SOFF
Systematic Observations Financing Facility

SOFF Readiness Funding Request Template

Version 1.0

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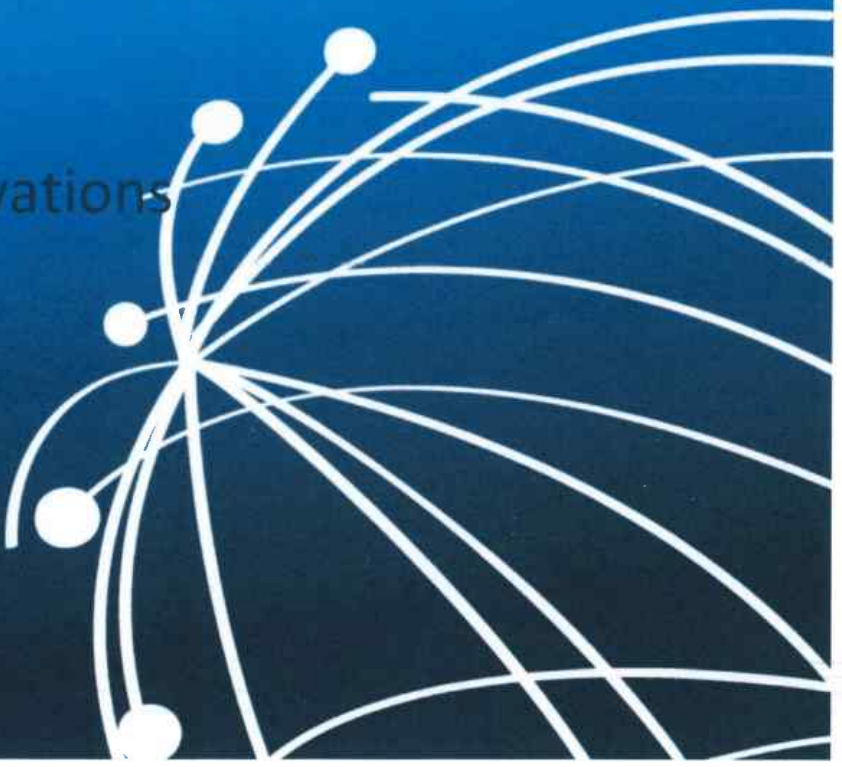
Systematic Observations Financing Facility

Weather and climate data for resilience



SOFF Readiness Funding Request

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	Cambodia
Country Focal Point	*Oum Ryna, Director, Director of Meteorology, Ministry of Water Resources and Meteorology, Cambodia.*
Peer advisor	*Met Office, United Kingdom of Great Britain and Northern Ireland*
Peer advisor Focal Point	*Mr Tim Donovan. Met Office, UK*
Prospective Implementing Entity	*World Bank*
Prospective Implementing Entity Focal Point	*Ms Vica Rosario Bogaerts, World Bank, Hanoi, Vietnam*
Total budget USD	*$199,757*
Delivery timeframe	*6 months – July 2023 – December 2023*
Date of approval	10 May 2023
Signature SOFF Steering Committee co-chairs (after Steering Committee approval of the funding request)	

2. SOFF Programming criteria

Table 1: Programming criteria

Close the most significant data gaps	Based on the WMO Global GBON Gap Analysis conducted in January 2022, Cambodia has still room for improvement in its capacities to reach GBON compliance; the Gap Analysis indicates that Cambodia has a horizontal separation of more than 750km between GBON-compliant surface stations. SOFF can therefore approach some of this specific gaps to strengthen the national capacity. The WMO OSCAR database lists 24 surface observing stations in Cambodia (one in each province) that are stated to be GBON-compliant, although only 13 of these 24 are assessed as being operational. However many of these stations report only once per day, with only the station at Phnom Penh being fully synoptic. There are no upper-air stations (radiosonde or pilot balloon) operating in Cambodia. A recent assessment of the observing network by RIMES, conducted under a CREWS project, also lists 85 AWS installations of which 35 are said to be (potentially) GBON-compliant.
Target easy fixes	Data feeds from the AWS installations noted above which have the capacity to be GBON-compliant would represent "low-hanging fruit" in regard to having these reports disseminated routinely on the WIS.

Maximize delivery capacity	The UK Met Office, as Peer Advisor (PA), has experience in managing and sustaining its own nation's surface and upper air networks in line with GBON requirements The UK Met Office collaborates with WMO in developing observations network and data management policies, guidelines and procedures. The UK Met Office also works with NMHSs in several countries supporting development activities. The UK Met Office is in the planning phase of the Weather and Climate Information Services (WISER) Asia-Pacific programme, funded by the Foreign, Commonwealth and Development Offfice (FCDO) of the UK. Cambodia will be within the scope of the WISER Asia-Pacific programme, which is focused entirely on capacity development activities such as training; WISER Asia is not structured to provide development funds for investment in goods or hardware. WISER Asia will take a regional approach will work with regional bodies; it is not envisaged that WISER will work with individual NMHSs in a one-to-one basis.
Create leverage	- There are on-going projects related to the strengthening of hydromet networks and assessment of the hydromet services and early warning in Cambodia. See below list. - The ASMC is a regional collaboration programme among the National Meteorological Services (NMSs) of ASEAN Member States including Cambodia. Established in 1993, the ASMC is responsible for monitoring and assessing land and forest fires, providing early warning on transboundary smoke haze as well as conducting seasonal and climate predictions for the ASEAN region. - Mekong Integrated Water Resource Management Project. The Mekong River Commission (MRC) operates under the 1995 Mekong Agreement among Cambodia, Lao PDR, Thailand and Viet Nam to cooperate for the sustainable development, use, management and conservation of water and related resources of the Mekong River Basin, including in irrigation, hydropower, navigation, flood control, fisheries, timber floating, recreation and tourism. MRC supports a basin-wide planning process following the principles of Mekong Integrated Water Resources Management (IWRM). - CREWS: Enhance the capacities of national and regional stakeholders and institutions to provide hydromet, early action, and response services with need assessment on hydromet network strenghthening and development of investment plan - Strengthening resilience to floods in Cambodia by People in Need (PIN); development of community-based early warning systems in Cambodia

	- KMA has been providing official development assistance and technical support to ASEAN countries, including Cambodia. In recent years, they signed agreements with MOWRAM to support DOM in its efforts to modernize the forecasting and warning system. - RIMES is an intergovernmental institution, owned and managed by its Member States including Cambodia, for the generation and application of early warning information. - A number of World Bank projects are currently active, including the Cambodia Southeast Asia Disaster Risk Management Project I (Jun 2017 - Mar 2022) and II (in the pipeline) - WMO programmes and projects in Cambodia include i) DE-RISK Southeast Asia (Apr 2018 - Dec 2023), ii) CREWS Cambodia and Lao PDR (Jul 2021 - Jul 2025), and iii) Southeast Asia Flash Flood Guidance System, iv) Severe Weather Forecasting Programme Within the SOFF activities all those projects and initiatives that may generate leverage will be explored.
Sub-regional gains	Sub-regional and regional gains will be considered throughout the readiness phase activities and will be considerd in the National Contribution Plan as appropriate, among them: - The Department of Meteorology (DoM) in Cambodia is engaaged in the CREWS-funded project "Reinforcing the capacities of meteorological and hydrological services and enhancing the Early Warning Services – CREWS Cambodia and Lao PDR" - DoM is also engaged in cooperative activities with the Mekong River Commission. - DoM is also engaged with the Severe Weather Forecast Project in South-East.
Ensure country balance	Cambodia is classified as a LDC under the UN categorisations

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[1]	Month 7
National GBON Gap Analysis							$66,585.6
GBON National Contribution Plan[3]							$2,250.0
Country Hydromet Diagnostic (on demand)							$133,171.3
Total budget USD[2]	$199,757+2,250=$202,007.00						

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.

[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.
[3] National contributed fund is 5% from annual budget for DoM (USD$45,000.00)

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

4. 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).

5. 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
	Resurgence of covid or other health related issue.	Low	Remain vigilant to advice from relevant agencies. Work remotely, if necessary.
	Extreme Weather or natural hazard threads that may limit accessibility of peer or the national personnel availability.	Medium	Organise the face to face visits outside the rainy seasons. Establish remote communications periodic actions.
	Personal Safety and Health.	Low	Avoid high risk areas. Maintain low profile, maintain vigilance, and monitor relevant news and other channels for risks information. Work remotely, if necessary. Use protective gears when and if needed Immunization against tropical specific illnesses as recommended by the health authorities.
Institutional risks Risks related to the beneficiary country's institutions participation in the Readiness phase activities	Lack of adequate budget to support readiness phase activities	Medium	Minimise the staff resources required through establishment of the minimum possible points of contact at the institution. Draw on previous studies and reports where these

			are relevant and reflect the up-to-date situation.
	Suitable resource availability from the NHMS, other relevant government agencies and NGOs to commit to the activity timetable.	Medium	Effective planning and communication with all relevant agencies, and sure the benefits of engagement are clearly stated. To ensure buy-in to the project from all relevant agencies by actively engaging them from the onset. Seek additional support from the Policy, Project and Planning Unit within the Ministry.
	English language communication could be a barrier to good communication and/or engagement with technical staff.	Medium	Require national position to translate, follow up, coordinate closely with DoM and relevant agencies
	Managerial capacity of DoM is very stretched with other international projects to oversee.	High	Minimise the overload and provide all information in written so that it can be addressed by a deputy. In addition, all activities will be organised with proper ahead notice to enable planning of the resources.
	Cultural and traditional festivities.	Low	Plan all the activities to consider the constrains related to national and religious festivities.

	DoM has only a few people who are highly skilled in technology, and this can be a limiting factor.	Medium	This limiting factor will be eased as possible by providing all the documentation as needed and including this limitation in the assessment and definition of the NCP.
Programmatic risks Risks related to country ownership of the Readiness phase outputs	Lack of Country Ownership	Low	Meet with, and garner the support, of senior government officials.
	Proposals under SOFF should recognise and take full account of other ongoing development projects within DoM	Low	Review existing/on-going works to avoid duplications

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 Met Office of the United Kingdom to the Department of Meteorology, MOWRAM, Cambodia 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.* It is expected to have one one-week visit to:
    - Perform the GBON gap analysis.
    - Perform the interview/exploratory activities to gather the information for the CHD. This will include interaction with the PR and staff members, potential visits to station locations and exchange with stakeholders.
    - Perform a review and agreement of the CHD final version.
    - Have face-to-face discussions and exchange with all the relevant national/international key players for the preparation of the National Contribution Plan.
- *Coordination arrangements with the prospective Implementing Entity.* This activity envisages:

  - 1 Initial Kick-off meeting with the implementing entity, peer advisors and its cooperation peer advisor and the beneficiary country. This meeting is going to be virtual.
  - 1 workshops, if possible one face to face during the aforementioned visit.
  - 1 Agreement meeting (virtual) to finalise and formally agree on the National Contribution Plan.
- *In-person or virtual consultation meetings with relevant national and international stakeholders and partners.*
  - Within the on-site visit, a set of face-to-face discussions with national stakeholders will take place. This aims at exploring both sustainability and usability of data and products to facilitate considerations of the complete value chain in all the SOFF activities.
  - A virtual workshop is expected at the end of the 6-month period together with both Cambodia, implementing entity (World Bank) and stakeholders, national and representatives of major international organisations (as possible)
- *Delivery partners that support the peer advisor in the delivery of the outputs. Not applicable.*
- *Peer advisor delivery team and focal point.* The activities include the following team members:
  - Met Office, UK
    - Tim Donovan as SOFF focal point and will call upon expert colleagues from the Observations and International Development teams for support, as required.
- *Timeline for the development of the outputs.* The outline follows that of the financial proposal:
  - Initial virtual meeting – July 2023
  - Drafting of the GBON gap analysis – Q2 2023
  - Drafting of the CHD - Q4 2023
  - Single on-site visit – early November 2023
  - Finalisation of the GBON Gap Analysis – Q3 2023
  - Finalisation of the CHD – Q5 2023
  - Finalisation of the National Contribution Plan – Q6 2023

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	 Department of Meteorology, Cambodia
Peer advisor	 P ENDERSBY CEO Met Office
Prospective Implementing Entity	V.R.Bogaerts - World Bank