



WORLD  
METEOROLOGICAL  
ORGANIZATION



# STAKEHOLDER CONSULTATION WORKSHOP

for the preparation of the Project Concept Proposal to be submitted  
to the Adaptation Fund (AF) for a large innovation project

“Enhancing Hydromet Services through  
Regional Monitoring Innovation Hubs in Africa  
(Tanzania, The Gambia)”

**DATE:**

14 June 2022

**VENUE:**

GFS Business Development in Kanifing  
The Gambia

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## List of stakeholders consulted

The consultations covered the following stakeholders:

### 1) Hydro-related institutions

- Hydrology Division of the Department of Water Resources (DWR), Ministry of Fisheries and Water Resources and National Assembly Matters

### 2) Meteorological Service

- Meteorology Division of the Department of Water Resources (DWR), Ministry of Fisheries and Water Resources and National Assembly Matters

### 3) Public institutions

- Ministry of Fisheries and Water Resources and National Assembly Matters (MoFWR & NAMs)
- Ministry of Environment, Climate Change & Natural Resources
- Ministry of Petroleum and Energy
- Ministry of Agriculture
- Department of Fisheries
- Ministry of Trade, Industry, Regional Integration and Employment
- Ministry of Higher Education, Research, Science and Technology
- Directorate of Development Planning under the Ministry of Finance and Economic Affairs
- Gambia River Development Organization (OMVG)
- Kanifing Municipal Council (KMC)
- National Environmental Agency (NEA)
- National Water & Electricity Company (NAWEC)
- Public Utility Regulatory Authority (PURA)
- National Disaster Management Agency (NDMA)
- Banjul City Council (BCC)

### 4) Non-Government Organizations (NGOs)

- ActionAid International The Gambia

- The Gambia Red Cross Society (GRCS)
- National Rice Growers Association
- The Gambia Country Water Partnership

**5) Organisations dealing with communities (gender, children and disabled persons)**

- National Women Farmers' Association (NAWFA)
- National Farmers' Platform The Gambia (NFPG)
- Youth Volunteers for Environment (YVE)
- Ministry of Gender, Children & Social Welfare

**6) Relevant UN agencies**

- United Nations International Children's Emergency Fund (UNICEF)
- World Health Organization (WHO)
- UNESCO NATCOM
- Food and Agriculture Organization of the United Nations (FAO)
- United Nations Development Programme (UNDP)
- World Food Programme (WFP)

**7) Innovators/Manufacturers (public and private organisations/startups)**

- Sterling Consortium
- Make3D Company Limited
- Startup Incubator
- The Gambia Chamber of Commerce & Industry (GCCCI)
- Gomindz Startup

**8) Academia**

- Kwame Nkrumah University of Science and Technology (KNUST)
- Chamen Technical Training Center
- The University of The Gambia (UTG)
- QuantumNET Institute of Technology (QIT)
- National Agricultural Research Institute (NARI)

- The Gambia Technical Training Institute (GTTI) that being transformed into the University of Science, Engineering and Technology (USET) under the Africa Centre of Excellence programme

#### 9) Neighbouring countries – Regional Hubs

- Department of Water Resources Planning and Management of Senegal (DGPRES)
- Cheikh Anta Diop University of Dakar
- University of Energy and Natural Resources of Ghana (UENR)
- AGRHYMET Centre in Niger

## Description of the consultation techniques

The consultation techniques used are as follows:

- The Pre-concept Proposal and official invitation letters were hand-delivered to all identified stakeholders before the workshop. Follow-up calls and emails were constantly sent where there was no feedback.
- The stakeholder consultation workshop was held at GFS Business Development Complex in Kanifing (The Gambia) on 14 June 2022.
- A vigorous follow up was made with the private sector and other missing participants (including GTTI, GCCI, the Gambia Youth Empowerment Project (YEP), the Startup Incubator) on 16 June 2022.
- On 20 June 2022, a further follow up was done with other key institutions including KMC, GRCS and NAWEC.

The stakeholder consultation workshop was guided by the following agenda:

- **Official Opening** by Mr. Malang Darboe (Deputy Permanent Secretary, Ministry of Fisheries and Water Resources and National Assembly Matters).
- **Presentation of the Project Pre-Concept Proposal** by Mr. Harry Dixon (UK Centre for Ecology & Hydrology).
- **Presentation on the Review of the existing legislation** by Landing Bojang (Chief Hydrologist, DWR) and discussion on how the innovation project can contribute to strengthen it.
- **User Requirements and Project Impact at the Last Mile:**

- National-to-local perspective in the Gambia, including vulnerable communities (youth and women);
- Regional aspects; feedback from neighbouring countries.
- **Innovative Monitoring Approaches:**
  - Capacities in The Gambia for manufacturing the instruments and developing data acquisition and management systems;
  - Role of Public, Private and Academia.
- **Capacity building to uptake and operationalize the innovative approaches:**
  - Skills needed in relation to Hydrometric innovation;
  - Transition from research to sustainable operations.
- **Synergies with other projects in the country/region**
- **Wrap-up and Definitions of Roles and Responsibilities:**
  - Summary of the Discussions;
  - Identification of Focal Points, and definition of their roles and responsibilities in Project Development and Implementation.

## The key consultation feedback and findings

### Official Opening

The workshop was graced by Mr. Malang Darboe, the Deputy Permanent Secretary, Ministry of Fisheries and Water Resources.

Mr. Darboe highlighted that at the end of the ECOWAS Hydromet Forum and DRR Platform meeting in September 2018, the Forum urged development partners, including the World Bank, the African Development Bank, European Union and UN Organizations among others, to scale up support for the modernization of hydromet and disaster risk management services, according to the needs and priorities expressed by ECOWAS, CILSS, River Basin Organization and National Governments in West Africa.

Mr. Darboe encouraged all participants to actively engage in meaningful discussion to produce the most comprehensive and convincing details that would enrich the Project Concept Proposal. On behalf of the Honourable Minister and the Permanent Secretary, Mr. Darboe assured of the Ministry's resolve to support and facilitate this process.

## Overview of the Project Proposal

The discussion mainly focused on the sustainability of the project outcomes. The recommendations were as follows:

- Involvement of a spectrum of stakeholders;
- Local self-manufacturing and low total cost of ownership;
- Peer-to-peer support among the water monitoring institutions in each Regional Hub;
- Established collaborations between private sector, small and medium-sized enterprises (SMEs) and start-ups with capacity to assist monitoring operations;
- The project should incorporate indigenous knowledge in the early warning system which can be built on the Early Warning System Project which piloted this approach and there is an opportunity to utilize the existing skills especially in proposed pilot areas.

## Review of the existing legislation and how the innovation can contribute to strengthen it

The discussion focused on inadequate legal and institutional framework in the hydrometeorological and water resources management sectors. The existing Act date back to 1979. Although there have been attempts to revise the Act, but with limited success. The status of the draft bills was questioned, and it was highlighted that they are being reviewed to be resubmitted to Cabinet for approval before the end of the year.

The Innovation Project could contribute to strengthen and promote the water sector reform agenda at political level through the Ministerial Roundtables and bilateral meetings with the Government Authorities. The project can also support the implementation of the National Water Resources Management Strategic Plan (Nov 2014) which was planned to be implemented from 2015 – 2019 but that did not materialize because the new institution was not established through the bills. The same applies to the Gambia Meteorological Authority Business Plan.

## User Requirements and Project Impact at the Last Mile

The participants expressed concern for the vulnerable communities to be actively involved in the project in order to address their needs. The forum further discussed how the project will benefit flood-affected communities such as Kuntaur in rural areas and Kanifing Municipality in an urban setting. Therefore, it was highly suggested for the communities to be engaged in the preparation and implementation of the innovation project ensuring sustainability and ownership. There were also various suggestions for the project to be focused on water quality monitoring for improved health and safety.

The following communities have expressed interest in participating in the project:

- **National Women Farmers' Association (NAWFA)**

NAWFA is dedicated to improving the economic position of women in The Gambia through capacity building and campaigning for women's rights. NAWFA is three-tiered organisations with village groups called "Kafoos", 74 women producer associations called Sesame Growers' Associations (SGAs) at the regional level and a national executive committee formed by representatives from the SGAs. The SGAs are spread throughout The Gambia. The associations are clusters of 10 to 15 villages with grassroots membership based on these "Kafoos".

- **Kuntaur farming community**

Kuntaur is a vulnerable farming community which is highly exposed to annual flooding and salinity intrusion. It is one of the identified pilot sites for the Innovation Project.



- **Kanifing Municipal Council (KMC)**

KMC is one of the eight Local Government Areas (LGA) of The Gambia. It has a population of 382,096 inhabitants (2013 census) representing about 20.3 percent of the total population of the country. With a land surface of 75.5 square kilometres and population density of 4,478 persons per square kilometre, the municipality is considered to be the most densely populated in The Gambia. Between 2003 and 2013, the population increased by 15.53 percent.

Over the past years, the people residing in KMC have suffered from flooding which seriously affected their livelihoods. Apart from the direct effects of drowning, injury or loss of life, the floods caused major damage to infrastructure including disruption of water supply systems, sewage disposal systems, and roads as well as contamination of water sources for human consumption.



Despite efforts to mitigate disasters in the LGA, data sharing remains a significant challenge faced by the Council. Most of the data gathered is from radio or television stations. Also, Water Committees are yet to be established at ward level in order to tackle water related problems within the Municipality.

The Kanifing Municipal Area is being identified as a pilot area for the Innovation Project.



- **Young Volunteers for Environment (YVE)**

YVE is a registered youth led non-profit organization with expertise in environmental management, sustainable energy solutions and agro-ecology practices and predominantly advocates for environmental sustainability in the scope of access to basic energy, water, health and sanitation services; waste management; cultural biodiversity; climate change; natural resource management and Toxic Free Environment.

YVE's key specific areas include policy monitoring, citizen participation, youth empowerment and youth policies, social entrepreneurship, traditional ecological knowledge, cultural biodiversity, community sustainable management plans, community-based climate change adaptation, children and youth environmental education and importantly access to sustainable energy solutions (renewable energy and energy efficiency technologies).

## Regional aspects

At regional scale, the project is well aligned with the current ambitions and initiatives.

- **Senegal**, with whom The Gambia shares the Gambia River Basin and Senegal-Mauritanian Aquifer Basin, has expressed support and commitment for the project objectives and activities.

- **Department of Geology at Cheikh Anta Diop University in Dakar** actively contributes to capacity building and research in the groundwater resources management in the region.
- **Kwame Nkrumah University of Science and Technology (KNUST)** can actively participate through the mentorship that they are providing to the Gambia Technical Training Institute (GTTI) that being transformed into the University of Science, Engineering and Technology (USET) under the Africa Centre of Excellence programme.
- **University of Energy and Natural Resources (UENR) in Ghana** has expressed commitment to support the implementation of the activities of the project through coaching, peer-to-peer collaboration and partnership. It is also a Centre of Excellence for Environment and Energy Sustainability.
- **AGRHYMET Centre in Niger** has equally indicated firm commitment for this unique opportunity in the region. The centre focuses on professional training in Agriculture, Hydrology and Meteorology within the ECOWAS region. It runs a professional technician training programme on Hydromet Instrumentation to supply the resources needed by the National Meteorological and Hydrological Services (NMHSs) in the region.

### Innovative Monitoring Approaches & Capacity building to uptake and operationalize the innovative approaches

During this session, the consultation/discussion focused on how to engage stakeholders from technology industry, research and academia for local manufacturing, maintenance and improvement of innovative equipment.

It was suggested to make use of local resources i.e. equipment manufactured locally in order to ensure sustainability. Thus, the staff and students of the Gambia Technical Training Institute (GTTI)/USET in collaboration with national, regional and international partners should lead in the area of research and manufacturing of hydrometeorological equipment.

- **The Gambia Technical Training Institute (GTTI) / University of Science, Engineering and Technology (USET)**

GTTI is a training institution mandated by the Government through an Act of Parliament in 1980 to provide relevant education and life skills to its growing youthful population. GTTI, as part of its mandate, continues to complement government's efforts in the attainment of its various development blueprints such as the National Development Plan (2018 – 2021).

It is against this backdrop that the government of the Gambia recognizes the need to transform GTTI into a University of Science, Engineering and Technology (USET). The

Emerging Centre will be mentored by Kwame Nkrumah University of Science and Technology (KNUST), Ghana and De Montfort University (DMU) in the United Kingdom.

The new university is already into its second year of the programme and the Authorities have expressed their commitment to serve as a Hub for the manufacturing of innovative monitoring sensors.

In terms of sustainability, the private sector participation is quite important, therefore, the Gambia Chamber of Commerce and Industry (GCCI) has expressed its willingness to mobilize the private sector especially tech companies to support the implementation of the project. It was highlighted that the demand for innovative technology is very high among the business community which improves the efficiency and maximizes profit. The follow-up discussions further discovered various startups that are exploring innovative business approaches and have expressed keen interest to partner with the project.

- **Startup Incubator**

It is the first ever business incubator centre in the Gambia. The Startup Incubator Center is a co-working space for young entrepreneurs, with cubicles, computers, high-speed internet, printing and a fully equipped training room with a capacity of 25 participants. Startup Incubator has currently supported 245 businesses in The Gambia, 75-80 of which are into Science and Technology such as Agriculture, Semi-conductor, Electrical, Electronics etc.

In order to ensure the participation of the private sector, a consultation meeting was organised with several private sector institutions as well as the academic sector in the field of science and technology:

- **The Gambia Chamber of Commerce and Industry (GCCI)**

GCCI is a non-profit private sector organization whose membership is made up of companies from all sectors of the Gambian business community i.e. Trade & Commerce, Agriculture, Industry, Tourism, Transport, Telecoms services, Finance & Banking. Its main purpose is to deliver vital business services to its members and the private sector in general. It also acts as a lobby to influence business policy in order to establish an environment that is favourable to business activity.

GCCI is in collaboration with development projects such as the ROOTS and GIRAV Projects under the Ministry of Agriculture.

The GCCI is committed to be the focal point for the private sector in the project.

- **Gomindz**

Gomindz is a Startup that focuses on bridging the gap between business and technology by leveraging innovative solutions to empower enterprises, provide data-driven infrastructures and solutions to optimize business operations.

Key activities: software development, data analysis and business intelligence, data management and cloud hosting, Artificial Intelligence and Machine Learning training.

Gomindz builds sustainable and scalable software applications, provides corporate trainings for upskill and reskill of staff with digital technology embark on workshops and seminars relating to technology, and provides technical expertise and support. As such Gomindz is seen as a potential contributor to the project.

### Synergies with other Projects

The synergies with other projects and initiatives in the country/region were identified. These projects are listed in the following table:

Ministry	Project title / Initiative	Implementing agency	Description
<b>Ministry of Fisheries and Water Resources (MoFWR)</b>	Climate Smart Rural Wash Development Project (CSRWASHDEP)	<b>Department of Water Resources (DWR)</b>	<p>The overall goal of the project is to sustainably and equitably improve access to safe and affordable water supply and sanitation including good hygiene practices.</p> <p>The project through its capacity enhancement for sustainable services delivery component is expected to support groundwater monitoring and protection and mitigating the effect of floods in vulnerable communities through developing management tools and information systems for effective and sustainable development and monitoring of water resources in a climate change context.</p> <p>CSRWASHDEP is expected to finance provision of observation wells equipped with monitoring devices, gauging stations equipped with GSM based data relay equipment, development of floods maps, groundwater maps for the Gambia, and a web-based M&amp;E system with user interfaces.</p>
	Strengthening climate services and early warning systems in the Gambia for climate resilient development and adaptation to climate change – 2nd Phase of the GOTG/GEF/UNEP LDCF NAPA Early Warning Project Implemented [2015-2022]	<b>Department of Water Resources (DWR)</b>	<p>The project addresses existing early warning gaps which include but not limited to a limited understanding of risks; limited monitoring and forecasting of climate-related hazards; inappropriate communication and packaging of warnings.</p> <p>The project has invested in strengthening current systems to lead to a fully operational Early Warning System for the Gambia at the institutional level to serve local communities in remote and vulnerable regions. Activities included improving national capabilities to generate and use climate information in the planning for and management of climate induced hazard risks, developing core skills and competencies, acquiring relevant technologies, improving early warning dissemination and advisory communications; and promoting the uptake of climate information at the local level.</p> <p>The project is designed to deliver immediate adaptation benefits by making available real-time climate data, building local and national adaptive capacities through various institutional and community level capacity-building exercises (most notably strengthening hydro-meteorological capacity, increasing climate change and adaptation training for extension workers/MDFTs to be delivered at the local level), and to incorporate climate knowledge to promote long-term climate benefits by creating the necessary institutional structures and policy tools. The project is now in the final stage of completion.</p>

Ministry	Project title / Initiative	Implementing agency	Description
<b>Ministry of Environment, Climate Change and Natural Resources (MECCNAR)</b>	Environment and Resilience Development Project “Building the Gambia’s capacities and resilience to Climate Change related Disasters, environmental protection and enhanced livelihoods through effective, and efficient climate actions, access to energy services, disaster risk and sustainable natural resources management” is a project under the Environment and Resilient Development portfolio (CPD 2017-2021)	<b>National Environmental Agency (NEA)</b>	<ul style="list-style-type: none"> <li>• Climate change resilience and disaster risk reduction capacities of vulnerable women, youths and physically disabled stakeholders are built, strengthened and sustained.</li> <li>• Strengthened and integrated functional climate information and response system established; and existing early warning systems related to climate change hazards and disaster risk management are replicated and up-scaled.</li> </ul>
<b>Ministry of Agriculture (MOA)</b>	Resilience of Organizations for Transformative smallholder Agriculture Project (ROOTS)	<b>Ministry of Agriculture</b>	The Project Goal is to improve food security, nutrition and smallholder farmers’ resilience to climate change in The Gambia. The ROOTS project intervention is expected to enhance the capacities of the NHMSs for improved water resource monitoring and informed planning and management of resilient rice production schemes.

Ministry	Project title / Initiative	Implementing agency	Description
	Gambia Inclusive and Resilient Agricultural Value Chain Development Project (GIRAV)	<b>Ministry of Agriculture</b>	<p>The Project Development Objective (PDO) is to promote the development of inclusive, resilient, and competitive agricultural value chains, focusing on smallholder farmers and agribusinesses in project target areas.</p> <p>The objective of Component 2 is to increase agricultural productivity through climate-smart intensification of selected production systems, focusing on enhancing water management and fostering access to improved climate smart agriculture technologies and innovations.</p> <p>GIRAV project will finance: the transfer, demonstration, and dissemination of improved technologies and innovations developed across the region; technical assistance, scientific exchange visits, training, and equipment for the National Agricultural Research Institute (NARI), and public and private advisory services to strengthen technology transfer systems.</p> <p>The project do not have any direct linkage to the current activities of the hydrological monitoring scheme, however project expected outputs could be affected by the risk of degradation of surface water quality due to the increased use of agro-chemicals, this warrants a rigorous data collection on the water quality of the water resources of The Gambia.</p>
	Building Resilience Against Food and Nutrition Insecurity in the Sahel (P2RS) <i>[the second phase of this project is to begin before the end of this year]</i>	<b>Ministry of Agriculture</b>	<p>The programme's goal is to build the resilience of vulnerable communities to food and nutrition insecurity in The Gambia and the Sahel as a whole. The project in The Gambia aims to enable the beneficiaries resist shock of acute food, respond effectively, and adapt sustainably to climate change by the development of stock breeding, irrigation schemes and regional markets for agricultural and livestock inputs and products. Specifically, the project seeks to eliminate the structural causes of acute and chronic food and nutrition crises by increasing household agricultural productivity, production and incomes, gain access to infrastructure and basic social services that build a heritage that strengthens population's livelihoods in a sustainable manner.</p>

Ministry	Project title / Initiative	Implementing agency	Description
<b>National Disaster Management Agency (NDMA)</b>	UNESCO + NDMA	<b>Office of the Vice President; National Disaster Management Agency</b>	<p>Under the UNESCO supported project, DWR is being supported with the establishment of flood monitoring devices across the country installed at flood prone areas. The data generated planned to be transferal to a web-based system where it can be accessed and manipulated.</p> <p>The objective is to support the establishment of an Early Warning System to mitigate disasters such as urban flash floods.</p> <p>The project trained several staff of the DWR, and other stakeholders on data integration and analysis software and models some of which are:</p> <ul style="list-style-type: none"> <li>• One-week Digital Elevation Modelling using drones and Satellite held in The Gambia, in November 2022 (instructed by Professors from KNUST Ghana). The training has been very effective and successful.</li> <li>• Tailored 12-week (July-November 2021) online training course on a pilot Flood Early Warning System for 10 NHMS Personnel. The training objective was to develop a FEWS software for the Gambia (Gambia prototype) in order to consolidates efforts by NDMA on flood risk reduction. The training was facilitated by instructors from Deltares Institute, on a weekly basis.</li> </ul>

### Wrap-up and Definitions of Roles and Responsibilities

At the end of the workshop, the roles and responsibilities were clearly spelt out. The Ministry of Fisheries and Water Resources through the Department of Water Resources will mobilize and coordinate the participation of all relevant public sector institutions and coordinate the activities of the project with support of the WMO HydroHub and the UK Centre for Ecology & Hydrology. The GCCI would lead the mobilization of the private sector while the GTTI/USET would lead the Innovation Hub for manufacturing and maintenance of equipment. Two pilot communities – Kuntaur farming community and Kanifing Municipal Council – were identified based on vulnerability to hydrometeorological risks such as flooding, water contamination etc.



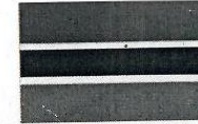
Expected Output	Potential activities	Stakeholders
<p>1.1 Enhanced local trainings capacity, research and tailored technical guidance material to addressing specific technical expertise deficits related to hydrometric monitoring within the Regional Innovation Hub (e.g., linked to the use of new instrumentation)</p>	<ul style="list-style-type: none"> <li>• Capacity building training on sustainable use and maintenance of modern hydrological equipment</li> <li>• Conduct training on Data Management and Analysis</li> <li>• Capacity enhancement with national and local level stakeholders on flood risk management, disaster management, GIS training, best practices for Early Warning mechanisms</li> <li>• Increase the number of trained professionals and recruiting new trainees on data collection and management</li> <li>• Technical and vocational training on innovative monitoring</li> <li>• Facilitate participation in study tours and conference concerned with innovative monitoring and sustainable delivery of services</li> </ul>	<ul style="list-style-type: none"> <li>• GTTI/USET</li> <li>• NDMA</li> <li>• KMC and Kuntaur</li> <li>• GCCI/Private Sector</li> <li>• DWR/MoFWR</li> <li>• UTG</li> <li>• AGRHYMET</li> <li>• KNUST GHANA</li> <li>• UENR GHANA</li> <li>• DGPRESenegal</li> </ul>
<p>1.2 Innovation Calls projects (involving collaborations between in-region and international operational and research partners) implemented to find and operationalize innovative water monitoring solutions to NMHSs hydrometric challenges within the Regional Innovation Hub</p>	<ul style="list-style-type: none"> <li>• Innovation workshops for national and international stakeholders, beneficiaries on innovative monitoring solutions</li> <li>• Organize calls for innovative water monitoring solutions to enhance effective hydrometric data collection</li> </ul>	<ul style="list-style-type: none"> <li>• KNUST GHANA</li> <li>• AGRHYMET</li> <li>• DWR/MoFWR</li> <li>• GTTI/USET</li> <li>• GCCI/Private Sector</li> <li>• DGPRESenegal</li> </ul>

Expected Output	Potential activities	Stakeholders
<p>2.1. International twinning/mentoring, events bring together hydro monitoring institutions and startups that innovate from across the world to assess their suitability to address identified hydrometric challenges in The Gambia and Tanzania. Selected startups will benefit from pump priming grants to grow both public and private sector capability and linkages with the research sector, with the potential to lead to job creation</p>	<ul style="list-style-type: none"> <li>• Develop calls for proposals from potential startups and international research institutions to come up innovative solutions to hydrometric challenges</li> </ul>	<ul style="list-style-type: none"> <li>• DWR/MoFWR</li> <li>• GTTI/USET</li> <li>• Private Sector/Tech Companies</li> <li>• Startups</li> <li>• KNUST GHANA</li> <li>• DGPRESenegal</li> <li>• UENR GHANA</li> </ul>
<p>2.2 Innovation Camps and other activities established to bring together public and private entities to support the development, manufacturing and maintenance of digital and physical monitoring technologies</p>	<ul style="list-style-type: none"> <li>• Organize innovative camps and Exhibitions to support the development, manufacturing and maintenance of digital and physical monitoring technologies</li> </ul>	<ul style="list-style-type: none"> <li>• DWR/MoFWR</li> <li>• GTTI/USET</li> <li>• Private Sector/Tech Companies</li> <li>• Startups</li> <li>• KNUST GHANA</li> <li>• DGPRESenegal</li> <li>• UENR GHANA</li> </ul>
<p>3.1 Organization of Learning Staff Exchanges to facilitate and guide learning exchanges among NMHSs within a Regional Innovation Hub in view of</p>	<ul style="list-style-type: none"> <li>• Organize staff exchanges and study tours between Senegal and The Gambia and if possible, to Ghana to learn from existing challenges and come up with potential solutions</li> </ul>	<ul style="list-style-type: none"> <li>• DWR/MoFWR</li> <li>• DGPRESenegal</li> </ul>

Expected Output	Potential activities	Stakeholders
addressing specific common hydrometric challenges		
3.2. Organization of Innovation Workshops to bring together NMHSs, academia, private sector (solution providers) and others, and facilitate targeted interactions among them in a way that allows NMHSs to express their operational challenges and needs, and the private sector to tailor their solutions to operational realities of NMHSs	<ul style="list-style-type: none"> <li>• Carry out an innovative workshop among NHMSs, academia, private sector (solution providers) and users to mutually dialogue on the operational challenges and potential for private sector intervention</li> </ul>	<ul style="list-style-type: none"> <li>• DWR/MoFWR</li> <li>• GTTI/USET</li> <li>• Private Sector/Tech Companies</li> <li>• Startups</li> <li>• Vulnerable Communities and Users</li> <li>• KNUST GHANA</li> <li>• DGPRESenegal</li> <li>• UENR GHANA</li> <li>• AGRHYMET</li> </ul>
4.1 Organization of Ministerial Roundtables in each country of the Regional Innovation Hubs that will showcase the comprehensive results and recommendations of national cost-benefit analysis of hydrological data investments	<ul style="list-style-type: none"> <li>• Organize a ministerial roundtable conference in The Gambia to present the comprehensive results and recommendations of the cost-benefit analysis of hydrological data investments</li> </ul>	<ul style="list-style-type: none"> <li>• DWR/MoFWR</li> <li>• Key Government Ministries in The Gambia</li> <li>• GTTI/USET</li> <li>• Private Sector/Tech Companies</li> <li>• Startups</li> <li>• Vulnerable Communities and Users</li> <li>• KNUST GHANA</li> <li>• DGPRESenegal</li> <li>• UENR GHANA</li> <li>• AGRHYMET</li> </ul>
4.2 Organization of User-provider Workshops and Webinars, to bring together NMHSs, public and	<ul style="list-style-type: none"> <li>• Organize User-provider workshops and webinars to create an interactive platform between NHMSs, Public and private sectors in order to develop new markets for NMHSs services</li> </ul>	<ul style="list-style-type: none"> <li>• DWR/MoFWR</li> <li>• Key Government Ministries in The Gambia</li> </ul>

Expected Output	Potential activities	Stakeholders
private sectors (users of hydromet services) and facilitate targeted interactions among them, including for identifying and developing new markets for NMHSs services		<ul style="list-style-type: none"> <li>• GTTI/USET</li> <li>• Private Sector/Tech Companies</li> <li>• Startups</li> <li>• Vulnerable Communities and Users</li> <li>• KNUST GHANA</li> <li>• DGP/RE/Senegal</li> <li>• UENR GHANA</li> <li>• AGRHYMET</li> </ul>

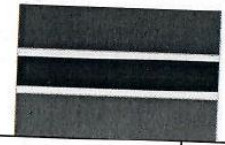
## Annex 1: Participants



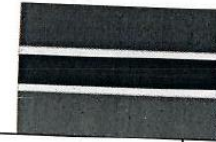
**PARTICIPANT LIST FOR THE STAKEHOLDERS' CONSULTATION WORKSHOP FOR THE PREPARATION OF THE PROJECT CONCEPT NOTE ON ENHANCING HYDROMET SERVICES THROUGH REGIONAL MONITORING INNOVATION HUBS IN AFRICA (TANZANIA, THE GAMBIA)**

The Gambia, Banjul, 14 June 2022

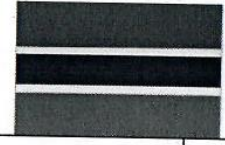
No.	Name	Designation & Institution	Email	Contact	Signat
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PARTICIPANT LIST FOR THE STAKEHOLDERS' CONSULTATION WORKSHOP FOR THE PREPARATION OF THE PROJECT CONCEPT NOTE ON ENHANCING HYDROMET SERVICES THROUGH REGIONAL MONITORING INNOVATION HUBS IN AFRICA (TANZANIA, THE GAMBIA)

The Gambia, Banjul, 14 June 2022  
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2. **Dr. Agossou Tossou**, AGRHYMET Regional Centre in Niger

## Annex 2: Photos from the workshop





## Annex 3: List of Abbreviations

AF	Adaptation Fund
BCC	Banjul City Council
CILSS	Permanent Interstate Committee for Drought Control in the Sahel
DGPRES	Department of Water Resources Planning and Management of Senegal
DRR	Disaster risk reduction
DWR	Department of Water Resources
ECOWAS	Economic Community of West African States
FAO	Food and Agriculture Organization of the United Nations
GCCI	The Gambia Chamber of Commerce & Industry
GRCS	The Gambia Red Cross Society
GTTI	The Gambia Technical Training Institute
KMC	Kanifing Municipal Council
KNUST	Kwame Nkrumah University of Science and Technology
LGA	Local Government Area
MECCNAR	Ministry of Environment, Climate Change and Natural Resources
MoFWR	Ministry of Fisheries and Water Resources
MOHERST	Ministry of Higher Education Research Science and Technology
NARI	National Agricultural Research Institute
NAWEC	National Water & Electricity Company
NAWFA	National Women Farmers' Association
NDMA	National Disaster Management Agency
NEA	National Environmental Agency
NFPG	National Farmers' Platform The Gambia
NMHS	National Meteorological and Hydrological Service
OMVG	Gambia River Development Organization
QIT	QuantumNET Institute of Technology
SGAs	Sesame Growers' Associations
SMEs	Small and medium-sized enterprises
UENR	University of Energy and Natural Resources of Ghana
UNDP	United Nations Development Programme
UNICEF	United Nations International Children's Emergency Fund
USET	University of Science, Engineering and Technology
UTG	The University of The Gambia
WFP	World Food Programme
WHO	World Health Organization
YEP	Youth Empowerment Project
YVE	Youth Volunteers for Environment