



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**.

1. Basic information

| | |
|--|---|
| SOFF Beneficiary Country | Republic of Senegal |
| Country Focal Point | Dr. Ousmane Ndiaye Director of Meteorology of the Senegal National Agency for Civil Aviation and Meteorology (ANACIM) |
| Peer advisor | Royal Netherlands Meteorological Institute (KNMI) |
| Peer advisor Focal Point | Dr. Gé Verver Coordinator International Affairs / senior scientist |
| Prospective Implementing Entity | Islamic Development Bank (IsDB) |
| Prospective Implementing Entity Focal Point | Mr. Olatunji Yusuf Senior Climate Change Specialist Dr. Daouda Ndiaye Manager, Climate Change and Environment Division |
| Total budget USD | 74,000 |
| Delivery timeframe | May 2023 – October 2023 |
| Date of approval | |
| Signature SOFF Steering Committee co-chairs (after Steering Committee approval of the funding request) | |

2. SOFF Programming criteria

Table 1: Programming criteria

| | | | | | | |
|--|--|--------|-----------|-------------|---------------|-----------|
| <p>Close the most significant data gaps</p> | <p>The WMO Global GBON Gap Analysis for Senegal clearly indicates gaps when compared to the GBON target:</p> | | | | | |
| | <p>WMO Member: Sénégal (le)</p> | | | | | |
| | <p>Surface area: 196.710 en km²</p> | | | | | |
| | Station type | Target | Reporting | Gap (total) | Gap (improve) | Gap (new) |
| | GBON Surface Land stations (standard density) | 5 | 0 | 5 | 5 | 0 |
| GBON Surface Land stations (high density) | 20 | 0 | 20 | 13 | 7 | |
| GBON Upper-Air stations over land | 1 | 1 | 0 | 0 | 0 | |
| | <p>The Meteorological Service from Senegal (ANACIM) operates 4 types of stations in its observations network: synoptic stations that do all the measurements (including upper-air) and operate 24/7, secondary synoptic stations that do not perform upper-air measurements and close at certain times, climatological (and agronomic) stations that close overnight and measure only essential parameters, and a large number of rainfall stations that only measure precipitation. Just a few of them are automated stations.</p> <p>ANACIM prepared a Meteorological Network Strategic Plan outlining the status of the network, the future needs, and a strategy for sustainable development of the observation network. A significant increase of station density is proposed as well as a transition from manual to automated observations, and an increase of soundings. Even though marine observations are not part of SOFF scope of support, with a coastline of 700 km, it is necessary to also assess the marine observation network.</p> <p>The SOFF readiness phase will further specify the gaps by comparing it with the GBON requirements and use the Network Strategic Plan also for the preparation of the National Contribution to GBON using the SOFF standard templates.</p> | | | | | |
| <p>Target easy fixes</p> | <p>A number of upper-air measurement stations have been shut down for a long time and need to be modernized.</p> | | | | | |
| | <p>The rain gauge network consists for a large part of manually operated stations. The objective is to significantly increase the number of automatic rain gauges.</p> | | | | | |
| | <p>In the Network Strategic Plan new automatic stations are planned to improve the density of the observation network.</p> | | | | | |
| | <p>Some stations and rain gauges are shut down or do not measure all parameters (e.g. wind) due to a lack of spare parts, such as solar panels, batteries, modem, sensors, etc.. Rehabilitation of these stations is relatively easy if these spare parts are available.</p> | | | | | |

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| <p>Maximize delivery capacity</p> | <p>KNMI and the IsDB (peer advisor and Implementing Agency respectively) both have the capacity to contribute effectively and efficiently to the Readiness Phase deliverables.</p> <p>-</p> <p>KNMI is already active in West-Africa through the regional projects of CREWS and ClimSA, focusing on climate data and indicators of climate extremes.</p> <p>Bi-lateral collaboration with Cabo Verde, supported by funding from the Dutch government, focus on improving data management, data rescue, seasonal forecast, and sea-level rise. This formal cooperation project will be formally closed in spring 2023.</p> <p>KNMI has ample experience in providing support to peer NMHSs outside Europe: i.e., in South America, Southeast Asia and Africa.</p> <p>-</p> <p>IsDB has close to five decades of experience working in implementing projects (including managing projects from external funds) across four continents including the Republic of Senegal. Specifically, the Bank operates a decentralized structure (with large country office i.e., the regional hub of Dakar) operating to serve its clients on the ground effectively and efficiently. The in-country presence gives the IsDB an edge to engage extensively with relevant stakeholders and institutions to ensure all issues and guidelines are implemented to the required standards of the donors and recipient country.</p> <p>Moreover, in term of strategic frameworks, the IsDB has an established climate change policy that recognizes the need (i) to build resilience of member countries toward addressing climate change impact, (ii) to support transition to green economy, and (iii) supporting capacity enhancement with the needed enablers to actualized climate goals and targets.</p> <p>In term of implementation and fiduciary policies, the IsDB has established procurement guidelines and financial management policies which are at par with the global best practices amongst multilateral development banks. These policies are applied in all projects financed by the Bank in the beneficiary country. In addition, the Bank has vast expertise (including specific local experience requirements in Senegal) of human resources across multiple disciplines and sectors to support this project.</p> |
| <p>Create leverage</p> | <p>This SOFF initiative complements several initiatives in Sénégal as well as in the West African region as a whole. Observational data financed through SOFF contribute to the services provided by ANACIM and the WMO Regional Climate Centre (RCC) for Western Africa hosted by AGRHYMET. It will lead to improved information products, such as forecasts, warnings, and advisories provided by the Regional Specialised Meteorological Center (RSMC) in Dakar (hosted by ANACIM). The regional centre as well as global centres like ECMWF will benefit from the additional observations through assimilation of the data or by using the observations for better skill assessments.</p> <p>ANACIM is partnering with many institutions to improve climate information services. Many of these collaborative projects are investing in the delivery of these services, rather than in the necessary infrastructures. The impact of SOFF will be an improvement of the quality of these services, by closing the</p> |

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|--------------------------------------|--|
| | <p>gap in the value chain between the essential, basic observations and the downstream information products.</p> <p>Examples are the provision of improved services to farmers and pastoralist (USAID/CINSERE and AICCRA) and of the early warning system already in place. NOAA is partnering with ANACIM on heat wave early warning service: better data will improve the bulletin.</p> <p>From the development perspective, the support to be provided by SOFF is expected to have multiplier effects (directly and/or indirectly) in the provision of reliable data to forecasting and analyzing the risks posed by climate change to infrastructures critical to the broader economic and social development of Senegal, especially in the agriculture, water, energy, mobility, urban and rural, and health sectors.</p> |
| <p>Sub-regional gains</p> | <p>Regional collaboration can potentially provide significant benefits, e.g., by sharing technical facilities (such as validation, calibration and backup services, software solutions) and expertise. The group of francophone countries may also collaborate in regional capacity building activities for the maintenance of the instrumentation, data processing and database management.</p> <p>For IsDB, the support provided through SOFF has the potential to benefit from IsDB Reverse Linkage Program that aids peer-to-peer learning (on real-time and better forecasting and observatory systems) between countries in the global south especially between countries in the West Africa sub-region.</p> |
| <p>Ensure country balance</p> | <p>Sénégal is on the list of Least Developed Countries designated by the UN, and an ODA-recipient country (OECD). It is not a Fragile and Conflict affected State.</p> |

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.

Table 2: outputs, timeline and budget

| Outputs | Timeline | | | | | | |
|---|----------|---------|---------|---------|---------|---------|---------|
| | Month 1 | Month 2 | Month 3 | Month 4 | Month 5 | Month 6 | Month 7 |
| National GBON Gap Analysis | | | | | | | |
| GBON National Contribution Plan | | | | | | | |
| Country Hydromet Diagnostic (on demand) | | | | | | | |
| Total budget USD | 74,000 | | | | | | |

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/N) | GBON gap analysed and reviewed by WMO Technical Authority |
| 2. GBON National Contribution Plan | GBON national contribution plan developed (Y/N) | GBON national contribution plan developed and reviewed by WMO Technical Authority |
| | GBON National Contribution Plan includes gender considerations (Y/N) | GBON National Contribution Plan includes gender considerations |
| 3. Country Hydromet Diagnostic (on demand) | Country Hydromet Diagnostic developed (Y/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).

6. Readiness Phase Risk Management Framework

Table 3: Risk Management Framework

| Risk category | Description | Probability | Mitigation action |
|---|--|-------------------|---|
| <p>Contextual risks Risks related to conflicts, safety and political insecurity jeopardizing the delivery of the Readiness phase outputs</p> | <p><i>The travel advise for Sénégal by the Dutch government is negative (code Orange or Red) or travel is impossible for other reasons, making in-person meetings impossible. Deliverables might be delayed.</i></p> | <p>Low/medium</p> | <p><i>All meetings will be online, and more meetings will be organised.</i></p> |
| <p>Institutional risks Risks related to the beneficiary country's institutions participation in the Readiness phase activities</p> | <p><i>ANACIM does not provide personnel, information, or expertise needed to prepare deliverables</i></p> | <p>Low</p> | <p><i>This will be closely monitored and discussed in the regular meetings/visits. ANACIM will assign multiple persons to contribute to the deliverables, thus avoiding single points of failure.</i></p> |
| <p>Programmatic risks Risks related to country ownership of the Readiness phase outputs</p> | <p><i>The gap analysis and the national contribution plan is not endorsed by peer advisor, implementing agency and beneficiary country</i></p> | <p>Low</p> | <p><i>The IE engages in an early stage and monitors and takes part in the assessment process of the readiness phase ensuring the development of a shared vision. In case there are remaining unresolved issues, the WMO technical authority may be consulted.</i></p> |

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 the Royal Netherlands Meteorological Institute (KNMI) to the Republic of Senegal 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 [SOFF Operational Manual](#), 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

- 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 [operational guidance documents](#) 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:

There will be two visits of two KNMI experts and a consultant to Senegal: the first meeting will take place soon after the start of the Readiness Phase. The main goal will be to prepare the GBON Gap Analysis (step 1 and 2), and to plan and prepare for the National Contribution plan and the Country Hydromet Diagnostics (CHD).

In month 2 the gap analysis will be sent to the WMO technical authority for approval. In months 2 to 5 regular virtual meetings (KNMI, IsDB, Consultant) will take place to discuss and prepare for the National GBON contribution plan. During these months the stakeholders in Senegal that will be consulted for the CHD will be selected and contacted.

The second visit will take place in month 5 or 6 with the goal to deliver the National Contribution Plan and to gather information from the stakeholders in Senegal to prepare the CHD.

The CHD will be delivered at the end of month 7.

- **Coordination arrangements with the prospective Implementing Entity:**

The Implementing Agency, the IsDB, will be invited to all meeting, unless the agenda contains pure technical matters. Especially for the preparation of the CHD and the consultations of the stakeholders the IsDB will be involved.

- **In-person or virtual consultation meetings with relevant national and international stakeholders and partners:**

These consultations will be done through virtual meetings as well as by in-person during the 2nd visit to Senegal. The consultant in Senegal will organise this in close collaboration with KNMI. This includes selecting, planning, inviting, and preparing minutes of the meetings with the stakeholders.

- **Delivery partners that support the peer advisor in the delivery of the outputs, as applicable:**

KNMI will select an independent consultant from Senegal with expertise on weather and climate services in the country. He or she will contribute to the readiness phase output by making the necessary local arrangements, mainly to deliver the National Contribution plan and the CHD.

- **Peer advisor delivery team and focal point:**

The team of experts from the KNMI will consist of:
Gé Verver: International Coordinator & Senior Scientist
Rubert Konijn: Strategic Business Manager Climate
Claire Donnelly: Scientific Expert

- **Timeline for the development of the outputs:**

If the project starts in time (e.g., April/May) the Gap analyses should be finalised before Summer. The national Contribution plan should then be ready by Month 6, i.e., half September. It will be delivered right after the planned second visit to Senegal. A draft version of the CHD should be ready by the end of September, and the final version by the end of Month 7.

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

M. Sidy Gueye

Director General of the National Agency for Civil Aviation and Meteorology (ANACIM)
Permanent Representative of the Republic of Senegal at WMO

Peer advisor

Maarten Van Aalst

Director General of the Royal Netherlands Meteorological Institute (KNMI)
Permanent Representative of The Netherlands at WMO

Prospective Implementing Entity

Daouda Ndiaye

FP Islamic Development Bank (IsDB)