



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	Maldives
Country Focal Point	Mr. Ali Shareef; Deputy Director General at Weather Service Division Email: ali.shareef@met.gov.mv Phone: +960-3326200 Mobile: +960 7771828 Maldives Meteorological Service, Hulhule' 22000 Maldives
Peer advisor	Finnish Meteorological Institute, Finland (lead) The Agency for Meteorology, Climatology and Geophysics of the Republic of Indonesia (BMKG) to be subcontracted
Peer advisor Focal Point	Ms. Julia Warley, e-mail: julia.warley@fmi.fi ; +358407584390
Prospective Implementing Entity	UNEP
Prospective Implementing Entity Focal Point	Mr Jochem Zoetelief, mobile: +254709023986, email: jochem.zoetelief@un.org
Total budget USD	97 105 USD
Delivery timeframe	6 months after approval of funding request
Date of approval	
Signature SOFF Steering Committee co-chairs (after Steering Committee approval of the funding request)	

2. SOFF Programming criteria

Please provide below an initial short description of the application of the [SOFF programming criteria](#) in the country.

Table 1: Programming criteria

<p>Close the most significant data gaps</p>	<p>The Maldives is an approximately 1000 km long north-south oriented chain of Islands in the Indian Ocean. Based on the WMO Global WIGOS Data Quality Monitoring System there are currently 5 (manual) surface observation stations reporting from the country. However, the temporal reporting interval of the stations is only 3 hours, as the GBON requirement is one hour. The horizontal coverage with 5 stations is just barely fulfilling on average the GBON criteria of 200 km station interval.</p> <p>There is also one upper air sounding station in Gan, in the Southern part of Maldives, however it doesn't deliver data into any international distribution. The nearest sounding sites are in Diego Garcia (British Indian Ocean Territories) and in Minicoy Island (India), either of them not reporting to WIGOS, approximately 1000 km from Gan Sounding station. The distance of the sounding stations fulfils, barely again, the GBON requirement of 1000 km in marine area, however none of the stations in the area are reporting.</p> <p>In addition to above, there is also a network of 42 Automatic Weather Stations which are installed across the country. However, none of the stations' data is found from the WIGOS.</p> <p>It must be noted that although the GBON requirements in north-south direction are complied with the station locations, there are very long distances to the nearest stations (both surface and sounding) in the east-west direction.</p>
<p>Target easy fixes</p>	<p>The 5 manual surface synoptic observation stations are considered to produce most reliable observations in the territory of Maldives. However, the sensors used in these stations needs most likely to be upgraded. For instance, the mercury thermometers need to be replaced with digital Thermometers.</p> <p>Although the GBON requirements are fulfilled in horizontal manual station density on average, there are distances that exceeds these limits between individual stations. For example, this is the case between Hanimaadhoo (43533) and Hulhule (43555) synoptic stations and one additional station with basic instruments (tentatively at Maafaru) may be needed to reach the compliance with GBON. This additional new surface observation station would be beneficial to National, regional as well as international community in terms of getting high quality reliable surface weather data.</p> <p>Possibilities of adding the 42 Automatic Weather Station network data into WIGOS needs to be also evaluated and assessed to improve the</p>

	<p>spatial data coverage. Based on the current information these stations also require some additional spare parts and sensors to be reliable, good-quality and well-maintained stations.</p> <p>The one and only one upper-air station in the country (WMO location indicator-43555) needs to be upgraded. The current Hydrogen Generator is old and non-functional and needs to be replaced with a new one. Daily operation of upper air observation is a costly process for local budget, therefore, a mechanism of continuous supply of Consumables (Radio Sondes & Balloons) needs to be established with the assistance or under the guidance of peer advisor. This issue will be covered at the latest in the compliance phase.</p> <p>An easy systematic mechanism for instrument sensor calibration will to be considered with the assistance or under the guidance of peer advisor.</p>
<p>Maximize delivery capacity</p>	<p>UNEP has strong expertise and experience support observing systems in developing countries. It is currently working on implementing a GCF-funded 5-year project "Enhancing Early Warning Systems to build greater resilience to hydro-meteorological hazards in Timor-Leste" and a GCF-funded 5-year program "Enhancing Climate Information and Knowledge Services for resilience in 5 island countries of the Pacific Ocean" where strengthening observational capacity of the NHMSs is one of the key components. UNEP is also co-leading Pillar 2 of Early Warnings for All Initiative (Observations & Forecasting).</p> <p>UNEP's Early Warning and Assessment Division is already working with Maldives through a GCF Readiness project. In addition, UNEP capacity to deliver SOFF support efficiently in Maldives is enhanced through joint work with the Maldives Meteorological Service on developing a proposal for GCF-funded project "Strengthening climate services and impact-based multi-hazard early warning in Maldives".</p> <p>The Peer Advisor does not receive any funding for ongoing or planned activities in Maldives other that SOFF funding, Nevertheless, the Peer Advisor has a long-lasting and extensive experience in working worldwide in many hydro-meteorological development projects (projects in over 100 countries). Moreover, the leading peer Advisor (FMI) is sub-contracting the BMKG, national meteorological institute of Indonesia, in implementation of the SOFF readiness phase in Maldives.</p> <p>Based on this experience the peer advisor has an extensive knowledge in all relevant fields needed for the successful implementation of the project, including required capacity development in institutional, procedural areas and human resources in accordance with the different phases of SOFF. For example, FMI was the System Integrator (lead consultant) in the recently completed World Bank funded PPCR project in Nepal, that conducted the full modernization of the DHM Nepal infrastructure, including observation and data management systems.</p> <p>Moreover, FMI has completed a series of Finnish-Funded capacity building projects during the recent years in SIDS's countries in the</p>

	<p>Caribbean (SHOCS II and II) and Pacific region (FPPICS and FINPAC). Through the knowledge of the latest technology and geographically specific issues as well as organizational and institutional arrangements and procedures, gained through many projects, the efficiency and effectiveness will be maximized when delivering the services through all the phases of SOFF.</p>
<p>Create leverage</p>	<p>UNEP is supporting Maldives in developing a GCF project proposal "Strengthening climate services and impact-based multi-hazard early warning in Maldives". UNEP support for Maldives both as GCF Accredited Entity and SOFF Implementing Entity will enable the proposed project to maximise the use of leverage created by SOFF investments and ensure complementarity between relevant capacity development efforts. The envisaged result is that of more coherent and streamlined investment in hydrometeorological sector strengthening in Maldives, which is an important contributor to sustainability in the longer term. Moreover, given that initial SOFF support would cover surface-based and upper air observations, the proposed GCF project could instead focus equipment investments on marine meteorological stations, which are not part of the initial SOFF support. Data from these stations will contribute to further enhance Numerical Weather Prediction quality.</p> <p>Also the national Strategic action plan of the Maldives recognizes the importance of developing weather services and early-warning systems (Ref to SAP/ Strategic Action Plan GOVERNMENT OF MALDIVES 2019 / 2023) For example the industries of Fisheries & Marine Resources, Agriculture and Tourism are the primary industries for the Country and heavily affected by the impacts of climate change. The synergies with implementation of the strategy and SOFF will be sought and implemented where possible.</p>
<p>Sub-regional gains</p>	<p>As a member state, Maldives is exchanging data with Regional Integrated Multi-Hazard Early Warning System for Asia and Africa (RIMES). Strengthening observational capacity in Maldives will enable it to provide better data to RIMES. This data will then be shared with all other member states, which will lead to sub-regional gains.</p> <p>Due to the geographical location and the scarcity of land areas and neighboring countries regional gains or complementing observations from neighboring countries are very limited. On the other hand, this highlights the importance of improvements of the observation network and implementation of SOFF in the Maldives.</p>
<p>Ensure country balance</p>	<p>Maldives is a Small Island Developing State (Presidential Republic), has experienced relatively low inflation. The main industry is fish processing, tourism, shipping. Development of the infrastructure in the Maldives is mainly dependent on the tourism industry.</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.

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					
	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6 ¹
National GBON Gap Analysis						
GBON National Contribution Plan						
Country Hydromet Diagnostic (update of existing CHD)						
Total budget USD²	97 105 USD					

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/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 reviewed and updated

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

The major risks in the implementation of the readiness phase are related to the natural disasters or global pandemics and related travel restrictions. These may cause delay in the implementation. Moreover, the adequacy of the beneficiary staff resources to support the implementation forms risks to producing the needed reports.

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>Natural disasters or severe weather events may cause delay in the implementation (in the monsoon season May -Nov)</p> <p>A new global pandemic and related travel restrictions will delay the implementation</p>	<p>Low to Medium</p> <p>Low</p>	<p>Concentrating in-country missions outside of the monsoon season in case sea transportation is required.</p> <p>Engaging BMKG into the delivery. Preparation to conduct relevant FMI work also remotely.</p>
<p>Institutional risks Risks related to the beneficiary country's institutions participation in the Readiness phase activities</p>	<p>The Weather Service Division does not have the needed resources to implement the activities.</p>	<p>Low</p>	<p>Engage and brief the host ministry on the benefits of SOFF to justify the need of allocating sufficient resources</p>
<p>Programmatic risks Risks related to country ownership of the Readiness phase outputs</p>	<p>All Weather Service Division employees might not own the project in their top priority list</p>	<p>Low</p>	<p>Sufficient awareness and communication work on GBON and SOFF to management and staff at all levels. Kick-off workshop organized at the beginning to highlight</p>



			<p>the importance and benefits of the SOFF.</p>
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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 Finnish Meteorological Institute (lead) – Finland and BMKG – Indonesia (subcontractor) , to Maldives Meteorological Service - Maldives, 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 existing Country Hydromet Diagnostic will be reviewed and updated.

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 review and update the **assessment of 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 update 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:

- FMI and BMKG plan to visit the the Weather Service Division in Maldives during the spring 2023 for finalising the National Gap Analysis and outline the GBON National Contribution Plan
- A workshop will be arranged in Maldives together with UNEP during fall 2023 to gather the relevant stakeholder information and to coordinate the work with stakeholders and other projects to strengthen and maximise the SOFF implementation efficiency and to avoid overlapping activities.
- All the activities are going to be coordinated within the beneficiary and FMI. In addition, During the implementation phase there will be permanent communication virtually

between FMI, BMKG, UNEP and the beneficiary to communicate and agree on the implementation of different activities

- Peer advisor delivery team and focal point
 - The Peer Advisor Focal Point is:
Ms. Julia Warley, julia.warley@fmi.fi
 - And the delivery team members:
Mr. Matti Eerikäinen matti.eerikainen@fmi.fi
Mr. Harri Pietarila harri.pietarila@fmi.fi
 - In addition to the dedicated delivery team members, the peer advisor will utilize experts from the SOFF delivery support expert pool, depending on the gaps found and required expertise needed. The SOFF delivery support expert pool:

Name	Expertize
Mikä Hyötylä	• Surface observation networks
Vilma Kangasaho	• Surface observation networks
Anu Petäjä	• Observation network operation and costing
Timo Laine	• Upper air radio soundings
Jaakko Siltakoski	• Observation equipment
Elmeri Nurmi	• Data management systems
Minna Huuskonen	• GBON and WIGOS compliance
Janne Kauhanen	• Data management • Forecast models
Sami Kiesiläinen	• Data management systems
Julia Warley	• Observation equipment
Anne Hirsikko	• Observation networks
Jenni Latikka	• Forecast production and service delivery
Juhana Hyrkkänen	• Business model and institutional development • Legal framework • Observation network operation design

- Timeline for the development of the outputs
 - National GBON Gap Analysis: during the implementation months 1-3. The gap analysis report will be handed over by the end of the month 3.
 - National GBON Contribution Plan: during the implementation months 4-6. The National GBON Contribution Plan will be handed over the latest during the month 6.

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.



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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

Maldives

Abdulla Wahid

Abdulla Wahid
22.02.2023

Peer advisor

Jussi Kaurola
JUSSI KAUROLA

Prospective Implementing Entity (UNEP)

JZ

Jochem Zoetelief, 22.02.2023