Approved GCF Project Preparation Facility application

PPF122 | Funding

Funding Proposal	Enhancing Climate Information and Multi-Hazard Early Warning for Resilience in Bhutan
Accredited Entity	United Nations Environment Programme (UNEP)
Country	Bhutan
Approval Date	14 August 2026

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

Project Preparation Facility (PPF) Application

Concept note title	Enhancing Climate Information and Multi-Hazard Early Warning for Resilience in Bhutan
Accredited Entity	United Nations Environment Programme (UNEP)
Country	Kingdom of Bhutan
First submission	20 October 2025
Current submission	31 July 2026 Version 4

GREEN CLIMATE FUND

Please submit the completed PPF application and the PPF no-objection letter to ppf@gcfund.org. Refer to the PPF Guidelines for further information on completing the PPF application.

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

A. Executive Summary				
A.1	**Accredited Entity (AE)**	United Nations Environment Programme (UNEP)		
A.2	**Title of concept note submitted with PPF application**	Enhancing Climate Information and Multi-Hazard Early Warning for Resilience in Bhutan		
A.3	**PPF no-objection letter issued by NDA**	Kingdom of Bhutan, 29 September 2025		
A.4	**PPF support requested**	PPF Funding - AE will receive grant funding from GCF & directly acquire the services of international or local consultants or Implementing Entity(ies) for Funding Proposal Development		
A.5	**Support from Readiness**	Has the AE accessed Readiness support for preparing the CN or PPF application?	☐ Yes [indicate relevant modality] ☒ No	
A.6	**Cost of PPF activities**	Amount requested from GCF	☒ Grant	USD 299,905
			☐ Repayable grant	USD amount
			☐ Equity	USD amount
		Co-financing from AE	USD 28,836 (in-kind)	
		Co-financing from other sources: Royal Government of Bhutan	USD 6,000 (in-kind)	
		Total project preparation cost	USD 334,741	
A.7	**Implementation period**	12 months		
A.8	**Summary of PPF request**			

Project preparation support is requested to facilitate the expeditious development of a robust and comprehensive GCF funding proposal for the proposed project: *Enhancing Climate Information and Multi-Hazard Early Warning for Resilience in Bhutan*.

The Kingdom of Bhutan is a small landlocked country in southern Asia characterized by a mountainous ecosystem. Despite graduating from Least Developed Country (LDC) status in December 2023 following socio-economic advancements over the past decades, the adverse consequences of climate change and the high disaster risk pose a significant threat to continued and sustainable development.[1,2] Consistently with global trends, temperatures in Bhutan are projected to increase: average temperatures in 2040-2059 will have increased between 1.3°C (RCP2.6) and 2.2°C (RCP8.5) compared to the reference period (1986-2005). Precipitation will become more variable, with current seasonal patterns becoming more marked and extreme rainfall events intensifying.[3] Rising temperatures will accelerate glacier retreat and alter glacial runoff, with implications for water availability. In the short-/medium-term, the meltwater will increase river flows; over the longer-term, glacier loss will reduce overall water availability and increase the likelihood of droughts. At the same time, accelerated melting increases the risk of Glacial Lake Outburst Floods (GLOFs),

[1] https://www.un.org/development/desa/dpad/2023/bhutan-graduates-from-ldc-status/
[2] Climate Change Policy of the Kingdom of Bhutan, 2020. https://faolex.fao.org/docs/pdf/bhu207787.pdf
[3] Climate Risk Country Profile, 2021. https://climateknowledgeportal.worldbank.org/sites/default/files/2021-08/15874-WB_Bhutan Country Profile-WEB.pdf

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

threatening lives and livelihoods.[4] Other than GLOFs and droughts, flash floods, windstorms, landslides, tropical cyclones and extreme temperatures pose threats.[5,6] Estimates show that disasters cause annual average losses of 4.4% of Bhutan's GDP, with floods as the main driver.[7] Bhutan possesses a low adaptive capacity and is highly reliant on climate-sensitive sectors, in particular hydropower and agriculture.[8] Technical and human capacities are generally considered limited, and financial and economical vulnerabilities are persisting.[9]

Multi-Hazard Early Warning Systems (MHEWS) are a proven and effective climate change adaptation measure. Currently, significant gaps remain in the provision of an end-to-end, people centred MHEWS that reaches the most vulnerable population groups in Bhutan. The proposed project that will be developed through the support of this Project Preparation Facility (PPF) is in alignment with Bhutan's climate action and adaptation priorities, in particular the National Adaptation Plan (NAP),[10] the second update to the Nationally Determined Contribution (NDC),[11] the Disaster Risk Reduction Status Report,[12] the Roadmap for Strengthening and Modernization of Hydromet and MHEWS,[13] and the Climate Change Policy of Bhutan.[14] It also supports the achievement of the goals of the global Early Warnings for All (EW4All) initiative and aligns with UNEP's commitment to implementing the Sendai Framework for Disaster Risk Reduction. It also contributes to the United Nations Sustainable Development Cooperation Framework (UNSDCF) for Bhutan, specifically Strategic Priority 3 and Outcome 3 on resilience to disaster risks and climate change.[15]

Without the proposed project, Bhutan's climate information and MHEWS would remain fragmented, under-resourced, and limited in coverage, particularly in rural and last-mile communities. This would constrain the ability to anticipate and respond effectively to climate change-related hazard and continue to approach disaster risk management in a reactive rather than anticipatory manner.[16] As climate change and extreme events intensify, the existing gaps in the country's climate adaptation capacity would result in higher economic losses, damages to livelihoods, and loss of lives.

The National Center for Hydrology and Meteorology (NCHM), as the national agency responsible for the generation and delivery of information and services on weather, climate, water, and cryosphere in Bhutan, will play a central role in the proposed project. The project will strengthen NCHM's institutional and technical capacity to operate across the entire MHEWS value chain, from disaster risk knowledge and observation and forecasting, to warning dissemination and preparedness. A range of additional stakeholder will be engaged through the project, including the National Disaster Management Authority (NDMA), Bhutan's InfoComm and Media Authority (BICMA), Bhutan Red Cross Society (BRCS), the National Commission for Women and Children (NCWC), relevant Departments within the Ministry of Environment and Natural Resources, and local communities and vulnerable groups.

The proposed project will scale up investments under the Systematic Observations Financing Facility (SOFF), for which UNEP is the Implementing Entity. SOFF provides technical and financial assistance to close gaps in essential climate observations. The proposed project will reinforce capacity development across the entire MHEWS value chain in Bhutan. Additionally, the project will explore opportunities for replication across the Himalayan region, specifically

[4] Climate Change Projection, 2024. https://www.nchm.gov.bt/attachment/ckfinder/userfiles/files/Bhutan Climate Projection Report.pdf
[5] NAP, 2023. https://www.undp.org/bhutan/publications/national-adaptation-plan

[6] Climate Change Policy, 2020. https://faolex.fao.org/docs/pdf/bhu207787.pdf

[7] https://rrp.unescap.org/country-profile/BTN
[8] Royal Government of Bhutan, 2023. First National Adaptation Plan. https://www.undp.org/bhutan/publications/national-adaptation-plan
[9] International Monetary Fund, 2024. Country Reports, Bhutan. https://www.imf.org/en/Publications/CR/Issues/2024/09/19/Bhutan-2024-Article-IV-Consultation-Press-Release-Staff-Report-and-Statement-by-the-555108
[10] Bhutan's First National Adaptation Plan, 2023. https://unfccc.int/documents/631822
[11] Bhutan's Second Nationally Determined Contributions, 2021. https://unfccc.int/documents/497366
[12] Disaster Risk Reduction in Bhutan, Status Report 2020. https://www.undrr.org/media/48525
[13] World Bank, 2024: Institutional Strengthening and Modernization of Hydromet and Multi-hazard Early Warning Services in Bhutan: A Road Map for 2024-2034. https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099616409252436728
[14] Climate Change Policy of the Kingdom of Bhutan, 2020. https://faolex.fao.org/docs/pdf/bhu207787.pdf
[15] UNSDCF. https://bhutan.un.org/en/278809-unsdcf-2024-2028
[16] The reactive approach is widely considered less effective and cost-efficient: https://www.worldbank.org/en/news/infographic/2019/06/17/lifelines-the-resilient-infrastructure-opportunity and https://www.worldbank.org/en/news/infographic/2019/06/17/lifelines-the-resilient-infrastructure-opportunity

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

assessing the potential for data-sharing models, knowledge transfer partnerships, regional service hubs, and cross-border forecast product licensing.

To effectively achieve this, the Project Preparation Facility (PPF) will focus on building a strong foundation of knowledge and capacity based on the existing conditions in Bhutan. The proposed PPF activities will include:

- Development of pre-feasibility studies and preparation of the Funding Proposal package, including multi-stakeholder consultations, the development of a Concept of Operations (CONOPS), and a validation workshop;
- Environment and social studies;
- Gender studies;
- Assessment of risks and mitigating factors for the proposed project and capacity assessment of potential executing entities and partners;
- Provision of advisory services for budgeting of the proposed project, structuring of a blended financing approach and mobilisation of investments for co-financing and cost-recovery;
- Assistance during the review phase of the Funding Proposal submitted under the Simplified Approval Process (SAP).

The table below maps the existing gaps towards PPF activities and outputs of the proposed project (FP).

Table 1: Assessment of existing gaps, related PPF activities, and resulting FP outputs.

Existing gaps	PPF activities	FP outputs
Undefined expectations, roles, and timelines on FP development	Activity 0.1 (Inception activities)	Coordination for development of FP and all annexes
Knowledge gaps or fragmented information regarding technical, economic, and climate impact viability of the FP; limited MHEWS gaps, needs, and impact assessment; limited knowledge of technical and institutional scope and characteristics of proposed MHEWS	Activity 1.1 (Develop pre-feasibility study) and 1.2 (Develop the technical and institutional design for the multi-hazard early warning system)	Pre-feasibility study (Annex 2), Concept of Operations as part of the pre-feasibility study (CONOPS, Annex 2)
Performance baseline and indicators gap	Activity 1.2 (Develop the technical and institutional design for the multi-hazard early warning system) and 1.4 (Identify project-level indicators and development of the logical framework)	Logical framework baseline and indicators (Annex 2a)
Gaps in mapping, roles and responsibilities of stakeholders	Activity 1.3 (Develop stakeholder engagement plans)	Stakeholder Engagement Plan (Annex 15)
Knowledge gaps or fragmented information to be compiled	Activity 1.5 (Develop and finalise the FP and all relevant annexes) and 1.6 (Conduct a stakeholder consultation and validation workshop) and 7.1 (Assist in responding to comments and feedback received on the full FP)	FP and all annexes

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

Limited or fragmented information on environmental and social aspects	Activity 2.1 (Develop the Environmental and Social Action Plan)	Environmental and Social Action Plan (Annex 12)
Limited or fragmented information on gender equality and social inclusion aspects	Activity 3.1 (Conduct a Gender Assessment and project-level Gender Action Plan) and 3.2 (Identify and outline a project-level grievance mechanism)	Gender assessment and action plan (Annex 4), grievance redness mechanism as part of the Environmental and Social Action Plan (Annex 12)
Risk knowledge gap	Activity 4.1 (Assess risk and mitigation factors and assessment of the capacity of potential Executing Entities/ partners)	Assessment of risk and mitigation (Annex 7) and capacity assessment as part of legal due diligence (Annex 9a)
Hazard trend/projection gap	Activity 5.1 (Assess the climate impact potential) and 5.2 (Develop a site-specific hazard assessment, including identification of relevant climate-related hazards)	Climate rationale as part of the Pre-feasibility study (Annex 2)
Beneficiary exposure and quantification gap	Activity 5.2 (Develop a site-specific hazard assessment, including identification of relevant climate-related hazards) and all consultations (mainly under activities 0.1, 1.2, 3.1)	Selection and calculation of beneficiaries (Annex 16)
Limited capacity of partners to develop a budget according to GCF standards, fragmented information on current MHEWS gaps and investment needs	Activity 6.1 (Provide advisory services for costing and budgeting according to GCF standards) and 6.3 (Prepare a detailed budget plan for the project)	Detailed budget plan (Annex 3), Procurement plan (Annex 8), budget absorption schedule and commitment letter
Alternative financing mechanisms gap	Activity 6.2 (Design financial structure and mobilise investments)	Financial structuring and assessment of financing mechanisms, letters of intent (Annex 5)

B. Justification for Project Preparation Support

The Royal Government of Bhutan requests PPF resources from the GCF through UNEP as the AE for the preparation of the proposed project. Having only recently graduated from Least Developed Country (LDC) status, Bhutan has highly limited resources to dedicate to climate change adaptation and disaster risk management. Project preparation funds are therefore requested to support the development of a comprehensive funding proposal for strengthening climate services and establishing a people-centred, impact-based Multi-Hazard Early Warning System (MHEWS) in Bhutan.

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

Amongst others, the PPF resources are critical to facilitate meaningful in-person engagement of communities located in remote locations, especially in isolated and fragile mountainous regions, whose unique perspectives are vital to informing the design of socially inclusive and gender-responsive MHEWS that are accessible and actionable at the last mile. PPF funding will also be used to support the financial structuring of the project, including the development of a blended finance model, assessment of NCHM's financial sustainability, exploration of cost-recovery mechanisms, and securing co-financing agreements/Letters of Intent with the government and with private sector entities (i.e., aviation, hydropower, telecommunication, banks and insurances). The project aims to pilot a payment-for-service approach, with private sector entities paying for specialised hydrometeorological services. This will enhance financial sustainability and long-term impact of the proposed interventions.[17] The PPF resources will also facilitate the engagement of professional services or individual consultants with highly technical expertise for the development of the Pre-Feasibility Study, Concept of Operations of the planned MHEWS, detailed climate analysis, gender assessment, and gender action plan, which are needed to establish a strong evidence base and ensure the optimal design of an efficient, effective and impactful project that maximises the benefits of the proposed GCF investment. The National Center for Hydrology and Meteorology (NCHM) will play a central role in supporting the implementation of PPF activities by contributing technical expertise and context-specific operational knowledge. NCHM will be involved as a Technical Partner in all relevant stakeholder consultations and validation processes.

Without GCF support, investments in Bhutan's climate information and early warning systems (CIEWS) would likely remain partial and project-based, focusing on isolated components, single hazards, or limited geographic areas, rather than delivering a fully integrated, end-to-end system (*financial barrier*). This would limit their effectiveness and reduce the ability to translate climate information into timely, actionable responses that protect lives and livelihoods (*financial and capacity barrier*). NCHM does not have the capacity to provide probabilistic forecasts and quantitative forecasts for most parameters (*financial and capacity barrier*). Financial support from the GCF complemented by in-kind contributions from UNEP and from the Government of Bhutan are required to bring the proposed project to timely fruition. UNEP will support the project development through the time and expertise of key personnel, including technical, programmatic, financial and administrative support. UNEP will also contribute by leveraging the network and expertise of its Finance Initiative (UNEP FI) and/or Climate Finance Unit to strengthen the financial design of the proposed project, ensuring that it is structured to create an enabling environment for business opportunities, catalyse private capital investments including from financial institutions, and leverage blended finance models. The Government of Bhutan, through the Ministry of Finance (MoF) and NCHM, will provide in-kind contribution to support stakeholder consultation and validation activities and a roundtable discussion with private sector entities and financial institutions to identify and formalize opportunities for engagement and co-financing. This will cover administrative support and coordination, logistical arrangements, and other organizational resources. These contributions will complement GCF PPF resources and support the efficient development of a high-quality Funding Proposal and associated supporting documentation. PPF resources will be leveraged to assess and set up alternative and sustainable financing mechanisms, for instance blended finance, private sector participation, and others.

In addition to these broader financial and capacity gaps, climate-evidence gaps remain regarding specific climate hazards, exposure, and vulnerability of people, systems and ecosystems, including under future climate scenarios (*climate-evidence barrier*). While it is generally expected that – due to the effects of climate change – GLOFs, droughts, flash floods, windstorms, landslides, tropical cyclones and extreme temperatures will have increasingly significant impacts on Bhutan, a detailed climate analysis is needed to close the evidence gaps and establish the incremental climate-change basis for adaptation impact.[18] Estimates based on probabilistic data indicate that, under the current climate conditions, disaster-related impacts result in average annual losses equivalent to 4.4% of GDP – mostly driven by floods. This figure reflects existing disaster risks caused by the current climate conditions and climate variability, combined with underlying exposure and vulnerability of people, systems, and ecosystems.

PPF funding will help remove the existing barriers (*financial, capacity, climate-evidence*) and accelerate the development of a robust project proposal in line with GCF investment criteria. The proposed project to be developed with PPF resources will further and more comprehensively address these gaps and enable holistic, nationwide strengthening of the entire CIEWS value chain to protect people, systems, and ecosystems, as promoted amongst others by the Early Warnings for All (EW4All) initiative, the Sendai Framework for Disaster Risk Reduction and the UN Sustainable

[17] Exit strategy and sustainability approach are detailed in Section C5 of the Concept Note.
[18] Details on the climate analysis are described in Section E under sub-activities 5.1 and 5.2.

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

Development Cooperation Framework (UNSDCF), as well as a number of national policies and plans[19]. The proposed interventions are particularly important in the context of overcoming the 'last mile' barriers that impede the full use and benefit of CIEWS. The proposed project will establish the financial and institutional foundations as well as the climate-evidence basis needed to sustain these investments beyond the lifetime of the GCF project.

C. Implementation Arrangement, Risks & Mitigants

Accredited Entity (AE)

The **UN Environment Programme (UNEP)** will serve as the Accredited Entity (AE) for the Project Preparation Facility (PPF). UNEP will be responsible and accountable to the GCF for the overall design, development, management, implementation, and supervision of activities financed through this PPF in accordance with UNEP's policies and procedures. UNEP will carry out all fiduciary and financial management, procurement of goods and services, monitoring, and reporting activities under this proposal in compliance with its policies and procedures and with the Second Amended and Restated Framework Readiness and Preparatory Support Grant Agreement entered into between GCF and UNEP on 2. June 2020.

In the absence of a UNEP Country Office in Bhutan, UNEP will provide oversight and implementation support through its regional presence in Bangkok, in close proximity to Bhutan, and UNEP's headquarters in Nairobi. Close collaboration and exchanges with national partners and with the UN Resident Coordinator Office will facilitate PPF implementation.

UNEP will submit to the GCF a Funding Proposal under the Simplified Approval Process (SAP) supported by the PPF resources within 2 years of approval of this application, as per GCF Board Decision B.13/21.

Implementing Entities (IEs) for the PPF

The **Ministry of Finance (MoF)** of the Royal Government of Bhutan will serve as Implementing Entity (IE) for the organization of national and community-level interventions under the PPF proposal. The MoF is Bhutan's National Designated Authority (NDA) and will be the national Executing Entity (EE) under the proposed project. It was actively involved in the preparation of the Concept Note and PPF Application.

The MoF will be responsible for organising the following PPF sub-activities:

- Sub-activity 1.2 – Community-level workshops to collect input for technical and institutional design of multi-hazard early warning system (MHEWS), including local travel;
- Sub-activity 1.2 – Multi-stakeholder workshop to develop technical and institutional design, concept of operations (CONOPS) and technology requirements, including local travel;
- Sub-activity 1.6 – National stakeholder consultation and validation workshop, including local travel;
- Sub-activity 3.1 – Stakeholder consultation workshops in the context of the Gender Studies, including local travel;
- Sub-activity 6.1 – National workshop/ training for advisory services for costing and budgeting, including local travel;
- Sub-activity 6.2 – Roundtable with private sector entities to identify and formalise opportunities for private sector engagement and co-financing, including local travel;

[19] Climate Change Policy of the Kingdom of Bhutan, 2020 (https://faolex.fao.org/docs/pdf/bhu207787.pdf); Disaster Risk Reduction Status Report, 2020 (https://www.undrr.org/media/48525); Roadmap for Strengthening and Modernization of Hydromet and MHEWS, 2024 (https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099616409252436728); 2nd and Provisional 3rd Nationally Determined Contribution, 2021 and 2025 (https://unfccc.int/sites/default/files/NDC/2022-06/Second NDC Bhutan.pdf and https://unfccc.int/documents/497366); 1st National Adaptation Plan, 2023 (https://unfccc.int/documents/631822).

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

- Sub-activity 6.2 – Engage a local financial liaison to connect with public and private sector co-financiers to secure commitments and strengthen the financial sustainability of the proposed project

The MoF will be accountable to UNEP as AE for the execution of the PPF activities at the national level and for the effective and efficient use of resources. UNEP will enter into a Small-Scale Funding Agreement (SSFA) with the MoF for the execution of the specified PPF activities. The SSFA will establish clear roles and responsibilities for the delivery of the proposed activities; it will also ensure that activities are executed in line with GCF and UNEP rules, policies and requirements.

The SSFA will also document the transfer of funds to the MoF for the implementation of the activities specified above. The SSFA will contractually require the MoF to carry out specific obligations as required under the Second Amended and Restated Framework Readiness and Preparatory Support Grant Agreement ("Framework Agreement") entered into between GCF and UNEP on 2 June 2020. The MoF will report to UNEP on the progress of implementation of the activities outlined above and will ensure that PPF activities are well coordinated and aligned with national priorities. The MoF will submit semi-annual progress reports and quarterly financial statements to UNEP.

With regard to cash advances, subject to the receipt of the PPF funds from the GCF, UNEP shall transfer the grant of USD 53,000 to the MoF as follows: i) the first instalment of USD 47,700 (90 percent cash advance) shall be advanced to the MoF within 10 weeks of signature of the SSFA; ii) the final disbursement, amounting to USD 5,300 (10 percent of the total GCF-approved budget for MoF), upon submission and acceptance of the final reports as detailed in Clause 9 "Monitoring, Evaluation and Reporting" of the abovementioned Framework Agreement.

The **World Meteorological Organization (WMO)** will be the Implementing Entity (IE) for the following interventions:

- Sub-activity 5.1 – Assess the climate impact potential;
- Sub-activity 5.2 – Develop a site-specific hazard assessment, including identification of relevant climate-related hazards.

WMO has a comparative advantage and technical expertise in the field of climate science and thus was identified as an appropriate IE for the mentioned sub-activities. WMO's role is limited to the climate risk and hazard assessment activities and does not include the design and development of the multi-hazard early warning system (MHEWS).

UNEP will engage WMO as the IE for the execution of the abovementioned PPF sub-activity through a UN-to-UN Transfer Agreement ("UN-to-UN Agreement"). The UN-to-UN Agreement will document the transfer of funds to WMO for the implementation of the sub-activities specified above. The total amount of funds to be transferred by UNEP to WMO will be USD 70,000, covering the following estimated costs:

- Expert fees: USD 45,000 (including conducting assessment of past and current climate, interpreting Climpact analysis, evaluating climate model projections, assessing impact on sectors, identifying climate risks, etc.)
- Data collection and stakeholder engagement: USD 16,947 (including one in-country mission DSA and airfare, online and in-country consultations with stakeholders)
- Programme Support Cost: USD 8,053

Under the UN-to-UN Agreement, WMO will have programmatic and financial accountability to UNEP for the PPF activities that WMO has agreed to undertake. WMO will report to UNEP on the progress of implementation of the PPF activities and will submit semi-annual progress reports and financial statements to UNEP.

With regard to cash advances, subject to the receipt of the PPF funds from the GCF, UNEP shall transfer the grant of USD 70,000 to WMO as follows: i) the first instalment of USD 63,000 (90 percent cash advance) shall be advanced to WMO within 10 weeks of signature of the UN-to-UN Agreement; ii) the final disbursement, amounting to USD 7,000 (10 percent of the total GCF-approved budget for WMO), upon submission and acceptance of the final reports as detailed in Clause 9 "Monitoring, Evaluation and Reporting" of the abovementioned Framework Agreement.

Under the UN-to-UN Agreement, WMO will be responsible for administering the PPF funds in accordance with its financial regulations, rules, policies and procedures, and administrative instructions, and carrying out the PPF activities efficiently and effectively. WMO has satisfied the AE's fiduciary management capacity requirements for concluding a UN-to-UN Agreement. This is evidenced, for example, by the established UNEP-WMO Agreement for the

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

Intergovernmental Panel on Climate Change (IPCC). This modality is in line with the UN "Delivering as One" model, mandated by the UN General Assembly resolution 72/279, and the Mutual Recognition Statement (https://unsceb.org/mutual-recognition) adopted by UNEP and WMO (amongst others). The principle of Mutual Recognition allows a UN corporate entity to use or reply on another entity's policies, procedures, system contracts, and related operational mechanisms for the implementation of activities without further evaluation, checks, or approvals being required.

The **Finnish Meteorological Institute (FMI)** will be the Implementing Entity (IE) for the following intervention:

- Sub-activity 1.2 - Develop the technical and institutional design for the multi-hazard early warning system

FMI will provide specialised expertise and will be responsible for delivering agreed technical outputs in close collaboration with NCHM and other stakeholders. This will include the context-specific assessment of implementation of IBF and NWP, forecast system integration, basin-specific hazard lead time improvements, and CAP-compliant dissemination requirements, as well as the development of a Concept of Operations (CONOPS). FMI is also expected to provide technical expertise to the design of the financial structure of the proposed project (sub-activity 6.2) and to assist in responding to relevant comments and feedback received on the Funding Proposal (sub-activity 7.1). FMI's role focuses on technical and operational design of the proposed MHEWS; the climate hazard assessment undertaken by WMO will be included in the considerations for the design but there will not be duplication of efforts as the two entities have separate roles.

FMI will be accountable to UNEP as AE for the execution of the abovementioned PPF activity and for the effective and efficient use of resources. UNEP will enter into a Small-Scale Funding Agreement (SSFA) with FMI for the execution of the specified PPF activity. Subject to the receipt of the PPF funds from the GCF, UNEP shall transfer the grant of USD 30,000 to FMI. The SSFA will establish clear roles and responsibilities for the delivery of the proposed interventions; it will also ensure that activities are executed in line with GCF and UNEP rules, policies and requirements.

Technical Partner (TP) for the PPF

The **National Center for Hydrology and Meteorology (NCHM)** will be a Technical Partner for the PPF and will be involved in all interventions.

As the national agency responsible for the generation and delivery of information and services on weather, climate, water, and cryosphere in Bhutan, NCHM will play a central role in supporting the implementation of PPF activities by contributing technical expertise and context-specific operational knowledge. NCHM will participate and have a key role in all relevant stakeholder consultations and validation processes. NCHM will not receive funds or be responsible for the implementation of any intervention. It will be involved in a non-contractual capacity.

Institutional arrangements

Assessments of the capacity of MoF, WMO, and FMI to carry out PPF activities have been carried out and can be submitted to the GCF upon request. NCHM will not receive funds or directly implement any PPF intervention. The legal arrangements with MoF, WMO, and FMI for the PPF will include terms and obligations according to the Second Amended and Restated Framework Readiness and Preparatory Support Grant Agreement entered into between GCF and UNEP on 2 June 2020. Signed agreements with MoF, WMO, and FMI may also be submitted to the GCF.

UNEP as the AE will administer the grant disbursed by the GCF in accordance with the Framework Agreement. UNEP will retain ultimate management responsibility and accountability for all grant implementation matters and will ensure that the EEs and TPs perform their duties in accordance with the Framework Agreement between the GCF and UNEP.

The figure below displays the institutional arrangements for the proposed PPF implementation.

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

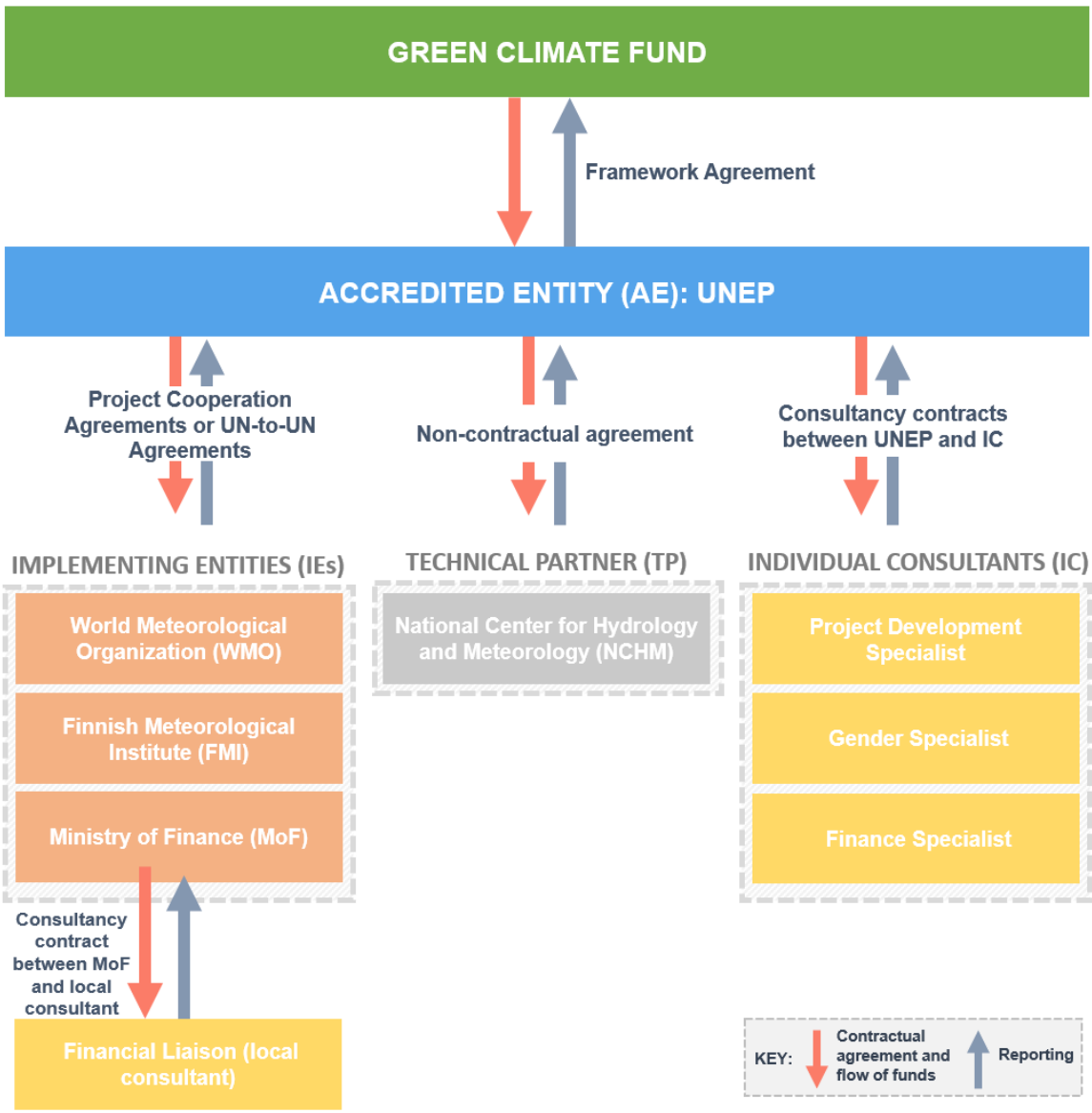


Figure 1: Implementation arrangements for the Project Preparation Facility.

Risk and compliance

During the implementation of the PPF, the PPF Implementing Entities (IEs), Technical Partner (TP), and international Individual Consultants (IC) will be accountable to UNEP as the Accredited Entity (AE) for its execution and for the efficient and effective use of resources.

During the implementation of the full project, the Ministry of Finance (MoF) – as the national EE – will establish a Project Management Unit (PMU), which will be accountable to the national EE. MoF, with the support of the PMU staff, will be responsible for regularly monitoring and ensuring compliance with Anti-Money Laundering and Counter-Financing of Terrorism (AML/CFT) regulations, fraud prevention, and integrity protocols.

The project will additionally benefit from the expertise of Technical Partners who will be sub-contracted by UNEP in its capacity as EE, in line with UNEP's procedures and policies. UNEP in its EE capacity will enter into legal agreements – Project Cooperation Agreement (PCA) or UN-to-UN Transfer Agreement, as relevant – with each Technical Partner. These Agreements will include clauses pertaining to prohibited practices. In addition, all Agreements will include

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

warrantees and caveats to *inter alia* ensure compliance with the Anti-Fraud and Anti-Corruption Framework of the UN Secretariat, as well as the GCF Policy on Prohibited Practices.

Prior to signing the Agreements, UNEP undertakes Fiduciary Capacity Due Diligence Assessments for Technical Partners. These assessments include an evaluation of the following policies of the partners:

- Anti-Fraud and Anti-Corruption Framework
- Anti-Fraud and Anti-Corruption Policies
- AML/CFT
- Sexual Exploitation, Abuse and Harassment

Prohibited practices

The following prohibited practices are set out for the Funding Proposal. The PPF implementation will follow the same principles.

- *Money Laundering / Terrorist Financing (ML/TF):* ML/TF risk is low. The Executing Entities (EEs) – *i.e.*, the Ministry of Finance (MoF) and the United Nations Environment Programme (UNEP) – are both non-profit entities with strict regulations and procedures to prevent ML/TF. Bhutan criminalises money laundering in its Penal Code (2004), Chapter 19.[20] UNEP adheres to the United Nations financial and administrative regulations, aligned with global standards for AML and CFT.

- *Sanctions:* Individuals or entities involved in the project and its activities are not subject to sanctions imposed by the UN Security Council or any other sanctioning mechanisms, including the World Bank Debarred List. Sanctions risk is assessed to be low.

- *Reputational:* MoF is considered to have the relevant fiduciary and financial management capacity to act as EE; standard internal control systems regarding financial and procedural mechanisms are in place. The project is also closely aligned with the government's priorities and strategies, such as the National Adaptation Plan (2023),[21] Second and Third (provisional) Nationally Determined Contribution (2022 and 2025),[22] Disaster Risk Reduction Status Report(2020),[23] Roadmap for Strengthening and Modernization of Hydromet and MHEWS (2024),[24] and Climate Change Policy of Bhutan (2020).[25] This alignment ensures that the project's activities and its outcomes are of significant importance to national partners, thereby mitigating reputational risk by fostering accountability and compliance with regulations against ML/TF and prohibited practices. UNEP's role as EE within the project provides an additional layer of oversight, ensuring reputational risks in the context of ML/TF and prohibited practices are minimised.

- *Abuse, Conflict of Interest, Corruption, Retaliation against Whistleblowers or Witnesses, as well as Fraudulent, Coercive, Collusive, and Obstructive Practices:* The mentioned prohibited practices are mostly regulated in Bhutan through the Anti-Corruption Act (2011), which addresses abuse of power, conflicts of interest, corruption, as well as protection of whistleblowers and witnesses. [26] Additionally, public servants are required to follow the Civil Service Reform Act (2022), the royal Civil Service Commission, and the Civil Service Rules and Regulations

[20] https://www.wipo.int/wipolex/en/legislation/details/10980
[21] https://unfccc.int/documents/631822
[22] https://unfccc.int/sites/default/files/NDC/2022-06/Second NDC Bhutan.pdf and at: https://unfccc.int/documents/497366
[23] https://www.undrr.org/media/48525
[24] https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099616409252436728
[25] https://faolex.fao.org/docs/pdf/bhu207787.pdf
[26] https://oag.gov.bt/wp-content/uploads/2010/05/Anti%20Corruption%20Act%202011.pdf

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

(2023), which provide standards of conduct and ethics.[27] UNEP operates under the Staff Regulations and Rules of the United Nations (2021) that provide a framework of conduct for all operations.[28] Reports of wrongdoing may be submitted to the UN Office of Internal Oversight Services (OIOS). Project-level mechanisms for reporting of wrongdoing in the project activities will be developed during FP preparation.

Risks and mitigation measures for the implementation of the PPF activities

Risks related to the implementation of PPF activities	Mitigation measures
Technical and operational: Ineffective implementation of the PPF activities due to limited capacity	Capacity building across multiple levels (from national to community level) is a priority within the planned PPF interventions.
Technical and operational: Delays to project implementation due to the impact of climate-relate hazard events or other external events in Bhutan	While in-person engagement remains the most effective approach, in case of climate-related hazard or other external events that would impede travel to Bhutan, , consultations can be carried out remotely.
Technical and operational: Limited availability of climate, economic, social and gender, and hazard data required for assessments and project design.	Use multiple validated data sources; engage national technical agencies and other relevant stakeholders; complement gaps through targeted field assessments and expert analysis during PPF.
Governance: Contracting delays, other delays, or ineffective decision-making and coordination between the Accredited Entity, Implementing Entities, Technical Partner, International Consultants and other stakeholders	Appoint focal points for each party and maintain regular progress review meetings; establish clear timelines and responsibilities.
Governance: Limited engagement with local communities and stakeholder leading to obstruction and/or misalignment of the project	Identify and engage stakeholders from the beginning; document feedback and stakeholder consultations.
Governance: Consultation fatigue and declining interest among stakeholders, risk of disengagement of relevant stakeholders	Plan for efficient consultation schedule avoiding redundancy and ensure that consultations have clear purpose and outcomes; provide feedback to stakeholders on how their input is being integrated in the project design.
Funding: Delays in securing co-financing commitments from the private sector during the project preparation phase.	Build on the engagement with potential co-financiers that happened in the context of the Concept Note and maintain continuous involvement.
Funding:	Identify opportunities for in-kind co-financing; prepare financial briefs to convey importance of the project and benefits for sectors.

[27] https://rcsc.gov.bt/wp-content/uploads/2025/02/BCSR2023V3.1.pdf
[28] https://docs.un.org/en/st/SGB/2018/1/Rev.1

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

Limited financial capacity of the local private sector to significantly engage in investments for climate resilience and early warnings.	
Funding: Political and financial/economic instability affects operational costs (including consultant fees, travel) or co-financing prospects.	Include contingency provisions in planning and budgeting; maintain adaptive management through implementation.
Project-specific: Overlap in the selection of sites for project interventions and equipment.	Coordinate with ongoing initiatives.

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

D. Description of project preparation activities

Summary of activities and Outputs Please select *PPF activity* and add rows as needed. Submit detailed terms of reference outlining scope of work and deliverables as a separate annex. Please also complete the "PPF Application and Deliverables Completeness Self-Check" and include it with your application.		Implementation Period											
		1	2	3	4	5	6	7	8	9	10	11	12
Activity 0	**Other project preparation activities, where necessary, and with sufficient justification**												
	0.1 – Inception activities Under this sub-activity, an online kick-off coordination call will be held within a month of receipt of PPF funds. The meeting will serve to align expectations and timelines. Key project stakeholders are already regularly in contact, making the coordination call online sufficient at this stage. UNEP, the Ministry of Finance (MoF), the National Center for Hydrology and Meteorology (NCHM), the Finnish Meteorological Institute (FMI), the World Meteorological Organisation (WMO) will participate to the coordination call. The Project Development Specialist will lead the call. *Deliverables* • Inception meeting minutes												
Activity 1	**Pre-feasibility and feasibility studies, and project design**										**X**		
	1.1 – Develop pre-feasibility study A pre-feasibility study (PFS) will be developed to assess the technical, economic, and climate impact viability of the proposed project "Enhancing Climate Information and Multi-Hazard Early Warning for Resilience in Bhutan". The study will include an analysis of Bhutan's geography, politics, and economy, a comprehensive climate analysis (developed under PPF sub-activities 5.1 and 5.2), the description of the legal and institutional framework relevant to the proposed project, the assessment of Bhutan's gaps and needs in terms of Climate Information Services and Multi-Hazard Early Warning Systems (MHEWS), the project's cost-benefit analysis, a replication and sustainability strategy (including institutional replication, sectoral replication, technology absorption), amongst other relevant sections. The PFS will also preliminarily explore options for staff retention; the development of a staff retention strategy will be included as an intervention of the full project.[29] Additionally, the PFS will include an analysis of the current status and expected improvement that										X		

[29] Expected FP deliverables will include a staff retention strategy and Operation and Maintenance (O&M) option studies

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

	the project will bring according to the ten elements of a MHEWS. The Concept of Operations (CONOPS), detailing how the systems will work (developed under PPF sub-activity 1.2), will also be part of the PFS.[30] The PFS will mostly be developed through research and review of available literature and national strategies and policies. Consultations and bilateral meetings with the Ministry of Finance (MoF) and with the National Center for Hydrology and Meteorology (NCHM) will continue throughout project development and will inform relevant sections of the PFS. In-person consultations held under other PPF sub-activities will also feed into the preparation of the PFS. *Deliverables* • Pre-feasibility study (Annex 2)											
	1.2 – Develop the technical and institutional design for the multi-hazard early warning system This sub-activity will support the technical and institutional design of the end-to-end, impact-based MHEWS. This will be consolidated in a Concept of Operations (CONOPS) document to be included in the PFS. This document describes the scope and characteristics of the proposed system over its lifecycle, both from technical and institutional perspectives. The CONOPS will include: • Observation network: context-specific study and design of an optimised observation network based on hazard priorities and climate analysis (PPF activity 5 supported by WMO), design a system architecture diagram to show how alla data sources – existing and new – are integrated; • IBF and NWP: study and design impact-based forecasting (IBF) and numerical weather prediction (NWP) systems, including forecast system integration, projected hazard lead time improvements, requirements for CAP-compliant dissemination technologies to ensure standardised and interoperable warning communication; • Institutional responsibilities: define responsibilities across the MHEWS value chain; • Benefit-Cost analysis for project interventions: determine the baseline (typical accuracy and lead time of forecasts for each disaster type, average resulting loss of lives, average resulting financial losses), estimate the impact of project activities on forecast reliability and accuracy, assess trade-off between increased lead-time and warning reliability; • Cost of equipment and Operations & Maintenance (O&M): assess a 10-year total cost of ownership, assess the need and approximate cost of the equipment over its									X		

[30] A preliminary analysis of the 10 elements has been included in Section 1.3 of the Supplementary Document to the Concept Note.

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

	lifecycle, including procurement, installation, calibration, spare parts, consumables, software licenses, connectivity and data transmission costs, staffing requirements, maintenance costs and schedule, annual O&M budget, decommissioning costs; • Absorption of costs and technologies: plan gradual O&M budget absorption from the Government of Bhutan, assess technology readiness and plan capacity development activities to ensure that proposed technologies match NCHM's absorption capacity, develop a 5-phase technology absorption pathway (foundation – deployment – integration – optimisation – sustainability) with go/no-go gates per phase; • Coordination and partnerships: define coordination and data sharing arrangements with existing systems and initiatives (i.e., SOFF, ECRUL, HMIS) and with relevant institutions across the Himalayan region, design station delineation protocols and coordination matrix to the extent possible at this stage, with further engagement expected to take place during FP implementation through a dedicated intervention. The Finnish Meteorological Institute (FMI) will develop the CONOPS in close collaboration with NCHM and other stakeholders as relevant. FMI has longstanding experience working in Bhutan and has the technical expertise to deliver this sub-activity. Specific interventions under this sub-activity are three community-level MHEWS design workshops led by NCHM in close consultation with FMI, relevant NGOs and the Bhutan Red Cross Society. At this time, these are expected to take place in the dzongkhags of Chukha, Thimphu (district), and Lhuntse. The workshops will collect input on needs and priorities at the community level, existing and viable warning dissemination structures, existing and viable disaster management networks, and community SOPs. Additionally, a national-level consultation and design workshop will be held in Thimphu to support the development of the technical and institutional design of the MHEWS. This workshop will also serve as a coordination mechanisms with ongoing projects and relevant systems (i.e., SOFF, ECRUL, HMIS). Representatives from other relevant initiatives are expected to take part in the workshop. Discussion will include station delineation protocols and data-sharing agreements. Further engagement with ongoing initiatives will take place during implementation of the Funding Proposal through a dedicated intervention. The climate analysis developed under Activity 5 inform the development of the CONOPS by providing input on the site-specific hazards, risks (including cascading/ compounding), vulnerabilities (including non-climatic),											

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

and exposure information. Consultations with stakeholder and communities held under this sub-activity will provide insights about the impact of climate trends and hazards for communities and sectors, which will be used in the development of the CONOPS. Consultations will also help determine which warning communication and dissemination mechanisms will be more effective and actionable. This information will form the information basis for the CONOPS of the nation-wide, people-centred and impact-based MHEWS. *Deliverables* • Concept of Operations (CONOPS), including 5-phase Technology Absorption Pathway (foundation – deployment – integration – optimisation – sustainability) with go/no-go gates per phase, 10-year total cost of ownership (to be included in the Pre-Feasibility Study, Annex 2) • Joint Planning Committee minutes for the workshop with ongoing initiatives (i.e., SOFF, ECRUL, HMIS) • Station delineation protocols with ongoing initiatives to the extent possible at this stage, with further engagement expected to take place during FP implementation through a dedicated intervention • Data sharing agreements with ongoing initiatives to the extent possible at this stage, with further engagement expected to take place during FP implementation through a dedicated intervention • Coordination matrix with ongoing initiatives to the extent possible at this stage, with further engagement expected to take place during FP implementation through a dedicated intervention												
1.3 - Develop stakeholder engagement plans A stakeholder engagement plan will be developed in close coordination with the NDA, ensuring alignment with national priorities. Consultations will be conducted with a broad range of stakeholders to ensure inclusive and transparent participation. The stakeholder engagement plans will benefit from select input from the Gender Specialist. Additionally, the multi-stakeholder validation workshops (sub-activity 1.6) and the community-level workshops held outside of Thimphu (sub-activity 1.2) will feed into the development of the stakeholder engagement plan. Stakeholders of the proposed projects will include government and local authority representatives, civil society organisations, agriculture organizations, non-governmental organisation, sectoral representatives (hydropower, agriculture, telecommunications, health, finance, etc.), vulnerable and marginalised groups. Under this PPF sub-activity, the Project Development Specialist and the Gender Specialist will also aim to						X						

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

	identify Indigenous Peoples in its broader definition, and include them among the project's stakeholders.[31] *Deliverables* • Stakeholder Engagement Plan (Annex 15)											
	1.4 - Identify project-level indicators and development of the logical framework The preparation and finalisation of the GCF SAP Funding Proposal (FP) will include refinement of the project theory of change to address the barriers to strengthening climate services and impact-based Multi-Hazard Early Warning Systems (MHEWS) in Bhutan and hence the development of a logical framework. The document will follow the provided template under the Simplified Approval Process (SAP) and be designed in accordance with the GCF's Integrated Results Management Framework (IRMF). Accordingly, the logical framework will include (i) baseline, target scenario and description of the paradigm shift potential of the proposed project, (ii) GCF results areas and IRMF indicators with related baseline, target scenario and means of verification, (iii) statements for outputs, outcomes, and co-benefits with related indicators, baseline, and target, (iv) project activities and deliverables. The following target values (i.e., Key Performance Indicators, KPIs)may be used, depending on further refinement and validation during the development of the full project: network uptime ≥ 95%, data completeness ≥ 90%, flash-flood warning lead time ≥ 6 hours, glacial lake outburst floods warning time ≥ 30 minutes, CAP alert issuance < 15 minutes, last-mile reach ≥ 80%, gender disaggregated feedback ≥ 50% female, user satisfaction ≥ 75%. Under this sub-activity, Monitoring & Evaluation (M&E) arrangements will also be delineated. The logical framework and the M&E plan will be designed to integrate various baseline variables, including benefit-cost analysis, as project metrics. *Deliverables* • Logical framework (Annex 2a) following the provided template, with the following projected target values (i.e., KPI): network uptime ≥ 95%, data completeness ≥ 90%, flash-flood warning lead time ≥ 6 hours, glacial lake outburst floods warning time ≥ 30 minutes, CAP alert issuance < 15 minutes, last-mile reach ≥ 80%, gender disaggregated feedback ≥ 50% female, user satisfaction ≥ 75% • Delineation of Monitoring & Evaluation (M&E) arrangements.			X								

[31] While Bhutan does not have officially recognized Indigenous Peoples, as defined by international frameworks such as the UN Declaration on the Rights of Indigenous Peoples (Art 33) or ILO Convention No. 169 (Art 1), the project will aim to identify and engage Indigenous People based on the characteristics set out in GCF's Indigenous People Policy, paragraph 14. https://www.greenclimate.fund/sites/default/files/document/ip-policy.pdf

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

7.5 - *Develop and finalize the Funding Proposal and all relevant annexes* This PPF sub-activity will encompass the development and finalisation of the FP for the project, including all mandatory and relevant supporting annexes. The finalisation of all documents is expected to take ten (10) months. The FP package will be informed by and incorporate the consolidated outputs of the PPF activities as well as other preparatory work undertaken by UNEP and partners (*e.g.*, national assessments conducted under the Early Warnings for All initiative and the Systematic Observations Financing Facility). UNEP will conduct all necessary environmental and social (E&S) due diligence required for the proposed project, in line with the GCF's Revised E&S Policy (2021) and UNEP's Environmental, Social and Sustainability Framework (2020). Sexual Exploitation, Sexual Abuse, and Sexual Harassment (SEAH) will form part of the E&S due diligence and the GCF SEAH Risk Assessment Guideline will be referred to, as required. UNEP will also pre-negotiate legal instruments and other relevant agreements with partners to the extent possible ahead of project submission. A methodology for the calculation of beneficiaries will be developed (Annex 16); this will define direct and indirect beneficiaries, describe the approach for assessing beneficiary coverage, demonstrate national-scale coverage, and outline measures to avoid double counting. Beneficiaries will be disaggregated by gender and by direct/indirect benefits. *Deliverables* Development and finalization of: • GCF SAP Funding Proposal • NDA No-objection letter (Annex 1) • Timetable (Annex 2b) • Certificate of Internal Approvals (Annex 9b) • Selection and Calculation of Beneficiaries (Annex 16) Consolidation and finalisation of the following documents prepared under other PPF sub-activities: • Logical framework (Annex 2a) • Detailed Budget Plan (Annex 3) • Gender Assessment and Gender Action Plan (Annex 4) • Co-financing commitment letter(s) (Annex 5) • Assessment of risk and mitigation (Annex 7) • Procurement plan (Annex 8) • Capacity assessment of potential executing entities/partners (Annex 9a) • Stakeholder Engagement Plan (Annex 15) • Environmental and Social Action Plan (Annex 12) Additionally:										X		

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

	• Pre-negotiation of legal instruments and relevant agreements with partners to the extent possible ahead of project submission/approval.											
	1.6 – Conduct a stakeholder consultation and validation workshop This PPF sub-activity will review and validate the FP through a workshop that will take place within the two months before the expected submission of the FP to the GCF. The objective of the validation workshop is to confirm that the project is technically sound and will bring sustainable benefits to the entire population of Bhutan. It will also aim to ensure that the AE and the EEs for the full FP agree with the final project and understand it, as well as to clarify their roles and responsibilities during project implementation. The stakeholder consultation and validation workshop will be held over two (2) days for approximately 30 participants in Thimphu and will be led by UNEP as AE. *Deliverables* • Submission package validated by relevant stakeholder, including Funding Proposal and all Annexes									X		
Activity 2	**Environmental and social studies, including Indigenous Peoples studies**							**X**				
	2.1 - Develop the Environmental and Social Action Plan An Environmental and Social Action Plan (ESAP) will be developed in alignment with the GCF Environmental and Social Safeguards (ESS) Policy (2021), UNEP's Environmental, Social and Sustainability Framework (2020), and Good International Industry Practices (GIIP). This sub-activity will be informed by a comprehensive environmental and social screening and risk categorization process. The ESAP will identify, assess, and propose measures to manage potential environmental and social risks and impacts associated with the proposed project. UNEP's Quality Assurance Section (QAS), comprising of ESS specialists dedicated to ensuring adequate environmental and social safeguards, will be involved during the development of the ESAP as well as to review and certify the final ESAP and project ahead of submission. This activity will contribute to the overall due diligence required for the FP and ensure the project meets GCF's sustainability standards while promoting inclusive and equitable outcomes. *Deliverables* • Environmental and Social Action Plan (Annex 12)							X				
Activity 3	**Gender studies**							**X**				

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

	3.1 - Conduct a Gender Assessment and project-level Gender Action Plan This PPF sub-activity will produce a comprehensive gender assessment, including assessment of the baseline situation, which will include detailed analysis of gendered roles, rights, needs, and opportunities in the context of climate services and MHEWS. It will also provide recommendations on how to enhance the benefits of the project for both men and women, as well as other traditionally marginalised and vulnerable groups. The analysis will aim to identify mechanisms to promote gender equality of the proposed project through channels such as gender-specific indicators and gender-responsive actions. The assessment will inform the development of a project-level gender action plan, which will contain specific gender-sensitive and responsive elements to be integrated in the project design and implementation, as well as identify opportunities for gender-transformative approaches to maximise the development impact and co-benefits of the GCF investment. This sub-activity will benefit from close collaboration with the National Commission for Women and Children (NCWC), who will work with the Gender Specialist during the development of the Gender Assessment and Action Plan. Development of the gender assessment will be informed by dedicated community-level consultations that will be conducted in three separate locations for one day each. The candidate dzongkhags for the consultations are Paro, Bumthang, Mongar; the locations will be validated at a later stage by the Gender Specialist and the NCWC. <u>*Deliverables*</u> • Gender Assessment and Gender Action Plan (Annex 4)						X						
	3.2 - Identify and outline a project-level grievance mechanism This PPF sub-activity will support the identification of an appropriate project-level grievance redress mechanism (GRM) in consultation with NCWC, and other key stakeholders as relevant. The GRM will be survivor-centred and gender- and age-responsive – as per the GCF Revised Environmental and Social Policy (2021) – and will address potential barriers to access of women and other traditionally vulnerable and marginalised groups. A section of the Environmental and Social Action Plan will be dedicated to the detailed outline of the GRM, and summary of its design will be in the Gender Assessment. <u>*Deliverables*</u> • Project-level grievance redness mechanism (to be included in the Environmental and Social Action Plan, Annex 12)							X					

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

Activity 4	**Risk assessments**							**X**				
	4.1 - Assess risks and mitigation factors and assessment of the capacity of potential Executing Entities/ partners This PPF sub-activity will conduct a risk assessment and identify risk management mechanisms. A comprehensive report with an analysis of all potential risks, including operational, financial, political, environmental, social, legal. governance, reputational etc., combined with a set of recommendations for mitigation measures to the identified risks will be developed. Furthermore, under this sub-activity, a capacity assessment and associated due diligence of the national Executing Entity (EE) for the full proposed project, the Ministry of Finance (MoF), will be conducted. Professional Services will be engaged by UNEP as the AE for this sub-activity. The assessment is part of the requirement under the Harmonized Approach to Cash Transfers (HACT), which is a common operational framework for UN agencies' transfer of cash to EE and partners. It will result in a risk rating of the EE and partners (low, moderate, significant, high) that will be used to identify the appropriate cash transfer modality and to determine the type and frequency of assurance activities as per UNEP's guidelines. This will facilitate the determination of the governance and implementation arrangements for the project. *Deliverables* • Assessment of risk and mitigation (Annex 7) • Capacity assessment of potential executing entities/partners (to be included in legal due diligence, Annex 9a)							X				
Activity 5	**Assessment of climate impact potential for mitigation and adaptation activities**						**X**					
	5.1 - Assess the climate impact potential This sub-activity will focus on assessing the climate impact potential of the proposed MHEWS project in Bhutan, as part of the development of the FP. It will involve a detailed analysis of climate change risks and vulnerabilities, including compounding/cascading risks, observed and projected hazard trends, exposure data, vulnerability drivers. This will be done using historical and projected climate data, including state-of-the-climate indicators, context-specific metrics, and high-impact event trends. The activity will be implemented by the World Meteorological Organization (WMO), applying the WMO-GCF methodology to ensure scientific rigor and consistency with GCF requirements. The analysis will use station data from the National Center for Hydrology and Meteorology (NCHM) of Bhutan and gridded datasets, including standard international datasets (e.g., ERA5, ERA5-land, CHIRPS, MSEWP, PERSIANN)						X					

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

	and specific products such as BUTHAN-CLIM. Station data will be quality controlled and assessed for homogeneity to constitute the benchmark for the gridded products (using WMO tools). We will center our analysis on the best performing product and use the rest to complete the uncertainty assessment. The analysis of past climate will be focused on temperature and precipitation (key climate variables) and derived climate indices. Climate indices will be selected from those included in the WMO's CLIMPACT package, ensuring that normal and extreme episodes are evaluated. The analysis will start with a climate characterization using Köppen-Geiger classification for the most recent period (1991-2020). The evaluation of climate evolution (climate variables and CLIMPACT indices) will contrast an initial period (1981-2010) to the last available decade (e.g., 2016-2025). The significance of the changes will be evaluated using standard statistical techniques. Temperature and precipitation, as well as the characteristics of the monsoons, will be correlated to explain their interannual variability with El Niño Southern Oscillation (ENSO), the Indian Ocean Dipole (IOD) or the Madden Julian Oscillation. Future climate will be assessed using ensemble CMIP6 projections at the country level evaluating uncertainties through the ensemble spread. The analysis will consider and discuss the impact of climate variability and change over the most striking hazards in the country, namely GLOFs, flash floods, landslides and storms. Alteration on monsoon rains and droughts will be linked to climate-vulnerable sectors such as agriculture and water. The specific final layout and contents will be enriched after consultation and personal exchanges with the NCHM and other local stakeholders (sectoral users) during the planned mission and/or inception workshop. The outputs will contribute to a robust climate rationale for the FP, demonstrating the relevance, urgency, and transformational potential of the proposed MHEWS interventions in the context of Bhutan's climate priorities. <u>*Deliverables*</u> • Climate impact potential assessment and analysis of climate change risks and vulnerabilities including compounding/cascading risks (to be included in the Pre-Feasibility Study, Annex 2)												
	5.2 - Develop a site-specific hazard assessment, including identification of relevant climate-related hazards This sub-activity will comprise a site-specific analysis of climate change risks, including, cascading/compounding risks, impacts and vulnerabilities. The analysis will be carried out at local, dzongkhags (district), and national levels. It will also include identification of non-climatic contributing factors and correlation analysis to show the links						X					

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

	between climate and non-climatic (sectoral) data, and between baselines and historical trends, and projections. Analysis of non-climatic data and correlations will facilitate more informed assessment of impacts and vulnerabilities (e.g., loss and damage). In turn, this will facilitate the elaboration of a robust climate rationale for the proposed project. *Deliverables* • Site-specific hazard assessment at local, dzongkhags, and national levels (to be included in the Pre-Feasibility Study, Annex 2)											
Activity 6	**Advisory services and/or other services to financially structure a proposed activity**									**X**		
	6.1 - Provide advisory services for costing and budgeting according to GCF standards A Finance Specialist will be engaged to provide specialist technical advisory services to the proposed national EE, the Ministry of Finance, and other relevant stakeholders for costing and budgeting according to GCF standards. This will enable the national EE and relevant stakeholders to develop a realistic and accurate budget for activities that they propose to execute. A two (2) days financial workshop for up to 30 participants will be included in this sub-activity and led by the Finance Specialist (see technical qualifications in section E). *Deliverables* • Contributions from relevant partners to the detailed budget plan (to be included in the Budget Plan, Annex 3)					X						
	6.2 – Design financial structure and mobilise investments This sub-activity will support the design of the financial structure of the proposed project following a blended finance model. The Finance Specialist will assess NCHM's business model, including cost-recovery mechanisms, ongoing public-private partnerships, and current revenue streams. The sub-activity will also involve a local Financial Liaison, who, working under the strategic guidance of the Finance Specialist and in accordance with the envisioned financial structure, will engage with public and private sector co-financiers to secure commitments and strengthen the financial sustainability of the proposed project. This will include the preparation of financial briefs to covey the importance of the project and benefits for the sectors. The project will engage with the aviation sector, telecommunication providers, hydropower companies, and potentially with banks and insurance companies. In addition to bilateral discussions with private sector entities, under this sub-activity the Finance Specialist and the Financial Liaison will co-lead a roundtable discussion with the private									X		

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

	sector to identify and formalise through Letters of Intent the potential opportunities for private sector engagement and co-financing, recognizing the benefits of strengthened MHEWS for sectors. Based on these discussions with the government and private sector entities, the Finance Specialist will determine a ratio of GCF grant funding, government co-financing, private capital, and other potentially appropriate financing instruments. The blended financing model will ensure longer term sustainability of impacts, while still being designed to be realistic about financial capacities within the specific context. The Finance Specialist will also preliminarily assess the feasibility of leveraging regional and cross-border opportunities for collaboration and partnership, where these could enhance the project's financial sustainability and climate change resilience objectives. A specific intervention on this will be integrated in the FP design, which will involve bilateral engagement with at least one downstream National Hydrometeorological Service (e.g., India, Bangladesh) and is expected to deliver a transboundary climate-data value assessment and a Himalayan climate information and MHEWS replication roadmap. Preliminary discussions have already been held during the development of the Concept Note with Druk Green Power Corporation (hydropower), Drukair Corporation Limited and Bhutan Airlines (aviation), Bhutan Telecom and TashiCell (telecommunication). In addition to co-financing, the Finance Specialist and Financial Liaison will also explore cost-recovery options through payment-for-services approach for specialised climate services to further increase sustainability and private sector involvement. This will include assessing the willingness to pay across key sectors and designing a framework for a pay-for-services approach. Under the proposed project, interventions will include the design of one pilot product (e.g., parametric -based insurance for hydropower and agriculture, climate-contingent lending, forecast-triggered credit lines). The project team had discussions on this approach with Druk Green Power Corporation. Other options will be explored leveraging PPF funding, including with the Bank of Bhutan, the Bhutan National Bank, Bhutan Insurance Ltd., and the Royal Insurance Corporation of Bhutan Ltd. *Deliverables* • Blended financial structuring (to be included in the Funding Proposal, Pre-Feasibility Study, and Budget Plan) • At least two co-financing commitment letter(s)/Letters of Intent for co-financing arrangements or pay-for-service from public and private sector entities (Annex 5) • At least one revenue-model assessment of a Micro, Small, and Medium Enterprise (MSME)												

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

	• Framework for pay-for-service approach (to be included in the Funding Proposal and Pre-Feasibility Study) • Preliminary assessment of other potential financing mechanisms												
	6.3 - Prepare a detailed budget plan for the project Under this sub-activity, the Finance Specialist, with input from the PSD and the Financial Liaison, as well as the national EE and all relevant stakeholders, will prepare a detailed breakdown of the project budget with notes on the assumptions/estimations underlying the unit costs/quantities and associated justifications. This will incorporate the parts of the budget prepared by the national EE and other relevant stakeholders under sub-activity 6.1. The budget plan will consider financial sustainability of interventions, including a phased integration of recurrent costs into the national budget. The Finance Specialist will also prepare a procurement plan aligned with the budget plan and with procurement practices. *Deliverables* • Consolidated detailed budget plan (Annex 3) • Procurement plan, including an 18-months front-loaded procurement plan with details on lot packaging, draft technical specifications, and preliminary vendor long-list (Annex 8) • Budget absorption schedule and commitment letter from Ministry of Finance									X		
Activity 7	**Other project preparation activities, where necessary, and with sufficient justification**												**X**
	7.1 - Assist in responding to comments and feedback received on the full Funding Proposal This sub-activity will include post-submission technical support to address comments and feedback received from the GCF reviewers on the Funding Proposal during its review phases. *Deliverables* • Reviewed Funding Proposal package for resubmission to the GCF.												X
Submission of funding proposal										**X**		
Additional period for review by GCF Secretariat and Independent Technical Advisory Panel													

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

E. Terms of Reference for Project Preparation Activities

Technical qualifications of the Individual Consultants

International consultants will be contracted by UNEP as the AE of the Project Preparation Facility (PPF). Specifically, a Project Development Specialist, a Gender Specialist, a Finance Specialist, and a Financial Liaison will be engaged for task outlined below.

Project Development Specialist (PDS):

- Individual consultant, engaged by UNEP
- Responsibilities: Activity 1 (Pre-feasibility and feasibility studies, Concept of Operations, project design; coordination with relevant systems and ongoing projects in Bhutan;[32] all sub-activities), Activity 2 (Environmental and social studies, including Indigenous Peoples studies; all sub-activities), Activity 7 (Assistance during the review phase; all sub-activities), select input to Activity 3 (Gender studies) and Activity 6 (Financial structuring).
- Required technical qualifications: excellent written and communication skills in English, with analytical capacity and ability to synthesise relevant findings; experience in developing Funding Proposals and other relevant annexes for projects funded by GCF; experience in preparing budget plans for projects.
- Duration of the assignment: twelve (12) months consultancy workplan; full-time.
- Deliverables: finalise GCF SAP Funding Proposal package, including Pre-Feasibility Study and Concept of Operations as well as all other required annexes; meaningfully coordinate with relevant systems and ongoing projects (including ECRUL, SOFF, HMIS), including for station delineation protocols, data-sharing agreements, and setting up of coordination protocols; develop the Environmental and Social Action Plan; provide assistance during the review phase to obtain a consolidated Funding Proposal package submitted to the GCF.

Gender Specialist:

- Individual consultant, engaged by UNEP
- Responsibilities: sub-activities 3.1 (conduct a Gender Assessment and project-level Gender Action Plan), 3.2 (identify and outline a project-level grievance mechanism).
- Required technical qualifications: excellent written and communication skills in English, with analytical capacity and ability to synthesise relevant findings; experience in developing gender assessment and action plans that mainstream gender for climate change adaptation projects.
- Duration of the assignment: five (5) months consultancy workplan; the contract is based on the achievement of pre-defined deliverables.
- Deliverables: develop the final draft of the Gender Assessment and Gender Action Plan; together with the National Commission for Women and Children (NCWC) conduct three 1-day community-level consultations; design and outline the grievance redness mechanism.

Finance Specialist:

- Individual consultant, engaged by UNEP
- Responsibilities: sub-activities 6.1 (provide advisory services for costing and budgeting), 6.2 (design financial structure and mobilise investments), 6.3 (prepare a detailed budget plan).
- Required technical qualifications: excellent written and communication skills in English, with analytical capacity and ability to synthesise relevant findings; experience in developing budget plans for climate change adaptation projects; experience with blended financing approaches.
- Duration of the assignment: six (6) months consultancy workplan; the contract is based on the achievement of pre-defined deliverables.
- Deliverables: assess NCHM's business model (including cost-recovery mechanisms, public-private partnerships, revenue streams); provide assistance to partners for the preparation of the budget; design the financial structure of the project, including co-financing arrangements in collaboration with the Financial

[32] Including: Enhancing the Climate Resilience of Urban Landscapes and Communities in the Thimphu-Paro region of Bhutan (ECRUL), SOFF Investment Phase, Health Management Information System (HMIS)

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

Liaison; assess ability and willingness of partners to invest or pay for services; develop at least one revenue-model assessment of a Micro, Small, and Medium Enterprise (MSME); mobilise co-financing arrangements and seek obtainment of Letters of Intent, especially from the private sector; prepare a detailed Budget Plan and Procurement Plan in accordance with GCF guidelines and regulations with input from relevant partners; design year-by-year budget absorption schedule and obtain a commitment letter from the Ministry of Finance.

Financial Liaison:

- Individual consultant, engaged by the Ministry of Finance
- Responsibilities: sub-activity 6.2 (design financial structure and mobilise investments), select input to sub-activity 6.3 (prepare a detailed budget plan).
- Required technical qualifications: excellent written and communication skills in English, with analytical capacity and ability to synthesise relevant findings; experience in developing budget plans for climate change adaptation projects; experience with private sector financing.
- Duration of the assignment: six (6) months consultancy workplan; the contract is based on the achievement of pre-defined deliverables.
- Deliverables: mobilise co-financing arrangements and seek obtainment of Letters of Intent, especially from the private sector, in collaboration with the Financial Specialist as needed.

Detailed Terms of Reference (ToR) will be outlined in the contracts of the above-mentioned Individual Consultants.

Activity 0: Other project preparation activities

Sub-activity 0.1 – Inception activities

Background and scope of the sub-activity

Under this sub-activity, an online kick-off coordination call will be held within a month of receipt of PPF funds. The meeting will serve to align expectations and timelines. Key project stakeholders are already regularly in contact, making the coordination call online sufficient at this stage. UNEP, the Ministry of Finance (MoF), the National Center for Hydrology and Meteorology (NCHM), the Finnish Meteorological Institute (FMI), the World Meteorological Organisation (WMO) will participate to the coordination call. The Project Development Specialist will lead the call.

Deliverables

- Inception meeting minutes

Roles and relevant technical qualifications

The PDS will be responsible for this sub-activity (see technical qualifications in section E). UNEP, MoF, and NCHM will be consulted and involved throughout and on an ad-hoc basis to clarify questions and validate outputs as needed.

Duration

Four (4) days

Reporting

Reporting will be done to the Task Manager or designated representative of the AE.

Activity 1: Pre-feasibility and feasibility studies, and project design

Sub-activity 1.1 - Develop pre-feasibility study

Background and scope of the sub-activity

A pre-feasibility study (PFS) will be developed to assess the technical, economic, and climate impact viability of the proposed project "Enhancing Climate Information and Multi-Hazard Early Warning for Resilience in Bhutan". The study will include an analysis of Bhutan's geography, politics, and economy, a comprehensive climate analysis (developed under PPF sub-activities 5.1 and 5.2), the description of the legal and institutional framework relevant to the proposed

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

project, the assessment of Bhutan's gaps and needs in terms of Climate Information Services and Multi-Hazard Early Warning Systems (MHEWS), the project's cost-benefit analysis, a replication and sustainability strategy (including institutional replication, sectoral replication, technology absorption), amongst other relevant sections. The PFS will also preliminarily explore options for staff retention; the development of a staff retention strategy will be included as an intervention of the full project.[33] Additionally, the PFS will include an analysis of the current status and expected improvement that the project will bring according to the ten elements of a MHEWS. The Concept of Operations (CONOPS), detailing how the systems will work (developed under PPF sub-activity 1.2), will also be part of the PFS.[34] The PFS will mostly be developed through research and review of available literature and national strategies and policies. Consultations and bilateral meetings with the Ministry of Finance (MoF) and with the National Center for Hydrology and Meteorology (NCHM) will continue throughout project development and will inform relevant sections of the PFS. In-person consultations held under other PPF sub-activities will also feed into the preparation of the PFS.

Deliverables

- Pre-feasibility study (Annex 2)

Roles and relevant technical qualifications

The PDS will be responsible for this sub-activity (see technical qualifications in section E). UNEP, MoF, and NCHM will be consulted and involved throughout and on an ad-hoc basis to clarify questions and validate outputs as needed.

Duration

Ten (10) months

Reporting

Reporting will be done to the Task Manager or designated representative of the AE.

Sub-activity 1.2 – Develop the technical and institutional design for the multi-hazard early warning system

Background and scope of the sub-activity

This sub-activity will support the technical and institutional design of the end-to-end, impact-based MHEWS. This will be consolidated in a Concept of Operations (CONOPS) document to be included in the PFS. This document describes the scope and characteristics of the proposed system over its lifecycle, both from technical and institutional perspectives. The CONOPS will include:

- Observation network: context-specific study and design of an optimised observation network based on hazard priorities and climate analysis (PPF activity 5 supported by WMO), design a system architecture diagram to show how alla data sources – existing and new – are integrated;
- IBF and NWP: study and design impact-based forecasting (IBF) and numerical weather prediction (NWP) systems, including forecast system integration, projected hazard lead time improvements, requirements for CAP-compliant dissemination technologies to ensure standardised and interoperable warning communication;
- Institutional responsibilities: define responsibilities across the MHEWS value chain;
- Benefit-Cost analysis for project interventions: determine the baseline (typical accuracy and lead time of forecasts for each disaster type, average resulting loss of lives, average resulting financial losses), estimate the impact of project activities on forecast reliability and accuracy, assess trade-off between increased lead-time and warning reliability;
- Cost of equipment and Operations & Maintenance (O&M): assess a 10-year total cost of ownership, assess the need and approximate cost of the equipment over its lifecycle, including procurement, installation, calibration, spare parts, consumables, software licenses, connectivity and data transmission costs, staffing requirements, maintenance costs and schedule, annual O&M budget, decommissioning costs;
- Absorption of costs and technologies: plan gradual O&M budget absorption from the Government of Bhutan, assess technology readiness and plan capacity development activities to ensure that proposed technologies

[33] Expected FP deliverables will include a staff retention strategy and Operation and Maintenance (O&M) option studies
[34] A preliminary analysis of the 10 elements has been included in Section 1.3 of the Supplementary Document to the Concept Note.

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

match NCHM's absorption capacity, develop a 5-phase technology absorption pathway (foundation – deployment – integration – optimisation – sustainability) with go/no-go gates per phase;
- Coordination and partnerships: define coordination and data sharing arrangements with existing systems and initiatives (i.e., SOFF, ECRUL, HMIS) and with relevant institutions across the Himalayan region, design station delineation protocols and coordination matrix to the extent possible at this stage, with further engagement expected to take place during FP implementation through a dedicated intervention.

The Finnish Meteorological Institute (FMI) will develop the CONOPS in close collaboration with NCHM and other stakeholders as relevant. FMI has longstanding experience working in Bhutan and has the technical expertise to deliver this sub-activity.

Specific interventions under this sub-activity are three community-level MHEWS design workshops led by NCHM in close consultation with FMI, relevant NGOs and the Bhutan Red Cross Society. At this time, these are expected to take place in the dzongkhags of Chukha, Thimphu (district), and Lhuntse. The workshops will collect input on needs and priorities at the community level, existing and viable warning dissemination structures, existing and viable disaster management networks, and community SOPs.

Additionally, a national-level consultation and design workshop will be held in Thimphu to support the development of the technical and institutional design of the MHEWS. This workshop will also serve as a coordination mechanisms with ongoing projects and relevant systems (i.e., SOFF, ECRUL, HMIS). Representatives from other relevant initiatives are expected to take part in the workshop. Discussion will include station delineation protocols and data-sharing agreements. Further engagement with ongoing initiatives will take place during implementation of the Funding Proposal through a dedicated intervention.

The climate analysis developed under Activity 5 inform the development of the CONOPS by providing input on the site-specific hazards, risks (including cascading/ compounding), vulnerabilities (including non-climatic), and exposure information. Consultations with stakeholder and communities held under this sub-activity will provide insights about the impact of climate trends and hazards for communities and sectors, which will be used in the development of the CONOPS. Consultations will also help determine which warning communication and dissemination mechanisms will be more effective and actionable. This information will form the information basis for the CONOPS of the nation-wide, people-centred and impact-based MHEWS.

Deliverables

- Concept of Operations (CONOPS), including 5-phase Technology Absorption Pathway (foundation – deployment – integration – optimisation – sustainability) with go/no-go gates per phase, 10-year total cost of ownership (to be included in the Pre-Feasibility Study, Annex 2)
- Joint Planning Committee minutes for the workshop with ongoing initiatives (i.e., SOFF, ECRUL, HMIS)
- Station delineation protocols with ongoing initiatives to the extent possible at this stage, with further engagement expected to take place during FP implementation through a dedicated intervention
- Data sharing agreements with ongoing initiatives to the extent possible at this stage, with further engagement expected to take place during FP implementation through a dedicated intervention
- Coordination matrix with ongoing initiatives to the extent possible at this stage, with further engagement expected to take place during FP implementation through a dedicated intervention

Roles and relevant technical qualifications

FMI will be engaged by UNEP to implement this sub-activity in close collaboration with NCHM. The PDS, UNEP, and MoF will be consulted and involved throughout and on an ad-hoc basis to clarify questions and validate outputs as needed.

Duration

Ten (10) months

Reporting

Reporting will be done to the Task Manager or designated representative of the AE.

Sub-activity 1.3 - Develop stakeholder engagement plans

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

Background and scope of the sub-activity

A stakeholder engagement plan will be developed in close coordination with the NDA, ensuring alignment with national priorities. Consultations will be conducted with a broad range of stakeholders to ensure inclusive and transparent participation. The stakeholder engagement plans will benefit from select input from the Gender Specialist. Additionally, the multi-stakeholder validation workshops (sub-activity 1.6) and the community-level workshops held outside of Thimphu (sub-activity 1.2) will feed into the development of the stakeholder engagement plan.

Stakeholders of the proposed projects will include government and local authority representatives, civil society organisations, agriculture organizations, non-governmental organisation, sectoral representatives (hydropower, agriculture, telecommunications, health, finance, etc.), vulnerable and marginalised groups. Under this PPF sub-activity, the Project Development Specialist and the Gender Specialist will also aim to identify Indigenous Peoples in its broader definition, and include them among the project's stakeholders.[35]

Deliverables

- Stakeholder Engagement Plan (Annex 15)

Roles and relevant technical qualifications

The PDS will be responsible for this sub-activity (see technical qualifications in section E). UNEP, MoF, and NCHM will be consulted and involved throughout and on an ad-hoc basis to clarify questions and validate outputs as needed. The Gender Specialist's Gender Assessment will inform sections of the stakeholder engagement plan.

Duration

Six (6) months

Reporting

Reporting will be done to the Task Manager or designated representative of the AE.

Sub-activity 1.4 - Identify project-level indicators and development of the logical framework

Background and scope of the sub-activity

The preparation and finalisation of the GCF SAP Funding Proposal (FP) will include refinement of the project theory of change to address the barriers to strengthening climate services and impact-based Multi-Hazard Early Warning Systems (MHEWS) in Bhutan and hence the development of a logical framework. The document will follow the provided template under the Simplified Approval Process (SAP) and be designed in accordance with the GCF's Integrated Results Management Framework (IRMF). Accordingly, the logical framework will include (i) baseline, target scenario and description of the paradigm shift potential of the proposed project, (ii) GCF results areas and IRMF indicators with related baseline, target scenario and means of verification, (iii) statements for outputs, outcomes, and co-benefits with related indicators, baseline, and target, (iv) project activities and deliverables.

The following target values (i.e., Key Performance Indicators, KPIs)may be used, depending on further refinement and validation during the development of the full project: network uptime ≥ 95%, data completeness ≥ 90%, flash-flood warning lead time ≥ 6 hours, glacial lake outburst floods warning time ≥ 30 minutes, CAP alert issuance < 15 minutes, last-mile reach ≥ 80%, gender disaggregated feedback ≥ 50% female, user satisfaction ≥ 75%.

Under this sub-activity, Monitoring & Evaluation (M&E) arrangements will also be delineated. The logical framework and the M&E plan will be designed to integrate various baseline variables, including benefit-cost analysis, as project metrics.

Deliverables

- Logical framework (Annex 2a) following the provided template, with the following projected target values (i.e., KPI): network uptime ≥ 95%, data completeness ≥ 90%, flash-flood warning lead time ≥ 6 hours, glacial lake

[35] While Bhutan does not have officially recognized Indigenous Peoples, as defined by international frameworks such as the UN Declaration on the Rights of Indigenous Peoples (Art 33) or ILO Convention No. 169 (Art 1), the project will aim to identify and engage Indigenous People based on the characteristics set out in GCF's Indigenous People Policy, paragraph 14. https://www.greenclimate.fund/sites/default/files/document/ip-policy.pdf

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

outburst floods warning time ≥ 30 minutes, CAP alert issuance < 15 minutes, last-mile reach ≥ 80%, gender disaggregated feedback ≥ 50% female, user satisfaction ≥ 75%
- Delineation of Monitoring & Evaluation (M&E) arrangements.

Roles and relevant technical qualifications

The PDS will be responsible for this sub-activity (see technical qualifications in section E). UNEP, MoF, and NCHM will be consulted and involved throughout and on an ad-hoc basis to clarify questions and validate outputs as needed.

Duration

Four (4) months

Reporting

Reporting will be done to the Task Manager or designated representative of the AE.

Sub-activity 1.5 - Develop and finalise the Funding Proposal and all relevant annexes

Background and scope of the sub-activity

This PPF sub-activity will encompass the development and finalisation of the FP for the project, including all mandatory and relevant supporting annexes. The finalisation of all documents is expected to take ten (10) months. The FP package will be informed by and incorporate the consolidated outputs of the PPF activities as well as other preparatory work undertaken by UNEP and partners (*e.g.*, national assessments conducted under the Early Warnings for All initiative and the Systematic Observations Financing Facility).

UNEP will conduct all necessary environmental and social (E&S) due diligence required for the proposed project, in line with the GCF's Revised E&S Policy (2021) and UNEP's Environmental, Social and Sustainability Framework (2020). Sexual Exploitation, Sexual Abuse, and Sexual Harassment (SEAH) will form part of the E&S due diligence and the GCF SEAH Risk Assessment Guideline will be referred to, as required. UNEP will also pre-negotiate legal instruments and other relevant agreements with partners to the extent possible ahead of project submission.

A methodology for the calculation of beneficiaries will be developed (Annex 16); this will define direct and indirect beneficiaries, describe the approach for assessing beneficiary coverage, demonstrate national-scale coverage, and outline measures to avoid double counting. Beneficiaries will be disaggregated by gender and by direct/indirect benefits.

Deliverables

Development and finalization of:

- GCF SAP Funding Proposal
- NDA No-objection letter (Annex 1)
- Timetable (Annex 2b)
- Certificate of Internal Approvals (Annex 9b)
- Selection and Calculation of Beneficiaries (Annex 16)

Consolidation and finalisation of the following documents prepared under other PPF sub-activities:

- Logical framework (Annex 2a)
- Detailed Budget Plan (Annex 3)
- Gender Assessment and Gender Action Plan (Annex 4)
- Co-financing commitment letter(s) (Annex 5)
- Assessment of risk and mitigation (Annex 7)
- Procurement plan (Annex 8)
- Capacity assessment of potential executing entities/partners (Annex 9a)
- Stakeholder Engagement Plan (Annex 15)
- Environmental and Social Action Plan (Annex 12)

Additionally:

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

- Pre-negotiation of legal instruments and relevant agreements with partners to the extent possible ahead of project submission/approval.

Roles and relevant technical qualifications

The PDS will be responsible for this sub-activity (see technical qualifications in section E). UNEP, MoF, and NCHM will be consulted and involved throughout and on an ad-hoc basis to clarify questions and validate outputs as needed.

Duration

Ten (10) months

Reporting

Reporting will be done to the Task Manager or designated representative of the AE.

Sub-activity 1.6 – Conduct a stakeholder consultation and validation workshop

Background and scope of the sub-activity

This PPF sub-activity will review and validate the FP through a workshop that will take place within the two months before the expected submission of the FP to the GCF. The objective of the validation workshop is to confirm that the project is technically sound and will bring sustainable benefits to the entire population of Bhutan. It will also aim to ensure that the AE and the EEs for the full FP agree with the final project and understand it, as well as to clarify their roles and responsibilities during project implementation. The stakeholder consultation and validation workshop will be held over two (2) days for approximately 30 participants in Thimphu and will be led by UNEP as AE.

Deliverables

- Submission package validated by relevant stakeholder, including Funding Proposal and all Annexes

Roles and relevant technical qualifications

The PDS will lead the consultation, in close collaboration with the UNEP and MoF and individual consultants as needed. MoF with support from NCHM will coordinate the organisation of the workshops, including inviting relevant stakeholders, hiring the venue and catering.

Duration

Two (2) months, including preparation, 2-days workshop, and inclusion of the outputs of the consultation into the submission package

Reporting

Reporting will be done to the Task Manager or designated representative of the AE.

Activity 2: Environmental and social studies

Sub-activity 2.1 - Develop the Environmental and Social Action Plan

Background and scope of the sub-activity

An Environmental and Social Action Plan (ESAP) will be developed in alignment with the GCF Environmental and Social Safeguards (ESS) Policy (2021), UNEP's Environmental, Social and Sustainability Framework (2020), and Good International Industry Practices (GIIP). This sub-activity will be informed by a comprehensive environmental and social screening and risk categorization process. The ESAP will identify, assess, and propose measures to manage potential environmental and social risks and impacts associated with the proposed project. UNEP's Quality Assurance Section (QAS), comprising of ESS specialists dedicated to ensuring adequate environmental and social safeguards, will be involved during the development of the ESAP as well as to review and certify the final ESAP and project ahead of submission. This activity will contribute to the overall due diligence required for the FP and ensure the project meets GCF's sustainability standards while promoting inclusive and equitable outcomes.

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

Deliverables

- Environmental and Social Action Plan (Annex 12)

Roles and relevant technical qualifications

The PDS will be responsible for this sub-activity (see technical qualifications in section E). UNEP, especially through its Quality Assurance Section (QAS), MoF, and NCHM will be consulted and involved throughout and on an ad-hoc basis to clarify questions and validate outputs as needed. The Gender Specialist's Gender Assessment will inform sections of the Environmental and Social Action Plan, to ensure that gender considerations are fully integrated into the environmental and social due diligence process. The National Commission for Women and Children (NCWC) may also be consulted.

Duration

Four (4) months

Reporting

Reporting will be done to the Task Manager or designated representative of the AE.

Activity 3: Gender studies

Sub-activity 3.1 - Conduct a Gender Assessment and project-level Gender Action Plan

Background and scope of the sub-activity

This PPF sub-activity will produce a comprehensive gender assessment, including assessment of the baseline situation, which will include detailed analysis of gendered roles, rights, needs, and opportunities in the context of climate services and MHEWS. It will also provide recommendations on how to enhance the benefits of the project for both men and women, as well as other traditionally marginalised and vulnerable groups. The analysis will aim to identify mechanisms to promote gender equality of the proposed project through channels such as gender-specific indicators and gender-responsive actions. The assessment will inform the development of a project-level gender action plan, which will contain specific gender-sensitive and responsive elements to be integrated in the project design and implementation, as well as identify opportunities for gender-transformative approaches to maximise the development impact and co-benefits of the GCF investment. This sub-activity will benefit from close collaboration with the National Commission for Women and Children (NCWC), who will work with the Gender Specialist during the development of the Gender Assessment and Action Plan.

Development of the gender assessment will be informed by dedicated community-level consultations that will be conducted in three separate locations for one day each. The candidate dzongkhags for the consultations are Paro, Bumthang, Mongar; the locations will be validated at a later stage by the Gender Specialist and the NCWC.

Deliverables

- Gender Assessment and Gender Action Plan (Annex 4)

Roles and relevant technical qualifications

One international Gender Specialist will be hired by UNEP on a deliverable based contract (see technical qualifications in section E). NCWC will co-lead the consultations and will be involved throughout the development of the Gender Assessment and Action Plan. MoF with support from NCHM will coordinate the organisation of the workshops, including inviting relevant stakeholders, hiring the venues and catering. The PDS, UNEP, MoF, and NCHM will be consulted and involved throughout and on an ad-hoc basis to clarify questions and validate outputs as needed.

Duration

Four (4) months

Reporting

Reporting will be done to the Task Manager or designated representative of the AE.

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

Sub-activity 3.2 - Identify and outline a project-level grievance mechanism

Background and scope of the sub-activity

This PPF sub-activity will support the identification of an appropriate project-level grievance redress mechanism (GRM) in consultation with NCWC, and other key stakeholders as relevant. The GRM will be survivor-centred and gender- and age-responsive – as per the GCF Revised Environmental and Social Policy (2021) – and will address potential barriers to access of women and other traditionally vulnerable and marginalised groups. A section of the Environmental and Social Action Plan will be dedicated to the detailed outline of the GRM, and summary of its design will be in the Gender Assessment.

Deliverables

- Project-level grievance redness mechanism (to be included in the Environmental and Social Action Plan, Annex 12)

Roles and relevant technical qualifications

The Gender Specialist hired by UNEP will outline the project-level GRM (see technical qualifications in section E), with input from NCWC, and other entities as relevant (including MoF, NCHM, UNEP, PDS).

Duration

One (1) month

Reporting

Reporting will be done to the Task Manager or designated representative of the AE.

Activity 4: Risk assessments

Sub-activity 4.1 – Assess risks and mitigation factors and assessment of the capacity of potential Executing Entities/ partners

Background and scope of the sub-activity

This PPF sub-activity will conduct a risk assessment and identify risk management mechanisms. A comprehensive report with an analysis of all potential risks, including operational, financial, political, environmental, social, legal. governance, reputational etc., combined with a set of recommendations for mitigation measures to the identified risks will be developed. Furthermore, under this sub-activity, a capacity assessment and associated due diligence of the national Executing Entity (EE) for the full proposed project, the Ministry of Finance (MoF), will be conducted. Professional Services will be engaged by UNEP as the AE for this sub-activity. The assessment is part of the requirement under the Harmonized Approach to Cash Transfers (HACT), which is a common operational framework for UN agencies' transfer of cash to EE and partners. It will result in a risk rating of the EE and partners (low, moderate, significant, high) that will be used to identify the appropriate cash transfer modality and to determine the type and frequency of assurance activities as per UNEP's guidelines. This will facilitate the determination of the governance and implementation arrangements for the project.

Deliverables

- Assessment of risk and mitigation (Annex 7)
- Capacity assessment of potential executing entities/partners (to be included in legal due diligence, Annex 9a)

Roles and relevant technical qualifications

UNEP as AE will oversee this sub-activity, including the procurement and management of the required professional services in accordance with UNEP procedures and HACT requirement. MoF, NCHM, and other entities will support the assessment process by facilitating access to relevant information. The Professional Services engaged for this sub-activity will require demonstrated expertise in institutional capacity assessments under the HACT process.

Duration

Four (4) months

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

Reporting

Reporting will be done to the Task Manager or designated representative of the AE.

Activity 5: Assessment of climate impact potential for mitigation and adaptation activities

Sub-activity 5.1 - Assess the climate impact potential

Background and scope of the sub-activity

This sub-activity will focus on assessing the climate impact potential of the proposed MHEWS project in Bhutan, as part of the development of the FP. It will involve a detailed analysis of climate change risks and vulnerabilities, including compounding/cascading risks, observed and projected hazard trends, exposure data, vulnerability drivers. This will be done using historical and projected climate data, including state-of-the-climate indicators, context-specific metrics, and high-impact event trends.

The activity will be implemented by the World Meteorological Organization (WMO), applying the WMO-GCF methodology to ensure scientific rigor and consistency with GCF requirements. The analysis will use station data from the National Center for Hydrology and Meteorology (NCHM) of Bhutan and gridded datasets, including standard international datasets (e.g., ERA5, ERA5-land, CHIRPS, MSEWP, PERSIANN) and specific products such as BUTHAN-CLIM. Station data will be quality controlled and assessed for homogeneity to constitute the benchmark for the gridded products (using WMO tools). We will center our analysis on the best performing product and use the rest to complete the uncertainty assessment. The analysis of past climate will be focused on temperature and precipitation (key climate variables) and derived climate indices. Climate indices will be selected from those included in the WMO's CLIMPACT package, ensuring that normal and extreme episodes are evaluated. The analysis will start with a climate characterization using Köppen-Geiger classification for the most recent period (1991-2020). The evaluation of climate evolution (climate variables and CLIMPACT indices) will contrast an initial period (1981-2010) to the last available decade (e.g., 2016-2025). The significance of the changes will be evaluated using standard statistical techniques. Temperature and precipitation, as well as the characteristics of the monsoons, will be correlated to explain their interannual variability with El Niño Southern Oscillation (ENSO), the Indian Ocean Dipole (IOD) or the Madden Julian Oscillation. Future climate will be assessed using ensemble CMIP6 projections at the country level evaluating uncertainties through the ensemble spread. The analysis will consider and discuss the impact of climate variability and change over the most striking hazards in the country, namely GLOFs, flash floods, landslides and storms. Alteration on monsoon rains and droughts will be linked to climate-vulnerable sectors such as agriculture and water. The specific final layout and contents will be enriched after consultation and personal exchanges with the NCHM and other local stakeholders (sectoral users) during the planned mission and/or inception workshop.

The outputs will contribute to a robust climate rationale for the FP, demonstrating the relevance, urgency, and transformational potential of the proposed MHEWS interventions in the context of Bhutan's climate priorities.

Deliverables

- Climate impact potential assessment and analysis of climate change risks and vulnerabilities including compounding/cascading risks (to be included in the Pre-Feasibility Study, Annex 2)

Roles and relevant technical qualifications

This sub-activity will be implemented by WMO in accordance with the established WMO-GCF methodology for developing the climate science basis of climate actions. The roles and responsibilities, as well as the modalities of engagement of WMO under this PPF are detailed in section C. WMO has a proven track record in delivering hazard assessments and has already collaborated with UNEP under similar projects. The PDS, UNEP, MoF, and NCHM will be consulted and involved throughout and on an ad-hoc basis to clarify questions and validate outputs as needed.

Duration

Four (4) months

Reporting

Reporting will be done to the Task Manager or designated representative of the AE.

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

Sub-activity 5.2 - Develop a site-specific hazard assessment, including identification of relevant climate-related hazards

Background and scope of the sub-activity

This sub-activity will comprise a site-specific analysis of climate change risks, including, cascading/compounding risks, impacts and vulnerabilities. The analysis will be carried out at local, dzongkhags (district), and national levels. It will also include identification of non-climatic contributing factors and correlation analysis to show the links between climate and non-climatic (sectoral) data, and between baselines and historical trends, and projections. Analysis of non-climatic data and correlations will facilitate more informed assessment of impacts and vulnerabilities (e.g., loss and damage). In turn, this will facilitate the elaboration of a robust climate rationale for the proposed project.

Deliverables

- Site-specific hazard assessment at local, dzongkhags, and national levels (to be included in the Pre-Feasibility Study, Annex 2)

Roles and relevant technical qualifications

This sub-activity will be implemented by WMO in accordance with the established WMO-GCF methodology for developing the climate science basis of climate actions. The roles and responsibilities, as well as the modalities of engagement of WMO under this PPF are detailed in section C. WMO has a proven track record in delivering hazard assessments and has already collaborated with UNEP under similar projects. The PDS, UNEP, MoF, and NCHM will be consulted and involved throughout and on an ad-hoc basis to clarify questions and validate outputs as needed.

Duration

Four (4) months

Reporting

Reporting will be done to the Task Manager or designated representative of the AE.

Activity 6: Advisory services and/or other services to financially structure a proposed activity

Sub-activity 6.1 - Provide advisory services for costing and budgeting according to GCF standards

Background and scope of the sub-activity

A Finance Specialist will be engaged to provide specialist technical advisory services to the proposed national EE, the Ministry of Finance, and other relevant stakeholders for costing and budgeting according to GCF standards. This will enable the national EE and relevant stakeholders to develop a realistic and accurate budget for activities that they propose to execute. A two (2) days financial workshop for up to 30 participants will be included in this sub-activity and led by the Finance Specialist (see technical qualifications in section E).

Deliverables

- Contributions from relevant partners to the detailed budget plan (to be included in the Budget Plan, Annex 3)

Roles and relevant technical qualifications

This sub-activity will be implemented by a Finance Specialist (see technical qualifications in section E). MoF and NCHM, along with other relevant stakeholders, will participate in the financial workshop to strengthen their capacity to provide budget input as relevant. The PDS and UNEP will be consulted and involved throughout and on an ad-hoc basis to clarify questions and validate outputs as needed.

Duration

Two (2) months

Reporting

Reporting will be done to the Task Manager or designated representative of the AE.

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

Sub-activity 6.2 – Design financial structure and mobilise investments

Background and scope of the sub-activity

This sub-activity will support the design of the financial structure of the proposed project following a blended finance model. The Finance Specialist will assess NCHM's business model, including cost-recovery mechanisms, ongoing public-private partnerships, and current revenue streams.

The sub-activity will also involve a local Financial Liaison, who, working under the strategic guidance of the Finance Specialist and in accordance with the envisioned financial structure, will engage with public and private sector co-financiers to secure commitments and strengthen the financial sustainability of the proposed project. This will include the preparation of financial briefs to covey the importance of the project and benefits for the sectors. The project will engage with the aviation sector, telecommunication providers, hydropower companies, and potentially with banks and insurance companies. In addition to bilateral discussions with private sector entities, under this sub-activity the Finance Specialist and the Financial Liaison will co-lead a roundtable discussion with the private sector to identify and formalise through Letters of Intent the potential opportunities for private sector engagement and co-financing, recognizing the benefits of strengthened MHEWS for sectors.

Based on these discussions with the government and private sector entities, the Finance Specialist will determine a ratio of GCF grant funding, government co-financing, private capital, and other potentially appropriate financing instruments. The blended financing model will ensure longer term sustainability of impacts, while still being designed to be realistic about financial capacities within the specific context. The Finance Specialist will also preliminarily assess the feasibility of leveraging regional and cross-border opportunities for collaboration and partnership, where these could enhance the project's financial sustainability and climate change resilience objectives. A specific intervention on this will be integrated in the FP design, which will involve bilateral engagement with at least one downstream National Hydrometeorological Service (e.g., India, Bangladesh) and is expected to deliver a transboundary climate-data value assessment and a Himalayan climate information and MHEWS replication roadmap.

Preliminary discussions have already been held during the development of the Concept Note with Druk Green Power Corporation (hydropower), Drukair Corporation Limited and Bhutan Airlines (aviation), Bhutan Telecom and TashiCell (telecommunication).

In addition to co-financing, the Finance Specialist and Financial Liaison will also explore cost-recovery options through payment-for-services approach for specialised climate services to further increase sustainability and private sector involvement. This will include assessing the willingness to pay across key sectors and designing a framework for a pay-for-services approach. Under the proposed project, interventions will include the design of one pilot product (e.g., parametric -based insurance for hydropower and agriculture, climate-contingent lending, forecast-triggered credit lines). The project team had discussions on this approach with Druk Green Power Corporation. Other options will be explored leveraging PPF funding, including with the Bank of Bhutan, the Bhutan National Bank, Bhutan Insurance Ltd., and the Royal Insurance Corporation of Bhutan Ltd.

Deliverables

- Blended financial structuring (to be included in the Funding Proposal, Pre-Feasibility Study, and Budget Plan)
- At least two co-financing commitment letter(s)/Letters of Intent for co-financing arrangements or pay-for-service from public and private sector entities (Annex 5)
- At least one revenue-model assessment of a Micro, Small, and Medium Enterprise (MSME)
- Framework for pay-for-service approach (to be included in the Funding Proposal and Pre-Feasibility Study)
- Preliminary assessment of other potential financing mechanisms

Roles and relevant technical qualifications

This sub-activity will be implemented by a Finance Specialist and a Financial Liaison (see technical qualifications in section E).

The Finance Specialist will assess NCHM's business model, develop the blended finance strategy and the financial structure, assess the feasibility of different financing mechanisms (including cross-border, where appropriate), and provide oversight of the overall financing approach.

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

The Financial Liaison will operationalise the blended finance strategy by engaging with various public and private entities and securing co-financing commitment/Letters of Intent, with strategic guidance from the Finance Specialist and support from the MoF as needed.

FMI is expected to support with technical expertise on the financial structuring.

The PDS, UNEP, MoF, and NCHM will be consulted and involved throughout and on an ad-hoc basis to clarify questions and validate outputs as needed.

Duration

Four (4) months

Reporting

Reporting will be done to the Task Manager or designated representative of the AE.

Sub-activity 6.3 - Prepare a detailed budget plan for the project

Background and scope of the sub-activity

Under this sub-activity, the Finance Specialist, with input from the PSD and the Financial Liaison, as well as the national EE and all relevant stakeholders, will prepare a detailed breakdown of the project budget with notes on the assumptions/estimations underlying the unit costs/quantities and associated justifications. This will incorporate the parts of the budget prepared by the national EE and other relevant stakeholders under sub-activity 6.1. The budget plan will consider financial sustainability of interventions, including a phased integration of recurrent costs into the national budget. The Finance Specialist will also prepare a procurement plan aligned with the budget plan and with procurement practices.

Deliverables

- Consolidated detailed budget plan (Annex 3)
- Procurement plan, including an 18-months front-loaded procurement plan with details on lot packaging, draft technical specifications, and preliminary vendor long-list (Annex 8)
- Budget absorption schedule and commitment letter from Ministry of Finance

Roles and relevant technical qualifications

This PPF sub-activity will be executed by the Finance Specialist (see technical qualifications in section E). The PDS, UNEP, MoF, and NCHM will be consulted and involved throughout and on an ad-hoc basis to clarify questions and validate outputs as needed. FMI will provide input to the procurement plan based on their expertise and information gathered regarding needs and gaps.

Duration

Four (4) months

Reporting

Reporting will be done to the Task Manager or designated representative of the AE.

Activity 7: Other project preparation activities

Sub-activity 7.1 - Assist in responding to comments and feedback received on the full Funding Proposal.

Background and scope of the sub-activity

This sub-activity will include post-submission technical support to address comments and feedback received from the GCF reviewers on the Funding Proposal during its review phases.

Deliverables

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

- Reviewed Funding Proposal package for resubmission to the GCF.

Roles and relevant technical qualifications

UNEP and the international PSD will lead this sub-activity, with the additional support of the national EE and other stakeholders as relevant.

Duration

Two (2) months

Reporting

Reporting will be done to the Task Manager or designated representative of the AE.

F. Budget Summary (applicable to PPF Funding applications only)

Outputs or Activities level budget summary		**USD from GCF**	**USD from AE / co-finance**	**Total cost, USD**
Activity 0	Other project preparation activities – inception	460		460
Activity 1	Pre-feasibility and feasibility studies, and project design	95,500	20,088	115,588
Activity 2	Environmental and social studies	7,000	5,000	12,000
Activity 3	Gender studies	44,500	-	44,500
Activity 4	Risk assessments	4,000	-	4,000
Activity 5	Assessment of climate impact potential for mitigation and adaptation activities	70,000	-	70,000
Activity 6	Advisory services and/or other services to financially structure a proposed activity	43,000	9,748	52,748
Activity 7	Other project preparation activities	7,500	-	7,500
Total activity-level costs		**271,960**	**34,836**	**306,796**
Additional costs and fees				
Contingency (up to 3% of total activity-level costs)		-	-	-
Project Management Cost (up to 7.5% of total cost + contingency)		4,450	-	4,450
Sub-total of project preparation costs		**276,410**	**34,836**	**311,246**
Accredited Entity Fee (up to 8.5% of sub-total)		23,495		
Total GCF PPF funding requested (sub-total + AE fee)		**299,905**		

Docusign Envelope ID: 57F4335F-955E-8589-8195-55217A840378

G. Budget Summary
For AEs with framework readiness and preparatory support grant agreement with GCF
Disbursements will be made in accordance to Clause 4 "Disbursement of Grants" and Clause 5 "Use of Grant Proceeds by the Delivery Partner" of the Second Amended and Restated Framework Readiness and Preparatory Support Grant Agreement entered into between GCF and the United Nations Environment Programme on 2 June 2020.

H. Reporting Obligations & Acknowledgements by AE		
H.1	The AE will submit a Funding Proposal to the GCF that is supported by the PPF resources within 2 years of approval of this application, as per GCF Board Decision B.37/22.	☒ Agree
H.2	All outputs as approved in the PPF application together with a draft Funding Proposal should be provided no later than 24 months from approval of this PPF application. If PPF grant duration is over 12 months, an Interim Progress Report, and for all grants, a Completion Report, and Certified Financial Reports will be submitted by the AE. Templates can be found on the GCF PPF website.	☒ Agree
H.3	If requesting project preparation support via **PPF Funding**, the AE will be responsible for [and accountable to the GCF under terms of the Grant Agreement to be entered into between GCF and the AE in case of direct grants, or between United Nations Office of Project Services (UNOPS) and the AE in case of grants administered by UNOPS] the overall design, development, management, implementation and supervision of activities financed through the PPF. The AE will be responsible for determining that any Implementing Entity(ies) have the ability to successfully perform the activities under its overall guidance, management or supervision, according to the terms and conditions of the agreement between the GCF and the AE.	☒ Agree
H.4	If requesting project preparation support via PPF Service, the AE will be responsible for managing the independent consultancy firm selected to provide PPF Services; providing instructions to the independent consultancy firm selected to provide PPF Services; and the quality control of the final products of the independent consulting firm. The AE shall provide to the GCF written confirmation that the deliverables by the PPF Services firm are satisfactory and meet the requirements of the AE within thirty [30] days from the date of completion of services by the consultancy firm. The GCF shall have no liability for the performance or quality of the services provided by the independent consultancy firm. To the maximum extent permitted by law, the AE agrees to release the GCF, and its employees, agents and representatives from any and all liability related to damage, loss, cost, expense incurred or injury suffered by the AE or any other party as a result of the project preparation services.	☐ Agree