of a Network Approach

The IAEA GloWAL Network would support improved access to water analysis capacity and data generation, provide physical focal points for technical capacity activities, and drive innovation in water analysis and management. These actions would provide the key data, resources and skills, required to enhance water management capacity at national and regional levels and provide guidance on the development of regulations and policy frameworks.

Key Objectives

The core objectives of the network would be to:

- improve regional and national water laboratory analytical capacity;
- give developing countries the independence to generate their own water data;
- support coordination and harmonization of regional approaches to water management and data reporting;
- enhance regional and cross-boundary collaborations on transboundary resources;
- enable more effective adaptation strategies to address climate change; and build trust among water stakeholders through enhanced transparency.

The IAEA GloWAL Network's focus will be on establishing, developing, and coordinating national technical capacity in water analysis. In its initial phase, the network will have regional sub-networks in Africa, Latin America and the Caribbean, Asia and the Pacific, and Central Asia and will incorporate SIDS. Partnerships between developed and developing countries will be encouraged to support the growth of network nodes. Member States and laboratories working with the IAEA can apply to be one of three different types of nodes within the network, Anchor, Growth and Development Nodes.

Anchor Nodes

Strong, well-equipped, isotope-enabled laboratories that are in a position to support other laboratories and countries with analytical services, including water quality and other environmental analytics, training activities and hosting facilities for fellowships

6 CLEAN WATER AND SANITATION

The IAEA GloWAL Network would facilitate the following specific activities that support **SDG6**, and the **Water Action Agenda**.

Provision of analytical services for the analysis of water samples, including isotope analyses, and participation in interlaboratory proficiency tests to ensure the validity of the data being generated and international acceptance of analysis results

Facilitation of technical and scientific capacity development actions including hosting of training fellowships and exchange of technical staff through IAEA programmes, including the technical cooperation programme and coordinated research

Growth Nodes

Laboratories that are operational but require additional equipment and support to become fully operational or further capacity development to optimize operations

Development Nodes

Laboratories that are just starting out, that are focused on basic water analysis capacity, have limited equipment, and require significant investment in capacity development but have clear growth potential

These nodes can be further supported through twinning with established laboratories. The IAEA would provide support and stewardship for the network through upscaling and acceleration of the IAEA's technical capacity development programme which is available to all IAEA Member States. It would respond to requests for assistance to support growth and development of nodes through its existing mechanisms but also work with partners to upscale the required financial investment and to facilitate connections between laboratories and other relevant stakeholders.

Development of national, regional and/or Interregional R&D and technical cooperation projects to address water management problems

Stimulation of critical thinking and innovation development that addresses region specific needs

Sustainability of laboratories through cross-pollination of ideas and actions

Integration of data management platforms for secure curation of data

Reporting of SDG6 indicators

Why the IAEA?

The International Atomic Energy Agency (IAEA) is the global centre for cooperation in the nuclear sciences and seeks to promote the safe, secure, and peaceful use of nuclear technologies. The IAEA does this through technical and scientific capacity development as well as technology innovation, development, and transfer. In this capacity, the IAEA has developed a number of networks that have made fundamental differences in ocean sciences, zoonotic diseases, emergency response preparation, and food safety networks. The IAEA is now bringing its considerable resources and expertise to improve water analysis capacity and contribute towards the attainment of SDG6.

As the global water landscape shifts due to climate change and rapid socio-economic developments, the value of scientific data becomes ever more important. The IAEA is committed to empowering countries to generate the data they need to attain SDG6 and the Water Action Agenda through nuclear techniques. Without data we are limited in protection and preservation of the world's water reserves not just for our generation but for all generations to come.

Rafael Mariano GROSSI
IAEA Director General

Partnership and Investment

Sustainable financing is a key accelerator for the GloWAL Network and the IAEA is focussed on forging new, diverse, and exciting partnerships for funding. The IAEA values a multistakeholder approach to its initiatives and welcomes support and collaboration from international financial institutions, governments, the private sector as well as public-private partnerships.

Partners and interested donors can support the initiative through various avenues including direct financial contributions and education grants, provision of training and expert support, as well as laboratory facilities and equipment. Companies can serve as strategic development partners, offering equipment and other resources that are critical to building the GloWAL Network and for reinforcing the IAEA's mission to use nuclear sciences for peace and development.

March 2023

CONTACT US
partnerships@iaea.org

VISIT US
www.iaea.org

FOLLOW US
@IAEAorg

23-01191E