



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 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**.

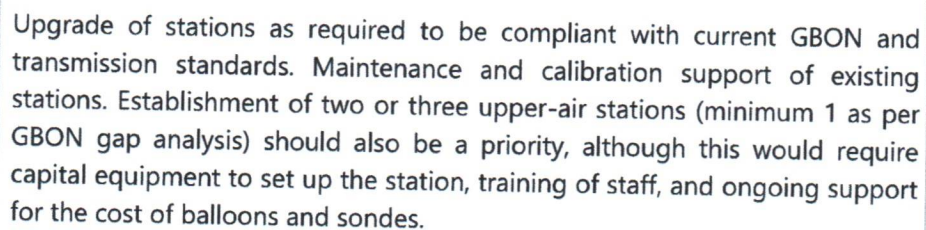
1. Basic information

SOFF Beneficiary Country	<i>Lao PDR</i>
Country Focal Point	<i>Ms Outhone PHETLUANGSY, Director General, Department of Meteorology and Hydrology of Lao PDR</i>
Peer advisor	<i>GeoSphere Austria in coordination with CMA, Geosphere Austria is the administrative focal point.</i>
Peer advisor Focal Point	<i>Giora Gerhstein (Geosphere Austria) as administrative focal point.</i>
Prospective Implementing Entity	<i>World Bank</i>
Prospective Implementing Entity Focal Point	<i>Ms Veronique Morin, World Bank, Vientiane, Lao PDR</i>
Total budget USD	<i>\$195k</i>
Delivery timeframe	<i>7 months – July 2023 – January 2024</i>
Date of approval	<i>10 May 2023</i>
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, Lao PDR has still room for improvement in its capacities to reach GBON compliance (Table 1). SOFF can therefore approach some of this specific gaps to strengthen the national capacity.																							
	Table 1: GBON Gap Analysis for Lao P																							
	WMO Member: Lao People's Democratic Republic																							
	Surface area: 236.800 square km																							
	<table><tr><th>Station type</th><th>Target</th><th>Reporting</th><th>Gap (total)</th><th>Gap (improve)</th><th>Gap (new)</th></tr><tr><td>GBON Surface Land stations (standard density)</td><td>6</td><td>2</td><td>4</td><td>4</td><td>0</td></tr><tr><td>GBON Surface Land stations (high density)</td><td>24</td><td>2</td><td>22</td><td>18</td><td>4</td></tr><tr><td>GBON Upper-Air stations over land</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr></table>	Station type	Target	Reporting	Gap (total)	Gap (improve)	Gap (new)	GBON Surface Land stations (standard density)	6	2	4	4	0	GBON Surface Land stations (high density)	24	2	22	18	4	GBON Upper-Air stations over land	1	0	1	0
Station type	Target	Reporting	Gap (total)	Gap (improve)	Gap (new)																			
GBON Surface Land stations (standard density)	6	2	4	4	0																			
GBON Surface Land stations (high density)	24	2	22	18	4																			
GBON Upper-Air stations over land	1	0	1	0	1																			
The numbers of reporting stations in the Table above (presumably from the OSCAR database) are not up-to-date for Lao PDR. At present there are 18 surface stations from DMH Lao which are disseminated through the WIS/GTS, but only four are reporting 24/7. There is an ambition to establish a network of upper-air stations, but there are no immediate plans to proceed with this.																								
Target easy fixes	DMH has a network of existing automatic hydromet stations with near real-time data transmission across the country (refer to below map). Some stations could be shared through GBON based on the gap analysis. Supports to DMH on developing the tools to integrate the near real-time data into GBON are required. In total there will be 37 AWS operated by DMH Lao which could be provided as GBON stations.																							





Maximize delivery capacity	<p>Geosphere Austria, formerly known as the Austrian Meteorological and Geodynamics service, has performed the Hydromet Diagnosis in Kazakhstan, North Macedonia and has deployed EWS in Myanmar. In addition Geosphere Austria is already active for three countries in the first SOFF batch constantly proving capacity delivery in this specific framework. Hence, based on this practical experience, Geosphere Austria can act as SOFF peer advisors with adequate capacity to deliver SOFF support efficiently and effectively in Laos.</p> <p>The Geosphere Austria peer advisor receives no funding from other sources for the planned activities in the country neither has ongoing projects in the country.</p> <p>CMA has performed the Country Hydromet Diagnosis in the Republic of the Union of Myanmar, and cooperate with Laos DMH in meteorological development activities. Furthermore, CMA has established a regional NWP system focused on Myanmar and provided various on-site trainings and scientific support to Myanmar DMH in the past 6 years. In addition, CMA, in cooperation with Hong Kong Observatory, has launched the WMO Programme GMAS Asia since 2017, aiming to demonstrate disaster condition and boost the disaster response capacity regionally. Up to date, more than 10 WMO members in Europe and Asia are included in this programme. In such regards, CMA is experienced in diagnosing National Meteorological and Hydrological Services and working with relevant countries to strengthen hazardous weather mitigation capacity. CMA has a long-established relationship with DMH and has provided a lot of support over the years. As a neighbouring country with many shared concerns, including the Mekong River system, CMA can offer support in several topics.</p> <p>The CMA peer advisor receives no funding from other sources for the planned activities in the country.</p> <p>GeoSphere Austria and CMA will work in partnership to fulfil the tasks as peer advisors.</p>
Create leverage	<p>There are on-going projects related to the strengthening of hydromet networks and assessment of the hydromet services and early warning in Lao PDR. See below list.</p> <ul style="list-style-type: none">- Lao PDR Southeast Asia Disaster Risk Management Project (SEA-DRM): Hydromet network modernisation in northern parts of Lao PDR (Oudomxay, Luang Prabang and Phongsaly) and establishment of a unified observation collection system for DMH, together with forecasters workstations, climate database management system etc.- Mekong Integrated Water Resource Management Project: Hydromet network modernisation in northern and southern parts of Lao PDR- CREWS: Enhance the capacities of national and regional stakeholders and institutions to provide hydromet, early action, and response



	<p>services with need assessment on hydromet network strengthening and development of investment plan</p> <ul style="list-style-type: none">- Strengthening resilience to floods in Lower Mekong by People in Need (PIN) : Development of early warning stations/tools in pilot areas in southern parts of Lao PDR- Strengthening agro-climatic monitoring and information systems to the adaptation to climate change and food security in Lao PDR" (SAMIS project).- KOICA, KMA and the NDMI (Korea) are engaged in a project to support the development of flood early warning systems in Lao. <p>Within the SOFF activities all those projects and initiatives that may generate leverage will be explored. Under the SEA-DRM project, a network of 45 new meteorological AWS is being established. The project is also providing the ICT systems to collect this data automatically and to integrate it with observational data from five existing AWS networks (provided through different development agencies), and to manage data communication to the WMO Information system. Thus there will be many observational sites which may be suitable for enhancement to the GBON standards, together with the means to transmit the data from these sites into the global systems. The SEA-DRM project is also establishing water level measurement stations at 25 sites in northern Lao.</p>
Sub-regional gains	<p>Sub-regional and regional gains will be considered throughout the readiness phase activities and will be considered in the National Contribution Plan as appropriate, among them:</p> <ul style="list-style-type: none">- The Department of Hydrology and Meteorology (DHM) in Lao is engaged in the CREWS-funded project "Reinforcing the capacities of meteorological and hydrological services and enhancing the Early Warning Services – CREWS Cambodia and Lao PDR"- DHM is also engaged in cooperative activities with the Mekong River Commission.- DMH is also engaged with the Severe Weather Forecast Project in South-East.- DMH also works with the South-East Asia Flash Flood Guidance System.
Ensure country balance	<p>Lao PDR is classified as a LDC</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 ¹	Month 7
National GBON Gap Analysis							
GBON National Contribution Plan							
Country Hydromet Diagnostic (on demand)							
Total budget USD²	195000\$						

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.

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
Contextual risks Risks related to conflicts, safety and political insecurity jeopardizing the delivery of the Readiness phase outputs	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. Use personal protective equipment as and when 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.



	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 DMH and relevant agencies
	Managerial capacity of DMH is very stretched with many 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 constraints related to national and religious festivities.
	DMH 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.



	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 DMH	Low	Review existing/on-going works to avoid duplications
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 DMH	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 GeoSphere Austria and China Meteorological Administration to Lao PDR DMH 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 7-month period together with both Lao PDR, implementing entity and stakeholders, national and representatives of major international organisations (as possible)
- *Delivery partners that support the peer advisor in the delivery of the outputs.* The peer advising procedure is made in partnership with CMA. While GeoSphere Austria is the administrative leading role, the SOFF activities will be jointly performed through a pre-defined cooperation agreement between the two institutions where resources and tasks will be detailed.
- *Peer advisor delivery team and focal point.* The activities include the following team members:
 - GeoSphere Austria
 - Giora Gerhstein as SOFF focal point
 - Delia Arnold – SOFF support and deputy focal point
 - On-demand technical expertise based on the initial assessment. The profile will focus on observational aspects including maintenance and data provision.
 - CMA
 - Guo Jianxia
 - Shi Lijuan
 - Zhou Qingliang
 - Xiaofeng Wang
 - Qian Xin
- *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 – Q3 2023
 - Drafting of the CHD - Q3 2023
 - Single on-site visit – early November 2023
 - Finalisation of the GBON Gap Analysis – Q4 2023
 - Finalisation of the CHD – Q4 2023
 - Finalisation of the National Contribution Plan – Q1 2024

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).



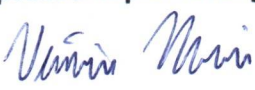
Completion

- **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	 
Peer advisor	Ms. Outhone PHETLUANGSY
Prospective Implementing Entity	 Veronique Marin Floissac, Senior Disaster Risk Management Specialist, World Bank