

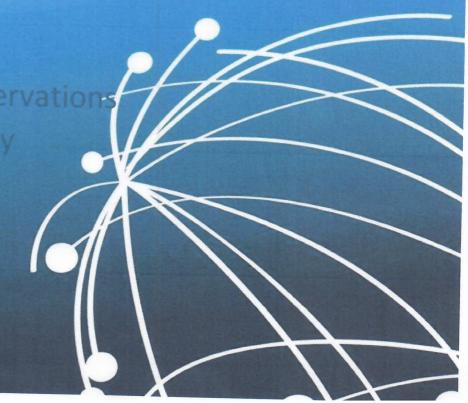
SOFF Readiness Funding Request Template

Version 1.0

17 January 2023

Systematic Observations Financing Facility

Weather and climate data for resilience





SOFF Readiness Funding Request

The funding request should be prepared by the SOFF beneficiary country in collaboration with the SOFF peer advisor in coordination with the prospective SOFF Implementing Entity. In case of questions on how to complete this template, please contact the SOFF Secretariat at: soffsecretariat@wmo.int.

The SOFF Readiness Funding Request template includes the following sections:

- 1. Basic information
- 2. SOFF Programming criteria
- 3. Readiness phase outputs, timeline and budget
- 4. Monitoring
- 5. Readiness Phase Risk Management Framework

The Assignment Terms of Reference are included in Annex 1.

SOFF Secretariat feedback 21 February 2023

General comments

- Section 1: Timeline. Please be more specific about the estimated timeline for the completion of the assignment. In the Terms of Reference Delivery Process, please provide a more detailed indication of the timeline for missions, workshops, delivery of outputs, etc.
- Section 2. Programming criteria:
 - GBON gap and easy fixes: Please be aware of the limitations of SOFF scope of support. SOFF only supports GBON standard density and surface and upper-air stations over land. However, SOFF does encourage peers and beneficiary countries to during the Readiness phase look at the situation of GBON high-density networks (for those countries that already have them) and marine stations for potential easy fixes opportunities via SOFF support or future support. We encourage beneficiary countries and peer advisors to ensure that the readiness funding request focuses on the areas of work related to SOFF scope of support to avoid misinterpretations and wrong expectations for the Investment and Compliance phase. For more guidance and details on SOFF scope of support please see the GBON National Gap Analysis and the GBON National Contribution Plan technical guidance documents. The information provided on the GBON Gap, and the easy fixes should be high-level, as the details are expected to be scoped out during the Readiness phase. Please avoid excessively detailed information or decisions on how many stations to rehabilitate/install.
 - Maximize delivery capacity: Please state any ongoing or planned activities in the country for which the peer advisor receives funding from other sources. This is a mandatory requirement, as per Assignment Agreement 5.4.
- Section 3. Budget: Just as a reminder, please be aware that the USD 200K is only a funding cap
 for the Readiness phase. The budget is expected to reflect a strict and careful assessment of the
 costs for the provision of the advisory services, following a cost-recovery approach and abiding
 by the eligible expenditure categories according to the Umbrella Agreement. While a budget





breakdown is not required in the funding request, the SOFF peer advisor must be in a position to provide copies of all the documents, including budget and costing breakdown, including for audit purposes.

• Section 6: Risk management framework needs to be further developed. Pleasure ensure that the risks included refer to the activities to be conducted during the Readiness Phase and not during the Investment Phase. Please see suggestions in the comments provided in the section.

Additional comments are provided in the document.



1. Basic information

SOFF Beneficiary Country	Mozambique
Country Focal Point	Adérito Celso Félix Aramuge Instituto Nacional de Meteorologia (INAM)
Peer advisor	South African Weather Service (SAWS)
Peer advisors Focal Point	Francis Mosetlho
Prospective Implementing Entity	World Food Programme (WFP)
Prospective Implementing Entity Focal Point	Jesse Mason
Total budget USD	\$95 900
Delivery timeframe	6 months duration starting in April.
Date of approval	
Signature SOFF Steering Comm request)	ittee co-chairs (after Steering Committee approval of the funding







2. SOFF Programming criteria

Please provide below an initial short description of the application of the <u>SOFF programming criteria</u> in the country.

Table 1: Programming criteria

Close the most significant data gaps

Based on the WMO Global GBON Gap Analysis for the country, please provide a brief summary of the initial indications regarding the GBON gap in the country.

Mozambique lost 75% of its total coverage in the flooding in 2000 and been trying to recover through modernization and expansion. There is a national ambition to ensure each of the 154 districts is equipped with at least one weather station. Currently, 74 districts are covered, and the plan is to cover another 29 by 2024 and 51 by 2030 in the implementing phase II. It is anticipated that SOFF will contribute towards this national ambtion and the remainder will be supported through other initiatives.

There are currently no upper air stations operational in Mozambique. Mozambique used to have three operational Upper Air Stations, in Maputo, Beira and Nampula however, these were unable to be maintained due to insufficient funds to cover the operational costs.

The WMO Global GBON Gap Analysis – see summary table below – identifies the current gaps in the surface and upper air observations networks in Mozambique. INAM aims to close the observations gap and deliver standard density GBON compliant observations to the global network and this funding request identifies the ambition of Mozambique.

	WMO Mer	mber: Mozambio	que		
	Surface area	: 799.380 squa	ire km		
Station type			Gap Gap Gap		
Station type	Target	Reporting	(total)	(improve)	(new)
GBON Surface Land stations (standard density)	20	5	15	15	0
GBON Surface Land stations (high density)	80	5	75	73	2
GBON Upper-Air stations over land	4	0	4	2	2

Target easy fixes

Based on the WMO Global GBON Gap Analysis, please provide initial indications on the opportunities for rehabilitation and improvement of potential GBON stations in the country.

There is a need to:

install or rehabilitate 15, as standard density and potentially 75,



high density, surface observations.

- Rehabilitate 4 upper air observations.
- Install and upgrade telecommunications to the observation sites.
- Increase the capacity of people and processes at INAM for sustainable observations and data management.

Maximize delivery capacity

Outline the capacity of the peer advisor and the prospective Implementing Entity to deliver SOFF support efficiently and effectively in the country. State any ongoing or planned activities in the country for which the peer advisor receives funding from other sources.

The SAWS as lead Peer Advisor has experience in managing and sustaining its own nation's surface and upper air networks in line with GBON requirements. The SAWS collaborates with WMO in developing observations network and data management policies, guidelines, and procedures. The SAWS is hosting the Regional WIGOS Center for the Southern subregion of the Regional Association I (Africa) and also works with NMHSs in several countries supporting institutional capacity development activities. The SAWS has strong collaborations with INAM.

SAWS delegated a team of eight members to work as SOFF advisors to the SAWS Executive and this team is working on the SOFF support to Mozambique. The team comprises of two Regional Managers responsible for infrastructure roll out and maintenance as well as data availability and quality from a SAWS infrastructure such as AWS, ARS, RADAR, LDN, Upper Air, manual climate stations and rainfall stations. Furthermore, the team have two ICT personnel as well as technical personnel with the ability to address communication of data through GTS since Pretoria is the Regional Tele-Communication Hub within RA I. SAWS has successfully installed WIS-Included in this team is personnel responsible for the RWC i.e, OSCAR focal point and well as WDQMS focal point. The team also have support of the international relations office and can still call upon the services of the Legal department for support on any legal documentation.

This team can call upon the resource from operational SAWS personnel as and when required to perform the required functions related to restoration of existing observation infrastructure as well as deployment of new infrastructure.

The World Food Programme (WFP) has been selected as the implementing entity for a project in Mozambique and will be collaborating with the SAWS as SOFF peer advisors. With its extensive experience in providing food assistance and humanitarian aid, the WFP is well-equipped to provide support and engagement in all phases of the project in line with its strategic goals.

In the specific case of the Mozambique WFP has been supporting the institution in increasing the number of met stations reporting in real time,



developed improved satellite-station products, helped restore operational access to AWS data archives, advised on new AWS locations, funded significant data recovery efforts liaising with WMO Office for East and Southern Africa and set up operational agro-meteorological monitoring systems. This record of co-development of internal capacity means there is a large capital of trust and cooperation between WFP and INAM. This cooperation has been on-going since 2019 and will be extended for the near future, being covered by a funded MoU signed between the two parties. Technical support is provided by WFP-HQ Climate and Earth Observation Unit, led by a senior staff member with a PhD in Meteorology (Univ Reading) in coordination with the WFP Country Office in Maputo for day to day management of the cooperation.

The SAWS will serve as peer advisor to INAM, offering expertise in surface and upper air observation systems; weather forecasting and related fields aimed at positively impacting lives of people in Mozambique by addressing the challenges of the project.

Create leverage

Provide initial indications on opportunities for complementarity of SOFF with previous, ongoing and planned operations by the SOFF Implementing Entities and other funds.

The country has 106 AWS deployed nationally. About 43 AWS are operational but only 14 of these systems transmit data to the GTS, although an assessment is needed to get more insight why it is not showing on the WDQMS. Assessment of this network of AWS in consultation with the SOFF Peer Advisors NMHS personnel and the Implementing Entity will allow for improving the data availability within the country.

The Nordic Development Fund (NDF), funded a recently completed modernization project at INAM that included modernization of observation infrastructure, development of HQ Server Room and ICT modernization, observations maintenance Service Centre, and data management & rescue procedures.

Shortly after (2019) WFP engaged in long term support of INAM with multidonor funding (NORAD and EU). This support broadly aims to set up INAM to become a reliable supplier of climate risk information to a range of stakeholders. The approach covers both the technical support for the implementation of humanitarian Anticipatory Actions against drought hazards and tropical cyclones as well as the capacity development required for the establishment of a system for the monitoring of the rainfall season and early warning of climate hazards as they develop in near real time.

INAM is responsible for a whole range of products and services, from basic weather information for the public, early warning services, seasonal monitoring and forecasting, and more, and they all are dependant on a reliable and representative observations network.



	This guarantees that the new observing capacity deployed by SOFF will be able to feed into an existing system for climate hazard monitoring and assessment. The increased number of observations will make a significant contribution to the quality of INAM's routine monitoring products and open the way to the preparation of new variables such as ETO, essential fo the preparation of more agro-meteorological oriented products. This in turn will improve the service INAM provides to a range of sectoral stakeholders in fora such as technical working groups.		
Sub-regional gains	Provide initial indications on opportunities to create economies of scale and optimize the design of the observing networks through multi-country/sub-regional SOFF implementation e.g. existing sub-regional cooperation or opportunities for sub-regional procurement and operations and maintenance.		
	Roll out of the observation stations within Mozambique will improve Numerical Weather Prediction Model input data, especially on improving severe weather detection related to tropical cyclones which have a devastating impact on the economy of the subregion. The roll out complements the weather observation stations within SADC and thus improves early detection of severe weather systems development which results in protection of property and livelihood of communities in the subregion.		
Ensure country balance	Indicate if the country is a Small Island Developing State, a Least Developed Country, an ODA-recipient country, a Fragile and Conflict-affected State. Mozambique is a Least Developed Country.		

3. Readiness phase outputs, timeline and budget

The Terms of Reference for the development of the SOFF Readiness phase outputs (see Annex I) provide more detailed information. They also summarize the roles and responsibilities, as stated in the SOFF Operational Manual, of the beneficiary country, the peer advisor, the prospective Implementing Entity and WMO Technical Authority for the delivery of the Readiness phase outputs.

The budget for the development of the SOFF Readiness phase outputs by the SOFF peer advisor shall be a lump-sum, fixed cost amount. It shall be calculated using a cost-recovery approach based on the peer advisors' standard cost recovery rates.



Please indicate the expected time required to deliver the Readiness outputs and the total budget. See example below.

Table 2: outputs, timeline and budget

Outputs	Timeline					
Outputs	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
National GBON Gap Analysis						
GBON National Contribution Plan						
Total budget USD ²			\$95	900		

la la

 $^{^{1}}$ It is expected that the assignment is completed within six months. If more time is required for exceptional circumstances, please add additional months to the table.

² Eligible expenditures are limited to: Staff and consultants; Consultations, national technical workshops, and communications; Travel and transportation costs; Other incidental expenditures.



4. Monitoring

The beneficiary country and peer advisor shall notify the SOFF Secretariat on any delays that may impede the timely delivery of the Readiness phase outputs. If the assignment takes more than six months, the SOFF peer advisor shall submit semi-annual progress reports to the SOFF Secretariat (form to be provided by the SOFF Secretariat) stating the delivery status of the outputs.

The Readiness phase completion will be monitored by the peer advisor and the SOFF Secretariat using the following country-level Results Framework for the Readiness phase.

Table 3: Result framework

Outputs	Indicator	Target
1. GBON National Gap Analysis	GBON gap established and reviewed (Y)	GBON gap analysed and reviewed by WMO Technical Authority
2. GBON National	GBON national contribution plan developed (Y)	GBON national contribution plan developed and reviewed by WMO Technical Authority
Contribution Plan	GBON National Contribution Plan includes gender considerations (N)	GBON National Contribution Plan includes gender considerations
3. Country Hydromet Diagnostic (on demand)	Country Hydromet Diagnostic developed (N)	Country Hydromet Diagnostic developed

5. Evaluation

An evaluation from both, the beneficiary country and the prospective Implementing Entity on the quality of support received by the peer advisor will be conducted at the end of the Readiness phase and the peer advisor's assignment (form to be provided upon completion of the Readiness phase by the SOFF Secretariat).

la



6. Readiness Phase Risk Management Framework

Please provide a brief description of the contextual, institutional, and programmatic risks that might hinder the effective delivery of the Readiness phase outputs.

Table 3: Risk Management Framework

Risk category	Description	Probability	Mitigation action
Contextual risks Risks related to conflicts, safety and political insecurity jeopardizing the delivery of the Readiness phase outputs	There are some insecurity issues in some areas of Cabo Delgado, in the northern tip of the country due to terrorism actions that may jeopardise the delivery of the Readiness phase outputs.	High	It is unlikely there will be a need to travel to these areas and avoid travelling to high risk areas and if required, adopt recognized security measures.
	High-impact tropical cyclones affecting Mozambique.	Moderate	Remain vigilant to the risk and alter project activities to minimize the risk.
Institutional risks Risks related to the beneficiary country's institutions participation in the Readiness phase activities	The National Institute of Meteorology (INAM) availability of staff resource to fully commit to the readiness phase.	Low	Improve engagement, communication and planning with the PA and IE.
Programmatic risks Risks related to country ownership of the Readiness phase outputs	Lack of full support from other government agencies and institutions to the benefits of SOFF to the country.	Low	The Mozambique government is highly aware of its vulnerability to high-impact weather and is the nominated champion at the African Union.



communication the how SOFF benefits the agenda to all agencies.



Annex 1. Assignment Terms of Reference for the development of the SOFF Readiness phase outputs

1. Purpose and scope

The purpose of this Assignment is to provide SOFF peer advisory services by SAWS to Mozambique to develop the outputs of the SOFF Readiness phase as described in section 3 of these Terms of Reference.

The provisions defined in the Terms of Reference are based on the <u>SOFF Operational Manual</u>, in particular Section 4.4 on Operational Partners and Section 4.5.1 on the Readiness phase.

2. Roles and responsibilities

Beneficiary country National Meteorological and Hydrological Service

- Is responsible for implementing the activities of the Readiness phase with the support from the peer advisor and the prospective Implementing Entity.
- Prepares the Assignment Terms of Reference following the standard Terms of Reference provided by the SOFF Secretariat, in collaboration with the peer advisor and in coordination with the prospective Implementing Entity.
- Submits the funding request for the SOFF Readiness phase support using the standardized template provided by the SOFF Secretariat.
- Is responsible for collaborating with the peer advisor to provide all the necessary information and participate in and facilitate the national activities the peer advisor needs to conduct in order to develop the Readiness phase outputs.
- Confirms receipt of the peer advisors' report with the Readiness phase outputs and provides comments on the outputs as needed.

Peer advisor

- Is accountable to the beneficiary country.
- In dialogue with the beneficiary country, provides independent technical advice, analysis and recommendations to support the beneficiary country in implementing the activities of the Readiness phase.
- Develops the Readiness phase outputs and is responsible for their quality and timely delivery.
 Communicates regularly with the beneficiary country and the Implementing Entity.
- Engages with the civil society, including on the identification of stakeholders of relevance for GBON implementation.
- Submits the final report with the Readiness phase outputs to the country for comments and to the prospective Implementing Entity for feedback.
- Submits the final report including the beneficiary country's comments and the prospective Implementing Entity's feedback to the SOFF Secretariat.
- Notifies the SOFF Secretariat and the prospective Implementing Entity of any delays that may
 impede the timely delivery of the outputs, and for assignments for which the delivery takes
 more than six months submits a semi-annual progress report.

Implementing Entity

Artige Id



- Participates in the Readiness phase activities and collaborates with the beneficiary country and the peer advisor to ensure a common understanding of the Readiness phase outputs and that they address the technical needs for the design and implementation of the Investment phase.
- Contributes to the definition of the Terms of Reference and provides feedback on the outputs delivered by the peer advisor.
- Based on its experience in the beneficiary country, supports the work of the peer advisor, e.g. by sharing its knowledge and facilitating access to the network of relevant stakeholders.

WMO Technical Authority

- Provides basic technical support to the beneficiary country, peer advisor, and prospective Implementing Entity on GBON regulations.
- Is responsible for the technical screening of the draft GBON National Gap Analysis and the draft GBON National Contribution Plan against the GBON regulations.
- Is responsible for establishing and administering the pass-through mechanism for contracting and funding of the technical assistance provided by the peer advisors.

SOFF Secretariat

- Facilitates communication, coordination and collaboration between the beneficiary country, the peer advisor, the prospective Implementing Entity and WMO Technical Authority.
- Reviews the Readiness funding request, including the Terms of Reference, for compliance and consistency with the information requirements in the template and provides feedback as needed. Transmits the funding request to the SOFF Steering Committee for its decision.
- Confirms receipt of the peer advisors' report with the Readiness phase outputs.
- Organizes exchange of knowledge and experiences and captures lessons learned.

3. Readiness phase outputs

The peer advisor should perform the following tasks following the technical guidance and using the templates provided in the <u>operational guidance documents</u> for each one of the outputs. A summary of the key steps and modules to be conducted for each output is presented below.

3.1 GBON National Gap Analysis

The GBON National Gap Analysis defines the gap between the mandatory requirements of the GBON regulations and the existing country surface and upper-air networks. In other words, it serves as the basis for identifying the number of observing stations that need to be installed or rehabilitated to comply with the mandatory requirements of the GBON regulations.

To develop the GBON National Gap Analysis, the following steps should be followed

- Step 1 Country information from the GBON Global Gap Analysis
- Step 2 Analysis of existing GBON stations and their status against GBON requirements
- Step 3 GBON Gap Analysis results





• Step 4 – Country endorsement for integration of the GBON National Gap Analysis into the GBON National Contribution Plan

3.2 GBON National Contribution Plan

The GBON National Contribution Plan identifies the infrastructure, human and institutional capacity needed to achieve a progressive target toward GBON compliance, including the sustained operation and maintenance of the national GBON observing network.

To develop the GBON National Contribution Plan, the following modules should be completed

- Module 1. National target toward GBON compliance: Establishment of a progressive national target toward GBON compliance
- Module 2. GBON business model and institutional development: public-private business model as appropriate; partnerships, institutional and financial arrangements needed to operate and maintain the observing network
- Module 3. GBON infrastructure development: Appropriate investments needed to increase or improve the observing network and its Information and Communication Technology (ICT) infrastructure
- Module 4. GBON human capacity development: Human technical and managerial capacities required to operate and maintain the observing network
- Module 5. Risk Management: Operational risks of the observing network and required mitigation measures
- Module 6. Transition to SOFF Investment phase: Support the beneficiary country and the Implementing Entity in preparing the Investment phase funding request (template provided by the SOFF Secretariat).

3.3 Country Hydromet Diagnostics

The Country Hydromet Diagnostic (CHD) complements the GBON National Gap Analysis and the GBON National Contribution Plan. It is a standardized, integrated and operational tool and approach for diagnosing National Meteorological Services across the meteorological value chain, their operating environment, and their contribution to high-quality weather, climate, hydrological and environmental information services and warnings. Its assessment serves as a basis for investments beyond SOFF, across the whole value chain, by the SOFF Implementing Entity and other development partners.

The peer advisor should assess the 10 CHD elements with its respective indicators following the matrix provided in the CHD guidance document.

- Governance and institutional setting
- Effective partnerships to improve service delivery
- Observational infrastructure
- Data and product management and sharing policies
- Numerical model and forecasting tool application
- Warning and advisory services
- Contribution to climate services
- Contribution to hydrological services
- Product dissemination and outreach



Use and national value of products and services

To develop the Country Hydromet Diagnostic, the following **steps** should be completed.

- Stage 1 Information gathering. As input, the WMO Monitoring Evaluation Risk and Performance unit will provide available country data structured along the CHD elements and their indicators (performed remotely)
- Stage 2 Validation and analysis (performed in-country if feasible)
- Stage 3 Closure

4. Delivery process

The peer advisor in collaboration with the beneficiary country and in coordination with the prospective Implementing Entity should establish the specific activities and consultations needed to complete the outputs. The development of the outputs should include the following:

- Collaboration arrangements between the beneficiary country and the peer advisor, including at least one country visit, unless the country context does not allow it. The collaboration between the beneficiary country (INAM) and peer advisors (SAWS), will adopt a standard project management approach to the project. This will include routine meetings to discuss activity plans, resource and time allocation, and risks. It is envisaged that following a period of remote desk-based activity, an in-situ meeting will be conducted in month 3 to validate the gap analysis and discuss the initial plans for the national contribution plan. Further remote activity to complete the national contribution plan will be followed by a final in-situ meeting in month 6 to agree the final draft of the national contribution plan. A Country Hydromet Diagnostic will not be completed at this stage.
- Coordination arrangements with the prospective Implementing Entity WFP will be kept in regular contact with the consortium, with regular meetings planned to discuss progress, risks and issues.
- In-person or virtual consultation meetings with relevant national and international stakeholders and partners. Initial engagement with partners will be remote desk-based research, questionnaires, and on-line interviews. The findings will be validated with in-person meetings in months 3 (gap analysis) and 6 (national contribution plan).
- Delivery partners that support the peer advisor in the delivery of the outputs, as applicable.
- Peer advisor delivery team and focal point. SAWS is the lead Peer Advisorsand have extensive expertise in this area, and will call upon experts for the various activities to be completed.
 Regular collaborations meeting are planned to ensure progress.
- Timeline for the development of the outputs

Project initiation and inception – April 2023

GBON Gap Analysis - months 1 and 2.

GBON National Contribution Plan – months 3 to 6.

Arty



5. Reporting and completion

Reporting. For assignments for which the delivery of advisory services takes more than six months, the SOFF peer advisor shall submit a semi-annual progress report to the SOFF Secretariat (form to be provided by the SOFF Secretariat).

Completion

- Step 1. The peer advisor submits the draft GBON National Gap Analysis and the GBON National
 Contribution Plan reports to WMO Technical Authority and, as applicable, the draft Country
 Hydromet Diagnostics to the Monitoring Evaluation Risk and Performance unit of the WMO
 Secretariat. The draft reports have to follow the templates provided in the SOFF operational
 guidance documents.
- Step 2. WMO Technical Authority screens the draft GBON National Gap Analysis and the draft GBON National Contribution Plan to ensure consistency with the GBON regulations. The WMO Monitoring Evaluation Risk and Performance unit screens the draft Country Hydromet Diagnostics and provides feedback for revisions as needed.
- Step 3. The peer advisor submits the report with the Readiness phase outputs for beneficiary country and prospective Implementing Entity feedback.
- **Step 4.** The peer advisor finalizes the report for confirmation of receipt by the beneficiary country and, as needed, beneficiary country comments. Following beneficiary country receipt of the report, the peer advisor submits the report, including beneficiary country's comments and the prospective Implementing Entity's feedback, to the SOFF Secretariat.
- Step 5. The SOFF Secretariat confirms the satisfactory receipt of the report and informs the country and the prospective Implementing Entity accordingly. The SOFF Secretariat authorizes WMO to proceed with the release of the final payment, and informs the SOFF Steering Committee of the completion of the SOFF readiness phase.



6. Signatures

By signing this document, the beneficiary country, peer advisor and the prospective Implementing Entity agree with the provisions stated in this Terms of Reference.

Beneficiary country

Adorito pramuge PR OF MOZAMBIQUE WITH WHO Action 1

Peer advisor

-DocuSigned by:

CEO

Prospective Implementing Entity

Jesse Mason

Jesse Mason Senior Technical Lead, Climate Change and DRR Service, WFP