**Terms of Reference**

**Flood Risk Mitigation and Management Technical Support**

**South Sudan**

1. **Introduction**

South Sudan has been heavily impacted by climate induced floods over the last 3 years (2019 - 2021). In each of these years, close to 1 million people lost businesses, farms, animals, belongings and homes and had to seek safety in other places (away from their homes). Most of the affected areas largely fall within the Sudd Valley along the White Nile and they include Bentiu, Bor, Ayod, Fangak, Bor, Pibor, Malakal, among others. These floods have severely affected the ability of South Sudanese to recover from the effects of years of civil conflict and build resilience and it has been exacerbating the already dire humanitarian situation in the country. Unfortunately, the flooding patterns are expected to be repeated in 2022 with dire consequences.

The international community including Donors, UN and NGOs together with the local and national governments of South Sudan have been leading the humanitarian response resulting from the floods. This response is happening at a time when there is severe strain on the limited humanitarian finding in a country where up to 68 percent of the population need humanitarian assistance in order to keep afloat. In addition, limited technical capacities, human resource constraints, poor coordination and lack of relevant flood response plans have further curtailed the capacity of partners to respond to floods and lay the foundation for sustainable flood management. The town of town of Bentiu in Unity State with a population of 300,000 (120,000 of whom are internally displaced people’s camp) is for example currenting only being protected by an all-round mudd dyke that has to be monitored 24 hours a day. If the dykes break the town will be completely inundated.

In early 2021, the Netherlands Enterprise Agency (RVO) through the Disaster Risk Reduction (DRR) window hired two Dutch consulting companies: Aveco de Bondt and Nelen & Schuurmans to, as part of a pre-feasibility assessment, conduct a remote scan of the current hydrological situation in and around Bentiu and recommend course of action for humanitarian responses taking into consideration the medium- and long-term perspectives. Based on this pre-feasibility study, it has been determined that seconding a DRR and water management advisors to support flood responses in the town of Bentiu will be a logical next step.

This term of reference defines the key objectives, deliverables, methodology and timelines for the proposed technical support.

**2. Objectives**

The proposed technical support is meant to provide technical advice on surface water /flood management to the Local Government, South Sudan Ministry of Humanitarian Affairs and Disaster Management (MHADM), IOM, UNMISS and WFP in the targeted area(s) responding to floods in South Sudan.

**Specifically,**

***Data provision support (remote sensed data):***

* Latest (periodically if it possible) high resolution satellite images over Bentiu and Rubkona town as well as its surrounding areas if available.
* Higher resolution digital elevation model (DEM) -- the current globally available DEM is from the Suttle Radar Terrain Mission (SRTM) with maximal spatial resolution 30 meter and DEM derived from Alos/Palsar images with spatial resolution of 30 meters.
* Flood water extent monitoring derived from satellite images (e.g., using Modis Terra/Aqua, or Sentinel satellite images) – UNITAR is currently producing the flood extents map on ad hoc basis.
* Updated land use/land cover (LULC) map – there are LULC map available globally from various sources such as ESRI, Copernicus, etc. but was not validated. The lates LULC in SS was produced by FAO in 2011.
* Other datasets if it available including the precipitation, soil map, etc.

***DRM Support***

Provide support in design, development of medium term solution entailing:

* How the hydrological situation of the focus area likely to develop in short and medium term in light of climate change and its predicted impact in terms of rainfall upstream but also in the focus of the area itself?
* How will this impact the viability of the focus area in terms of human habitation including impact of the availability of livelihoods, sufficient space for habitation and overall living environment?
* What type of interventions (infrastructure, livelihood support or otherwise) should and/or can be carried out to ensure continued viability of the focus area for human habitation, including access to state and other services (e.g., health and education) in short, medium, and long term?
* What options and/or solutions exist for the internally displaced population (IDPs) displaced by the 2021 and 2022 floods and currently living in 5 IDP sites in and around Bentiu?
1. **Deliverables**

The proposed technical advisor will be required to deliver on the following:

* Submit to MHADM and IOM project proposal for targeted locations containing basic hydrological data, challenges and proposed actions for interventions.
* Issue advises to MWRI/MHADM, IOM and other relevant partners on potential or real flood risks and propose solutions based on analysis of the available data including the remote sensed data.
* Support the execution of flood response activities by offering technical support and advice including but not limited to supporting quick hydrological and related data gathering efforts and design of flood response works including nature-based solutions with the view of medium to long term sustainability.
* Provide advice and required support for urgent flood response needs of the targeted partners that might arise from time to time.
1. **Scope of work**

These advisory services are expected to be provided over a three (3) months period effective from 15 Nov 2022 until 15 February 2023. Geographically, the scope of the work of the advisor’s activities will first and foremost be in Bentiu.

1. **Methodology**

The activities of the advisors are expected to be carried out using a hybrid of both in country/in field missions and remote support. This work schedule will be guided by a well-developed work plan that will be agreed upon by the partners. While within the country the advisors will perform his or her activities from the premises of IOM or premises of partners approved by IOM. IOM will also be responsible for managing the security and logistics of the advisor both in Juba and in field locations. Detailed arrangement of the needs of the advisor and how IOM intends to support him or her will be discussed and agreed before contracts are signed. RVO will be responsible for paying flights, consultancy, perdiem and other relevant costs.

1. **Profile of Advisor**
* An expert with at least a Master’s Degree in Water Resources Management, Natural Resources Management, Hydrology, Water Engineering, Urban Planning or any other related field with proven (at least 5 years) track record in flood management.
* Proven ability to provide technical inputs for the effective integration of disaster, climate risk and resilience in decision-making and planning processes.
* Proven knowledge of flood resilience building tools and coordination mechanisms.
* Ability to develop joint planning, design and advocacy documents involving multiple stakeholders.
* Ability to work in remote and challenging environment in a multicultural setting.
* Experienced in GIS and Remote Sensing
* Experienced in flood modeling and flood mitigation.