Rwanda

SOFF Investment Phase Funding Request

Version 2.0

06 October 2023

Systematic Observations

Financing Facility

Weather and climate data for resilience

SOFF Investment Phase Funding Request

The SOFF Investment Funding Request template includes the following sections:

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4. **Investment Phase Outputs and Budget**
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The **GBON Gap Analysis**, the **GBON National Contribution Plan** and **Country Hydromet Diagnostic** are included in **Annex 1, 2, 3**.

The **Terms of References** of the advisory services provided by the **SOFF peer advisor** are provided in **Annex 4.**

1. Basic Information

SOFF Beneficiary Country and Focal Point	*Rwanda – Meteo Rwanda* *Mr. Aimable Gahigi, the Director General of Rwanda Meteorology Agency (Meteo Rwanda) and the Permanent Representative of Rwanda with WMO* *Email: a.gahigi@meteorwanda.gov.rw*			
Country classification	☑ LDC	☐ SIDS	☐ FCS	☑ ODA-recipient
SOFF Implementing Entity and Focal Point	*Mr. Bernardin Uzayisaba* *Head of Sustainable Growth Unit* *United Nations Development Programme (UNDP)* *email: bernardin.uzayisaba@undp.org*			
SOFF Peer Advisor and Focal Point	*Finnish Meteorological Institute (FMI)* *Ms. Anne Hirsikko Anne* *Project manager* email: anne.hirsikko@fmi.fi			
Total Budget (USD)	*Please complete with the total Investment Phase budget and the amount requested for the two tranches (value and percentage).* Total: **3,507,377** First tranche: **2,330,533 (75% of the total budget excluding the budget of the Peer Advisor)** Second tranche: **776,844 (25% of the total budget excluding the budget of the Peer Advisor)**			
Delivery timeframe	*The project is expected to start from 01/01/2024 and close on 31/12/2027*			
Date of Steering Committee Approval				

Partners	Name and position of the representative	Signature, date and stamp
Beneficiary Country	Aimable Gahigi Director General of Meteo Rwanda	METEO RWANDA (Director General)
Peer Advisor	Harri Pietarila Director of Expert Services FMI	23.10.2023
Implementing Entity	Maxwell Gomera Resident Representative United Nations Development Programme Rwanda	30/10/2023

2. SOFF Programming Criteria (2 pages)

Alignment with the SOFF Programming Criteria

This section is based on the SOFF Readiness Phase outputs.

Close the most significant data gaps

The main GBON gaps in Rwanda include:

- Aged surface weather station sensors and data loggers, data delivery do not fulfil GBON requirements
- No upper-air radiosounding station
- Human capacity gaps in throughout the value chain of observations (a detailed list can be found from the Gap Analysis)

GBON Contribution target

Type of station	Baseline (Results of the GBON National Gap Analysis)				GBON National Contribution Target	
	Target (# of stations)[1]	GBON-compliant stations (#)	Gap		To improve	New
			New	To improve		
Surface	1	0	-	1	1	-
Upper-air	1	0	1	-	-	1
Marine	*when applicable					

Due to specific regional circumstances and topographic characteristics of the country, it is proposed to support the country to achieve GBON high-density requirements, corresponding to 3 surface stations instead of 1 required for GBON standard-density. See more details in Section 3.

[1] For SIDS, for the WMO GBON Global Gap Analysis in January 2022, the EEZ area has been added to the total surface area which is the basis for the target number of stations. The standard density requirements for SIDS have been calculated with 500 km for surface stations and 1000 km for upper-air stations.

Target easy fixes	The 3 surface weather stations to be upgraded during the SOFF investment phase own a civil infrastructure (tower, electricity, internet connection, fence around the area, social welfare facilities) of good quality. As an easy fix only sensors and data loggers must be replaced with modern technique. Technical staff is familiar with the operation and preventive maintenance of automatic weather sensors. Standard Operating Procedures (SOP) and operation practices exist, and thus, only a review of practices, spare parts/sensors for long-term operation, and financial support for logistics are required to support GBON compliant observations. Additionally, calibration facilities have been established together with Rwanda Standard Board (RSB) and discussions on collaboration to carry out regular calibration is in process. To systematically operate and maintain all observation stations, a lifecycle plan together with tight connection to annual and long-term budgeting must be developed where the SOFF programme is foreseen as the right platform. Support and emphasis must be given to problem solving (e.g., in the case of malfunction), an automatization of data transfer throughout the value chain, a utilisation of calibration results, Quality control and quality assurance. Upper-air radiosounding is a new measurement technique in the country, and thus, more support throughout the value chain of operation compared to surface weather stations is required.
Create leverage	The Meteo Rwanda, Rwanda Environment Management Authority (REMA) and Rwanda Standard Board (RSB) have a roadmap to establish a robust technical and human capacity foundation to carry out the systematic calibration of meteorological, hydrological and air quality observation equipment. The SOFF programme is foreseen as an appropriate platform for increasing human capacity on calibration both in RSB and the Meteo Rwanda. The AWS network was established during the years 2010-2014. The civil infrastructure is robust, however, there is a need for a replacement of all sensors and data loggers of the network. This is one of the primary focus areas in Meteo Rwanda. To systematically operate and maintain all observation stations, a lifecycle plan together with tight connection to annual and long-term budgeting must be developed where the SOFF programme is foreseen as the right platform. The lifecycle plan also supports better coordination between budget funding allocation, projects and working towards strategic goals. On-going projects to support Meteo Rwanda in its efforts towards GBON compliance.

	● FINKERAT: The project is funded by the Ministry for Foreign Affairs of Finland. The Meteo Rwanda benchmarks the operation, maintenance, and calibration process for AWS in the Finnish Meteorological Institute. The aim of benchmarking is to have the possibility to reflect points for improvement in the respective processes of the Meteo Rwandan Quality Management System (QMS). ● Volcano Community Resilience Project: The project is funded by the World Bank. The Meteo Rwanda will be able to acquire new weather radar station to be installed in the Northern Province, volcanic part of Rwanda. ● UNDP, Meteo Rwanda and the Ministry in charge of Emergency Management (MINEMA) are implementing a project to strengthen the national capacity for resilience, preparedness, and early warning system for disaster risk management (DRM) in Rwanda. The DRM project supports the operational costs and maintenance services of surface weather stations and data rescue activities. However, the actual project implementation will be completed by early next year, before the upgrade of the AWS stations starts. The SOFF operations will build on the achievements of the DRM project. ● CREWS East-Africa: The project is funded by WMO, World Bank and United Nations Office of Disaster Risk Reduction (UNDRR). The project is foreseen to support capacity building on data dissemination through WIS2.0 and some remaining capacity gaps concerning OSCAR database. Collaboration between CREWS projects will be made also in database development. Meteo Rwanda is now in the process of getting permission for a cost recovery mechanism, aiming to make profit from the services that institutions offers to private companies that demand special services. It is expected that the cost recovery mechanism can be included in the next strategy of the organisation in 2025.
Maximize delivery capacity	The United Nations Development Programme (UNDP) has been working with the Rwanda Meteorology Agency (Meteo Rwanda) and other partners to enhance the capacity for the observation and monitoring network to collect reliable and timely data on weather and climate conditions in Rwanda. So far, UNDP supported Meteo Rwanda to maintain automatic weather stations (AWS) across the country, which provide real-time data on temperature, humidity, wind speed and direction, rainfall, solar radiation, and atmospheric pressure. These AWS complement the

	existing network of 13 synoptic stations and improve the spatial coverage and quality of meteorological observations in Rwanda. UNDP supported Meteo Rwanda to develop and operationalize a web-based climate data dashboard, which processes, analyses, and disseminates climate data and information products. The system enables Meteo Rwanda to provide timely and accurate climate services to various sectors and users, such as agriculture, water resources, disaster management, health, energy, tourism, and aviation. Additionally, UNDP has facilitated the training of Meteo Rwanda staff and other stakeholders on the use of climate data and information products for decision making and planning. The training covered topics such as quality control, data analysis, climate indices, climate change scenarios, climate risk assessment, and climate change adaptation. Furthermore, UNDP has supported Meteo RWANDA to participate in regional and global initiatives for enhancing climate observation and monitoring networks, such as the Global Climate Observing System (GCOS), the World Meteorological Organization (WMO), the African Ministerial Conference on Meteorology (AMCOMET), and the Enhancing National Climate Services (ENACTS) initiative, among others. For a smooth and effective implementation of SOFF support, UNDP Country Office will employ the already existing arrangements and facilities for the on-going project on ''Strengthening National and Local Disaster Risk Management (DRM) Capacity, Resilience and Enhancing Preparedness and Early Warning System (EWS) in Rwanda'' which is being implemented in partnership with Meteo Rwanda and the Ministry in charge of Emergency Management (MINEMA). A Programme Analyst in the Sustainable Growth Unit will oversee the SOFF support implementation. She will work hand-in-hand with the Programme Associate for finance and budget as well as the Procurement Unit and get other service support when needed. To ensure efficiency in execution, a delegated budget management modality through the UNDP Country Office will be used and both UNDP and Government of Rwanda Procurement Procedures will be used as required to ensure value for money, quality, and timeliness.
Sub-regional gains	Four main topics for potential collaboration with East-African neighbour countries were identified for SOFF implementation phase and beyond: 1) subregional distribution of GBON compliant observation stations, 2) radiosounding, 3) calibration laboratory, and 4) international observational data distribution. The existence of GBON compliant stations in the East-African region is small, and thus, currently there is a lack of sufficient spatial distribution for observations in the region. The SOFF task team for Rwanda (Meteo Rwanda, FMI, and UNDP) will communicate with other nearby SOFF

	beneficiary countries and their peer advisers (namely with Tanzania) in the region to ensure that implementation of new stations will fulfil the minimum spatial requirement for GBON stations. SOFF will facilitate an investment of the very first radiosounding system into Rwanda. This means that sharing experience and expertise (including benchmarking operation and maintenance practices) with the sister organisations in the region will be very important and recommended when implementing the Plan. The Kenya Meteorological Department has a calibration laboratory, which however, is not operational to serve the region. At the same time RSB and Meteo Rwanda are in a process of investing calibration equipment and initiating operational calibration activities in the country. Collaboration to build human capacity in the field of meteorological sensor calibration is foreseen as critically important for the national meteorological services in the East-African region. Kenya and Tanzania serve as regional hubs for international data sharing. This collaboration is essential, as long as data distribution is done through the hubs. Additionally, data sharing in the region between sister organisations and worldwide (GTS and in future WIS2.0) is fundamental collaboration and equals with GBON requirements. Capacity building on the WIS2.0 system will be covered under CREWS East Africa Project. Coordination between CREWS and SOFF operations will be ensured to avoid duplication.

3. Readiness and Country context (1 page)

SOFF Beneficiary Country Capacity Assessment

This section summarises existing Beneficiary Country capacity to execute the GBON National Contribution Plan.

Rwanda Meteorology Agency (Meteo Rwanda) is a Government institution under the Ministry of Environment with legal personality, administrative and financial autonomy. The new presidential order clearly outlines the functions and responsibility of Meteo Rwanda which include, among other functions, the following responsibilities relevant to GBON:

- to set up meteorological stations, regulate the surface and upper air meteorological observations, standardize national meteorological data and information as well as the publication of climatological statistics and studies in Rwanda.
- to establish and maintain the national meteorological data center and telecommunication system for the provision of weather and climate data in accordance with guidelines provided by the World Meteorological Organization (WMO), the International Civil Aviation Organization (ICAO), the Intergovernmental Panel on Climate Change (IPCC) and other international and regional bodies working in meteorology.

The Meteo Rwanda to fulfil its mandate and responsibilities it receives annual ordinary budget from government to cover operational and development costs. For example, in the last financial year 2022/2023, Meteo Rwanda received a total budget of 1.3M USD of which 38% and 62% were spent to operational and development activities, respectively. Although the ordinary budget allocation may cover the operational and development costs, it does not allow Meteo Rwanda to pay for heavy investment such acquiring an upper air station and its consumables, upgrade of automatic weather stations and to support significant human capacity development. Regarding professional trainings, Meteo Rwanda relies on funds from international partners. However, the governmental budget allocation for Meteo Rwanda has been increasing in the past 5 years. According to the Governmental plan, next 3-year scenario still shows budget increase. Cost recovery mechanism is not yet in place, but a proposal is under review by the relevant authority.

Meteo Rwanda has ISO9001:2015 certified Quality Management System (QMS), and subsequently comprehensive risk matrixes for Automatic Weather Stations (AWS) and ICT operation and maintenance. It also implements the open data policy at national level. The open data policy and presidential order clearly provide authority and responsibility for Meteo Rwanda to fulfil GBON requirements by operating, maintaining and sharing the national meteorological data internationally.

In the past years, Rwanda did not have a meteorological calibration center where the equipment had to be shipped to Kenya for calibration. In 2023, the Government of Rwanda through Rwanda Standard Board (RSB) established a national meteorological and air quality calibration center. Meteo Rwanda has signed a Memorandum of Understanding (MoU) with RSB to regularly calibrate its

instruments. In addition, regular (quarterly) inspection and maintenance of stations are conducted to ensure that the stations are in good conditions. The agency has an official weather instrument maintenance plan that it follows to ensure that weather stations are regularly maintained and calibrated. Moreover, Meteo Rwanda has 2 permanent staff who carry out maintenance and calibration of weather instruments.

In total, Meteo Rwanda has 101 permanent staff. Among them, 40 belongs to the division in charge of data observations quality control and processing. Those staff include observers and data managers whose daily activities are to ensure that the data collected are of high quality and are shared within the region and internationally. The national WIGOS focal person has recently been nominated and 2 staff members have been trained for the use of OSCAR/surface. They need further training on (1) How to update information in OSCAR surface, and (2) General training on WIGOS and OSCAR surface. Furthermore, Meteo Rwanda has a division (with 13 staff in total) in charge of meteorological IT related activities ensuring that the data transmission is working properly. Meteo Rwanda has also a skilled and dedicated team of forecasters and meteorological applications officers (31 in total). In terms of gender, 30% of Meteo Rwanda's staff are female while male accounts for 70% (more detail in CHD).

Even though concerted efforts have been made in terms of institutional, administrative and technical capacity, the National Gap Analysis, National Contribution Plan as well as in the Country Hydromet Diagnostic clearly show that Meteo Rwanda still lacks enough funding to enhance its capacity in observational infrastructure and human capacity building in maintenance of land-based stations and a radiosonde (which will be the first ever in the country). Therefore, there is considerable opportunity for SOFF to support Meteo Rwanda in overcoming these challenges.

Investment Phase Alignment with the GBON National Contribution Plan

The National GBON Gap Analysis and GBON National Contribution Plan are included as Annexes.

Rwanda is located in a severely under-observed and conflict-afflicted regional area. In addition, the topography of the country is highly inhomogeneous with several microclimates representing small spatial scales. For these reasons, it is proposed that Rwanda receives SOFF support to achieve high-density target, corresponding to 3 surface stations rather than one as per GBON standard-density requirements. This proposal, for consideration and decision by the Steering Committee, was discussed with and endorsed by the WMO Technical Authority and the SOFF Secretariat.

The upgrade of the three 3 AWS will require new sensors and data loggers which are easy and low-cost fixes. The civil infrastructure (electricity, access to 4G, tower for wind sensor etc.) is in good condition at all stations. Most importantly, these stations are expected to report good quality observations in international distribution.

4. Investment Phase Outputs and Budget

The GBON National Contribution Plan provides detailed information on the Investment Phase Outputs (please see Annex).

Output 1. GBON institutional and human capacity developed	Main activities	Budget (USD)
1.1 **National consultations** including with CSOs, and other relevant stakeholders conducted	1.1.1 Conduct stakeholders' engagement workshops focused on observations data exchange to support weather/climate and water services and products	80,000
	1.1.2 Organise high level dialogues on benefits, co-production and ownership of the new national GBON infrastructure	30,000
1.2 **NMHS institutional capacity** required to operate the GBON network developed	1.2.1 Develop and enhance Meteo Rwanda's competence building process of Quality Management Systems 1.2.2 Capacity building in project and portfolio management and coordination through benchmarking FMI process in Finland. Lessons learned will be proposed as immediate development actions to the Meteo Rwanda. 1.2.3 Conduct a gender assessment to assess gaps in gender balance and gender opportunities (including gender discrimination, harassment) and provide recommendations accordingly. 1.2.4. Conduct two gender workshops to strengthen gender equality in governance, strategy, programmes, and decision making, and facilitate grounds for developing gender policy.	Covered by peer advisor
1.3 **NMHS human capacity** required to operate the GBON network developed	1.3.1 Benchmark and develop an observation process of upper-air sounding (supported by peer adviser)	Covered by peer adviser

	1.3.2 Benchmark good practices on archiving, transfer, and QC/QA, and subsequent SOPs as well as roadmap for QC/QA methods developed (supported by peer adviser) 1.3.3 Conduct training on upper-air system (basic level) and surface weather station (advanced/supplementing) operation and maintenance is needed since it will be a new measurement technique for the organization. (Vendor, supported by peer adviser)	
	1.3.4. Enhance institutional capacity in data collection, quality control, processing, and data sharing (outsourced by IE)	150,000
	1.3.5. Cover the Direct project costs in terms of oversight, procurement support, knowledge management, country coordination, M&E and headquarters technical assistance for IE and Meteo Rwanda for 4 years	600,000
Output 2. GBON infrastructure in place	**Main activities**	**Budget (USD)**
2.1 **New land-based** stations and related equipment, ICT systems, data management systems and standard operating practices in place	-	-
2.2 **Improved land-based** stations and related equipment, ICT systems, data management systems and standard operating practices in place	2.2.1. Procurement and installation of sensors and logger in 3 surface weather stations (3 existing stations reporting to GTS upgraded with new sensors and data loggers) and training of operational staff members by vendor.	180,000
	2.3.1. Procurement and installation of one fully automatic upper-air measurement system including ground receiving	1,013,491

2.3 **New upper-air** stations and related equipment, ICT systems, data management systems and standard operating practices in place	system, UPS, hydrogen generator, and consumables for one year (the balloon will be launched twice a day).	
	2.3.2. Building required civil infrastructure (e.g., connection to electricity, shelter for hydrogen bottles, room for balloon filling and platform for ground system).	200,000
2.4 **Improved upper-air** stations, related equipment, ICT systems, data management systems and standard operating practices in place	-	-
Outcome: Sustained compliance with GBON	**Main activities**	**Budget (USD)**
3.1 **GBON land-based stations' commissioning period completed**, country-specific standard cost for operations and maintenance established, and data sharing verified by WMO Technical Authority	3.1.1. Undertake maintenance and calibration of land-based stations	55,000
3.2 **GBON upper air stations' commissioning period completed**, country-specific standard cost for operations and maintenance established, and data sharing verified by WMO Technical Authority	3.2.1. Procure Automatic upper-air measurement system consumables for up to 3 years within investment phase	450,000
	3.2.2. Hire 2 Technical staff to operate and maintain upper air station on daily basis for 3 years (salaries, lumpsum, communication and travel costs)	145,600
Total for all Outputs		**2,904,091**
Implementing Entity Fee[2]		**203,286**

[2] The implementation fee cannot exceed 7% of the total Investment Phase funding request.

SOFF peer advisory services		**400,000**
Total funding request		**3,507,377**

Budget breakdown[3] by UNDG category (Excluding SOFF peer advisory services)[4]	**USD**
Staff and personnel costs	**280,000**
Supplies, Commodities and Materials	**1,643,491**
Equipment, Vehicles, Furniture and Depreciation	
Contractual Services Expenses	**410,000**
Travel	**50,000**
Transfers and Grants	**440,600**
General Operating Costs	**80,000**

[3] This budget breakdown does not include the Implementing Entity fee.

[4] The total budget (excluding the budget for the SOFF peer advisory services) is expected to be disaggregated by UNDG category. It includes direct and indirect costs of the Implementing Entity and beneficiary countries to establish a fully operational observation network, collecting and internationally exchanging data according to GBON requirements. Eligible expenditures are any type of expenditure required to implement the GBON National Contribution Plan, including the requirements of the beneficiary country to manage and administer the day-to-day activities of the Investment Phase. It also includes the budget required for the operation and maintenance of the observing network.

5. Investment Phase Implementation Arrangements

Execution model and implementation arrangements	The UNDP Country Office and Meteo Rwanda shall embark on a project execution strategy that leans heavily on the National Implementing Modality (NIM). Under this NIM framework, both UNDP and Meteo Rwanda will work together in the execution of the project activities. The UNDP will be responsible for overall coordination of project implementation including the coordination of annual and quarterly planning of activities and their approval by the project steering committee (which will be established at the beginning of the project implementation). UNDP will also perform the financial oversight, handling the project budget, overseeing fund allocations and make transfers to Meteo Rwanda. All these management and financial undertakings will be stringently aligned with the standards set by the UNDP, as outlined in the programme and operational policies and procedures (POPP) . Moreover, UNDP will closely monitor the operation of the land-based and the upper-air stations, data collection, analysis and reporting by Meteo Rwanda. The Meteo Rwanda will ensure that all planned activities are executed as scheduled to achieve the project's objectives. Meteo Rwanda's specific roles and responsibilities in project execution will include supporting stakeholder engagement, preparing and submitting annual and quarterly work plans, and requesting fund disbursements. They will also be responsible for promptly submitting narrative and financial reports to UNDP. Additionally, Meteo Rwanda will oversee the operation, maintenance, and calibration of land-based and upper-air stations, as well as handle data collection, analysis, and reporting to ensure compliance with GBON standards. In addition to above-described roles and responsibilities, the UNDP and the Meteo Rwanda will work closely to deliver all planned procurement activities as follows: Using its own policies and guidelines, the UNDP will be responsible of the following procurement activities: • Hiring an international company for supply and installation of modern sensors and loggers in 3 surface weather stations, inclusive of vendor-provided training for the staff and maintenance services. • Hiring a company to supply and install an automated upper-air observation system, equipped with essential tools and 1 year's stock of consumables.

	• Hiring a local firm to undertake required civil infrastructure (e.g., connection to electricity, shelter for hydrogen bottles, room for balloon filling and platform for ground system). • Hiring hotel services for stakeholder working sessions to enhance data collaboration pertinent to the project, thereby refining weather, climate, and water services. • Hiring hotel services for the organization of dialogues on the value, shared creation, and ownership of the new national GBON structure. • Commissioning external expertise to augment institutional capabilities in data collection, quality control, data processing, and distribution. To start the process, UNDP will work with Meteo Rwanda and Peer Advisor to prepare all specifications and/or Terms of Reference for all tenders to supply, install and provide 1 year maintenance of land-based and upper-air stations as well as the technical trainings of Meteo Rwanda Staff. Once the specifications/ToRs are ready, all the procurement will be advertised on UNDP's corporate website and posted in the UN Global Marketplace (i.e., www.ungm.org). All advertisements will remain online for a minimum of two weeks and the method of procurement to be used is an invitation to bid which is used to procure goods or works valued at US $150,000 or more. And finally, evaluation of offers will be done by an independent UNDP procurement committee and the award will be given to the most competitive offeror. For the hotel services related procurement, UNDP will use the existing Long-Term Agreements (LTA) signed with local hotels. About the management responsibilities as they are related to the listed procurement, UNDP will hand-over all procured goods and services to Meteo Rwanda which in turn will be responsible for the ground supervision of upgrading the surface weather stations, installation and launch of upper-air station, 1 year maintenance services and trainings for staff as described in previous section. UNDP will closely monitor implementation of all the procurement while executing all payments upon the satisfaction of Meteo Rwanda.

Private sector involvement	The SOFF operational manual defines 4 possible basic business models that are: (1) Fully public: Fully State/NMHS owned and operated GBON infrastructure, (2) Public-Private: State/NMHS owned and Private Partner operated, (3) Public-Private: State/NMHS and Private Partner owned, and (4) Fully Private: Owned and operated by a private partner contracted by the State/NMHS. Rwanda follows two models which are fully public and Public-Private. This is because some land-based stations are fully owned by the government while others are owned by private sector. However, the government (Meteo Rwanda) has full control over the establishment of stations, generation and dissemination of observations, weather forecasts, and warnings. Private sector organisations can also conduct meteorological observations for their own needs, but they must consult Meteo Rwanda before doing so. This is to ensure that the sensors and methods used are of sufficient quality and comply with the standards set by WMO. Moreover, anyone who makes meteorological observations must share them with Meteo Rwanda free of charge. For example, Rwanda Airports Company does observations at airports for the aviation sector and shares the data with Meteo Rwanda. In addition to Rwanda Airport Company, there are other private sector involved in data observations in Rwanda. To date, about six (6) private companies (Pfunda Tea Company, Gisakura Tea Company, Mulindi Tea Company, Kabuye Sugar Company, Garden Fresh, and Esperance School) have signed a Memorandum of Understanding (MoU) with Meteo Rwanda to ensure that the procured instruments and equipment fulfil the standards set by WMO. Those private companies are required to share the data with Meteo Rwanda for quality check and archive. Meteo Rwanda in turn, has the responsibility of supervising installed stations to ensure they operate in good conditions. The observing systems (station sensors, instruments, IT related equipment, construction services, etc) are procured from private/commercial companies, with funding from public sources or international partners such as UNDP and others. The private sector involvement in this project will include the supply and installation of station equipment and consumables, construction of basic infrastructure and provision of training and maintenance. Furthermore, private companies that are already working with Meteo Rwanda, will be invited to showcase their experience and success during the planned high-level dialogues. The high-level dialogue will explore and advocate for opportunity to establish a long-term public-private partnership model for observations network in Rwanda,

Civil society participation	It is foreseen that during and after the SOFF Investment phase the following engagement activities together with CSO will bring mutual benefit and grounds for sustainable operation and financial background in short- and long-term. UNDP (IE) and Meteo Rwanda (beneficiary) will conduct CSO and other stakeholder engagement workshops to present the SOFF project objectives and expected results in order to raise the ownership and participation of CSOs and other partners in the implementation of project activities such as raising awareness of the community around the value of the stations to avoid theft and vandalism of the stations. ● UNDP (IE) and Meteo Rwanda (beneficiary) will organise high level dialogues on benefits, co-production, and ownership (including joint funding scheme in long-term) of the new national GBON infrastructure. The CSOs will be part of the organizing team of this workshop as well as in its participation through presentation on their work related to project. ● In collaboration with the Peer Advisor, women and gender equality and women empowerment and advocacy related CSOs will be invited to participate in the two gender workshops to strengthen gender equality in governance, strategy, programmes, and decision making, and facilitate grounds for developing gender policy. The aim is to assess gaps in gender balance and gender opportunities (including gender discrimination, harassment) and provide recommendations accordingly. In addition to above-described activities, the Rwanda CSO Platform will be part of the project steering committee where project planning and implementation decisions are made.
Fiduciary systems	To implement any partnership, UNDP ensures that clear and robust fiduciary arrangements are in place before the implementation starts. These include financial management and procurement aspects which enable transparency, accountability, and effectiveness in the utilization of funds mobilized. **Financial Management** UNDP Financial management in fiduciary arrangements typically encompasses the following: **Budgeting** - Setting a clear and detailed budget for the project, which outlines the expected expenses and sources of funds.

	Financial Reporting - Periodic financial reporting to stakeholders, which gives an overview of the funds received, expended, and any discrepancies or issues. **Audits** - Regular audits, both internal and external, are conducted to ensure compliance with financial standards and to detect any anomalies or misuse of funds. **Risk Management** - Risk assessments are conducted to identify any financial risks associated with the project, and mitigation measures are put in place. **Fund Disbursements** - A clear procedure for the disbursement of funds to ensure that money is used for the intended purpose and there is accountability at every level. **Accounting and Record Keeping** - Proper accounting methods are used, and records of all transactions are kept meticulously. **Procurement** Procurement procedures are put in place to ensure that goods, works, and services are acquired in a transparent, efficient, and cost-effective manner. The main aspects include: **Planning** - Before starting the procurement process, there's a need for clear planning, which defines what is to be procured, why, and how. **Sourcing** - Identifying potential suppliers or contractors and evaluating them based on predetermined criteria. **Tendering** - Inviting bids or proposals from potential suppliers. This can be through open tendering, limited tendering, request for quotations, or direct contracting, depending on the nature and value of the procurement. **Evaluation** - Evaluating bids or proposals based on predefined criteria, which could be the lowest cost, best value for money, or other factors. **Contracting** - Once a supplier or contractor is selected, a contract is drawn up which outlines the terms and conditions of the procurement. **Contract Management** - Monitoring the performance of the supplier or contractor, ensuring they meet their obligations as per the contract. **Ethics and Fair Play** - Ensuring that the procurement process is free from corruption, favoritism, and any form of unethical behavior.

	Grievance Redress Mechanism - A system through which aggrieved bidders can raise complaints and get them addressed. As UNDP collaborates with Meteo Rwanda to implement SOFF Investment Phase, both entities shall align their fiduciary procedures. The UNDP will ensure that its Meteo Rwanda comply with the highest standards of financial management and procurement. This will not only build trust among stakeholders but also ensures the success and sustainability of the projects they undertake together.
Social and environmental safeguards	**Social safeguards:** The implementation of the SOFF investment phase will be made through taking a note of human rights considerations and making sure that no human rights are violated by any of the activities. In fact, the results of the project will support human well-being and social equity, and further, reduce the environmental risks posed by climate change and natural disasters. **Gender policy:** In the NCP documentation the beneficiary is recommended to assess gaps in human capacity through summarising staff skills, education levels, and capacity gaps for technicians, experts, and management, accommodating gender balance and gender opportunities. Additionally, the beneficiary is encouraged to prepare gender balance and women empowerment actions together with measures for non-discrimination for the organization. The internal gap analysis of organization together with the WMO Gender Action Plan will guide in this activity. **Upper-air radiosounding:** The GBON compliant sounding system is recommended to be located at a site where permanent staff works on a daily basis. This will decrease unnecessary travelling as well as burdening financial and environmental implications when the sounding station requires an attention of staff. Such regular attention will include e.g., filling the system with sondes. The tender process should emphasize quality criteria related to composability in material selection where applicable. The investment in sounding system is made for 20-30 years, and thus, care must be taken to ensure that annual maintenance is ensured throughout its lifecycle. Generation of hydrogen, needed by balloon, locally at the station will make the operation more environmentally sustainable and independent from importing gas by the 3rd party. **AWS:** To comply with GBON requirements, SOFF will support the upgrade of the three existing Automatic Weather Stations by replacing old version sensors with modern sensors. There will be no requirement to build new infrastructure which would cause land excavation, destruction of physical environment and/or biodiversity loss. However, the diodes (which are

	electronic components) from the replaced sensors though are not harmful to the environment by themselves as they are made of materials such as silicon, germanium, or gallium arsenide, which are not toxic or hazardous. It is likely that they may pose some environmental risks if they are not disposed of properly, as they may contain traces of metals such as lead, copper, or nickel, which can leach into the soil or water and cause pollution. Therefore, UNDP and Meteo Rwanda will work with the Rwanda Environment Management Authority and Enviroserve Rwanda Ltd to recycle and dispose of remaining electronic waste in line with the National E-Waste Management Policy for Rwanda.
Dispute resolution mechanism	Effective project management recognizes the importance of addressing complaints and resolving conflicts promptly to maintain stakeholder trust, ensure project sustainability, and achieve desired outcomes. The UNDP, like many development organizations, incorporates mechanisms to manage complaints and resolve conflicts in its projects. Here's an overview of the key elements in project implementation complaints management and conflict resolution: **Establishment of a Complaints Management Mechanism (CMM)** **Accessibility:** There should be a clear and easily accessible channel for stakeholders, including project beneficiaries, to raise complaints or concerns. More information can be obtained from the UNDP Social and Environmental Standards Concerns can be raised through dedicated email addresses, helplines, physical drop boxes, or online platforms. **Anonymity and Protection:** The mechanism should allow for anonymous complaints to ensure the protection of the complainant, especially in sensitive contexts. Whistleblower protections should also be in place. **Categorization of Complaints:** Once received, complaints should be categorized based on their nature, urgency, and impact to ensure an appropriate and timely response. **Complaints Handling Process** **Acknowledgment** - Upon receiving a complaint, an acknowledgment of receipt should be sent to the complainant, reassuring them that their concern is being addressed. **Investigation** - A neutral team or individual should investigate the complaint. The depth and method of the investigation would depend on the nature of the complaint. **Feedback** - After the investigation, feedback should be provided to the complainant, detailing the findings and any actions taken.

	Redress and Remediation - If the complaint is validated, appropriate remedial actions should be taken, which might include compensation, corrective actions, or other measures. **Conflict Resolution Mechanisms** **Preventive Measures** - Awareness and training sessions on conflict sensitivity, cultural awareness, and stakeholder engagement can be conducted to reduce the likelihood of conflicts arising. **Mediation** - Neutral third-party mediators can be involved to facilitate dialogue between conflicting parties and help them reach a consensus. **Arbitration** - If mediation fails, an independent arbitrator can be appointed to hear the grievances and make a binding decision. **Stakeholder Dialogues** - Regular dialogues and forums with stakeholders can be organized to address any potential issues before they escalate into major conflicts. **Monitoring and Learning:** **Regular Review** - The effectiveness of the complaints management and conflict resolution mechanisms should be reviewed periodically. **Learning** - Lessons learned from addressing complaints and resolving conflicts should be documented and integrated into future project planning and implementation. **Transparency** - Sharing aggregated data on complaints received, their nature, and the actions taken can enhance transparency and trust among stakeholders. Incorporating the above elements ensures that project implementation remains on track and that any issues or grievances from stakeholders are addressed in a timely and effective manner. This proactive approach not only helps in mitigating risks but also promotes trust, inclusiveness, and ownership among all stakeholders, essential for the success of any project.
Additional relevant policies and procedures	The UNDP has a robust Programme and Operational Policies and Procedures (POPP) framework. This framework provides comprehensive guidance for project and programme implementation, ensuring effectiveness, transparency, and accountability in all operations. When considering the context of implementing entities, especially when UNDP is working in partnership with Meteo Rwanda, there are several other policies and procedures that the implementing entity might apply based on the UNDP POPP.

	Here are some of the key aspects: **Partnership and Capacity Assessment:** Before initiating any partnership, UNDP conducts a comprehensive assessment of the prospective implementing entity. This includes gauging their technical, managerial, and financial capacities to execute the project efficiently. **Project Document Formulation:** Every project must have a detailed project document, which lays out the objectives, expected outcomes, indicators, budget, risks, and other essential elements. **Monitoring and Evaluation (M&E):** POPP stresses the importance of continuous monitoring and periodic evaluation. Implementing entities are required to maintain a robust M&E mechanism, providing regular updates on progress, challenges, and any necessary adjustments. **Resource Mobilization:** If the implementing entity is involved in resource mobilization, guidelines from POPP need to be followed to ensure transparency, ethical considerations, and alignment with UNDP's priorities. **Capacity Development:** If gaps are identified in the implementing entity's capacity, the UNDP might provide support through training and other capacity-building initiatives. **Environmental and Social Safeguards:** Projects must adhere to environmental and social standards, ensuring that there are no adverse effects on communities or the environment. This also includes considerations for gender equality and human rights. **Knowledge Management:** Implementing entities are encouraged to document best practices, lessons learned, and challenges faced during the project lifecycle. This aids in improving future interventions and sharing knowledge across different projects or countries. **Exit Strategy and Sustainability:** Towards the end of the project, an exit strategy is formulated to ensure that the positive impacts of the project are sustained even after its completion. This involves transferring responsibilities, where necessary, to local entities or stakeholders. **Transparency and Anti-Corruption:** Measures are in place to ensure the utmost transparency in all operations and a zero-tolerance policy for any corrupt practices. **Reporting:** Regular reporting, both financial and programmatic, is a key procedure. Implementing entities must provide periodic updates, typically

	annual and quarterly, detailing achievements, financial expenditures, and any deviations or changes to the initial plan. The UNDP's Programme and Operations Policies and Procedures (exemplify a thorough framework, ensuring that project implementation and management align with global best practices and the organization's overarching commitment to transparency, accountability, and efficacy. Through integrating robust complaints management, conflict resolution mechanisms, and various other policies ranging from environmental safeguards to knowledge management, the UNDP not only streamlines its project execution but also safeguards its reputation and trust with stakeholders. In an era where sustainable development goals are of paramount importance, such rigorous and holistic procedures are crucial in driving impactful and lasting positive change on a global scale.

6. Investment Phase Monitoring and Reporting

The implementing entity, with the support of the peer advisor, is expected to monitor the implementation of the Investment Phase following an output-based approach. The Investment Phase outputs as well as respective indicators and targets are presented below.

Output 1. GBON institutional and human capacity developed	**Indicators**	**Target Y1**	**Target Y2**	**Target Y3**	**Target Y4**
1.1 **National consultations** including with CSOs, and other relevant stakeholders conducted					
1.1.1 Conduct stakeholders' engagement workshops focused on observations data exchange to support weather/climate and water services and products	# of consultation workshops	**1**			**1**
	% female participants in the workshops	**50**			**50**
1.1.2 Organise high level dialogues on benefits, co-production and ownership of the new national GBON infrastructure	# of high-level dialogues organised	**1**			**1**
1.2 **NMHS institutional capacity** required to operate the GBON network developed					
1.2.1.Develop and enhance Meteo Rwanda's competence building process of Quality Management Systems	# of updated processes				**1**
1.2.2 Capacity building in project and portfolio management and coordination through benchmarking FMI process in Finland. Lessons learned will be proposed as immediate development actions to the Meteo Rwanda.	# of people trained	**3**			
1.2.3 Conduct a gender assessment to assess gaps in gender balance and gender opportunities (including gender discrimination,	# gender assessment conducted	**1**			

harassment) and provide recommendations accordingly.					
1.2.4. Conduct gender workshops to strengthen gender equality in governance, strategy, programmes, and decision making, and facilitate grounds for developing gender policy.	# gender workshop organized			**1**	
1.3 **NMHS human capacity** required to operate the GBON network developed					
1.3.1 Benchmark and develop an observation process of upper-air sounding (supported by peer adviser)	# of developed observation process				**1**
1.3.2 Benchmark good practices on archiving, transfer, and QC/QA, and subsequent SOPs as well as roadmap for QC/QA methods developed (supported by peer adviser)	# of documents (SOPs or roadmaps) updated or developed				**1**
1.3.3 Conduct training on upper-air system (basic level) and surface weather station (advanced/supplementing) operation and maintenance is needed since it will be a new measurement technique for the organization. (Vendor, supported by peer adviser)	# of Meteo Rwanda staff members participated		**4**	**4**	
	% of female Meteo Rwanda staff participants in the training		**50**	**50**	
1.3.4. Enhance institutional capacity in data collection, quality control, processing, and data sharing (outsourced by IE)	# of IT technician trained			**4**	
	# of forecasters trained			**12**	
	# data analysts trained			**9**	
	# of staff trained on maintenance and calibration of land surface stations			**4**	

	% of female participants in the training			**50**	
1.3.5. Cover the Direct project costs in terms of oversight, procurement support, knowledge management, country coordination, M&E and headquarters technical assistance for IE and Meteo Rwanda for 4 years	# of project management staff supported at IE	**3**	**3**	**3**	**3**
	# of project management staff supported at beneficiary	**2**	**2**	**2**	**2**
	# of TA at UNDP HQ recruited for knowledge management				**1**
2.1 **New land-based** stations and related equipment, ICT systems, data management systems and standard operating practices in place					
N/A	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
2.2 **Improved land-based** stations and related equipment, ICT systems, data management systems and standard operating practices in place					
2.2.1. Procurement and installation of sensors and logger in 3 surface weather stations (3 existing stations reporting to GTS upgraded with new sensors and data loggers) and training of operational staff members by vendor.	# stations upgraded		**3**		
	# standard operating practices updated				**1**
2.3 **New upper-air** stations and related equipment, ICT systems, data management systems and standard operating practices in place					
2.3.1. Procurement and installation of one fully automatic upper-air measurement system including ground receiving system, UPS, hydrogen generator, and consumables for one year (the balloon will be launched twice a day).	# new upper air stations installed and its ICT systems		**1**		

	# standard operating practices updated				**1**
2.3.2. Building required civil infrastructure (e.g., connection to electricity, shelter for hydrogen bottles, room for balloon filling and platform for ground system).	# of infrastructure put in place		**1**		
2.4 **Improved upper-air** stations, related equipment, ICT systems, data management systems and standard operating practices in place					
N/A	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
3.1 **GBON land-based stations' commissioning period completed**, country-specific standard cost for operations and maintenance established, and data sharing verified by WMO Technical Authority					
3.1.1. Undertake maintenance and calibration of land-based stations	# land-based stations maintained, calibrated and transmitting data to GTS			**3**	**3**
3.2 **GBON upper air stations' commissioning period completed**, country-specific standard cost for operations and maintenance established, and data sharing verified by WMO Technical Authority					
3.2.1. Procure Automatic upper-air measurement system consumables for up to 3 years within investment phase	# upper air station maintained and sharing data on GTS			**1**	**1**
3.2.2. Hire 2 Technical staff to operate and maintain upper air station on daily basis for 3 years (salaries, lumpsum, communication and travel costs)	# of new staff recruited to operate the upper air station		**2**		
	salaries, lumpsum, communication and travel costs of new recruited staff		**x**	**x**	**x**

The implementing entity is expected to report on progress as described below.

- **Quarterly updates** to the SOFF Secretariat: A simple standardized form providing a progress update against the Investment Phase Outputs' indicators (and Outcome, where applicable[5]) and flagging major issues that are delaying implementation, if any.
- **Annual narrative and financial reports** according to the UNMPTF reporting requirements indicated in the legal agreements. The annual narrative report reports on progress on the delivery of the Investment Phase Outputs, measured by the Investment Phase Indicators. It includes also a review of the Investment Phase risks and an update on environmental and social safeguards, including gender.
- **Final narrative and financial reports** according to the UNMPTF reporting requirements indicated in the legal agreements. The final narrative report confirms the completion of all the activities and report on the number of stations that have completed the commissioning period (outcome). The WMO technical authority verifies GBON compliance of the indicated stations and provides a verification report to the SOFF Secretariat. Upon WMO verification, the Investment Phase can be considered completed. The Final Report should describe the Investment Phase results achieved and lessons learned; and it should also specify the long-term institutional arrangements to secure sustained GBON compliance with SOFF Compliance Phase support.

[5] The quarterly reports should also include, when applicable, progress achieved in terms of new or rehabilitated stations that have become operational and are already sharing the data into the WIS 2.0 system as confirmed through the WIGOS Data Quality Monitoring System (WDQMS) web tool.

7. Investment Phase Risk Management Framework

The Investment Phase Risk Management Framework should be based on the SOFF Risk Management Framework, incorporating relevant programmatic risks and including additional country-specific risks. Please follow the methodology established by the Multi-Partner Trust Fund Office (MPTFO) presented below.

		Impact				
		Insignificant (1)	**Minor (2)**	**Moderate (3)**	**Major (4)**	**Extreme (5)**
	Very Likely (5)	Medium (5)	High (10)	High (15)	Very High (20)	Very High (25)
	Likely (4)	Medium (4)	Medium (8)	High (12)	High (16)	Very High (20)
	Possible (3)	Low (3)	Medium (6)	High (9)	High (12)	High (15)
	Unlikely (2)	Low (2)	Low (4)	Medium (6)	Medium (8)	High (10)
	Rare (1)	Low (1)	Low (2)	Medium (3)	Medium (4)	High (5)

Risk	Risk level	Likelihood	Impact	Risk Mitigation Measures
Non-compliance with fiduciary and procurement standards in some SOFF activities	Low	Rare	Insignificant	The Implementing Entity will ensure that UNDP and Government Procurement rules and regulations are followed, that the value for money is considered in all activities and the quality of deliverables ensured

SOFF-funded investments cause environmental or social impacts	Medium	Rare	Moderate	Project Management Team will ensure that all construction works for Upper air station follow standards and that qualified technicians are deployed for regular monitoring and maintenance of stations. Also, fire extinguishers will be installed at Upper-air station to ensure the safety of the consumables. In addition, the project will deploy security personnel to avoid any external disturbance. Also, UNDP and Meteo Rwanda will work with the Rwanda Environment Management Authority and Enviroserve Rwanda Ltd to recycle and dispose of remaining electronic waste of diodes from replaced sensors in line with the the National E-Waste Management Policy for Rwanda.
NMHS staff depart after being trained	Medium	Likely	Minor	The project will strengthen the capacity of Meteo Rwanda to ensure that sufficient number of staff acquire the knowledge and skills to operate and maintain land & upper-air stations as well as data

				collection, quality control, sharing, analysis and forecasting.
Slow implementation and delays in procurement, installation and capacity building activities	Low	Rare	Minor	The Project Management Team will ensure that there is early planning of procurement, installation and capacity building is done and that monitoring is regularly conducted and strategies to accelerate project implementation are adopted
After the conclusion of the Investment phase, GBON data are not collected or shared or are shared of insufficient quality	Low	Rare	Minor	The project will enhance the capacity of Meteo Rwanda Staff for data collection, quality control and sharing. In addition, Meteo Rwanda will ensure its work complies with the national and WMO data policies.
Destruction or theft of SOFF-financed equipment and infrastructure	Medium	Rare	Moderate	Every year, Meteo Rwanda allocates a budget for security services to ensure the safety of stations and protection of office equipment. To avoid any potential hazard (such as flood) that may destroy the land stations, Meteo Rwanda ensures that these stations are protected with fence and placed in low-risk zones. Meteo

				Rwanda will also engage local CSOs in raising awareness of the community around the stations to avoid theft and vandalism of the stations.
Rwanda cannot make optimal use of data, including accessing or using improved forecasts products from the Global Producing Centers throughout the hydromet value chain	low	Unlikely	Minor	Meteo Rwanda has sufficient number of staff to operate in the whole value chain of hydro-meteorological services. The project will enhance their capacity to make optimal use of data collected as well as using improved forecasts generated by global models.

Annex 1: National Gap Analysis

The National Gap Analysis for Rwanda is available here.

Annex 2: National Contribution Plan

The National Contribution Plan of Rwanda is available here.

Annex 3: Country Hydromet Diagnostics

The Country Hydromet Diagnostics of Rwanda is available here.

Annex 4: Terms of Reference for the provision of technical advisory services during the SOFF Investment Phase

1. Purpose and scope

These Terms of Reference describe the provision of technical advisory services by Finnish Meteorological Institute to Rwanda to contribute to the delivery of the SOFF Investment Phase outputs as described in Section 3.

The Terms of Reference are based on the SOFF Operational Manual, Section 4.4.3 on the Operational Partners and Section 4.5.2 on the Investment Phase; as well as on the SOFF Investment Framework, Section 4.5 on the Peer Advisors and WMO Technical Authority.

2. Roles and responsibilities

Beneficiary country National Meteorological and Hydrological Service

- Is responsible for implementing the activities of the SOFF Investment Phase activities with the support of the Implementing Entity and the peer advisor.
- Submits the SOFF Investment Phase funding request using the standardized template provided by the SOFF Secretariat, including the Terms of References for the peer advisor's technical advisory services during the Investment Phase.
- Is responsible for collaborating with the Implementing Entity to provide all the necessary information, participate in and facilitate the national activities that the Implementing Entity and peer advisor need to conduct in order to deliver the SOFF Investment Phase outputs.
- Confirms the completion of all the Investment Phase activities and provides comments as needed on the final report prepared by the Implementing Entity.

Peer advisor

- Is accountable to the beneficiary country and the Implementing Entity.
- Is contracted via the WMO pass-through mechanism and operates on a cost-recovery basis.
- Provides technical advisory services to support beneficiary countries and Implementing Entities in the design and implementation of the SOFF Investment Phase activities.
- Contributes to the final report of the SOFF Investment Phase.

Implementing Entity

- Prepares the Investment Phase funding request in collaboration with the beneficiary country and the peer advisor, including the Terms of References for the provision of technical advisory services during the SOFF Investment Phase.

- Manages the Investment Phase activities following the terms specified in the funding request and in collaboration with relevant national partners, including civil society organizations.
- Delivers the Investment phase outputs and is responsible for their quality and timely delivery, in coordination with the country and the peer advisor.
- Provides quarterly updates to the SOFF Secretariat according to a simple standardized form and annual reports according to the United Nations Multi-Partner Trust Fund Office's reporting requirements indicated in the legal agreements.
- Informs the SOFF Secretariat of circumstances that could materially impede the implementation of the Investment phase or any considerable deviation in the conditions of the funding request to achieve its objectives.
- Submits the final report to the SOFF Secretariat including the beneficiary country's comments and the peer advisors' feedback. The final report describes the institutional arrangements to secure sustained operation and maintenance of the investments made.

WMO Technical Authority

- Provides basic on-demand technical assistance to the beneficiary country, Implementing Entity and peer advisor on GBON regulations, including on monitoring and assessing the data-sharing status of the stations using the WDQMS web tool[6]
- Is responsible for the verification of data sharing of the new or rehabilitated surface and upper -air stations as per GBON regulations.
- WMO provides a verification report to the SOFF Secretariat, upon which the Investment Phase can be considered completed.
- Establishes and administers the pass-through mechanism for contracting and funding of the advisory services provided by the peer advisors.

SOFF Secretariat

- Facilitates communication, coordination and collaboration between the beneficiary country, the Implementing Entity, the peer advisor and WMO Technical Authority.
- Reviews the SOFF Investment Phase funding request, including the Terms of Reference for the provision of technical advisory services and provides feedback as needed. Then transmits the funding request to the SOFF Steering Committee for their decision.
- Compiles quarterly updates and annual reports and monitors implementation based on information received from the Implementing entity, the peer advisor and the beneficiary country. Regularly informs the Steering Committee of progress.

[6] The WDQMS web tool monitors the availability and quality of observational data based on near -real-time information from the four participating global Numerical Weather Prediction centres: the German Weather Service (DWD), the European Centre for Medium range Weather Forecasts (ECMWF), the Japan Meteorological Agency (JMA) and the United States National Centers for Environmental Pre diction (NCEP). These are four of the ten World Meteorological Centres, designated by WMO to provide global numerical weather prediction products for all WMO Members.

- Coordinates regional implementation approaches to the SOFF Investment Phase.
- Confirms receipt of the final report by the Implementing Entity and completion of the Investment Phase based on WMO verification of data sharing.
- Organizes exchange of knowledge and experiences and captures lessons learned.

3. Peer advisors' activities during the SOFF Investment Phase

The peer adviser will support investment phase through the following activities:

- Technical support in AWS tender process
- Technical support in radiosounding tender process
- Technical support in IT hardware tender process
- Benchmark portfolio and project management and coordination in FMI
- Organize two gender workshops for Meteo Rwanda staff
- Support in developing competence building, AWS and radiosounding processes:
    - Benchmark good practices
    - Support in preparing process and lifecycle plan for observations
    - Support in preparing roadmap for competence building process that fits in Rwandan context
    - Support in preparing/enhancing SOPs
    - Support in preparing roadmap for implementing QC/QA methods
- Training on AWS and radiosounding lifecycle maintenance and calibration
- Advice in radiosounding and AWS data transfer and processing
- Advice in implementing data management system
- Contribution to final reporting