WORLD METEOROLOGICAL ORGANIZATION

WMO HydroHub

Adaptation Fund Innovation Project

"Enhancing Hydromet Services through Regional Monitoring Innovation Hubs in Africa"

Project Background and Context

Recognizing the cross-sectoral nature of water and aware of the increasing water-related challenges around the world, many countries are now taking steps to address water security through, for example, sustainable water management, enhancing flood and drought resilience and improving water quality. These steps require reliable hydrological data and early warning information in order to support decision-making through the provision of hydromet services and to help build trust amongst stakeholders. However, the availability of hydrological data of adequate quantity and quality often remains a challenge.

The African continent has made significant achievements in development over the last few decades, but climate-related and disaster risks are reversing development gains. African countries face a combination of risks and effective data-driven hydromet services can offer adaptation solutions to these challenges. To achieve this however, many hydromet monitoring systems need optimization of their efficiency and Operation & Maintenance (O&M) cost. Here, existing and emerging innovative technologies and approaches offer new opportunities.

Their operational uptake by NMHSs is currently low due to:

- insufficient collaboration between academia, private sector and hydromet services
- insufficient translation of research into operational tools
- high costs of technologies and their ownership/operational costs

Moreover, in order to sustainably operate hydromet monitoring systems, political commitment, viable financial models, qualified human resources as well as effective engagements with the user community are a prerequisite.

The proposed project will execute a portfolio of activities through the WMO HydroHub to advance innovation in the hydrometry agenda. The project will deliver activities that accelerate the pull-through of new cost-effective approaches and technologies into operational use by monitoring agencies within the target countries and develop new sustainable partnerships, through providing actors across the public and private sectors at local, regional and national levels with capacity, innovation and engagement opportunities. Together, these actions will lead to an increase in availability of reliable hydrological data and information needed for the provision of hydromet services in the region. These improved hydromet services will support data-driven decisions in agriculture, disaster risk reduction, water resources management and environmental protection among others.

The Regional Innovation Hubs will be established in Tanzania and The Gambia that support improved monitoring and early warning in their own and surrounding countries, with a particular focus on the use of innovative monitoring approaches to support flood forecasting and drought risk management. Both Hubs will be established as regional partnerships through collaborations between National Meteorological & Hydrological Services (NMHSs), relevant national and regional entities active in the field of hydrological monitoring, academia and private sector entities that could support the manufacturing and maintenance of new technological solutions.

Project Overall Goal & Objectives

To improve the delivery of hydromet services through two "Regional Innovation Hubs" in Africa by advancing the uptake of innovative hydrometric approaches by the NMHSs in Tanzania, The Gambia and surrounding countries.

- Increase operational capacity of the NMHSs to deploy and maintain innovative hydrometeorological observation, data and metadata exchange, calibration and data processing technologies through collaborative Innovation Call projects, training interventions and support for Regional Technical Champions;
- Develop two Regional Innovation Hubs in hydrological monitoring and data processing, which use novel mechanisms (such as Innovation Camps and International Twinning) to bring together public and private entities to support the development, manufacturing and maintenance of digital and physical monitoring technologies;
- Enhance regional cooperation for mutual technical assistance among NMHSs and other monitoring organizations within the region where the Innovation Hubs are established;
- Increase political and institutional commitment for operational hydrology through improved stakeholder collaboration and engagement, including co-production of hydromet services.