



Strengthening Capacity of Government and Communities in South Sudan To Adapt to Climate Change (SUSTAIN)



South Sudan emerges as a pre-eminent example of heightened vulnerability to climate-related risks within the expansive IGAD region. The nation currently grapples with an enduring humanitarian crisis, exacerbated by the weak of robust systems for monitoring and forecasting climatic hazards such as floods and droughts. This predicament is further compounded by notable deficits in human, institutional and infrastructural capacities necessary to build resilience. Over the past few years, South Sudan has borne witness to a series of devastating floods that have inflicted substantial tolls on human lives and livelihoods alike.





1. Overall Development Challenge

South Sudan emerges as a preeminent example of heightened vulnerability to climate-related risks within the expansive IGAD region. The nation currently grapples with an enduring humanitarian crisis, exacerbated by the weak or robust systems for monitoring and forecasting climatic hazards such as floods and droughts. This predicament is further compounded by notable deficits in human, institutional and infrastructural capacities necessary to build resilience. Over the past few years, South Sudan has borne witness to a series of devastating floods that have inflicted substantial tolls on human lives and livelihoods alike.

The SUSTAIN project assumes a strategic role by addressing four salient and interrelated capacity challenges that have been systematically co-identified in the context of South Sudan:

1) Insufficient weather observation network: A chronic scarcity of climate observation infrastructure is evident in South Sudan, limits monitoring and prediction of climate risks and early warning.

2) Limited climate and hydrological data: The availability of climate and hydrological data remains notably constrained, rendering a comprehensive understanding and accurate prediction of climate-associated risks within South Sudan largely unattainable.

3) Inadequate coordination mechanism for early warning: The country lacks strong national coordination mechanism for early warning and early action mechanism in South Sudan. Such platforms facilitate meaningful multi-sectoral and multi-hazards, particularly pertaining to extreme events, thereby curtailing the effective application of early warning for early action.

4) Diminished risk communication: The efficacy of risk communication is compromised by dynamic temporal and spatial fluctuations in hazards, exposure, vulnerability, and the impacts of climate change. This challenge is exacerbated by deficient governance structures and inadequate attention to disaster risk communication across various tiers of governance.

1.1: SUSTAIN Project Aim:

Funded by Global Environment Facility (GEF) through the UNDP and UNEP (South Sudan) in partnership with the South Sudan National Ministry of Environment and Forestry (MoEF), the SUSTAIN project aims at strengthening the national capacity on early warning systems, infrastructure and technical capacity development. The project is part of a larger program to support resilience in South Sudan to the adverse impacts of climate change. More specifically, the project will co-identify capacity challenges through technical support on the setting-up of synoptic stations and linking with ICPAC systems, facilitating installation of 10 hydrometeorological stations (from the IGAD-HYCOS Project), data generation and monitoring, establishment of an early warning system, strengthening a national mechanism for producers and users of climate information and downscaling climate forecast during National Climate Outlook Forums (NCOFs) to deliver warning to the last mile user.

1.2: SUSTAIN Project Work Packages / Key Components

The SUSTAIN project is being implemented through the following work packages;

WP 1: Data generation, analysis and climate monitoring

Activity 1.1: Install, test, and operationalize synoptic stations

ICPAC will support automation of data acquisition and transmission which reduces human error will be addressed through the installation of the hydrometeorological stations. This shall be facilitated by the ICPAC technical staff in drawing specifications for Synoptic automatic weather stations (AWSs) for procurement.

The team will also support the configuration and installation of 10 synoptic AWS stations, configure the data routing. Onsite training will also be carried out in Juba.

Activity 1.2: Generating climatological database

ICPAC will also provide a mechanism through which climate data is routinely collected, quality controlled, archived and processed to generate and disseminate climate information and products for planning and decision-making. Quality control on the climatology database will be undertaken. Also, ten different rainfall satellite estimates will be validated.



WP 2: Early Warning Systems

Activity 2.1: Geospatial datasets and hazard maps

ICPAC intends to leverage earth observations (EO) to provide an integrative platform for location-based information that help to understand a wide range of issues and makes it possible to detect, predict and plan responses to events that threaten human safety and ecosystem health including climate related risks such as droughts and floods.

Other layers include pollution; changes in land use and land cover including deforestation, land degradation, fires, agricultural production areas and infrastructure development. ICPAC aims to develop technical capacities to access, process, analyze and use of geospatial datasets in disaster risk management.

Activity 2.2: Early warning systems – floods, extreme rainfall, and climate Forecast

Early Warning System (EWS) is designed using four components:

- (i) risk knowledge;
- (ii) monitoring and warning;
- (iii) dissemination and communication; and
- (iv) Preparedness for response.

ICPAC will conduct baseline studies and assessments as a first step to understanding the status of the existing EWS for different types of hazards in South Sudan. It will further develop the Standard Operating Procedures (SOP) to reach the last mile with early warning information for early action.



WP3: Capacity building and training

The following communication channels will be used to share information;

- Record short interviews with technical experts to explain complex issues.
- Establish a working relationship with local and international media.
- Post updates and in-depth facts regularly on social media platforms such as Facebook, Twitter, Instagram, Slack and Telegram.
- Develop a leaflet to address the target audiences with in-depth relevant information.
- Season-Media Action Plan (SMAP).

Activity 3.1: Training on climate modelling, climatological data, early warning, & hazard assessment

The SUSTAIN project will utilize various methodologies to foster the technical capacity of the relevant national institutions.

The capacity building activities are guided by a baseline survey to identify the gaps, priority areas and map timelines for the various intervention programs. This enhances knowledge management and information sharing on climatic hazards between ICPAC and South Sudan through in-country training.

Similarly, there is the need to understand the thresholds and triggers associated with such risks to contribute to the design of timely and effective early warning, preparedness, and early action, and minimize the need for reactive emergency response.

Capacity building in climate modelling is to be conducted utilizing two approaches. To undertake the effective capacity building the first approach involves building synergy with existing ICPAC programs including the annual foundational training that is conducted annually and the Pre-COF training sessions, which are conducted three times a year.

The second approach is based on in-country training which covers techniques for seasonal, short range and flood forecasting (WRF hydro and Extreme rainfall), and training of trainers on National Climate Outlook Forum (NCOF) for South Sudan.

ICPAC also enhances the capacity of South Sudan to use the in-house developed web/mobile communication platform called HUSIKA developed by BUNIFU technology through the support of UNDP under the UNDP-IGAD project. This platform helps in reaching the last mile in the communication chain.



WP4: National Climate Outlook Forums (NCOFs)

ICPAC undertakes downscaling and engagement of national sector user groups during National Climate Outlook Forums (NCOFs) to achieve the following objectives:

- Create a platform for providing climate information at relevant timescales.
- Ensure that climate information products are communicated to and understood by

users.

- Encourage the uptake and use of information to mitigate risks in climate-sensitive sectors.
- Receive user feedback for improving usability of climate products.
- Provide a platform for understanding risk and opportunities linked to past, current and future climate.
- Create a platform for inter-agency coordination of policies, sectoral plans and programs.
- Create a culture of working together through joint climate information interpretation sessions.
- ICPAC will support the establishment of multi-sectoral early warning framework in order to co-ordinate early warning and early action across stakeholders in South Sudan.

1.3: Stakeholders and Beneficiaries

ICPAC aims to strengthen and work South Sudan Early Warning Technical Working Group (EWTG) and other stakeholders to reach the last mile with early warning information through HUSIKA mobile application.

Proposed sectors and partners to be involved in this work are not limited to South Sudan Meteorological department; humanitarian affairs (disaster risk reduction); human settlement; water resources, industry, infrastructure, and transportation; South Sudan Ministry of Environment and Forestry, Ministry of Transport, Ministry of Agriculture and Food Security, Ministry of Humanitarian Affairs, Ministry of Water Resources and Irrigation, Ministry of Energy and Dams, Ministry of Land, Housing, and Urban Development, Ministry of Health, Ministry of Livestock and Fisheries, and the Ministry of Roads and Bridges, conservation NGOs; and UNDP- South Sudan.

1.4: Knowledge Products and Visibility Materials:

ICPAC will develop a number of knowledge products and project visibility materials through this project which may not be limited to;

- ▶ A database of observation data from Hydrological station and Meteorological stations
- ▶ Climatological database
- ▶ Training manuals
- ▶ Standard Operating Procedure for data collection/quality control and early warning
- ▶ Flyers, poster, banner, reports etc.
- ▶ Action plan for implementation of National Climate Outlook Forum

1.5: About the Implementing Agency

The SUSTAIN project will be implemented by the IGAD Climate Prediction and Applications Centre (ICPAC) a specialized institution of Intergovernmental Authority on Development (IGAD).

ICPAC undertakes to support South Sudan in technical backstopping and capacity building of mandated national institutions on key gaps identified. This will be an addition to the existing support by ICPAC on monthly and rolling seasonal forecast for South Sudan.

Strengthening the Capacity of Government and Communities in South Sudan To Adapt to Climate Change (SUSTAIN)

South Sudan stands out as a prominent example of heightened susceptibility to climate-related risks within the broader IGAD region. The nation grapples with a prolonged humanitarian crisis, worsened by the lack of robust monitoring and forecasting systems for climatic hazards like floods and droughts. This vulnerability is compounded by significant deficiencies in human, institutional, and infrastructural capacities needed for building resilience. Recent years have seen South Sudan endure severe floods, causing significant harm to both human lives and livelihoods. The SUSTAIN project strategically addresses four key and interconnected capacity challenges identified in the South Sudan context.

The project is designed to actively involve various key ministries to ensure a comprehensive and collaborative approach. Engaging the Ministry of Environment and Forestry will foster sustainable practices and environmental conservation. The Ministry of Transport will contribute expertise to enhance connectivity and transportation infrastructure. Collaboration with the Ministry of Agriculture and Food Security aims to promote agricultural productivity and ensure food security. The Ministry of Humanitarian Affairs will play a crucial role in addressing and mitigating the impact of any humanitarian challenges that may arise. The Ministry of Water Resources and Irrigation will contribute insights and efforts towards effective water management. The Ministry of Energy and Dams will be instrumental in the development and maintenance of the country's energy resources. Collaboration with the Ministry of Land, Housing, and Urban Development will ensure thoughtful urban planning and land management. The Ministry of Health will provide crucial insights into public health initiatives and healthcare services.

The Ministry of Livestock and Fisheries will be actively involved in the sustainable development and regulation of livestock and fisheries sectors. Lastly, partnering with the Ministry of Roads and Bridges will contribute to efficient planning and maintenance of the nation's road infrastructure. The collective engagement of these ministries reflects a holistic and integrated approach to the project's goals.



www.icpac.net
www.undp.org

