22nd Meeting of the Steering Committee

Sunbird Mt. Soche Hotel
Blantyre, Malawi
09:00 – 17:30 South Africa Standard Time (UTC+2)
13 February 2026

CREWS/SC.22/workdoc.3

Provisional Agenda Item 3.3

Pipeline List and Priorities for Project Preparation

Summary

The document includes an updated Pipeline List and proposed priorities for project preparation is presented for review and approval by the Members under Agenda Item 3.3.

Objectives of the Pipeline List

1. Countries and regions included in the CREWS pipeline list demonstrate a level of eligibility, ownership and readiness for the preparation of project proposals for funding decisions and opportunities for leveraging and scaling-up.

2. The pipeline list is a tool for the CREWS Steering Committee to have a structured approach to managing CREWS investments from initiation, design, implementation and completion. It is used for CREWS strategic decision making in investment prioritization and optimal use of resource allocation.

Consideration for the Steering Committee

3. The Steering Committee is invited to review and approve:
   a. The updated Pipeline list as a basis to inform future financing decision by the Steering Committee;

   b. Proposed Priorities for Full Project Proposal Development list, which are country and regional projects that meet the prioritization criteria and for which a lead Implementing Partner is invited to initiate project preparations.

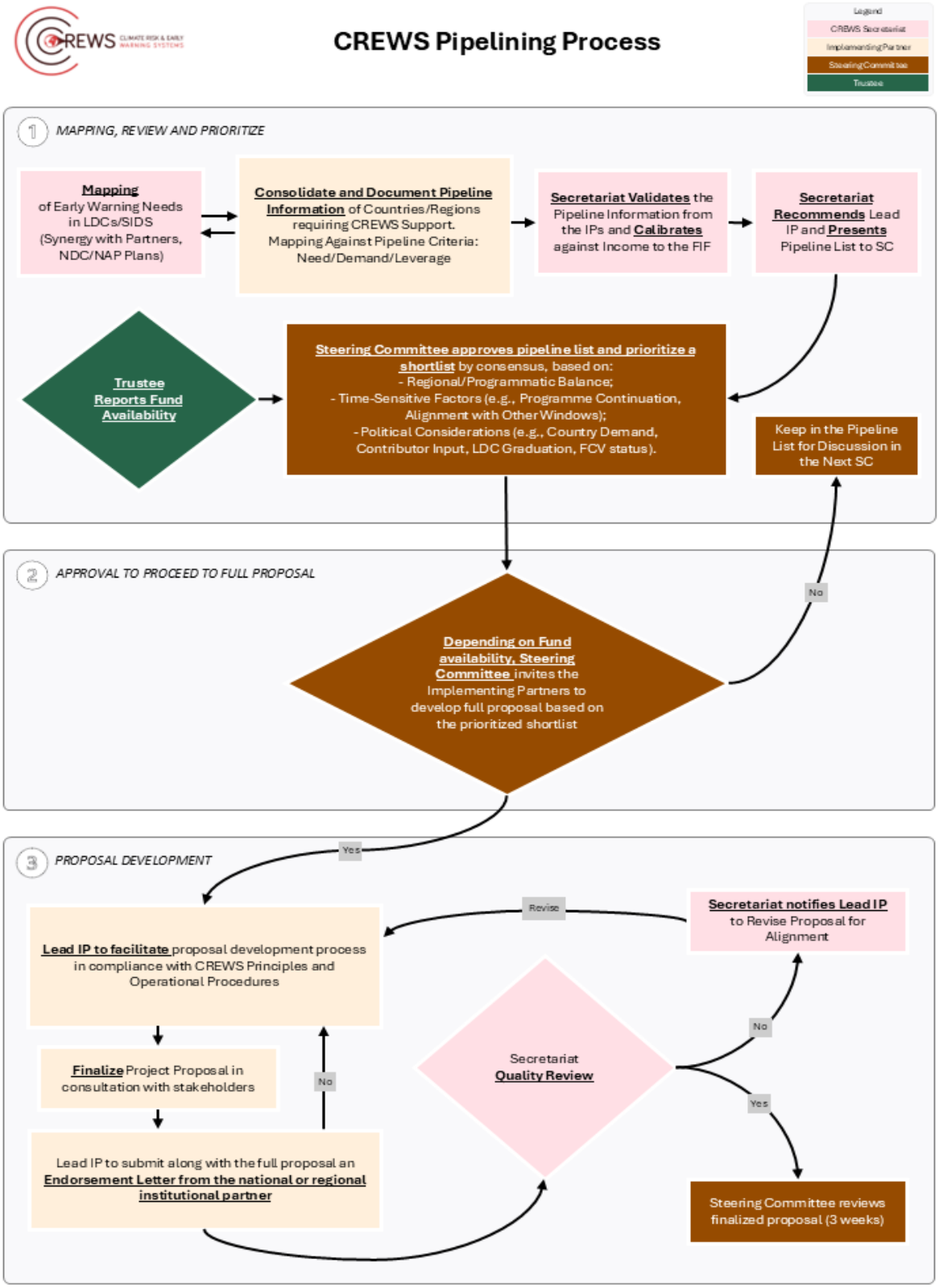
Pipeline Process and Criteria

4. The proposed list of pipeline countries and regions is drawn from:
   - Mapping of the need, demand and leveraging potential of ODA-eligible Least Developed Countries (LDCs) and Small Island Developing States (SIDS). Details of the three criteria for which information is compiled are found in Annex 1 to this document.
   - Mapping also includes the proposed countries FCV status and LDC graduation date.
   - Information provided by the Implementing partners, drawn from their operational priorities and their regular interactions with country teams.
   - Mapping of synergies to assess contributions to coherence and alignment with development partners working on early warning, early and anticipatory action, capacity building of early warning institutions.

5. There are 3 criteria to be included in the pipeline list – (i) needs – assessing their exposure to risk and institutional capacity for early warning; (ii) demands – assessing the level of priority given by national and regional partners to early warning with documented evidence; and (iii) leveraging potential for additional resources and synergies with existing or pipeline programmes.

6. The needs and demands for strategic and targeted support from CREWS as well as information on leveraging potential and synergies for CREWS investments are also documented in the CREWS pipeline list from information gathered by the CREWS Implementing Partners.

Diagram 1: CREWS Pipelining Process



7. The pipeline list is made more robust by using available evidence from multiple sources such as:
    - National Disaster Management Plans;
    - Nationally-Determined Contributions;
    - National Adaptation Plans;
    - Early Warning for All gap analysis and roadmaps;
    - WMO's Country Hydromet Diagnostics and rapid assessments.

8. The pipeline list also provides information on the status of LDCs and SIDS in terms of their LDC graduation date and its state of fragility.

Overview of the Pipeline List

9. The 20th CREWS Steering Committee approved the pipeline list that included 19 proposed pipeline projects submitted by the CREWS Implementing Partners with a total funding requirement of USD 78 million.

10. The 10th intersessional meeting invited the World Bank, in consultation with the ITU to initiate the preparations of the regional project for the Eastern Caribbean for a cell-broadcast based emergency alert communication and dissemination system for a total of USD 5.5 million subject to co-financing by the European Commission's ACP-EU-DRM Program through the World Bank. With this approval for full proposal preparation, the Eastern Caribbean pipeline is removed from the pipeline list.

11. At the 22nd CREWS Steering Committee, following extensive consultations with national and regional partners, the CREWS Implementing Partners put forward an additional 11 pipeline proposals for an additional USD46.7 million. The Secretariat reviewed the submitted pipeline proposals against the CREWS pipeline criteria (see Annex 1) and below is the pipeline list summary for Steering Committee's consideration with a total funding requirement of USD 124.25 million with potential to leverage an average of USD 17.4 million per project and an estimated total of USD 506 million. Full list is available as Annex 3.

Table 1: Pipeline List Summary

	Country/Region/Global	Indicative budget (in US$ million)	Rationale	Additional Information (if any)
COUNTRY PROPOSAL				
1	Bangladesh	5.0	Continuation and leveraging the Bangladesh Weather and Climate Services Regional Project (BWCSRP) to support the Bangladesh Meteorological Department (BMD) and further strengthen hydrometeorological service provision.	Synergies with Met Norway, SOFF, CREWS South- Asia, CARE (Climate Adaptation and Resilience), UK WISER.
2	Belize	4.5	Pilot support for the roll-out of the DELTA Resilience System, including the update of the disaster loss database and strengthen	Focus on disability inclusion and accessible

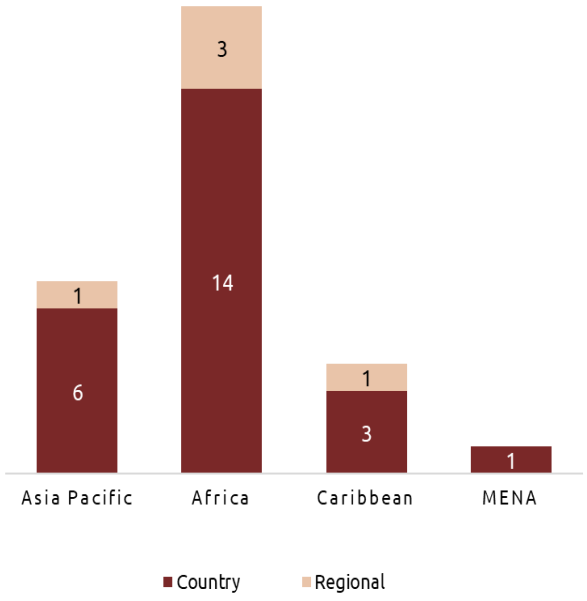
	Country/Region/Global	Indicative budget (in US$ million)	Rationale	Additional Information (if any)
			the link between loss and damage data with impact based forecasting	early warnings, including with assistive technology
3	Cabo Verde	3.0	Support to operational capacity to generate and translate early warning information into early action and the coordination between institutions responsible for forecasting, preparedness and response.	
4	Central African Republic	4.5	Seeking to improve its Hydromet and climate services through the establishment of a functional flood early warning system in selected watersheds, notably the greater Bangui area watershed.	World Bank has ongoing investment in Bangui with a budget of USD 4.5 M under the Food Emergency Project. Further, stepping up support is planned to the country's early warning system through a new operation in preparation focusing on Urban Resilience and Inclusive Cities.
5	Comoros	3.2	Support for the operationalization of the EW4ALL roadmap, integration of anticipatory action and scale of early warning-early action systems.	Potential to leverage a number of ongoing efforts supported by the AfDB, DGSC, GCF and UNDP.
6	Cuba	3.5	Consolidate the flash flood forecasting services and implementation of the National Framework for Climate Servies) NFCS=.	Builds on ASW Cuba and CREWS Caribbean, collaboration with key regional institutions.
7	Democratic Republic of Congo (additional financing)	4.5	Additional financing support is requested to calibrate the tools (observing, flood forecasting, weather forecasting, etc), ensure sustainability of the investment and support the development of services to end users	
8	Haiti Phase 2.0	5.25	Additional funding to sustain and extent its current level of service provision of the UHM (Met Office), the National Disaster Management Office (NDMO) and other key stakeholders involved in Haiti's hydrometeorological and early warning services as well as address several critical gaps that remain. Would enable the finalization of other ongoing activities and the implementation of additional critical, high priority activities to further strengthen the UHM.	
9	Lesotho	4.5	Institutionalize anticipatory action, reinforce legal, policy and operational frameworks to ensure early warnings translate into timely, protective actions.	Combination of technical capacity, regional alignment and community-level engagement
10	Madagascar	3.0	Capacity building for volunteers, local authorities and community members on early warning-early action	Builds on the commitment and engagement of Malagasy Red Cross and

	Country/Region/Global	Indicative budget (in US$ million)	Rationale	Additional Information (if any)
				builds on the CREWS work in Madagascar
11	Malawi	5.0	Phase 2 of the CREWS Malawi project to help in institutional transformation of the primary hydromet agencies through enacting developed policies and bills, adopt strategic and operational plans, enhance digital capacity for real time information sharing, scaling upward-level early warning coverage and enhance district level early warning and preparedness capacity	Government request to support the scale up of the achievements of CREWS Malawi phase 1 and integrate early warning systems and climate services into national disaster risk management structures.
12	Maldives	5.0	Build the capacity of the meteorological services, the hydrological services and the disaster management agencies to provide early warning services and improve hydrological monitoring and forecasting services to manage flash floods.	Leverage and complement the recently-approved GCF project supported by UNEP focused on strengthening climate services and impact-based MHEWS
13	Mauritania	5.0	Strengthen national early warning capacity in close coordination with another project funded by the Adaptation Fund, so as to implement the early warning elements set forth in the WMO- and AGRHYMET-supported strategic plans for weather, water and climate services (2022)	A follow up to institutional development carried out by WMO and AGRHYMET and to be aligned with a proposal to be submitted to the Adaptation Fund and to the GCF with UNIDO (part of the GCF-CREWS scale up framework)
14	Mauritius	1.0	Operationalize the EW4ALL roadmap and scale up early warning and early action systems, support for institutional strengthening and coordination mechanism for the EW4ALL initiative and EWEA work at the national and decentralized levels.	
15	Mozambique	3.0	Sustain and scale up preparedness to respond to early warning and anticipatory action efforts	Convergence of strategic partnerships, institutional capacity and regional relevance of Mozambique Red Cross to lead delivery of locally-led solutions
16	Myanmar	5.0	Support to flood preparedness and hydromet strengthening, cyclone preparedness and coastal risk reduction, heatwave, urban resilience,	
17	Nepal	5.0	Will focus on supporting the Department of Hydrology and Meteorology (DHM) and the National Disaster Risk Reduction and Management Authority (NDRRMA) and strengthening of local stakeholders' capacities including communities to ensure early warning services are provided timely and that necessary anticipatory or response actions are taken up at the local levels and by the communities most at risk.	Synergies with CREWS South Asia project, SOFF, South Asia Flash Flood Guidance System, UK Met Office WISER Asia Pacific and support from the Nepal Red Cross Society.

	Country/Region/Global	Indicative budget (in US$ million)	Rationale	Additional Information (if any)
18	Papua New Guinea	3.0	Strengthening of anticipatory action, community preparedness and early warning systems in national policies	
19	Senegal	4.5	Support to provide further technical assistance for the design and implementation of the EWS, scale up community participation and gender promotion.	
20	Tanzania	5.0	Strengthen the operational capacity of the Emergency Operations Center to provide a 365/24/7 service and standardized procedures for the issuing of warnings.	Tanzania has been among the beneficiaries of the pilot action which led to the development and endorsement of the Africa Road map for improving the availability, access and use of disaster risk information for early warning and early action, including in the context of transboundary risk management.
21	Timor Leste	5.0	Further enhance the national-level capacity of the National Directorate of Meteorology and Geophysics (DNMG) staff in hydrology to effectively address needs related to operational hydrology, development of landslide early warning system and capacity building at national and sub-national levels.	Expected to leverage over USD 30 million, including from the GCF-UNEP EWS project and lay the foundation for capacity building support from Santiago Network.
22	Togo	2.8	Update and develop operational procedures for the production and delivery of climate, meteorological and hydrological information and services for key economic sectors; train DRE (Water Services staff) on operational skills and ensure technical and institutional support.	To complement the approved Togo proposal submitted by BOAD at GCF B.41 in February 2025 as part of the GCF-CREWS scale up framework.
23	Yemen	5.0	Support the capacity building of the Yemeni Meteorological Service, cooperation with the Ministry of Water and Environment, assist the Ministry of Public Works in the preparation of Disaster Risk Management (DRM) strategy and leverage on the work of the Yemen Red Crescent in the area of climate emergencies and adaptation.	Synergies with the ongoing WISER MENA project of the WFP supported by IFRC. Yemen Red Crescent Society has strong community outreach.
24	Zambia	3.0	Support to address several structural and operational challenges to ensure effective protection of communities from climate related and compounding hazards	Potential of scaling up anticipatory action through CREWS underpinned by strategic and external synergies
REGIONAL PROPOSALS				
25	Africa (continental)	6.0	Strengthen the regional collaboration and institutional capacities for early warning	In line with the Integrated African Strategy on

	Country/Region/Global	Indicative budget (in US$ million)	Rationale	Additional Information (if any)
			and early action by strengthening support to the African Centre of Meteorological Applications for Development (ACMAD).	Meteorology (2021-2030) and the Early Warnings for All Africa Action Plan (2023-2027).
26	Hindu Kush Himalaya and South Asia	5.5	Strengthening EWS across the Hindu Kush Himalaya mountain region particularly focusing on the inclusivity and effectiveness of early warning communication across the mountain region. Would help strengthen cross boundary EWS by linking countries together to bolster existing sharing mechanisms and crafting messages that are clear, actionable, and reach all in the region, including delivery across national borders.	Includes implementation of the Gender Action Plan (GAP) in particular its MHEWS and anticipatory action goals.
27	Caribbean: Guyana and Suriname	5.0	Support to roll-out of DELTA Resilience System, development of probabilistic risk assessments for prioritized hazards and prioritize marginal and at-risk groups	
28	Southern Africa	5.5	Strengthen Hydromet and Early Warning Systems as well as preparedness, early action and response by disaster management offices to hazardous hydromet events across the region.	ASW funding provided in 2022 that produced the Maputo Declaration to enhance Early Warning and Early Action in the region endorsed by the SADC Member States.
29	South West Indian Ocean phase 2	4.0	The CREWS SWIO phase 1 conducted a throughout analysis of country needs, in close collaboration with EW4All, SOFF and IOC (AFD/GCF/EU). The phase 1 of the project has initiated or piloted multiple solutions, some of which are being supported under WB investments. Others, however, deserve to be further evaluated or implemented under CREWS SWIO Phase 2. This includes, for example, the coastal inundation forecasting in Mauritius, warning dissemination (broadcasting) in Comoros, enhanced use of RSMC products (all countries), finalization of the emergency operations plan in Madagascar, etc.	EW4ALL countries: Comoros Madagascar, Mauritius, Mozambique All 5 countries also are developing their SOFF readiness package with support from DGM Morocco (Comoros) and SAWS (all others).
	Total	**124.25**		

Graph 1: Geographical distribution



The current pipeline list includes 6 countries and 1 regions/sub-regions in Asia Pacific; 14 countries and 3 regions in Africa; 1 regional pipeline and 3 countries for the Caribbean and 1 country from MENA region.

12. Out of the 51 countries noted in the pipeline list, 14 countries are in fragile, conflict and violent-affected (FCV) countries; 2 countries are due to graduate from their LDC status in 2026, 3 countries in 2027 and 1 in 2029.

Table 2: FCV context and LDC status

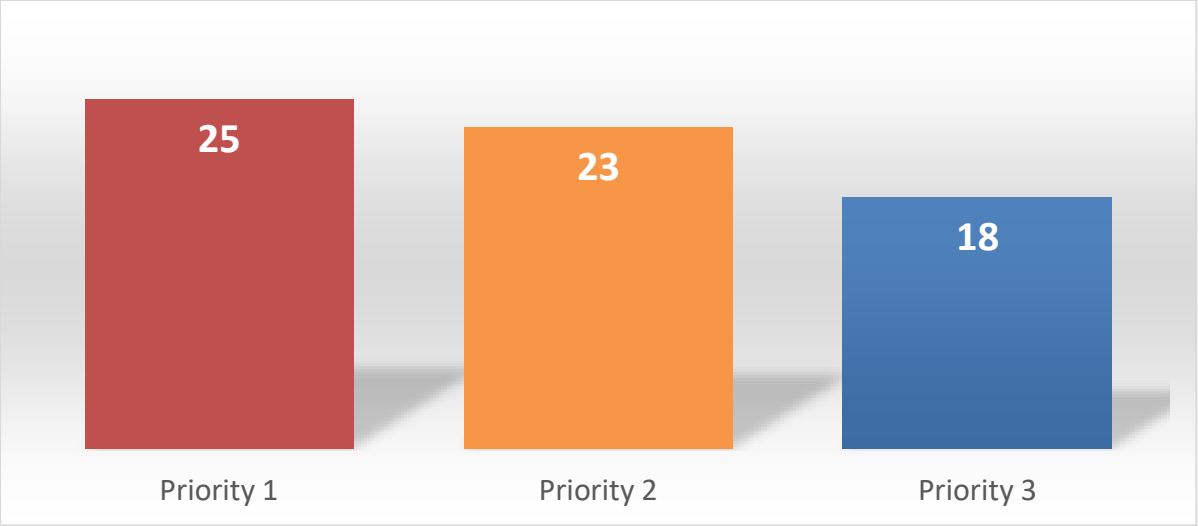
Conflict	Institutional and social fragility	LDC graduation status
Afghanistan	Comoros	Bangladesh – 24 Nov 2026
Central African Republic	Kiribati	Comoros – deferred to 2027
Democratic Republic of Congo	Marshall Islands	Nepal – 24 Nov 2026
Haiti	Micronesia	Senegal – 19 Dec 2029
Mozambique	Solomon Islands	Solomon Islands – 13 Dec 2027
Myanmar	Timor-Leste	Myanmar – deferred to 2027
Yemen	Tuvalu	

Alignment with CREWS 2030 Strategy Priorities

13. The proposed portfolio shows strong alignment with the CREWS 2030 Strategy across all three strategic priorities. Priority 1 is most prominently represented, followed closely by Priority 2, with Priority 3 also well covered, demonstrating a balanced and coherent strategic fit.

14. Overall, these proposals collectively represent the strongest alignment across the three priorities, reinforcing their relevance to CREWS' long-term objectives and strategic direction.

Graph 2: Alignment with CREWS Strategy 2030 Priorities



15. Out of the 29 proposed projects, 25 strongly or moderately align with Priority 1 on Strengthening the foundations of early warning systems, 23 proposed projects strongly or moderately align with Priority 2 on Catalyze transformation through scaled, accessible and sustained investments and 18 proposed projects strongly or moderately align with Priority 3 on innovation and next generation early warning systems.

Highlights of the Pipeline List

16. The pipeline list exhibits strong coherence by adopting a unified, systematic approach across all national and regional projects, primarily guided by the needs, demand and leveraging potential of each as well as highlighting the potential synergies with ongoing and planned initiatives. This ensures that the pipeline is inherently programmatic.

    • **Early Warning Element-Based Structuring:** Every major country and regional project aligns its needs and proposed actions across the four elements of Multi-Hazard Early Warning System (MHEWS) (Risk Knowledge, Observation/Forecasting, Dissemination/Communication, and Preparedness/Response). This structural consistency ensures that investments cover the entire early warning value chain, preventing isolated, fragmented efforts.

    • **Integrated Partnership Model:** Pipeline consistently employ a **multi-partner implementation strategy**, detailing the complementary roles of Implementing Partners (IPs). This joint methodology guarantees a programmatic and coherent linkage between scientific forecasting and community response.

    • **Institutionalization Focus:** A key programmatic theme is the commitment to strengthening the legal and policy backbone of MHEWS. Activities frequently include establishing national coordination mechanisms, clarifying institutional mandates, integrating early warning into national DRM strategies, and working toward legal instruments like the Disaster Risk Management Act or the adoption of the Common Alerting Protocol (CAP).

    • **Cross-Cutting Integration:** The pervasive integration of themes like gender-responsive and disability-inclusive approaches, localized planning, and sustainability through revenue, demonstrates a coherent application of internationally recognized standards and good practices across the portfolio.

    • **Stronger Focus on Anticipatory Action (AA) and Impact-Based Forecasting (IBF):** A central relevance is the shift from reactive disaster response to proactive Anticipatory Action. Proposed pipeline emphasizes

developing Early Action Protocols (EAPs) tied to forecast-based financing and institutionalizing AA governance. Crucially, this requires advancing Impact-Based Forecasting (IBF), which translates scientific data into actionable advice based on expected impacts.

• **Addressing Critical Gaps:** The identified needs across various countries are directly relevant to closing gaps that hinder effective early warning. For instance, addressing the lack of functional collaboration for warning dissemination or strengthening governance in fragile contexts.

• **Global EW4All Mandate:** The overarching structure aligns with the UN Secretary-General's call for universal early warning coverage, which is a key mandate supported by CREWS.

17. The pipeline actively manages potential duplication by framing all new proposals as deliberate extensions, reinforcements, or complements to an existing ecosystem of investments, meticulously detailed in the "Leveraging Potential" and "Synergies" sections.

• **Complementary Phasing:** Many projects explicitly build on previous CREWS phases or non-CREWS foundational investments. The CREWS Bangladesh project, for example, is proposed as a **"bridge project"** to carry forward continuous meteorological and hydrological services following the completion of the World Bank-financed BWCSRP. Malawi Phase 2 scales up the achievements of Phase 1 and utilizes upgraded observation networks funded by the GCF and World Bank projects.

• **Resource Allocation by Gap Filling:** Proposals are designed to fill specific, unfunded gaps identified in broader national roadmaps (e.g., EW4All Roadmaps) or leverage technical data from parallel initiatives.

• **Leveraging Regional Mechanisms:** Projects maximize regional synergies to avoid redundant investments at the country level. For instance, CREWS Southern Africa aims to utilize products from the SADC Climate Services Centre and integrate with existing regional mechanisms.

Proposed Priorities for Full Project Proposal Development

18. Assessing the proposed countries and regions in the pipeline list against the proposed prioritization criteria (Annex 2) for financing and considering status of LDC graduation the proposed priority countries/regions for financing at the 22nd meeting and to proceed to full proposal development are listed below in order of priority. Approval to depend on the available funding in the CREWS TF.

Table 3: Proposed Priorities for consideration of the Steering Committee

	Country/Region (in alphabetical order)	Indicative Budget	Lead Implementing Partner	Regional and programmatic considerations	Time-sensitiveness considerations	Strategic considerations	Remarks
1	Africa (continental)	6.0	WMO	Uniquely addresses a gap. CREWS supports sub-regional centers but does not yet provide support at continental level. This proposal fills that structural gap though ACMAD and AMHEWAS linkages.	Time sensitivity is implied through the need to align donor funding and investment priorities across many initiatives and reduce fragmentation. The proposal's value increases as the EW4ALL Africa Action Plan accelerates,	Demand is anchored in the Integrated African Strategy on Meteorology (2021–2030) and the EW4All Africa Action Plan 2023–2027, which strengthens strategic legitimacy. Strong leveraging case:	Countries were not mentioned in the brief. Project preparation should tightly define what "continental" functions are being funded (vs. sub-regional or national responsibilit

	Country/Region (in alphabetical order)	Indicative Budget	Lead Implementing Partner	Regional and programmatic considerations	Time-sensitiveness considerations	Strategic considerations	Remarks
				Enhances geographic balance by adding a continental layer that can improve coherence across multiple CREWS sub-regional programmes (West, Central, SWIO, Horn of Africa and East Africa). Programmatic emphasis on leadership/institutional development (including management capacity, digital transformation, quality management, business models) is complementary to technical system upgrades.	making now a logical moment for a coordinating/standard-setting layer.	explicitly lists multiple major ongoing funding streams (EU, Italy, GCF, AfDB, IDA, Adaptation Fund, etc.) that could benefit from improved institutional performance and prioritization.	ies) to avoid diffuse scope.
2	Bangladesh	5.0	WMO	Supports geographic balance by strengthening South Asia, with Bangladesh also playing an active role in regional collaboration (e.g., South Asia Hydromet Forum and NWP working group chairing). Programmatic breadth is strong across all four EW4All pillars: risk knowledge, observation/for	Strong continuity and alignment rationale: the proposal is framed as continuation and leveraging of the completed WB-financed BWCSRP (2016–2024), SOFF support, and planned HydroSOS work, and aligned with the Bangladesh EW4All roadmap validated in 2025.	Strategic demand is backed by EW4All governance (pillars assigned; roadmap developed, validated, and launched) and by concrete institutional constraints and downstream "bottlenecks" (fragmented sub-national governance; limited linkage to shock-responsive social	Very strong candidate for shortlisting due to mature EW4All architecture, clear continuity with major prior investments, defined needs across the full value chain, and high strategic relevance linked to imminent

	Country/Region (in alphabetical order)	Indicative Budget	Lead Implementing Partner	Regional and programmatic considerations	Time-sensitiveness considerations	Strategic considerations	Remarks
				ecasting (GBON, ICT, NWP, AI modelling), dissemination (CAP and multi-channel systems), and preparedness/SOPs and anticipatory action.	A specific time-sensitive operational constraint is flagged: a hiring freeze since 2018 has reduced staffing significantly and recruitment may take 12–18 months, implying a near-term capacity gap that could threaten sustainability of upgraded systems without targeted support	protection and anticipatory cash). Strong leveraging and sequencing logic: build on upgraded systems from BWCSRP, SOFF GBON support, and planned HydroSOS; plus potential integration with improved loss and damage tracking and disaster risk information platforms. LDC graduation is a major strategic factor: Bangladesh is scheduled to graduate from LDC status on 24 November 2026. This materially raises the strategic value of near-term catalytic investments that help institutionalize and sustain core services through the transition period.	LDC graduation.
3	Central African Republic	4.5	World Bank/GFDRR	Strongest programmatic dimension of this pipeline is its institutional need, explicit demand and exceptional leveraging potential with World Bank programmes. It	The pipeline demonstrates time sensitivity through the ned to complement ongoing World Bank investments and the opportunity to align CREWS support with	Demand is clearly articulated. The country is actively seeking support to scale up and enhance national early warning systems, including capacity	Central African Republic has been in the CREWS pipeline list since the 15th Meeting. It is also a conflict-

	Country/Region (in alphabetical order)	Indicative Budget	Lead Implementing Partner	Regional and programmatic considerations	Time-sensitiveness considerations	Strategic considerations	Remarks
				has a multi-hazard focus and urban resilience that contributes to the diversity of scope within the CREWS portfolio.	projects under preparation. This suggests that further delayed engagement could reduce coherence and efficiency of investments.	building, technical assistance and normative guidance. Leveraging potential is strongly met outlining existing and planned World Bank investments including the Food Emergency project, a forthcoming World Bank operation on Urban Resilience and Inclusive Cities and additional financing anticipated for drought Forecast-based Financing mechanisms. Shows high potential for alignment, co-financing and scaling through existing and planned programmes.	affected country.
4	Haiti (phase 2.0)	5.25	WMO	Supports geographic balance by strengthening early warning systems in the Caribbean, a region with recurrent hurricanes and compounding vulnerabilities. Programmatic relevance is strong on institutionalizati	Time sensitivity is high given Haiti's acute fragility and repeated shocks, with examples of major disruption during the earlier CREWS project period (2021 earthquake) and severe 2025 hurricane impacts. This	Strategic value is very high due to the combination of extreme vulnerability and operational readiness signals (endorsed system, operational plans, first use during a major hurricane).	Strong candidate for shortlisting due to urgency and clear opportunity to consolidate an endorsed national system, provided implementation feasibility is

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				on and operationalization: the proposal references the National Multi-Hazard EWS (SAPMAH) endorsed in 2025 and tested during Hurricane Melissa, indicating a foundation to scale and strengthen end-to-end delivery.	supports a continuity-and-recovery logic for urgent system strengthening. The proposal implies momentum under EW4All (national focal point appointed; SAPMAH endorsed), suggesting that rapid follow-on support is important to prevent stall and fragmentation.	There are strong partnership and leveraging cues: SAPMAH development funded by multiple agencies including CREWS and the World Bank; project prep can be designed to reinforce and scale what is already in place rather than rebuild. Key preparation risk: feasibility and security constraints. Project preparation should include a realistic implementation approach for last-mile dissemination and data flows in insecure areas, including reliance on partners with local reach.	addressed explicitly in preparation.
5	Malawi	5.0	World Bank	Strengthens geographic and programmatic balance by moving a country programme from pilots toward national scale, with clear links to agriculture, DRM, and last-mile systems. Programmatic depth: institutionalizati	Strong continuity case: explicitly framed as "Phase 2" scaling up achievements of Phase 1, which is a classic time-sensitive consideration (avoid loss of momentum, preserve institutional investments,	Explicit government demand to scale CREWS Phase 1 and integrate EWS and climate services into DRM structures; demand reinforced by community urgency after recent extreme events (including Cyclone Freddy).	Strong candidate for shortlisting due to clear phase-based continuity, explicit demand, strong co-financing alignment, and credible scale pathway.

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				on (QMS/ISO), impact-based forecasting expansion, AI integration, and district-level hubs suggests a full end-to-end approach rather than isolated technical upgrades.	scale proven pilots). Alignment with major parallel investments (GCF modernization, WB hydromet and watershed programmes) means timing matters to ensure CREWS inputs connect to and maximize these financing windows.	Clear leveraging strategy: Red Cross nationwide presence, GCF modernization, WB MWASIP and RCRP2 investments, plus AI pilots already undertaken. Strategic positioning: Malawi is a high-priority sustained investment case where CREWS can demonstrate measurable population-level benefits (proposal cites scaling to 10+ districts and reaching at least 5 million people).	
6	Senegal	4.5	UNDRR	Supports geographic balance by strengthening a West African country that also plays a regional role (ANACIM noted as a WMO-accredited regional resource center). Strong programmatic complementarity with CREWS West Africa and ECOWAS Situation Room, reinforcing a regional-to-	Strong time sensitivity due to alignment with an upcoming World Bank emergency flood management project that includes an IEWS subcomponent. This proposal can ensure that warning dissemination and governance elements keep pace with infrastructure and flood reduction investments.	Very explicit demand: Government has formally requested ITU support under EW4All for dissemination strengthening and Cell Broadcast introduction. High leveraging potential: WB emergency flood management project, CREWS West Africa, AMHEWAS, ECOWAS Situation Room; also noted	Very strong candidate for shortlisting due to explicit national demand, clear time-critical alignment with major parallel financing, and strong regional and technology relevance.

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				national operational chain. Focus on dissemination and communication gaps (including Cell Broadcast and CAP-based systems) addresses a common end-to-end weakness and complements infrastructure investments.	The proposal states the support is "feasible and timely" due to EW4All momentum and the ongoing development of IEWS.	FCDO interest on extreme heat governance and possible ASW linkages. LDC graduation is a strategic factor for Senegal (scheduled for 19 Dec 2029). Project prep can frame Senegal as a "graduation pathway" country where CREWS investments support institutionalization and sustainability ahead of graduation.	
7	Southern Africa (16 SADC Member States) – Angola, Botswana, Comoros, Democratic Republic of Congo, Eswatini, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Seychelles, United Republic of Tanzania, Zambia	5.5	WMO	Strong contribution to geographic balance with a regional approach covering a large sub-region with shared cyclone, flood and drought risk profiles. Explicitly reinforces regional coordination mechanisms and supports CREWS' regional public good mandate and complements country-level investments. Avoid duplication risk by focusing on regional coordination,	Notes that investments in MHEWS are often fragmented with gaps between disbursement and highlights the need for continuity of service, maintenance and improvement. This supports a time-sensitive rationale for CREWS to provide catalytic continuity funding.	Demand is supported by SADC political commitments (Maputo Declaration and Ministerial processes). This is strategically attractive because it offers high visibility regional impact. Notes that countries overlaps with South-West Indian Ocean, hence project preparation should define scope boundaries and complementarity to avoid overlap with existing CREWS	Strong candidate for shortlisting due to regional public good value, clear continuity rationale, and political mandate, with manageable overlap risks if scope is defined early.

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				operationalization and last-mile ICT gaps that are often not fully addressed by infrastructure-heavy programmes.		sub-regional programming.	
8	Yemen	5.0	World Bank	Supports geographic balance by addressing a high-need context in MENA and complements existing/nearby CREWS operations (e.g., potential synergies with Djibouti). Programmatic fit is strong on people-centred, anticipatory action, CEWS, CAP-compliant systems, and integration with humanitarian actors, which aligns with CREWS emphasis on end-to-end systems.	Yemen's context is explicitly characterized by compounding crises and rising disaster impacts, making time sensitivity high for maintaining and improving warning and early action capacity. The proposal highlights that much financing is currently humanitarian, while the government requests capacity-building and a shift from response to prevention, implying a narrow window to anchor longer-term systems building alongside ongoing humanitarian operations.	Clear demand signals from multiple institutions: Ministry of Water and Environment (via UNDRR), Yemeni Meteorological Service in Aden (via WMO), Ministry of Public Works (via WB), plus operational reach of Yemen Red Crescent. Strategic leverage: links to WISER MENA Istibak and existing anticipatory action protocols in IDP contexts, suggesting strong operational partnerships. Key strategic risk for preparation: delivery feasibility under insecurity and institutional fragmentation. Project prep should require a clear operating model, risk management, and realistic implementation	High strategic value and clear demand, with strong time sensitivity. Shortlist if implementation feasibility and delivery risk controls can be convincingly designed during preparation.

	Country/Region (in alphabetical order)	Indicative Budget	Lead Implementing Partner	Regional and programmatic considerations	Time-sensitiveness considerations	Strategic considerations	Remarks
						sequencing (including where delivery can occur through partners with field presence).	
	TOTAL	**40.75 million**					

19. The proposed priorities demonstrate strong geographic and programmatic balance, combining two regional public goods initiatives (Southern Africa and Africa continental) with six country projects spanning Africa, MENA, the Caribbean and South Asia. This mix supports both regional impact and country-level depth across diverse contexts.
20. Readiness and continuity are strongest where proposals are time-sensitive, particularly those framed as Phase 2 or continuation efforts, or those aligned with major parallel funding windows. Strategic transition and LDC graduation considerations are noted, which can be positioned as institutionalization ahead of graduation pathways.

ANNEX 1 – Criteria for which information is compiled on early warning for LDCs and SIDS.

You can access a table with data for the below criteria at https://www.crews-initiative.org/en/impacts under Effectiveness of CREWS Investment/Mapping.

a. Exposure to risk and institutional capacity for early warning – need
   i. Capacity of NMHSs and disaster management institutions
   ii. Projected average annual loss to disaster (projected cost of disasters for the country's economy per year)
   iii. Casualty loss risk (where available)
   iv. Access and penetration of information and communication technology

b. Level of priority given to early warning systems by countries – demand
   i. Requests for support by country
   ii. Identification of early warning systems as a priority in Nationally Determined Contributions (NDCs) and national development and poverty reduction plans

c. Potential for leveraging additional resources and aligning programmes – leveraging
   i. Potential to leverage investments from other mechanisms such as the Green Climate Fund (GCF), the World Bank Group's International Development Association (IDA), the Global Environment Fund (GEF) and other financing mechanism
   ii. Ongoing or planned national and regional programmes related to the objectives of CREWS

ANNEX 2 – Proposed Prioritization Criteria for Financing Decisions and Parameters for Financing LDCs going through graduation

A proposed prioritization criteria for financing decisions and parameters for financing LDCs going through graduation are proposed as part of CREWS/SC.19/workdoc.3 for consideration of the 19th CREWS Steering Committee meeting.

The following criteria will drive the identification of the countries and regions from the pipeline list, referred to as the short-list, for which it is suggested to initiate project preparation:

i. **Regional and programmatic considerations-** promoting a comprehensive geographic and programmatic balance of financing decisions;
ii. **Time sensitive considerations-** such as the need to ensure continuation of existing programme and funding and the alignment with other financing windows;
iii. **Strategic considerations –** specific demand by recipient countries, considerations of Contribution Partners and other strategic factors such as upcoming LDC graduation procedures.

Below are proposed parameters for countries going through LDC graduation.

i. Projects in LDCs approved before graduation will continue to receive funding for their full implementation.
ii. A country project in a LDCs which was included in the pipeline list prior to date of graduation and regional projects that were included in the pipeline list which include LDCs with a similar status, can be considered for proposal preparation, and approval of funds, within one year of the date of graduation. The Secretariat will keep track of LDC graduation processes and timelines and include the information in the pipeline list.
iii. Graduated LDCs that have already benefitted from a CREWS project previously and demonstrated some level of success, can be considered in the pipeline of the GCF/SAP – CREWS Scaling Up framework.
iv. Graduated LDCs which are ODA-eligible SIDS remain eligible for CREWS funding. The Secretariat maintains a mapping of ODA eligible SIDS.

ANNEX 3 – Complete List of Pipeline Briefs

Country	
Country and Region (in alphabetical order)	**Bangladesh**
Already in Pipeline as of 20th SC meeting	Yes
Indicative Budget (in USD millions)	**5 million USD**
Lead Implementing Partner	WMO
Background and Rationale	Bangladesh is highly vulnerable to hydrometeorological hazards, with seasonal monsoon rains causing recurrent flash and riverine flooding, and frequent low-pressure systems in the Bay of Bengal generating tropical cyclones that result in large-scale displacement, extensive livelihood damage, and significant loss of life. In late August–September 2024, severe monsoon and flash flooding affected nearly 6 million people across multiple districts, illustrating the recurrence and scale of these events. **Climate change is expected to worsen these hazards and amplify socioeconomic impacts.** The poor and most vulnerable populations tend to be most impacted due to their reliance on agriculture and other climate-sensitive livelihoods. With one-third of agricultural GDP estimated to be impacted due to climate variability and extreme events by 2050, and cropland expected to shrink by 18% in the south and 6.5% nationally by 2040 (WBG 2022), addressing weather and climate-related risks is vital to ensure the country's sustainable economic development. Against this background, Bangladesh was among the initial 30 countries targeted by the Early Warnings for All (EW4All) initiative. The EW4All national consultative workshop was launched on 17-18 November 2023, supported by the four global pillar leads (UNDRR, WMO, ITU and IFRC). In 2024, Bangladesh made significant progress in rolling out EW4All, with the appointment of the National Focal Point for EW4All and the respective leads of the four pillars (Pillar 1: MoDMR; Pillar 2: BMD and FFWC; Pillar 3: BTRC and DDM; and Pillar 4: CPP and BDRCS). With the support from the Government of Sweden, pillar-wide gap analyses were conducted to feed into the formulation of the Bangladesh EW4All roadmap in December 2024 that was subsequently validated in June 2025. Further, a national dissemination workshop on EW4All road map was organized on 30 November 2025 to officially launch the National

	Roadmap and secure high-level endorsement from key decision-makers from various Ministries in the Government as well as heads of agencies, development partners and private sector leaders The WB financed the Bangladesh Weather and Climate Services Regional Project (BWCSRP) 2016-2024 implemented by the Bangladesh Meteorological Department (BMD), Bangladesh Water Development Board (BWDB), and Department of Agricultural Extension (DAE) with the objective "to strengthen Government of Bangladesh's capacity to deliver reliable weather, water and climate information services and improve access to such services by priority sectors and communities". Also, under the framework of the Systematic Observing Financing Facility (SOFF), Met Norway as the Peer Advisor is supporting BMD with the newly established meteorological observing systems for integration into the Global Basic Observing Network (GBON) and the modernized ICT systems. Bangladesh participates actively in the South Asia Hydromet Forum (SAHF) and plays a key role in regional coordination and collaboration related to Numerical Weather Prediction (NWP) as Chair for the SAHF Working Group on NWP. Also, WMO is working with BMD and BWDB to prepare a regional Hydrological Status and Outlook (HydroSOS) project proposal which is submitted to the Adaptation Fund for funding. The overall output of the HydroSOS BaNe project is to strengthen their capacities on understanding the hydrological status (the monthly status of stream where it is above normal (flooding situation) or below normal (likely to have a hydrological drought) and sub-seasonal to seasonal outlook (how it will change in coming months). In Bangladesh, loss and damage tracking is conducted manually with basic digitalization, while UNDRR, WMO and UNDP are working to roll-out a next generation tracking system linking WMO's Cataloguing Hazardous Events CHE modality with a unified methodology for calculating loss and damage for rapid and slow-onset events, including in Bangladesh with BMD, the Department of Disaster Management (DDM) and other relevant departments. In parallel, the Disaster and Climate Risk Information Platform (DRIP) of the Government of Bangladesh need to be strengthened to build institutional capacity for integrating disaster risk information into development, planning, budgeting, policies and programmes. The Sendai Gender Action Plan (GAP) calls for gender-responsive and inclusive end-to-end multi-hazard EWS and anticipatory action, including consideration of vulnerable groups including women, people of diverse sexual and gender orientation, children, older persons, youth, and persons with disabilities. One of the most consistently affected sectors in Bangladesh is agriculture, which absorbs a significant share of the country's disaster-related losses. For instance, the scale of damage was large enough that overall economic losses from the 2024 eastern floods were estimated at approximately USD 1.3 Billion, equivalent to around 1.8 percent of the nation's budget for FY 2025. Impact forecasting offers a concrete solution to this gap. Bangladesh already has strong foundations on which to build. Agencies such as the BMD and the Department of Agricultural Extension (DAE), potentially with the support of the Food and Agriculture Organization (FAO) of the United Nations with WMO could explore systematically correlating hazard magnitude (e.g., rainfall intensity, river discharge, wind speed, storm surge height) with observed agricultural damage over time, Bangladesh can develop reliable impact forecasts that translate scientific predictions into clear, livelihood-focused advice. Bangladesh is also increasingly vulnerable to seasonal agricultural drought and heatwaves, particularly in the northwest and central regions where delayed rainfall, rising temperatures, and groundwater depletion threaten rice production, livestock, and fisheries. Although the country has strong systems for flood and cyclone early warning, agricultural drought and heatwaves monitoring remains underdeveloped, with limited integration of soil moisture data, crop condition information, and seasonal forecasts into decision-making for agriculture. There is potential for Bangladesh to strengthen drought risk monitoring by combining FAO's expertise in agro-climatic analysis, crop modelling, and agricultural vulnerability assessment with WMOs capabilities in seasonal forecasting, hydrometeorological data, and standardized drought indices. Droughts and heatwaves while are notably causing strain for livelihoods in Bangladesh, their full impacts on agriculture remain poorly quantified and significantly understudied, leaving farmers and policymakers without the evidence needed to plan and act early.

	With respect to Pillar 3 (early warning dissemination and communication) gap analyses that was conducted, the following needs are included in EW4All national roadmap: 1. Lack of functional collaboration between Department of Disaster Management and other stakeholders in warning dissemination and communication. 2. Lack of proper implementation of existing laws, policies and regulations regarding the dissemination and communication of early warnings. 3. Lack of facilitation of emergency communication needs. 4. Cell broadcast technology is yet to be implemented for increased use of mobile-based early warning systems. 5. Lack of identification of communication channels to disseminate alerts. 6. Early warning systems-related infrastructure has not yet been identified for regular testing and upgrades. 7. Early warning messages are not tailor-made and need based. 8. Lack of consistency, clarity and progressive updates on warning alerts which are sent through different channels. For Pillar 4, consultations were held to promote gender responsive and disability inclusive disaster risk reduction (DRR) and EWS, including through the Sendai Gender Action Plan (Sendai GAP) and disability inclusive checklist for EWS. It is observed that significant gaps persist at the "last mile" in ensuring that improved forecasts and warnings are translated into timely, coordinated and anticipatory action by at-risk communities. Local disaster management committees and communities often lack standardized community early warning systems (CEWS), clearly defined roles and responsibilities, and simplified, contextualized Early Action Protocols (EAPs). As an auxiliary to public authorities and with extensive community networks, the Bangladesh Red Crescent Society (BDRCS), supported by IFRC, plays a critical role in bridging these ~~is~~ gaps and institutionalizing early warning early action (EWEA) at community level in line with the EW4All roadmap. Building on BDRCS's experience with Forecast-based Financing, multiple Early Action Protocols (EAPs) (floods, cyclones, heat and cold waves), the Cyclone Preparedness Programme (CPP) and community early warning initiatives, CREWS Bangladesh will connect enhanced hydromet services with institutionalized, people-centred early warnings and anticipatory action. CREWS Bangladesh will operate across the full early warning value chain. The WMO -led component will sustain and enhance national meteorological monitoring, forecasting and service delivery capacities, while UNDRR will support in strengthening the risk knowledge through the disaster loss tracking database which will be incorporated into the hydro-meteorological forecasting system to have impact based warning services and IFRC/BDRCS-led component will institutionalize early warning early action, standardized community early warning systems and localized EAPs, closely linked to shock-responsive social protection. Together, these complementary investments will ensure that improved forecasts and impact-based warnings are systematically translated into timely, inclusive and anticipatory actions for the most at-risk communities.
Needs	Bangladesh requires significant strengthening across all four pillars of Early Warnings for All (EW4All) to effectively reduce climate risk and protect vulnerable populations. Under **Pillar 1: Risk Knowledge**, the country needs updated multi-hazard risk assessments and databases for stronger data governance to address gaps in hazard, exposure, and vulnerability information. For **Pillar 2: Detection, Observation, Monitoring, and Forecasting**, critical needs include capacity building to use and sustain national hydrometeorological observing network to meet GBON standards, enhanced ICT systems for reliable data transmission, upgraded numerical weather prediction and AI based modeling capabilities, and better integration of satellite, national, and regional data and information products for early warning generation. Under **Pillar 3: Warning Dissemination and Communication**, Bangladesh requires robust, redundant, and multi-channel public alerting systems including mobile-based early warning system aligned with the Common Alerting Protocol, improved clarity and actionability of warning messages

	that are tailored to needs of diverse groups, and stronger last-mile communication infrastructure to reach remote and highly exposed communities. For **Pillar 4: Preparedness and Response**, the country needs enhanced local and national response capacities, updated and fully operational Standard Operating Procedures tied to impact-based triggers, expanded community-based preparedness programs, and improved cross-sector coordination to enable anticipatory action and timely response. These needs collectively justify a comprehensive Climate Risk and Early Warning System project to build a more resilient and climate-informed Bangladesh.
Demand	BMD is in a very challenging situation due to a hiring freeze since 2018 resulting in its current work force being reduced to under 50%. The new organogram has recently been approved, and the recruitment rules are in the approval process. Realistically considering the interim government in place new staff will not be filling the empty positions in the next 12-18 months, which means that BMD staff count will continue to fall. At the same time, the governance and operationalization of EWEA at sub-national and community levels remain~~s~~ fragmented. Disaster management committees and communities often operate without standardized CEWS, harmonized contingency plans or simplified EAPs aligned with national standards. Confidence in early warnings and the ability of households to act is constrained by limited awareness, insufficient ~~lack of~~ resources, and the absence of clear linkages to Shock-Responsive Social Protection (SRSP) mechanisms including anticipatory cash transfers. Without addressing these downstream bottlenecks, the full value of strengthened hydrometeorological services will not be realized. A CREWS Bangladesh project is proposed in continuation of and leveraging on the completed BWCSRP and planned HydroSOS BaNe projects to support BMD and further strengthen meteorological monitoring, forecasting and early warning service provision and to institutionalize early warning and anticipatory action from national to community level, in alignment with the Bangladesh EW4All road map, Country Hydromet Diagnostic, the Bangladesh GBON National Contribution Plan and the gaps/needs identified during the EW4All consultations. More specifically, the project will: 1. Support BMD to ensure operational capacities, sustainability and full use of the upgraded meteorological monitoring and forecasting systems. This includes developing a higher resolution model (WRF modelling and Artificial Intelligence based) for more localized nowcasting (0-3 hours) and forecasting (0-7 days) which will provide critical inputs for enhanced flash flood forecasting and to provide more site-specific meteorological and agromet services incorporating real-time and historical manual and automated stations data. This will increase the confidence in the automated forecasting systems, and with a specific aim to co-develop tailored forecasting products with national partners such as Disaster Management and BDRC/IFRC to ensure these are usable as triggers and decision support inputs for Anticipatory Action Plans and CEWS for floods, cyclones, and droughts Also, working jointly will allow to conduct verification process which is very critical for the improvement of the service standard and delivery. While the staff count continues to drop, the project will support BMD to continue their day-to-day operation with on-site and virtual training programmes and once new staff are hired, the project will support knowledge transfer and capacity development. Activities with BMD will be carried out in close collaboration with BWDB, responsible for hydrology, which will receive financial support through the upcoming HydroSOS BaNe project (WMO) and the Bangladesh Sustainable Recovery, Emergency Preparedness and Response Project (B-STRONG - WB). 2. From 2023, BMD has conducted multiple training workshop on Common Alert Protocol (CAP) for various participants of BMD, BWDB, BTRC, IFRC/BDRC, Department of Disaster Management etc. and recently drafted and validated the CAP implementation plan and Standard Operating Procedures (SOPs). Based on this project, the CREWS Bangladesh will support in the implementation of CAP and make it available for operational use with BMD, BWDB to have CAP compliant warning messages disseminated to various stakeholders such as Department of Disaster Management, BTRC, etc. 3. Support BMD to initiate the development of additional tailored services, tentatively with a focus on extreme heat (in relation to health) and drought, in response to the Call to Action on Extreme Heat launched by the UNSG Antonio Guterres in July 2024, and the increasing intensity of heat waves in Bangladesh and the region, with

	the last in April of 2024. Aligned to the Ministry of Disaster Management and Relief (MoDMR) request for assistance to improve governance of extreme heat, national stakeholders will be supported to improve implementation of existing national guidelines on heat management and design/strengthen heat-health-livelihood services. DDM and BMD will also be supported as custodians of the heat governance mechanism in Bangladesh, including roll-out of heat governance maturity model to strengthen an all-of government approach adaptable to national contexts. The development of extreme heat services will be closely linked to the emerging national Heat Action Plan initiated by BDRCS and with the established heatwave EAP that was developed with BDRCS and IFRC, to ensure that impact-based heat warnings translate into concrete anticipatory measures at the local level. In addition, possibilities for lightning and thunderstorm detection and warnings, impact-based disaster early warnings etc. might also be explored, while the development of the services would subsequently be fully implemented under BWCSRP phase 2. 4. Support BMD and BWDB with the development of a long-term vision and roadmap for meteorological and hydrological service delivery and value addition following advanced countries. This activity output would also provide support in the co-design of the national or regional EW4All project supporting additional gaps and needs highlighted in the recently endorsed EW4All roadmap (which cannot be covered by CREWS Bangladesh). Assess the possibility to pilot the Cataloguing Hazardous Events (CHE) approach and linkage to disaster loss tracking, co-led by WMO and UNDRR, to better apply disaster loss tracking data in impact-based forecasting, including scaling up of use of disaggregated exposure and vulnerability data into national digital platforms such as the Disaster and Climate Risk Information Platform (DRIP). The piloting of the CHE approach and strengthened disaster loss tracking will not only feed national digital platforms such as DRIP but also will ~~also~~ inform localized risk profiles, community action plans and EAPs, in collaboration with BDRCS/IFRC and local disaster management committees. 5. Develop an impact-forecasting for the agriculture sector in Bangladesh looking into crops that have been significantly damaged or lost from past natural hazards (namely, floods and tropical cyclones). Pilot the approach and explore linking the method to anticipatory action and rapid response efforts. Leveraging on outcomes and activities already achieved, further support is required to strengthen national dissemination and communication capacities, in line with EW4All and the Government's request to ITU. Priority needs include: - Technical assistance to strengthen the multi-channel public warning system, covering governance, institutional roles and end-to-end dissemination workflows. - Support to implement and operationalize Cell Broadcast, including feasibility assessment, regulatory review, development of technical specifications, procurement support, system setup and integration with CAP and piloting with national authorities and mobile network operators. - Oversight and support to BTRC on implementation of NETP. - Participation in the operationalisation of CAP (led by BMD) in ensuring interoperability between alert agencies, disaster management agency (DDM), BTRC, telecom operators, and local authorities. - Strengthened institutional coordination between hydromet services, disaster management agency (DDM), the telecom regulator (BTRC), and mobile network operators. - Strengthen capacity of BTRC to maintain Early Warning Connectivity Map in order to ascertain the population at risk without digital connectivity. - Capacity building for national and local authorities on crafting clear, actionable warnings tailored to different user groups, including women, youth, and vulnerable communities.

	5. Institutionalize Early Warning Early Action and Community Early Warning System (BDRCS/IFRC-led component) In close coordination with MoDMR, DDM, BMD and local authorities, and leveraging enhanced hydromet services under this project, CREWS Bangladesh will support: • Risk Assessment and Community Action Planning**:** Community-level risk assessments and develop action plans in priority districts, using DRIP, CHE and improved forecast and hazard data as inputs, ~~and~~ building on BDRCS's established methodologies and volunteer network. • Standardized Community Early Warning Systems (CEWS) and Local EAPs**:** Design and roll-out of harmonized CEWS, establish and operationalize community disaster management teams, strengthen local disaster management committees, and develop~~ment of~~ simplified, localized EAPs for priority hazards (including floods, cyclones and heat) aligned with national AA frameworks and SRSP mechanisms. • Capacity Building and Operational Readiness: Conduct PER-aligned institutional capacity assessments for BDRCS and partners, provide training and equipment for staff and volunteers, and pre-position anticipatory action commodities and services (e.g., anticipatory food, water, and health kits) triggered by improved forecasts and impact-based warnings. • Governance and Shock-Responsive Social Protection**:** Support to institutionalize EWEA and SRSP governance mechanisms under MoDMR and DDM, embedding gender-responsive and disability-inclusive approaches, ensuring clear accountability, and establishing sustainable financing arrangements for anticipatory action. • There is a need for periodically updating the INFORM- risk index information for Bangladesh; Strengthening post-disaster after action reviews that could strengthen risk information for future: events; Generating and update DEM-Digital Elevation Model surveys, Strengthening the RAPID - (Risk Anticipation for preparedness and informed Decision Making) portal for timely access to required risk information. Consolidating baselines for critical infrastructure, and productive assets in public and private domain for stronger disaster loss tracking; Assessing risk of in particular migrant population and also tracking migration of population as a result of disaster events: promoting multi-sectoral decision support systems based on risk knowledge promoting orientations for private sector roles in supporting risk-informed EWS; strengthening risk financing, including anticipatory measures and risk transfer.; strengthen disaster-related statistics towards multiple outputs including for making the forecasts more impact based. Documenting local and indigenous knowledge for integration into risk knowledge; incorporation of risk identification in the national school curriculum (NCTB) and trainings at the NILG-National Institute of Local Government; Strengthening use of science, technology and innovations especially using AI and on space-based technology
Leveraging Potential	CREWS Bangladesh would serve as a bridge project between the recently closed operation of BWCSRP and fulfil needs in continuous meteorological and hydrological services for strengthening of the monitoring, forecasting and early warning services. On the downstream side, CREWS Bangladesh will leverage BDRCS and IFRC's long-standing role in anticipatory action and community-based disaster risk reduction, including the Forecast-based Financing Project, existing EAPs for floods, cyclones, heatwaves and cold waves, the Coastal Disaster Risk Reduction programme, the Integrated Flood Resilience Programme, and the Cyclone Preparedness Programme (CPP). Through the Asia Pacific Technical Working Group on Anticipatory Action Hub for Asia Pacific (co-led by IFRC and FAO) and the EW4All initiative, the project will connect with a range of experts to exchange on best practices and approaches but support the visibility of the approach in Bangladesh. Based on the support from the Government of Sweden (under SIDA), Under Pillar 2, capacity development activities related to Thunderstorms and lightning, storm surges monitoring and detection, training of media professionals, finalization of the CAP implementation plan was carried out. Under Pillar 3, technical assistance has been provided to BTRC (regulator), among

	which is the mapping of the stakeholders – government ministries, development partners, academia, private sector and international/national NGOs; strengthening the collaboration between co-pillar leads – BTRC and DDM; development of draft National Emergency Telecommunication Plan; development of draft Early Warning Connectivity Map; development of technical, economic and financial feasibility study of implementation of cell broadcast and development of technical specifications for cell broadcast; collaboration with BDRCS, CCP (Pillar 4) for the inter-pillar field-level simulation exercise on the Early Action Protocol (EAP) for Cyclone in Borguna district, Bangladesh; and collaboration with BMD (Pillar 2) on CAP training and development of the draft standard operating procedures for CAP.
Synergies with Ongoing and Pipeline Initiatives	Activities would aim at complementing at national level the support provided at regional level through CREWS – South Asia which covers the nine SAHF countries including Bangladesh, especially around areas such as improving weather forecasting skills, marine forecasting, and decision support systems. CREWS South Asia will advance the use of "impact-based forecasting" (IBF) and Multi hazard early warning systems (MHEWS), tailored to the specific needs and risks in South Asia which can be then tailored to national and local levels in Bangladesh. Activities will build on and continue ongoing work under the Climate Adaptation and Resilience (CARE) for South Asia. CARE establishes a **regional data & analytics platform** known as Regional Resilience Data and Analytics Service (RDAS). RDAS collects climate and sector specific data (agriculture, water, transport, etc.), enabling risk informed analysis s**ector specific Decision Support Systems (DSSs)** can be further explored to include floods related events and the risk informed warning services can be delivered to various stakeholders. Activities will also be coordinated with the UK Met Office, which, under its WISER programme, supports strengthening of impact-based forecasting and climate services in the region. The team will also work closely with the SOFF peer advisor (Met Norway) and the SOFF Implementing Partner (Islamic Development Bank) as well as the SOFF Secretariat to harmonize and align activities related to strengthening of the meteorological observations supporting a high-resolution modelling and forecasting system for meteorological events. The proposed project will also leverage a project currently under final development phase: HydroSOS BaNe – Hydrological Status and Outlook System for Integrated Water resources Management and Climate Resilience in the Ganga Brahmaputra Meghna Basin (Bangladesh, Nepal) (USD 12 million), submitted by WMO to the Adaptation Fund. At the national level, the project will be implemented in close collaboration with BDRCS/IFRC, who will lead the institutionalization of EWEA and CEWS and ensure strong linkages with the Asia Pacific Technical Working Group on Anticipatory Action (co-led by FAO and IFRC) for Asia Pacific and the global EW4All initiative. Further Synergies and complementarities with other on-going, completed and planned projects, will also be sought during full project development. A joint national steering or coordination mechanism under the EW4All governance structure, chaired by MoDMR/DDM and involving BMD, BWDB, BDRCS/IFRC, WB, WMO, UNDRR and other key partners, will guide strategic alignment between upstream hydromet investments and downstream community-based EWEA. This mechanism will support a single, coherent CREWS Bangladesh programme with shared results indicators, common geographic focus and harmonized approaches to gender-responsive and disability-inclusive early warning systems and anticipatory action.

Country and Region (in alphabetical order)	Belize
Already in Pipeline as of 20th SC meeting	No
Indicative Budget (in USD millions)	4.5M
Lead Implementing Partner	UNDRR
Background and Rationale	Belize, a small island developing state, is located on the Caribbean coast of Central America. Belize is highly vulnerable to impacts from tropical systems and increasingly vulnerable to the negative impacts of climate change. Through the leadership and coordination of the National Emergency Management Organization and with the technical support of all four EW4All pillar lead agencies, in December 2025, Belize was in the final stages of defining its national EW4All 2026-2029 implementation roadmap for closing the gaps in the 4 technical pillars as well as in governance. The implementation plan includes 154 activities across the four technical EW4All pillars as well as interpillar on governance, with a total estimated budget of $15,508,500 USD (note: this is based on the final draft national implementation roadmap developed with support by all four pillar lead agencies as of November 2025 which is still subject to formal approval by national authorities). Furthermore, it aligns with Belize's Country Work Programme, essentially its national DRR plan in line with the Caribbean Disaster and Emergency management Agency (CDEMA) regional Comprehensive Disaster Management Strategy, as per Belize's CWP output 2.2: National risk information management systems developed and providing access to hazard-related data. The implementation roadmap development process involved a stakeholder mapping, two national multistakeholder consultative workshops, a detailed gap analysis including the inclusive early warning early action and gap analysis checklists, as well as a number of meetings, interviews and interpillar coordination led by Belize's National Emergency Management Organization (NEMO). The National Meteorological Service of Belize (NMS) is Belize's leading governmental authority on weather and climate and, together with the National Emergency Management Organization (NEMO) as the national focal point to EW4All in country, is at the forefront of the efforts to develop Belize's early warning systems.

Needs	Needs are defined in Belize's EW4All implementation roadmap across the EW4All pillars and based on the application of the EW4All gap analysis checklist and the inclusive early warnings early action checklist. Among other things, the gap analysis identified areas that need improvement, particularly related to the inclusion of gender perspectives and other marginalized groups, as well as governance challenges. Despite significant efforts to improve disaster risk management across the NEMO system in Belize, with clear implications for MHEWSs, there remains an inadequate governance structure which does not clearly define and anchor in law the roles and responsibilities of key actors, which in turn hampers effective coordination among various sectors involved in disaster preparedness and response. Other critical gaps include: Regulatory misalignment; Human capacity constraints; Insufficient financial resources for disaster risk management (DRM); Insufficient use of readily available ITC solutions; Weak community-level DRM frameworks and plans; Poor participation by non-State actors in the NEMO system; Absence of a comprehensive plan for the development and implementation of EWSs; A narrow window of inclusivity, especially related to persons with disabilities, women, linguistic minorities, etc.; and A lack of (an) incentive scheme (s) to stimulate the development and deployment of appropriate MHEWs across all sectors. With regards to policy framework and governance, the lead is with the NEMO Secretariat and the NEMO System (theoretically an all-of-government system), although responsibility for specific hazards appears fragmented across different institutions. There is not yet any formally established policy framework that guides early warning systems, disaster risk reduction, or comprehensive disaster management in Belize, although there is a draft National Disaster Preparedness and Response Plan that identifies an "Education, Information, Communications and Warning Committee", although it is unclear what exactly is the role of such a committee. There is no central repository for the collection, analysis, and consolidation of hazard / exposure / vulnerability / risk information. Whereas there are bilateral data sharing agreements between few public sector agencies, there are no established procedures or agreements for data sharing across sectors, and there is no lawful obligation to share data even among public agencies. Similarly, there is no central data architecture or repository for disaster risk information or open access to risk information nationally/locally outside of alerts and forecasts by NEMO and the Met Service. There is a lack of capacity to produce impact-based forecasting (IbF) and warning services related to all hazards and for which Belize does not currently have the technical skills, access to information, or post-disaster analytics from relevant stakeholders needed for IbF or hazard-specific impact models. This is exacerbated by budgetary constraints and a need for IT solutions that allow for the overlay of potential hazards, vulnerable areas, and critical infrastructure in an easily understood product/map/graphic. Furthermore, there is no unified national warning dissemination or communications policy/strategy nor standing operating procedures in place. Warning messages do not yet reach the entire territory or provide information that targets specific vulnerable groups. Similarly, Belize lacks the capability to send impact-based early warning messages that communicate risk clearly, and which provide advice on actions that can be taken to reduce risks. As it currently stands, the warning/alert process is also unidirectional and lacks any feedback mechanism by which to gauge whether or not issued warnings were effective in terms of relevance, completeness, timeliness, etc. Currently the preferred dissemination and communication channels used for warnings in Belize are social media, radio/television, and websites. Belize currently does not use digital telecom technologies, such as cell broadcast and location-based SMS to send alerts directly to end-users' mobile phones and devices, although there is ongoing work to close this gap. There remains a significant gap at the local government level because none of the related legislation recognizes disaster risk management nor obliges local governments to take measures to reduce disaster risks, including conducting risk assessments, disaster mitigation, or disaster preparedness.

	Recognizing that women's empowerment is fundamental for building resilience and that men and women access, process, interpret and respond to information and warnings in different ways, while also mindful of these differentiations based on other factors and conditions, Belize City under the coordination of NEMO and with UNDRR support, has advanced in strengthening MHEWS, gender and women's empowerment and the inclusion of persons with disabilities in their local DRR plan. This is in addition to the application of the Inclusive Early Warning Early Action Checklist and Implementation Guide that served to inform the national implementation roadmap.
Demand	The proposal for advancing a full CREWS project proposal has been verbally vetted by the head of the National Emergency Management Organization (NEMO) as a way to help finance the nationally defined EW4All implementation roadmap. NEMO has been leading the national multisectoral and multistakeholder coordination surrounding the initial phase of EW4All / MHEWS that has led to the development of the implementation roadmap. As such, proposed actions under this project would include the following: • Rollout of the DELTA Resilience System to first, update the disaster loss database in Belize and strengthen the link between loss and damage data with impact-based forecasting, including a better disaggregation of exposure, vulnerability and impact data. • Update probabilistic hazard and risk models for hurricanes, coastal erosion and riverine floods at national level. The exposure and vulnerability components of such models are to enhance the impact-based forecasting capabilities and therefore, allow sending better warning messages through the MHEWS. • Rollout of national cell broadcast infrastructure supported by wide uptake of CAP by alerting authorities. Emphasis to be placed on the use of assistive technologies to ensure the widest possible reach of warning messages.
Leveraging Potential	As a pilot for Delta Resilience, this project would also serve to leverage coordinated actions across UN partners for loss and damage tracking system that would benefit across the Caribbean and beyond in terms of improved data management and analysis. Given the focus on disability inclusion and accessible early warnings, including with assistive technology, the head of NEMO has expressed interest in Belize acting as a pilot country, this could serve as a model that could then be replicated and scaled up. The initiative in Belize City that will see the development of a disability inclusive and gender responsive local disaster risk reduction plan that encompasses MHEWS is another area that could serve to as a model at the local level; particularly given the support by national authorities, specifically NEMO. Interest has already been expressed for such an undertaking in Belmopan (Belize's capital), whereas such experience and lessons learned could also serve for local governments across the Caribbean and beyond for strengthening the vertical alignment between national and local governance in line with Sendai Framework target G.
Synergies with Ongoing and Pipeline Initiatives	This project would allow for providing continuity to CREWS ASW, while aligning with CREWS Caribbean 2.0 and with activities being carried out by UNDRR under the European Union's Caribbean Resilience (EURCARES) project that, in the case of Belize, aims to enhance advances to date in the proposed national EW4All implementation roadmap and strengthen active engagement by the private sector. It also aligns with a project under the UN Joint SDG Fund Programme titled Belize Inclusive Resilience in Safe and SMART Spaces project focused on the local level that is strengthening local DRR planning with a focus on gender and MHEWS. It will also ensure synergies and alignment with other related projects such as those financed by GCF, SOFF, Adaptation Fund, World Bank and others: ▪ CATAC: Tsunami Warning SOPs, installation of offshore tsunami sensors, real-time seismic tsunami, and data sharing.

	▪ Multi-Hazard Impact-Based Forecasting and EWS for the Belize River Watershed (Caribbean Development Bank – Pending implementation) In addition to the above, during the gap analysis stage the following projects were identified by the UNDP country office as having some implications for MHEWS in Belize: ▪ Energy Resilience for Climate Change Adaptation Project (ERCAP), World Bank- completed ▪ Output 2: The Enabling of Belize's Statistical System- Activity 2.1.3: Enabling data collection and analysis in support of enhanced early warning capabilities for resilience building, KOICA project implemented by World Food Program - Pending Implementation Enabling the resilience of Belize's Coastal Communities for Climate Change Impacts (Adaptation Fund) - Pending Implementation

Country and Region (in alphabetical order)	**Cabo Verde**
Already in Pipeline as of 20th SC meeting	No
Indicative Budget **(in USD millions)**	3 million
Lead Implementing Partner	IFRC
Background and Rationale	Cabo Verde, as a Small Island Developing State (SIDS), is increasingly exposed to climate-related shocks, particularly droughts, coastal flooding, and storm surges threatening livelihoods, water security, and critical infrastructure. Although the country has a national Early Warning System (EWS) framework, the translation of warnings into coordinated and funded Early Actions remains limited. Forecasting and response responsibilities are fragmented, and the operational mechanisms required to activate anticipatory actions are not yet in place. MHEWS in Cabo Verde are positioned as a cross-cutting instrument in the National Adaptation Plan (NAP), serving as an essential system to reduce climate vulnerabilities, especially across key sectors including health, agriculture, and infrastructure. It is also instrumental for enabling multisectoral disaster risk management with a focus on climate justice and inclusion. Finally, MHEWS help reinforce ongoing efforts on community resilience, risk communication, and climate education identified in the Nationally Determined Contributions (NDCs).

	The Government of Cabo Verde has committed to the EW4All initiative. The national EW4All committee has been established to guide its implementation. This includes (Pillar 1) National Civil Protection and Fire Service (SNPCB), (Pillar 2) National Institute of Meteorology and Geophysics, (Pillar 3) Multisectoral Regulatory Agency for the Economy, and (Pillar 4) Cabo Verde Red Cross. The national committee is anchored in the country's national disaster risk management platform and the national climate governance framework. Together the pillar lead have begun work to determine current capacities, gaps, needs, and use these to develop a costed and time bound roadmap for action. The heavy rains and subsequent flooding that affected San Vicente has accelerated the urgency and need for MHEWS. The country is currently in the process of developing its national EWS roadmap, where anticipatory action (AA) has been identified as a priority under Pillar 4. However, these priorities are expected to remain unfunded, as no national budget allocation exists, representing a catalytic entry point for CREWS investment. Other priorities include implementation of the National Emergency Telecommunications Plan and strengthening of hazard monitoring, analysis, forecasting and alert by INMG across hazard types. Cabo Verde has demonstrated readiness through the development of a simplified Early Action Protocol (sEAP) for drought led by CVCV, with technical support from IFRC and the Red Cross Red Crescent Climate Centre. Upgrading the sEAP to a formal Early Action Protocol (EAP) will allow Cabo Verde to define clear triggers and thresholds for activation, access forecast-based financing such as the IFRC DREF for Anticipatory Action, clarify institutional responsibilities through Standard Operating Procedures (SOPs), and embed anticipatory action into national systems and disaster governance. However, three structural barriers continue to prevent full implementation of EWEA: limited operational capacity to translate scientific forecasts into localized early actions; fragmented coordination and information flow between DGPC, INMG, and community actors; and absence of interoperable platforms to support rapid decision-making and activation. **Proposed Actions** **1. Strengthen operational AA capacity (EAP development and activation)** • Upgrade the drought sEAP to a full EAP (triggers, thresholds, SOPs, funding activation). • Train DGPC, INMG, CVCV, and local actors on interpreting forecasts and deploying early actions. • Pre-identify priority actions, delivery mechanisms, and financing to ensure readiness before impact. **2. Enhance coordination and information flow** • Strengthen INMG hazard monitoring, analysis, and forecasting capacity, as well as alerting capabilities using CAP • Develop interoperable information systems linking DGPC and INMG, including the potential establishment of an inclusive Emergency Operations Center (EOC). • Conduct joint drills and simulation exercises to test decision-making protocols. **3. Ensure scalability and sustainability through regional and multilateral alignment** • WMO / CREWS regional initiatives: strengthen data interoperability, technical training, and hydromet standards in collaboration with AGRHYMET and ECOWAS. • Align with World Bank/GFDRR hydromet modernization and GCF readiness/adaptation programmes under EW4All, and explore links to SOFF where applicable.

Needs	Cabo Verde's main gaps lie in the limited operational capacity to generate and translate early warning information into early action and the fragmented coordination between institutions responsible for forecasting, preparedness, and response. The Pillar 2 assessment found that INMG has limited monitoring capabilities across hazard types, including drought, as well as limited access and use of NWP and other models that could aid in forecast and alerts. In addition, while national systems for disaster management exist, they remain under-resourced, with outdated contingency mechanisms and limited integration between scientific data and community response structures. The drought sEAP developed with IFRC and the Climate Centre represents progress, but it requires upgrading to a full EAP with stronger triggers, financing mechanisms, and institutional ownership.
Demand	The Government of Cabo Verde, through the Ministry of Agriculture and Environment, has formally expressed its commitment to advancing the Early Warnings for All (EW4All) initiative and implementing the forthcoming national roadmap. To address the critical gaps in Cabo Verde's Early Warning and Early Action (EWEA) system, the following actions are proposed: **Strengthen Operational Capacity for Early Action** The government emphasized the need to translate the existing drought sEAP into a full Early Action Protocol (EAP), and to reinforce preparedness capacities at both national and community levels with technical support from IFRC. There is a need to develop clear, hazard-specific Standard Operating Procedures (SOPs) that define early action triggers and responsibilities. Work on forecast based triggers and thresholds needs to be accompanied by capacity building of the INMG, in line with the EW4All roadmap. Complementary capacity building for local actors is essential to ensure timely interpretation and understanding of forecasts and implementation of anticipatory actions. Establishing forecast-based financing mechanisms will enable rapid mobilization of resources once thresholds are met. **Enhance Institutional Coordination and Information Flow** A national multi-stakeholder coordination platform should be established to align efforts across forecasting, preparedness, and response institutions. A unified early warning framework is needed to streamline data sharing and decision-making processes. Investments in interoperable information systems will facilitate real-time access to risk and forecast data. Regular joint simulations and drills will strengthen inter-agency collaboration, while policy reforms should clarify institutional mandates and enforce coordinated action. **Strengthen National Coordination** The proposal aims to strengthen national coordination under EW4All, enhancing interoperability between DGPC, INMG, and CVCV, and improving local preparedness systems. It will also build technical and operational capacities to ensure that early warnings are timely, actionable, and effectively linked to predefined early actions that protect vulnerable communities. The proposal directly responds to these national priorities, ensuring alignment with government-led initiatives and collaboration with CREWS, UNDRR, WMO, ITU, and other EW4All partners.

Leveraging Potential	This proposal presents a strategic entry point for establishing anticipatory action (AA) systems tailored to Cabo Verde's Small Island Developing States (SIDS) context. It directly aligns with the CREWS West Africa regional programme, WMO's Pillar 2 forecasting support, and UNDRR's coordination under the Early Warnings for All (EW4All) initiative. These synergies ensure that the proposed activities are not only technically sound but also regionally coherent and globally endorsed. Cabo Verde has high leveraging potential through its active participation in CREWS West Africa Phase 2 and the upcoming GCF EW4All regional programme, both of which offer scalable platforms for expanding early warning and early action systems. The country began SOFF implementation in March 2025. The proposal also connects with broader resilience-building efforts, including the World Bank/GFDRR Hydromet Modernization Programme, AfDB climate resilience operations, and ECOWAS/AGRHYMET regional capacity building. These linkages provide opportunities for technical reinforcement, regional integration, and long-term sustainability. Importantly, the proposal builds on Cabo Verde's ongoing engagement in the EW4All initiative, particularly the development of its national roadmap where the Cabo Verde Red Cross (CVCV) leads Pillar 4 on Preparedness and Response. It leverages progress made through the drought simplified Early Action Protocol (sEAP), developed in collaboration with the IFRC Dakar Cluster and the Red Cross Red Crescent Climate Centre. This sEAP already provides a structured framework for anticipatory action, and the proposal seeks to upgrade it into a full Early Action Protocol (EAP), formally linked to the EW4All roadmap. This ensures institutional continuity, operational readiness, and scalability. The project further amplifies existing collaboration between DGPC (Civil Protection), INMG (Meteorological Institute), and CVCV, while aligning with ongoing CREWS and WMO regional projects and upcoming Pillar 2 interventions aimed at strengthening forecasting and data-sharing systems. By integrating the expertise and systems of partners such as UNDRR, IFRC, ITU, and the African Union, the proposal enhances interoperability and coherence across national and regional early warning systems. Moreover, Cabo Verde can leverage global initiatives such as the UNDP Climate Promise and explore potential financing envelopes from AfDB and the European Union targeting resilience in island states. These partnerships and funding streams position Cabo Verde not only to consolidate existing investments under national disaster preparedness frameworks but also to transform them into actionable, community-centered mechanisms that bridge early warning and early action.
Synergies with Ongoing and Pipeline Initiatives	The proposal aligns closely with ongoing and upcoming initiatives under the CREWS West Africa framework and the EW4All roadmap development process in Cabo Verde. It complements the WMO- and UNDRR-led components of EW4All particularly those focused on risk knowledge and forecasting (Pillars 1 and 2) by strengthening Pillar 4 on preparedness and response, led by the Cabo Verde Red Cross. It also supports the planned upgrade of the drought sEAP to a full EAP, ensuring synergy with regional anticipatory action efforts coordinated by the IFRC Dakar Cluster and the Climate Centre. The proposal is further aligned with broader resilience and climate financing initiatives, including potential GCF-supported programming and ongoing collaboration with IUT, ECOWAS, and the African Union, thereby ensuring coherence and complementarity across regional and national systems.

Country and Region (in alphabetical order)	**Central African Republic**
Already in Pipeline as of 20th SC meeting	Yes

Indicative Budget (in USD millions)	4.5
Lead Implementing Partner	World Bank
Background and Rationale	CAR is seeking to improve its Hydromet and climate services through the establishment of a functional flood EWS in selected watersheds, notably the greater Bangui area watershed.
Needs	CREWS CAR will support the strengthening of institutional capacity through technical assistance to key Hydromet service providers and end-users. The TF will also support the establishment of a drought forecast-based financing, an early action mechanism to deal with the prevailing drought events in the north and northeast parts of the country and to minimize its impact on agriculture, food security, livestock among others. In addition, national capacity on producing, accessing and using risk knowledge and disaster impact data (losses and damages) for EWS needs to be strengthened.
Demand	Demands span across scaling up and enhancing national early warning systems, through building capacity, providing technical assistance and providing normative guidance (e.g., National Strategy for Disaster Risk Reduction).
Leveraging Potential	WB is currently financing EWS strengthening targeting Bangui with the budget envelope of US$ 4.5M under the Food Emergency Project. WB further plans to step up its support to the country's EWS through a new operation in preparation focusing on Urban Resilience and Inclusive Cities, which would allow to support EWS development in other major cities in the country, including Berberati, Bambari and Birao. These cities have different needs (All three are all exposed to climate event and flood – either linked to flood or erosions; Birao is exposed to high temperatures and droughts), requiring the country to develop a multi-hazard approach(budget for EWS activities is TBD) An investment/funding will be sought to support the financing component of the Drought FbF mechanism and the acquisition of selected observation equipment.
Synergies with Ongoing and Pipeline Initiatives	

Country and Region (in alphabetical order)	**Comoros**
Already in Pipeline as of 20th SC meeting	**No**

Indicative Budget **(in USD millions)**	USD: 3.2 million
Lead Implementing Partner	IFRC
Background and Rationale	Comoros, a small island developing state in the Indian Ocean-faces mounting risks from tropical cyclones, sea level rise, erratic rainfall, and extreme heat. According to the World Bank's "once-in-a-century" rainfall events could occur almost twice as often by mid-century, while rising seas threaten to inundate coastal communities. For a country where nearly 40% of the population lives below the poverty line and where infrastructure is weak, disasters threaten not only lives and livelihoods but also fragile development gains. Due to its extreme exposure to climate hazards and its high vulnerability to the effects of climate change, the Comoros regularly suffers from disasters caused by natural hazards, including cyclones, floods, extreme temperatures and prolonged droughts, which affect its agricultural resources, infrastructure and the food/nutrition security of its population as well as its livelihoods. In recent years, Comoros has implemented several EWS-related projects in different parts of the country, which has resulted in the saving of lives. This obviously shows how vital early warning systems are for the population and for the country's economy, and this initiative comes at the right time, adding to the progress previously made towards the end of May 2023, during the coordination meeting led under the aegis of the BNGRC. Comoros faces a convergence of climate-related and geophysical hazards—including volcanic eruptions, cyclones, flash floods, epidemics, and heatwaves—that regularly threaten communities and infrastructure. As a Small Island Developing State (SIDS), its exposure is heightened by constrained institutional capacity, fragile health systems, and limited early action mechanisms. The country joined the EW4All Initiative after a launch event in April 2024, but little advancement could be registered due to limited capacity of local authorities around Anticipatory Action and Early Warning Systems but also limited fundings available. Currently, the country is finalizing its EW4ALL Pillar 1, 3 and 4 Gap Analysis (Maturity Index) and the National Roadmap with support from CREWS, UNDRR and IFRC, reflecting strong national ownership and coordination across relevant ministries.
Needs	By 2027/2030, Comoros aims to establish a comprehensive, automated, and interoperable disaster risk information system that consolidates hazard, exposure, vulnerability, and capacity data into a single national platform. This includes updated baseline datasets, harmonized methodologies, core GIS layers, and a national multi-hazard risk atlas to support preparedness, planning, and anticipatory action.

	The also includes strengthening institutional capacity and governance to ensure risk information is updated regularly, interoperable across institutions, and accessible at national and local levels. This includes enhanced capability for multi-hazard assessments, CRVA, sectoral data integration, and scenario-based analysis, supported by systems such as Delta resilience , real-time monitoring networks, and standardized data governance. According to the PIllar 1 report for EW4ALL roadmap In the context of the Comoros, risk assessment methods take into account particular hazards. Flood risk assessments are based on the statistical analysis of past events, satellite imagery, vulnerability and risk mapping (VRAM) as well as the mapping of risk areas. However, these assessments are sometimes late or do not cover all affected areas. To improve these processes, it is recommended to set up specialized evaluation committees, acquire specialized equipment and promote multisectoral collaboration. Drought risk assessments use similar techniques but are hampered by a lack of tools and personnel. To improve coverage and quality, it is recommended to establish a specialized drought department and build capacity. The assessment of volcanic eruptions is based on seismological observations, mobile geochemical stations, monitoring ground deformation by GPS stations, VRAM and mapping of risk areas, with the participation of the University of Reunion and the Volcanological Observatory of Piton de la Fournaise. It is essential to build capacity for these assessments and to diversify monitoring techniques. Cyclone risk assessment is carried out using statistical analyses, satellite imagery and mapping of risk areas, with multi-sectoral collaboration playing a key role. Improved access to high-resolution forecasting models is needed to enable better preparedness. Tsunami risk assessments involve statistical analyses, seismological data and regional or international collaborations, thus underlining the importance of multisectoral cooperation. Vulnerability analysis is based on tools such as STAR, VRAM, SPAR and JEE, which are used by WHO and benefit from multisectoral collaboration. The development of standardized and harmonized assessment tools, as well as capacity building to apply them, can improve coherence and effectiveness across sectors. Risk modeling efforts include tools such as Q-lava for volcanic hazards, numerical prediction models for cyclones, and AROM for weather forecasting. Strengthening the technical capacities of the actors involved in these modelling activities is essential to improve forecasting capacities, improve the accuracy of early warnings and ensure timely responses. Based on the Pillar 4 Gap analysis (Maturity Index), the current level of ‘maturity’ of the national systems for Preparedness and Response to alerts is between minimal and basic: some policies, plans and mechanisms are in place, but they do not sufficiently and clearly incorporate Anticipatory Action and preparedness, nor do they include sufficient elements for actual operationalization. Other than the current CREWS funding and Red Cross funding for the implementation of the Comoros Red Crescent Early Action Protocol for Vulcanic Ashes, further implementation of the EW4All Roadmap remains unfunded. This proposed intervention responds to that critical gap, aiming to operationalize the roadmap and build systems that shift the country from reactive response to proactive risk management. With increasing hazard frequency and resource constraints, the roadmap must evolve from a planning instrument to a life-saving tool grounded in community engagement, protocol development, and targeted capacity building. The project directly supports national ambition and regional coherence through CREWS SWIO Phase 2. Limited technical and financial support to implement the National EW4All Roadmap, including partners for coordination and implementation monitoring and evaluation.

	Furthermore, Interpillar coordination of the EW4All initiative in the country is limited. Capacity building for volunteers, local authorities, and community members on EWEA; scenario planning, and disaster simulations is much needed. Early Action Protocols (EAPs) for key hazards (e.g., cholera, cyclones, flash floods) need developing and funding in national-wide protocols applicable to all actors and administrative levels. Existing DRM laws and policies have limited alignment with early warning and early action principles. Law N° 24-010/AU of 18 June 2024 on DRM and Decree No. 24-179PR on the conditions and procedures for intervention by the National Emergency and Resilience Fund (FNUR) include limited provision to allow their actual operationalization. Also, there is limited involvement of regional authorities (island-level) and communities to ensure policies and laws are locally operationalized. Human resource capacity for the National DRM authority (DGCS) is very limited, both in terms of staff and technical knowledge on end-to-end MHEWS and Anticipatory Action. The country does not have a formal social protection system. Technical support is needed to develop a shock-responsive social protection system that incorporates an early action approach and can quickly adapt to the diverse needs and potential impacts on at-risk populations, including particularly vulnerable groups such as women, children, migrants, etc. Community involvement in DRM, and AA other than through Red Cross Red Crescent volunteering, is very low, and policies are not implemented / operationalized to the last mile. Community-based preparedness is very low. The national Meteorological Service has very low capacities (equipment, technical knowledge, staff) to access forecasts and issue alerts. Access to forecast-based finance remains a key issue. The National Emergency and Resilience Fund (FNUR) has been established, but it is not clear how communities will be able to access this fund, and if Anticipatory Action and Preparedness is eligible.
Demand	Funding to operationalize the roadmap, integration of anticipatory action, and scale up EWEA systems. Support for institutionalizing effectiveness of early warnings (including provision of equipment and training of NS and local authorities' staff for the setting-up of community-led EWS) and coordination mechanisms for the EW4ALL initiative but also EWEA work, at the national and the decentralized levels. For example, through institutionalizing the participative Pillar 4 working groups established under the CREWS accelerator fund to develop Pillar 4 Maturity Index and Action Plan, but also through the establishment of a national EW4All interpillar committee to support coordinated advancement across the different Pillars. Technical support in the development of national DRM laws and in their operationalization at all levels, ensuring they are actionable down to the community level. Training on Anticipatory Action and EWEA for the staff of the National DRM authority (DGSC) and other key institutions at all levels. Technical support in the establishment and continuous work of the National Emergency Operational Centre set up by the DGSC: hazard and vulnerability mapping updates; scenario development and planning based on forecasts. Technical support to establish a shock-responsive social protection system that incorporates an early action approach. Implementation of community-facing activities around EWEA including simulation exercises, developing evacuation plans, alert multiplication, etc. Technical and financial support to modernize forecasting infrastructure for the national meteorological service, enhance staff capacities, and ensure the operationalization of community early warning systems. Without this investment, early warning coverage and the ability to reach vulnerable communities will remain inadequate. Demand from the National focal point from Comoros includes: 1. Strengthening national capacity to track the impact of disaster events at sub-national levels, including collection, analysis and integration of multi-hazard exposure, vulnerability and impact data into IbF

	2. Improving the systematic collection of risk and impact data collection for effective EWS messaging , including through country-led data ecosystem maturity assessment (DEMA). 3. Multihazard risk assessment for cyclones, volcanoes and tsunamis – training of national actors to improve skills and applications to MHEWS 4. Tabletop simulation exercise for effective response and preparedness in collaboration with IFRC 5. After Event Review (AER) training to build national capacity to lead locally-led reviews of MHEWS performance across the value cycle. 6. Update of emergency EWS operations room in OVKA and DGSC Anticipatory Action for DRR support for Early Action in collaboration with IFRC
Leveraging Potential	This proposal builds on the current CREWS funding active in Comoros, which is supporting the development of the EW4ALL Roadmap and the set-up of key structures for Pillar 4. The funding is also financing (as part of the SWIO Phase 2 envelope, within the global CREWS investment of USD 139.5 million) preliminary activities that would be scaled up with the proposed intervention. For example, the organization of training on EWEA, but also simulation exercises in all regions (CREWS SWIO Project Status Report CREWS). Also, the DREF Volcanic Ash Anticipatory Action funding, which laid the groundwork for raising awareness and positioning the CRCo as a key actor of Anticipatory Action and Preparedness (210,958CHF - Simplified EAP – Volcanic Ash, Comoros). Technical support to local authorities would also amplify existing strong relationships with the national disaster management agency and other ministries. Ministry of Health), who already recognizes the CRCo as a key national actor of disaster response. For example, the leading role that the CRCo took in the recent Cholera Epidemic response, with support from the RCRC Network. This proposal is also designed to ensure coherence and complementarity with other ongoing regional and global initiatives. It will be anchored within the broader CREWS Southwest Indian Ocean (SWIO) Phase 2 program. The inclusion of Comoros Met Office will ensure leveraging SOFF readiness activities currently being rolled out in Comoros (estimated at USD 150,000–300,000 per country), as outlined in the SOFF UNMPTF Annual Report 2024, and the AFD/GCF/EU Hydromet programme, which provides a regional envelope of EUR 10.6 million to strengthen forecasting infrastructure and early warning systems across Comoros, Madagascar, Mauritius, and Seychelles (AFD Hydromet Project Overview). The intervention will also integrate the recommendations from the Italian Red Cross–UNDRR Disaster Risk Management Law initiative (DRM Legal Mapping – Comoros), particularly those aimed at further institutionalizing anticipatory action within government systems. While country-level funding details have not been publicly disclosed, the initiative was implemented as part of a regionally supported technical assistance effort focused on disaster risk governance and data-sharing. Leveraging on the collaboration between the PIROI Center based in La Reunion, the proposal explores opportunities for collaboration with the World Meteorological Organization (WMO) through its Regional Specialized Meteorological Centre (RSMC) in La Réunion, which provides regional forecasting and early warning services. In the case of Indian Ocean Islands - including Madagascar, Mauritius, Comoros, Seychelles, and Mayotte, the initiatives and programs implemented jointly with the PIROI Center also play important roles in the roll-out of early warnings, through enhanced regional coordination and operational readiness for disaster response, but also as a recognized regional training center, supported through an estimated annual budget of EUR 3 million for regional preparedness and coordination across Indian Ocean Island countries. (PIROI Early Warning Systems). Through PIROI's network, IOI National Societies benefits from shared expertise, prepositioned stocks, and training opportunities that strengthen its anticipatory action and early warning capacities. This partnership further promotes cross-country

	learning within the Indian Ocean region and supports a more harmonized regional approach to disaster risk management and climate resilience. In the medium term, the CRCo and its partners can further leverage these linkages to position Comoros within the Green Climate Fund (GCF) Small Island Anticipatory Action programming jointly coordinated by IFRC and WMO. The proposed intervention is therefore designed to scale existing efforts, institutionalize anticipatory action, and integrate Comoros into a broader regional and global ecosystem of early warning and climate resilience programming. Comoros is a priority country under the EW4ALL initiative and an active participant in the Southwest Indian Ocean (SWIO) regional roadmap. National activities are aligned with the Sendai Framework, the sustainable development goals (SDGs), and UN Secretary-General's call for universal early warning coverage. CREWS SWIO Phase 2 builds on earlier technical assessments and pilot activities including alert broadcasting and improved utilization of RSMC La Réunion products and is strategically linked to SOFF readiness support and the AFD/GCF/EU Hydromet programme, which collectively support forecasting infrastructure and early warning modernization. Existing coordination between national authorities and regional actors provides a strong foundation for multi-level early action and upcoming CREWS investments aim to reinforce strategic planning, risk communication, and institutional capacity. The proposed funding would complement an ongoing technical support programme funded by UNDRR and implemented by the Italian Red Cross, focused on Disaster Risk Management Law reform and implementation in the Southwest Indian Ocean, and in particular data interoperability and exchange, which are essential for effective DRM and the integration of anticipatory action into legal and institutional frameworks. In addition, the proposed intervention would enhance coordination between the Comoros Red Crescent and public authorities through the ongoing DRM project supported by PIROI, further strengthening institutional linkages and operational readiness. In the medium term, Comoros can further strengthen its regional integration by linking to WMO's forecasting services through RSMC La Réunion and exploring participation in GCF Small Island AA programming, coordinated by IFRC and WMO. The Government of Comoros supports a variety of programs, projects, and initiatives aimed at strengthening early warning systems and disaster preparedness. The GR3C MASTER programme, supported by UNDP, focuses on the production and effective application of risk knowledge. The GEF-funded project "Building Community Resilience to Climate Change and Disasters" promotes integrated resource management and resilient agricultural practices. The Disaster Risk Reduction (DRR) support programme, involving UNDRR and local NGOs, focuses on community training, risk mapping and the development of contingency plans. Other initiatives include the Adaptation Fund project which aims to reduce coastal vulnerability through ecosystem restoration, such as mangrove reforestation, and the development of green coastal infrastructure. The World Bank-funded Post-Kenneth Recovery and Resilience Project (PRPKR) aims to rebuild resilient infrastructure, strengthen disaster management capacity and improve early warning systems. Urban resilience is addressed through projects such as Urban Climate Resilience Enhancement in Africa, supported by OXFAM, and the EU-funded RE2CLID project, which strengthens institutional capacities and community structures for crisis management. The Coastal Resilience Initiative promotes regional scientific cooperation on coastal ecosystem restoration, knowledge sharing and awareness-raising activities. Efforts to ensure a climate-resilient water supply involve sustainable management practices and infrastructure resilience initiatives supported by OGCF and UNDP.

	Multinational efforts include climate risk financing initiatives supported by the AfDB and DGSC, which aim to develop climate risk financing instruments and improve their use in sectors such as agriculture, through projects funded by the Green Climate Fund (GCF) and UNDP. Strengthening hydrometeorological services and preparedness measures remains a priority, as evidenced by ongoing projects supported by UNDP and partners to improve climate resilience and water supply systems, and to consolidate Comoros' continued progress towards a more resilient and informed disaster risk management framework.
Synergies with Ongoing and Pipeline Initiatives	Leveraging on the collaboration between the PIROI Center based in La Reunion, the proposal explores opportunities for collaboration with the World Meteorological Organization (WMO) through its Regional Specialized Meteorological Centre (RSMC) in La Réunion, which provides regional forecasting and early warning services. In the case of Indian Ocean Islands - including Madagascar, Mauritius, Comoros, Seychelles, and Mayotte, the initiatives and programs implemented jointly with the PIROI Center also play important roles in the roll-out of early warnings, through enhanced regional coordination and operational readiness for disaster response, but also as a recognized regional training center, supported through an estimated annual budget of EUR 3 million for regional preparedness and coordination across Indian Ocean Island countries. (PIROI Early Warning Systems). Through PIROI's network, IOI National Societies benefits from shared expertise, prepositioned stocks, and training opportunities that strengthen its anticipatory action and early warning capacities. This partnership further promotes cross-country learning within the Indian Ocean region and supports a more harmonized regional approach to disaster risk management and climate resilience. In the medium term, the CRCo and its partners can further leverage these linkages to position Comoros within the Green Climate Fund (GCF) Small Island Anticipatory Action programming jointly coordinated by IFRC and WMO. The proposed intervention is therefore designed to scale existing efforts, institutionalize anticipatory action, and integrate Comoros into a broader regional and global ecosystem of early warning and climate resilience programming. Comoros is a priority country under the EW4ALL initiative and an active participant in the Southwest Indian Ocean (SWIO) regional roadmap. National activities are aligned with the Sendai Framework, the sustainable development goals (SDGs), and UN Secretary-General's call for universal early warning coverage. CREWS SWIO Phase 2 builds on earlier technical assessments and pilot activities including alert broadcasting and improved utilization of RSMC La Réunion products and is strategically linked to SOFF readiness support and the AFD/GCF/EU Hydromet programme, which collectively support forecasting infrastructure and early warning modernization. Existing coordination between national authorities and regional actors provides a strong foundation for multi-level early action and upcoming CREWS investments aim to reinforce strategic planning, risk communication, and institutional capacity. The proposed funding would complement an ongoing technical support programme funded by UNDRR and implemented by the Italian Red Cross, focused on Disaster Risk Management Law reform and implementation in the Southwest Indian Ocean, and in particular data interoperability and exchange, which are essential for effective DRM and the integration of anticipatory action into legal and institutional frameworks. In addition, the proposed intervention would enhance coordination between the Comoros Red Crescent and public authorities through the ongoing DRM project supported by PIROI, further strengthening institutional linkages and operational readiness. In the medium term, Comoros can further strengthen its regional integration by linking to WMO's forecasting services through RSMC La Réunion and exploring participation in GCF Small Island AA programming, coordinated by IFRC and WMO. The Government of Comoros supports a variety of programs, projects, and initiatives aimed at strengthening early warning systems and disaster preparedness. The GR3C MASTER programme, supported by UNDP, focuses on the production and effective application of risk knowledge. The GEF-funded project "Building Community Resilience to Climate Change and Disasters"

	promotes integrated resource management and resilient agricultural practices. The Disaster Risk Reduction (DRR) support programme, involving UNDRR and local NGOs, focuses on community training, risk mapping and the development of contingency plans. Other initiatives include the Adaptation Fund project which aims to reduce coastal vulnerability through ecosystem restoration, such as mangrove reforestation, and the development of green coastal infrastructure. The World Bank-funded Post-Kenneth Recovery and Resilience Project (PRPKR) aims to rebuild resilient infrastructure, strengthen disaster management capacity and improve early warning systems. Urban resilience is addressed through projects such as Urban Climate Resilience Enhancement in Africa, supported by OXFAM, and the EU-funded RE2CLID project, which strengthens institutional capacities and community structures for crisis management. The Coastal Resilience Initiative promotes regional scientific cooperation on coastal ecosystem restoration, knowledge sharing and awareness-raising activities. Efforts to ensure a climate-resilient water supply involve sustainable management practices and infrastructure resilience initiatives supported by OGCF and UNDP. Multinational efforts include climate risk financing initiatives supported by the AfDB and DGSC, which aim to develop climate risk financing instruments and improve their use in sectors such as agriculture, through projects funded by the Green Climate Fund (GCF) and UNDP. Strengthening hydrometeorological services and preparedness measures remains a priority, as evidenced by ongoing projects supported by UNDP and partners to improve climate resilience and water supply systems, and to consolidate Comoros' continued progress towards a more resilient and informed disaster risk management framework.

Country and Region (in alphabetical order)	**Cuba**
Already in Pipeline as of 20th SC meeting	**No**
Indicative Budget **(in USD millions)**	

Lead Implementing Partner	**WMO**
Background and Rationale	Cuba is located in the western Caribbean, in the corridor where most Atlantic hurricanes form or pass through, making its population of 10.9 million highly vulnerable to this hazard. This small, developing island nation, with 5,700 km of coastline, where the majority of the population (50-60%) lives within 50 km of the coast, faces dangers not only from hurricanes but also from tropical storms, which trigger related hazards such as storm surges, extreme winds, lightning, tropical storms, and coastal and urban flooding. These hydrometeorological and coastal events have a significant impact on urban and rural communities, directly endangering lives and causing landslides, collapses of rural homes, serious damage to the agricultural, livestock, energy, and health sectors, and economic losses. Within the framework of the Sendai Framework for Disaster Risk Reduction 2015-2030, the country established a platform for disaster risk reduction (DRR) management, which facilitates the coordination of DRR actors from the national to the community level, and the establishment and progressive improvement of early warning systems for the main hazards (natural, etc.) in the country. The main national institutions involved in the prevention and management of climate and hydrometeorological disaster risks in Cuba are the National Institute of Meteorology (INSMET), the National Institute of Hydraulic Resources (INRH), and the National Civil Defense Staff of Cuba (EMNDC). These institutions work closely together to inform the population about events that could affect the country's communities, but they also face significant challenges in reaching the most vulnerable communities and stakeholders. Since 2024, CREWS, through its Accelerated Support Window (ASW), has been supporting national institutions in improving their capacity to generate hydrometeorological information to better support early warning decisions, primarily related to flash floods and urban flooding. This has enabled the introduction of new tools for monitoring and forecasting hydrometeorological events to support early warning systems, mainly in urban areas. It has also contributed to improved collaboration between INSMET, INRH, and EMNDC, and facilitated regional cooperation. This support is also contributing to improved capacity for producing sectoral climate information aimed at planning and enhancing critical socioeconomic activities in the country, such as malaria vaccination campaigns and the management of wind and solar energy.
Needs	The effects of climate change have intensified regional climate variability and increased the frequency and severity of extreme events (IPCC, 2023)1. According to the World Meteorological Organization (WMO)2, the Caribbean has experienced a significant increase in hurricane intensity and a growing exposure of its population to climate risks (WMO, 2021)3. In the last two years, 2024 and 2025, Cuba has been hit by several hurricanes that have caused devastation in communities, resulting in loss of life and damage to homes. The consequences are exacerbated by the deteriorated state of civil infrastructure, and since 2025 by the lack of weather forecasts adapted to Cuba and damage to the radar networks that allowed for nationwide monitoring, caused by both hurricane impacts and vandalism, primarily targeting forecast servers. In the last two years, 2024 and 2025, Cuba has been affected by several hurricanes that have caused widespread damage. The rapid flood mitigation systems in urban and rural areas currently being finalized in Cuba require a testing period during the upcoming rainy seasons, as well as the development of operational processes that enable efficient cooperation between INSMET (National Institute of Meteorology), INRH (National Institute of Hydraulic Resources), and EMNDC (National Meteorological and Hydrological Management) in generating forecasts and alerts. Furthermore, the design of impact assessment products for rapid flooding in vulnerable communities and their integration at the community level are required.

	Strengthening preparedness, response, and recovery plans in the face of climatic and hydrometeorological events has been highlighted as a need by EMNDC. This requires improvements to institutional, operational, and community plans; enhancements to technological tools for institutional monitoring of hydrometeorological events and alert communications; and increased collaboration among national and regional institutions. The development of climate information tailored to Cuba's sectoral needs, primarily agriculture, health, energy, and tourism, is a national priority. This aims to better plan the economic resources required in activities associated with each of these sectors, which are increasingly limited.
Demand	Cuba's national institutions are strongly committed to promoting and adopting the Early Warning for All (EW4ALL) and National Framework for Climate Services (NFCS) vision. This will be achieved through the following: – Ensuring the adapted development and access to timely hydrometeorological forecasting and warning for the main hazards in the country to reduce impacts on vulnerable communities; • Improving flash flood forecasting services through the development of forecast bulletin and warning production tools; • Developing flash flood impact forecasting products for the different regions of Cuba. • Updating and developing early actions, preparedness and response plans for rapid events • Developing a coastal flood forecasting system based on the tools used by INSMET • Developing a digital database of hazard, vulnerability, risk, and exposure for hydrometeorological and climate events (hurricanes, severe storms, flash floods, urban floods, coastal floods) • Acquiring servers for generating meteorological and climate forecasts • Elaborate a plan for development of multi-hazard early warning systems and services building on the existing resources and knowledges. - Developing and integrating climate and hydrometeorological information into the country's socioeconomic practices with a view to optimizing existing resources and contributing to national development. • Review the general action plan of the Cuban National Climate System (NFCS) (with ministerial entities and through consultations with sectoral groups). • Co-develop products adapted to the agriculture, tourism, and energy sectors and facilitate their integration. • Establish collaboration with regional and global research centers to contribute to the improvement of climate and agrometeorological information through innovative techniques. • Provide training to media and community groups on the use of climate and hydrometeorological information. - Promote the development of multi-risk alert services at immediate, sub-seasonal, and seasonal scales, ensuring knowledge transfer and service modernization.

	• Develop systems for monitoring a set of hydrometeorological events at different timeframes, based on existing tools and products in Cuba. • Review and develop operational processes for monitoring and decision-making regarding alerts for the main hazards affecting the country. • Develop communication and alert dissemination tools based on the CAP protocol. Establish a plan for intergenerational knowledge transfer in INSMET, INRH, EMNDC.
Leveraging Potential	
Synergies with Ongoing and Pipeline Initiatives	

Country and Region (in alphabetical order)	**Democratic Republic of Congo**
Already in Pipeline as of 20th SC meeting	Yes
Indicative Budget (in USD millions)	4.5
Lead Implementing Partner	WMO
Background and Rationale	CREWS provided US$3.09 million between 2017 and June 2023, closely coordinated with US$8.03 million investment coming from the GEF and the GFDRR aiming at restoring basic observing, forecasting and warning capacity in MettelSat. The most critical equipment was only delivered between 15 Dec 2022 and 15 Jan 2023. Later on, a support from CREWS ASW enabled for provision of training to the staff, and bare minimum maintenance to the equipment. Additional support is critically needed to maintain the different tools (observing, flood forecasting, weather forecasting, etc.), ensure sustainability of the investment and support the development of services to end-users.

Needs	METTELSAT only receives 10% of the budget needed for operation, most of which covers salaries. Despite clear commitments from the Minister of Transportation to resolve this situation, the NMHS is currently facing challenges in maintaining the investments received through the previous projects. Governance in the country is weak, with outdated disaster risk management frameworks and overlapping mandates. The Directorate of Civil protection within the Ministry of interior lacks capacity to establish a strong coordination mechanism. Most of the interventions have been emergency response driven, mostly framed within the humanitarian context. Limited EWS efforts have been invested into the country hydromet agenda, with a strong focus on civil aviation and with no direct connection to the Civil Protection mechanism in place, hence, the need to establish strong DRM governance instruments and understanding of existing financing flows and opportunities as the basis for future investments.
Demand	The document "economic analysis at the closing of the Hydromet project" clarifies needs to complete the work initiated under the Project, through additional funding of USD 2 million from CREWS: (i) improvements of equipment, (ii) supporting QMS, (iii) initiating service delivery as per memorandums of understanding with 15 partners, (iv) providing trainings, in line with the training plan adopted in 2021, (v) implementing the national framework for climate services (adopted in May 2022). The proposed risk governance frameworks once validated are expected to establish a solid coordination mechanism in the country to support preparedness and response activities
Leveraging Potential	There is an additional project supporting METTELSAT by AfDB (in preparation, concept note stage); and is expected to be financed through a share of aviation and fluvial transportation subsidies, currently collected by the Government but not yet made available to the institution.
Synergies with Ongoing and Pipeline Initiatives	Following the request of the Government and the UN Resident Coordinator's Office, UNDRR is supporting the government on risk governance, including (a) the National disaster risk reduction strategy and priority actions for the period 2024-2029, (b) the strategy for coordinating the humanitarian response and (c) the strategy on partnership, post-disaster recovery and community resilience/sustainable solutions. This builds on the Capacity for Disaster Reduction Mission Initiative (CADRI) mission convened in late 2023, in which UNDRR participated. The DRC is also set to benefit from the early warning and action bulletins and advisories from the Economic Community of Central African States (ECCAS) disaster situation room which will be launched in September 2024 in Douala Cameroon with funding provided by the CREWS Central Africa Project and technical support from UNDRR. The DRC can is also benefitting from the information and capacity support on offer through the African Union Commission Africa Multi-Hazard Early Warning and Action (AMHEWAS) programme funded by the Government of Italy and supported by UNDRR. DRC will benefit from support from SOFF, expected to start in 2024.

Country and Region (in alphabetical order)	**Haiti 2.0**
Already in Pipeline as of 20th SC meeting	Yes

Indicative Budget (in USD millions)	**Project budget:** USD 5.25 million
Lead Implementing Partner	WMO
Background and Rationale	Haiti remains the poorest country in the western hemisphere and has been ranked the 9th most fragile country in the world (Fragile States Index-Fund for Peace). It is further one of the most vulnerable countries worldwide to natural hazards, mainly hurricanes, floods, and earthquakes. More than 96 percent of the population is exposed to these types of shocks. On August 14, 2021- during the CREWS Haiti project implementation period, a Mw 7.2 earthquake struck the southern region of Haiti, causing a halt on project activities for multiple months. In October 2025, Hurricane Melissa caused havoc across parts of the Caribbean, with Haiti and other neighbouring countries among the worst affected. The hurricane killed at least 43 people in Haiti. Around 15,000 people are staying in more than 120 shelters in Haiti, according to the interim UN Coordinator for the country. The vulnerability of Haiti's population stems from a combination of natural and human factors. The country is highly exposed to hydrometeorological events, but this exposure is exacerbated by demographic challenges such as widespread poverty, high population density, and the presence of settlements in low-lying areas and floodplains. Furthermore, political instability triggered by the assassination of the former president Mr. Jovenel Moise in 2021, severe fiscal constraints, and weak public infrastructure significantly increase the population's risk. Haiti's challenges are compounded by a complex ongoing crisis involving political instability, economic hardship, and severe humanitarian needs. Widespread insecurity, driven by gang violence and weak governance, has further deteriorated living conditions. Food insecurity impacts more than half of the population, while access to essential services such as healthcare, education, and clean water remains limited. As of early 2025, 42 per cent of health care facilities in the capital are closed. Only 27 per cent of hospitals were fully operational nationwide, while 1,606 schools are currently closed, disrupting access to education for more than 243,000 children. In August 2023, the President appointed the head of the Directorate for Civil Protection (DGPC) as the national focal point for the Early Warning for All (EW4All) initiative. In July 2025, the Haitian Government, through DGPC, endorsed the first version of the National Multi-Hazard Early Warning System (SAPMAH). This system was developed in collaboration with national institutions, mainly DGPC and UHM, at the departmental level, covering three high-priority hazards: tropical cyclones, heavy rainfall and its consequences, and strong waves with coastal inundation. The SAPMAH is grounded in concrete operational plans and was used for the first time during the passage of Hurricane Melissa. This development, funded by different agencies, including CREWS and the World Bank. To build resilience to climate shocks and achieve sustained development, strengthening disaster risk knowledge and hydro-meteorological services is crucial, enabling the development of improved early warning systems and the saving of lives. In parallel, Haiti also requires strengthened warning dissemination and communication capacities, to ensure that risk and forecast information produced by technical agencies can reach all exposed communities rapidly, reliably, and through multiple channels. Recent progress under EW4All has demonstrated that Haiti has early foundational capacities, including initial geo-targeted manual-based SMS alert pilots, draft national Standard Operating Procedures (SOPs) and early adoption steps toward the Common Alerting Protocol (CAP). However, these remain pre-operational and not yet institutionalized, automated, nor scalable nationwide. Enhanced preparedness and response capabilities of communities and organizations are also essential to respond to warnings effectively.

Needs	Given the challenges and context described, Haiti urgently requires additional funding to ensure that every person in the country, particularly those most at risk, are better protected by life-saving early warning systems. Even in this challenging context, the first CREWS Haiti reached many planned deliverables, such as: • National Strategic Plan of UHM finalized & published. Outcome: Transparency about UHM's goals and activities in the mid-term amongst Haitian stakeholders and international partners. The existence and utilization of this plan supports UHM in the planning and prioritization of projects and activities. • In collaboration with UNDP, several workshops conducted across various Haitian departments. These workshops focused on enhancing the interpretation and use of meteorological information by key actors within the National Disaster Risk Management System and the Agriculture, Food Security, and Nutrition sectors. Outcome: Increased awareness and knowledge with regards to the interpretation and usage of Meteorological Information for target groups across the country. • Memorandum of Understanding between the UHM and Civil Protection (DGPC) finalized and signed by all relevant parties. Outcome: Basis for intensive collaboration institutionalized and way paved for increased alignment and co-development of products. • 19 newly recruited observers, including 10 women, received 45 days of theoretical and practical training in weather forecasting and observation for aviation activities (Oct. – Dec. 2024). At the end of this training, they completed a practical internship at Office Nationale D'aviation Civile (OFNAC) and UHM. 17 of the 19 participants trained received a certificate and were hired by the Haitian government to work as observers at UHM and the international airports of Cap-Haitian and Port-au-Prince. • Flood monitoring and forecasting system in the two most vulnerable basins in Haiti established to enable the provision of impact-based flood information, which will be used to improve the information provided by UHM to key stakeholders – predominantly civil protection. Outcome: Capacities increased to forecast floods in most vulnerable basins. • And many more However, several critical gaps remain. Additional funding would allow these gaps to be addressed and support the implementation of further high-priority activities to strengthen the NMHS, the NDMO, and other key stakeholders involved in Haiti's hydrometeorological and early warning services. This would, in turn, reinforce the ongoing implementation of the EW4All initiative in the country. The most relevant needs are outlined below, organized according to the initiative's pillar lead structure: Pillar 1: Disaster risk knowledge in Haiti can be enhanced through the following activities, that are all part of the EW4All implementation plan: - Implement a data maturity assessment to understand the current capabilities on generating, managing, accessing, and using quality risk information for multiple hazards. - Development and implementation of a national system and good practices to keep track of losses and damage, that will support the development of probabilistic risk assessments that set the bases for impact-based forecast estimates, and the robust definition of indexes and thresholds for anticipatory action instruments. - National integration of the hazard classification, as per the UNDRR and ISC definition, into the report and monitoring protocols. - Strengthened disaster risk governance by fostering the exchange of quality risk information between national institutions. - Strengthen local technical capacities through targeted training in the development of multi-hazard risk assessments and the use of their components (e.g., exposure and vulnerability models), and outputs (e.g., risk curves) in Multi-Hazard Early Warning Systems (MHEWS). Pillar 2: Critical capacities for hazard detection, observation, monitoring, analysis, and forecasting in Haiti need to be strengthened. There is a pressing urgency for resources to address the significant limitations UHM faces due to the absence of a dedicated budget. Priority needs aligned with the Haiti EW4All implementation plan include: - Optimization of observation networks and the development of the Master Plan for hydromet observation in Haïti.

	- Strengthening the NMHS's capacity to produce, calibrate, and disseminate numerical forecasts, with an improved flood forecasting support system and impact-based forecast (IBF) products. - Operational production and dissemination system at the NMHS for effective management of warning products (including an NMHS website with pages dedicated to warnings). - Recruitment, qualification, and training of sufficient staff to ensure the stable and continuous operation of the NMHS. - Implementation of the National Strategic Plan. - Establishment and effective application of a Quality Management System (QMS). Pillar 3: Haiti has taken early foundational steps toward operational public warning dissemination, including localized SMS pilots, SOPs for manual geotargeted alerts, and initial familiarity with CAP. However, these remain pre-operational, non-automated, and not scalable nationwide. To advance toward a secure and inclusive national alerting system, Haiti has requested the following further support: - Formal adoption and operationalization of the CAP. - A secure, multi-channel national dissemination architecture with automation and redundancy. - Progressive introduction of Cell Broadcast (CB) as a high-reach, high-reliability alerting channel. - Strengthened regulatory frameworks to authorize mobile-enabled public warnings and define operational governance. - Enhanced accessibility of warning messages, including Text-to-Speech capability for persons with reading or visual impairments. - Updated SOPs aligned with CAP workflows and consistent testing with national operators. - Increased community awareness on authorized warning sources and how to respond. Technical capacity building for broadcasters and MNOs on emergency message transmission. These needs align directly with Haiti's nationally endorsed EW4All Implementation Plan (2025) and priorities expressed by CONATEL. Pillar 4: Additional support is required to support Haiti to integrate anticipatory action in its disaster risk management systems and for local responders to be prepared to respond to warnings. Priority activities aligned with the EW4All Implementation Plan are as follows: - Development of national-level Early Action Protocol with pre-agreed triggers and anticipatory actions and tied to pre-arranged financing from the Anticipatory Pillar of IFRC's Disaster Response Emergency Fund (DREF). - Establishment/support to Community Early Warning Systems in priority regions of the country. - Assessment of the operational capacities of preparedness systems. - National-level capacity building for SAPMA. - Training of community brigades and volunteers. - Simulations to test and enhance preparedness to respond to warnings. - Stockpiling for preparedness/anticipatory action. - Public awareness and public education campaigns in targeted communities. Furthermore, this project also calls for a multisectoral and inclusive governance approach to a multi-hazard early warning system and disaster risk governance in Haiti, with corresponding training and capacity building as well as the necessary legal framework.

	In parallel, as Haiti is a Fragile, Conflict and Violence (FCV) affected country, the Implementing Partners of CREWS Haiti 2.0 are committed to applying the CREWS FCV operational procedures throughout project design and implementation. This includes integrating emerging lessons and guidance from leading FCV frameworks; strengthening contingency planning; fostering strategic partnerships; allocating resources to local actors capable of operating effectively in the country; ensuring that an FCV monitoring system is embedded in implementation; and maintaining a clear communication protocol with the CREWS Secretariat.
Demand	In light of Haiti's needs for a strengthened hydrometeorological and early warning services, and considering the nationally endorsed EW4All Implementation Plan, the proposed project aims to advance the implementation of this roadmap. The plan outlines 32 results and 115 activities, with an estimated total cost of approximately USD 50 million, all categorized by priority level. This project seeks to focus on the following priority actions: Among the activities with "very high" priority level for Pillar 1 (Disaster Risk Knowledge) are the following: - Data maturity assessment to review the capacities to generate, manage, access and use quality risk information. - Development of a multi-hazard exposure database for population and physical assets. - Strengthen the technical capacities to develop probabilistic risk assessments and incorporate the results into MHEWS. - Implement a national loss and damage tracking system coherent with the hazard classifications developed by UNDRR and ISC, and to improve multi-hazard exposure and vulnerability mapping and data collection for impact-based forecasting. Prioritized activities to be implemented under Pillar 2 (Detection, Observation, Monitoring, Analysis, and Forecasting) are outlined below. These priorities were further refined through bi-monthly exchanges with UHM, which helped identify urgent needs requiring immediate support: - Maintenance of Automatic Weather Stations and development of the Master Plan for hydromet observation in Haïti. - Capacity building on Numerical Weather Prediction (NWP)Capacity building related to the flood monitoring and forecasting systems implemented in two pilot basins. - Capacity-building training for observers and forecasters. - Development of agreements with the Ministry to reduce the loss of qualified staff to migration. - Development of a comprehensive five-year recruitment and training plan, aligned with the National Strategic Plan, to meet UHM's operational needs. - Procurement of essential ICT infrastructure. - Continued support to ensure UHM's operational service provision, including stable internet access. - Development of UHM's official website. - Update of the Meteorological, Climatological, and Hydrological (MCH) database management system - Updating OBSMET and WIS 2.0, along with continued technical assistance to support UHM. - Development of a QMS framework.

	- Strengthened coordination between UHM, the Ministry of Agriculture, Natural Resources and Rural Development (MARNDR), the Directorate for Civil Protection (DPC), and the National Food Security Coordination (CNSA). - Evaluation and feedback workshop on the implementation of the UHM Strategic Plan and the management of the 2024 and 2025 hurricane season. - Continued external support for day to day operational management and multi-projects coordination. Additional support is required to transition Haiti from pilot-level alerting to a secure, scalable and inclusive national public warning system. This includes technical, regulatory and operational support to adopt the CAP, define national dissemination architecture requirements and prepare for the phased introduction of CB as the primary high-reach, high-reliability alerting channel. Priority activities aligned with the Haiti EW4All implementation plan include: • Conducting a national feasibility study to determine the most appropriate architecture, technologies and regulatory model for CAP and Cell Broadcast deployment, including considerations for Digital Broadcast Geo-Fencing and Text-to-Speech solutions. • Developing detailed technical specifications for a multi-channel alert dissemination system, including CAP feed management and integration with mobile network operators and broadcast platforms. • Supporting Haiti to procure and implement Cell Broadcast Centres (CBC) and associated 2G/3G/4G licenses, as well as a CAP-compliant Alert Origination Software (AOS) and CAP gateway capable of connecting to CBCs and other dissemination channels such as TV and radio. • Providing project management support throughout the tendering, attribution and implementation process, up to final reception and testing, with continuous technical support. • Adapting early warning dissemination and alert services to meet the needs of persons with disabilities, including development of an action plan with relevant organisations to address accessibility gaps and integrate Text-to-Speech capability for CB alerts on both Android and Apple devices. • Providing regulatory and institutional guidance on CAP adoption, authorisation workflows, channel prioritisation and operational governance. • Updating and harmonising Standard Operating Procedures to align with CAP-compliant alert creation, approval, transmission and post-event review processes. • Supporting capacity building and simulation exercises with technical agencies, mobile network operators and national disaster management structures. The Government has also highlighted anticipatory action and community-level preparedness to respond to warnings as gaps to be prioritized. The proposed activities will adopt a people-centered and inclusive approach, with a focus on strengthening UHM, DGPC and other institutions, while also focusing on engaging specific at-risk communities, such as persons with disabilities and children through dedicated pilot activities in target regions. It will also continue to apply a strong gender focus. Imperatively, all activities must be carried out in alignment with the prevailing security conditions. The Implementing Partners will adopt robust preventive and mitigative measures to ensure the safe and effective implementation of as many activities as possible, navigating the challenges to deliver much-needed improvements to Haiti's hydrometeorological and early warning services.

Leveraging Potential	The funding under CREWS Haiti 2.0 will bolster the implementation of new National Strategic Plan and the ongoing EW4ALL initiative in the country as well as ensure UHM, DGPC and other national agencies involvement and participation. WMO, with the funding support from Environment and Climate Change Canada (ECCC), implemented the project "Climate Services to Reduce Vulnerability in Haiti" (2012-2020). The main achievements of this project include the construction of a zero-emission, hurricane and earthquake resistant building for the UHM and the development and installation of a technical assistance package providing the UHM with the necessary technical equipment and training for weather forecasting, observation and aviation meteorology. The Swedish contribution to the EW4All initiative (Funding Partner: Swedish International Development Cooperation Agency (SIDA)) included a budget allocation of USD 150,000 specifically to support Haiti. The activities funded through this contribution were designed to align closely with the CREWS Haiti project plan and were implemented by the same project team, ensuring continuity and sustainability in project objectives and efforts. Project partners, WMO, UNDRR, ITU and IFRC are proposing to build on this Swedish support, which ended in December, 2025, to enable technical support to continue in this challenging FCV country setting . An additional investment under CREWS Haiti would strongly leverage these previous investments and ensure that operations can continue also during this difficult time.
Synergies with Ongoing and Pipeline Initiatives	CREWS Haiti aligns and synergizes with projects on a national and regional level. The Systematic Observations Financing Facility (SOFF) complements these efforts by financing improvements to basic weather and climate observation networks. Through a new partnership with the Inter-American Development Bank (IDB), SOFF resources are supporting upgrades to national observation stations across the region, including in Haiti, to meet Global Basic Observing Network (GBON) standards and ensure the consistent sharing of high-quality climate data. The "Strengthening DRM and Climate Resilience" (PGRAC) project, funded through a World Bank grant, has also been designed by the Government of Haiti as part of its efforts to reduce the number of victims of disasters that regularly affect the country by strengthening national capacities for disaster preparedness, response, and resilience. The project development objective is to improve (i) the early warning and emergency evacuation capacity of selected municipalities in high climate-risk areas, and (ii) the availability and accessibility of safe havens. WFP, together with a consortium of development partners (WMO, UNDRR, UNEP) is currently developing a CREWS GCF Scale-Up project for Haiti which is planned to provide an overall funding of USD 25 Million. It will target various areas along the early warnings value chain and support a number of involved stakeholders/actors, including UHM. The requested additional financing will further support the development of this project and ensure the proper inclusion of technical support and advisory. The planned project will further align and create synergies with the CREWS Caribbean 2.0 Initiative as well as activities carried out by other major in country partners like UNDP through the GCF project "Enhanced climate resilience in the Trois-Rivières region of Haiti through Integrated Flood Management" (USD 22.4 Million).

Country and Region (in alphabetical order)	**Lesotho**

Already in Pipeline as of 20th SC meeting	No
Indicative Budget **(in USD millions)**	4.5 million USD
Lead Implementing Partner	IFRC
Background and Rationale	Lesotho Red Cross Society, National Disaster Management Authority, Lesotho Meteorological Services, Ministry of Agriculture and Food Security Africa is arguably amongst the most vulnerable continents to climate change and climate variability, and Southern Africa particularly is projected to be a hotspot of climate change impacts (Lobbel et al., 2008) hence Lesotho is not an exception. Despite challenges associated to climate change, Lesotho as a developing country experiences other socio-economic challenges such as endemic poverty, poor governance, limited access to capital and global markets, ecosystem degradation, extreme induced climatic disasters and urbanization, amongst other factors, that often undermine the country's capacity and ability to adapt to climate change (Boko et al., 2007)[2]. Zooming into Lesotho, effects of climate change and climate variability continue to challenge vulnerable people especially those in rural mountainous areas whose livelihoods activity are primarily dependent on natural resources. The country's landscape is predominately mountainous making the country prone to various climatic hazards such as drought, flood, heavy snow and storm. The country experiences temperate climatic conditions with Cool and dry Winters 0.1°C to 17.3°C while Summers are basically the wettest and warm. The maximum summer temperatures range from 0.8°C to 27.6°C Degrees Celsius and the lowest temperatures often experienced in winter ranges from 0.1°C to 17.3°C. Due to its geographical location, Lesotho is also exposed to climatological patterns from both the Indian and Atlantic Oceans, resulting in significant variability in temperatures. Thus, Lesotho's unique combination of elevation and oceanic influences results in a diverse climate that supports a variety of ecosystems and agricultural practices. Projections by the Third National Communication of Lesotho to the Conference of the Parties (UNFCCC) indicate that in the next three decades, Lesotho will be at risk of experiencing more frequent droughts and dry spells with erratic precipitation and high intensity torrential downpours (LMS, 2021). Projections indicate a compounded likelihood of intensified incidence of drought spells and incidence of heavy to extreme precipitation coupled with severe storms that have a potential flooding consequence in the southern lowlands and Senqu River Valley livelihood zones. All these phenomena are anticipated to increase the risk of soil degradation and vegetation damage, especially crop production through runoff. These projected weather patterns continue to threaten the Agricultural sector. Approximately 63% of the population in rural areas rely on agriculture as their main livelihoods, source of income and crucial for enhancing food security. Lesotho economy is particularly dependent on agriculture; the dryland crop production and intensive livestock production which are uniquely vulnerable to climate impacts. Agriculture and natural resources provide livelihood for over 70 percent of the population, and account for 7.5 percent of GDP (BOS, 2018). (Lesotho Redcross Drought Coping Study). Despite the government's efforts in investing in initiatives aimed at mitigating the effects of climate change, there are still some existing challenges that must be addressed. Lesotho's climate variability has led to the development of livelihood coping strategies among its population that rely mainly on agriculture for food security. However, these traditional coping mechanisms have proven to be

	insufficient in the face of current and anticipated climate-related challenges. In recent years, there has been a noticeable rise in the frequency, intensity, and duration of climatic shocks, which have significantly reduced the time available for local communities to recover between events. This recurring pattern of climatic stress is progressively weakening their ability to adapt and cope, eroding the resilience of these communities to future climate-related shocks. According to ND-GAIN country index, Lesotho is classified amongst the countries that are most vulnerable to the negative impacts of climate change and signals both a greater and more urgent need for investment and innovations to improve readiness and urgency for action. The index ranks Lesotho as the 14th most vulnerable and the 51st least ready country. It is against this background that LRCS, as auxiliary to the Government, plans to support the government of Lesotho through projects aimed at building resilience against climate change while promoting sustainable development practices across the nation. Since 2020, LRCS has implemented various projects under climate change which aimed at strengthening the nation readiness climate adaptation and this includes the Anticipatory Action for both drought and cold waves, Disaster Risk Reduction projects that aimed at capacitating communities and community structures to be more resilient to disasters.
Needs	1. To institutionalize Anticipatory Action (AA) in Lesotho, the proposed project will reinforce legal, policy, and operational frameworks to ensure early warnings translate into timely, protective actions. This includes a comprehensive review and alignment of national legislation, embedding AA within the Disaster Risk Management (DRM) Act and related climate policies to create a robust enabling environment. Below are identified needs for strengthening Anticipatory actions in Lesotho **Legal and Policy Integration** • Review and align national legislation, including the DRM Act, to formally embed Anticipatory Action (AA). • Map and assess existing DRM and climate policies to identify gaps and opportunities for AA mainstreaming. • Update LRCS internal DRM policy to reflect AA principles and align with national frameworks. **Institutional Strengthening and Coordination** • Formalize partnerships with government agencies through MoUs to clarify roles and coordination mechanisms. • Strengthen the AA/EA Working Group and establish specialized sub-groups on triggers, early actions, and financing. • Develop a national roadmap and implementation framework for AA/EA aligned with regional standards. **Advocacy and Stakeholder Engagement** • Enhance LRCS capacity to influence policy and legal frameworks. • Conduct targeted advocacy to build political and institutional support for AA integration. • Increase stakeholder awareness and support for community-driven action plans. **Technical Capacity and Tools**

	• Adapt and apply regional tools (e.g., DRIMSS, SADC standards) for hazard profiling and trigger development. • Build technical capacity among Red Cross and government partners to use AA tools effectively. • Pilot AA tools in high-risk districts to generate evidence for national scale-up. **Forecasting and Early Warning Systems** • Strengthen impact-based forecasting and early warning dissemination across agencies and media. • Engage mobile network operators and local media for localized multilingual alert systems. • Build GIS and hazard mapping capabilities among volunteers and stakeholders. **Community Resilience and Inclusion** • Institutionalize and scale up community risk assessments (EVCA) for localized planning. • Promote inclusive and participatory research to tailor early actions to vulnerable groups. • Integrate EVCA findings into national social protection systems to enhance shock responsiveness. **Operational Readiness and Infrastructure** • Validate early action protocols through simulation exercises to test coordination and delivery. • Improve physical infrastructure for evacuation and sheltering, especially in cold wave-prone areas. • Expand micro-mitigation and climate adaptation initiatives (e.g., tree planting, energy-efficient technologies). **Community Engagement and Accountability** Strengthening Community Engagement and Accountability (CEA) mechanisms to ensure communities are actively involved in risk communication and early warning systems. 2 Enhancing Risk Communication and Public Education through harmonized and localize risk communication strategies to improve public understanding and trust in early warning messages. 3. Institutionalizing Feedback Mechanisms through the creation of robust systems to capture and respond to community feedback at multiple levels. 4. Capacity Building for Evidence-Based Decision Making through strengthening local capacity to collect, analyze, and use community evidence for risk reduction and anticipatory action. 5. Measuring Effectiveness of CEA and Behavior Change Through deploying tools to assess the impact of CEA strategies on behavior change and trust in early warning systems. 6. Strengthening Shock-Responsive Social Protection Systems through enhancing the capacity of national systems to respond to shocks through integrated social protection mechanisms. Provision of training and resources to district DRR structures (DDMT, village disaster management teams, community-based organization (CBO's), community leaders and communities) to enhance their understanding of climate risks and adaptive strategies. Improvement in access to climate information to enhance early warning systems to support timely decision-making at the community level.

Demand	To strengthen the operational and policy details for advancing the institutional integration of Anticipatory Action (AA) in Lesotho under the CREWS pipeline funding, the Lesotho Red Cross (LRCS) can take a structured approach. Here's a roadmap with actionable steps: **Institutional Entry Points** As a baseline, a DRM Eco system study was conducted by LRCS with support from IFRC which has been shared with stakeholders and some of the recommendations are already being acted upon like the Urban Preparedness study by WFP. LRCS would like to support the Review of the DRM Act to identify where AA can be embedded within existing national and local disaster risk management (DRM) structures. Map existing DRM policies and frameworks (e.g., National DRM Strategy, Climate Change Policy) and undertake a study on the extent to which anticipatory action is reflected in national DRM/climate change plans, including contingency plans and SOPs. Review of the LRCS DRM policy to ensure it embeds AA. Organize advocacy and dissemination events with key stakeholders to support a DRM Outcomes campaign. Engage with key actors (eg. DRM, climate) to identify opportunities and actions to implement recommendations on EWEA and strengthen DRM legal and policy frameworks. Build capacity of the LRCS to advocate for the integration of EWEA in relevant laws and policies (eg. climate, DRM); and position the Red Cross/ Red Crescent as a key partner in DRM, climate action, disaster and climate risk governance and legal preparedness. To institutionalize AA, LRCS will have formal MoUs or agreements with government agencies (e.g., DMA, Meteorological Services). It is important to streamline and lead how AA should be implemented in practice; LRCS seeks to develop **an Operational** **Framework for AA.** Support the NDMA to strengthen and capacitate AA to ensure they provide an enabling environment for EWEA and DRM through strengthening the AA/EA Working group which is in existence but not very functional, strengthening this TWG will help in establishing sub TWGs on: 1) Trigger, 2) Early Action, 3) Financing) Currently Lesotho does not have a AA/EA roadmap and framework, with support from the national stakeholders and the Regional AA Working Group LRCS will support the collaborative development of the AA/EA roadmap and framework. LRCS will collaborate with IFRC and SADC SHOC to adapt and apply tools and methodologies developed under the DRIMSS project to strengthen national hazard profiling and anticipatory trigger development. This includes accessing regional hazard datasets, aligning with SADC standards, and co-developing localized triggers with national stakeholders. The activity will also support capacity building for Red Cross and government partners and pilot the use of DRIMSS-supported tools in high-risk districts to inform national scale-up. **Build Capacity and Awareness** Impact-based forecast training with Met Services, NDMA, national media, LRCS staff and other relevant stakeholders LRCS will train volunteers and selected key stakeholders on GIS mapping to geolocate areas and design hazard magnitudes. Conduct a local level EVCA and AA team training at district and branch level with DDMT

	Facilitate the EVCA in communities (to be triangulated with community insights work - see activity category 9), leading to the development of a risk-informed community action plan. Participatory research to identify prioritized groups and early actions to reduce the impact of the hazard on the most vulnerable population. Considering EVCA is already being implemented under the Drought EAP, there will be scaling up of EVCA results (under activity category 'Community risk assessments (EVCA) and risk-informed planning'), conduct analysis of national Social Protection system to identify gaps and opportunities for strengthening or adding Shock Responsive elements to address climate and related risks Conduct 1 sensitization workshop with key stakeholders to sensitize on the findings and recommendations of the EVCA and get support for the risk-informed community action plan. Conduct simulation exercises to test the early action delivery. (develop the script, prepare operational and administrative aspects, reporting) Establish and strengthen evacuation routes and shelters for the cold wave EAP as it is only limited to provision of warm clothing MPC and EWMs but a lot of herders are usually trapped in the mountains because their houses/shelters are not reinforced to protect them from snow when it hits, but through this initiative the evacuation routes and shelters can be reinforced. Scale up on the implementation of micro-mitigation projects like tree planting which is done rarely and at a small scale, additionally energy efficient stoves would be good to minimize the use of firewood stoves that most of the community members use in the rural areas **Strengthening community engagement and accountability,** Organize co-design workshops together with government, academia, civil society organizations and community members to develop/harmonize a risk communication strategy and develop/contextualize IFRC's Public Awareness and Public Education (PAPE) messages for inclusion in official hazard alerts and media campaigns (based on research conducted and feedback mechanisms) Set up feedback mechanism at national, regional and sub-regional levels, to regularly track fears, misinformation, rumours and feedback to understand and monitor barriers what prevent people from actioning information from EWS, adapting risk reduction measures and anticipatory actions (Adaptation of existing IFRC feedback tools) Conduct trainings and coaching sessions for the collection, analysis, interpretation and use of community evidence to understand contextual, societal, and cultural factors related to recommended actions. As a scale up of the SLL program with Africa CDC, through this initiative, there will be the deployment of measurement tools and evidence-tracker (Community Trust Index) to determine effectiveness of behaviors change/CEA approaches for the uptake of early warning/risk information. Provide technical assistance to national Social Protection systems on market analysis, accountability mechanisms, management of information systems, registration systems, payment systems and monitoring to increase shock responsiveness of Social Protections system (including links to EAP triggers). Test shock responsive Social Protection programs because LRCS is already using them in the Drought Early Action Protocol

Leveraging Potential	In this proposal, Lesotho Red Cross Society (LRCS) will leverage its operational experience, regional partnerships, and alignment with strategic climate resilience initiatives. LRCS will collaborate with IFRC and SADC SHOC to adapt and apply tools and methodologies developed under the DRMSS project, enhancing national hazard profiling and anticipatory trigger development. This includes accessing regional hazard datasets, aligning with SADC standards, and co-developing localized triggers with national stakeholders—ensuring technical rigor and regional coherence. The WFP urban AA 20 million Dollars project (RUPI) provides valuable insights into vulnerability mapping, trigger development, and pre-positioning of resources in urban settings, which can complement the Red Cross's efforts to strengthen community-level early warning and preparedness systems. By integrating lessons from WFP's urban-focused anticipatory approaches with this LRCS proposal, Lesotho can build a more cohesive and scalable early action framework that leverages both institutional and community capacities, ensuring timely and coordinated responses to forecasted hazards. The proposal will also connect with SADC SHOC activities and the SADC Climate Services Centre for forecasting, strengthening Lesotho's integration into regional early warning systems. LRCS will pilot DRMSS-supported tools in high-risk districts, supporting national scale-up and capacity building for both Red Cross and government partners. Building on its active Early Action Protocols (EAPs) for drought and cold waves, LRCS will capitalize on existing community engagement and stakeholder trust to scale initiatives that are already operational and well-received. Society's strong relationships with local actors provide a solid foundation for expanding anticipatory action and embedding early warning systems at the community level. Furthermore, the proposal aligns with WFP's climate resilience portfolio in Southern Africa and future GCF programming under SADC's multi-hazard early warning framework. By forging synergies with Irish Aid and EU-funded climate resilience programs in the region, LRCS can unlock co-financing opportunities and demonstrate value for money through integrated, multi-partner approaches. This combination of technical capacity, regional alignment, and community-level engagement positions LRCS as a compelling candidate for CREWS investment—ready to deliver scalable, locally led early warning and early action systems that strengthen resilience across Lesotho and the broader SADC region. Under the 4 million dollars multi-country ECHO Humanitarian Implementation Plan (HIP) 2025, the Regional Anticipatory Action Working Group (RAAWG) will support Lesotho in developing Standard Operating Procedures (SoPs) that comprehensively cover all anticipatory action building blocks. This initiative also includes strengthening the capacity of the National Anticipatory Action Working Group, which at the moment is fragmented. Through this CREWS initiative, LRCS aims to leverage its convening power, technical expertise, and stakeholder relationships to ensure that the national AA architecture is inclusive, operational, and aligned with regional best practices—ultimately contributing to a more robust and people-centered early warning system in Lesotho. LRCS is well-positioned to play a pivotal role in establishing, coordinating, and sustaining this working group.

Synergies with Ongoing and Pipeline Initiatives	Lesotho Red Cross Society (LRCS) will closely collaborate with the Lesotho Meteorological Services (LMS), particularly its Climate Change Department and actively engage with national Early Warning System (EWS) initiatives and UN-led climate resilience programs. These partnerships will support the co-development of community-based early warning systems, ensuring timely, localized dissemination of early warning messages that are actionable and trusted by communities. LRCS will align its efforts with regional initiatives such as the SADC SHOC platform and the SADC Climate Services Centre, leveraging regional forecasting tools and hazard datasets to strengthen national hazard profiling and anticipatory trigger development. Through collaboration with IFRC and SADC SHOC, LRCS will adapt methodologies from the DRMSS project, pilot tools in high-risk districts, and build capacity among Red Cross and government partners thereby laying the groundwork for national scale-up. The proposal complements WFP's climate resilience portfolio in Southern Africa and aligns with future GCF programming under SADC's multi-hazard early warning framework. LRCS will also explore synergies with Irish Aid and EU-funded climate resilience programs, unlocking potential co-financing and enhancing programmatic sustainability. LRCS is already implementing two robust EAPs that directly support CREWS objectives namely; Cold Wave EAP (2024–2029): Supported by IFRC's DREF, this 5-year plan includes early warning messaging, cash assistance, and winter clothing distribution for vulnerable herders and school children. Drought EAP (2022–2027): A comprehensive protocol with readiness, prepositioning, and early action phases, including cash transfers, early warning dissemination, and community preparedness activities. These protocols demonstrate LRCS's operational capacity and commitment to impact-based forecasting, community preparedness, and multi-hazard early warning systems, all core to CREWS priorities. Strong Stakeholder Engagement LRCS has cultivated strong, multi-sectoral partnerships, engaging: Lesotho Meteorological Services (LMS), Disaster Management Authority (DMA), Ministries of Social Development, Agriculture, Forestry, and Local Government, Community structures such as Village Disaster Management Teams (VDMTs) and farmers' associations This inclusive approach ensures that early actions are locally relevant, nationally integrated, and community driven. LRCS brings deep expertise in disaster management, cash and voucher assistance, and community engagement. It benefits from close technical support from the IFRC Country Cluster Delegation in Pretoria, and multi-year strategic planning and funding through IFRC in areas such as climate-smart livelihoods, disaster risk reduction (DRR), and humanitarian diplomacy. Together, the above elements position LRCS as a highly capable and strategically aligned partner for CREWS investment—ready to deliver scalable, sustainable, and locally led early warning and early action systems in Lesotho.

Country and Region (in alphabetical order)	Madagascar
Already in Pipeline as of 20th SC meeting	No
Indicative Budget **(in USD millions)**	3 million USD
Lead Implementing Partner	IFRC
Background and Rationale	Malagasy Red Cross (CRM), DGM (Met Office), BNGRC (DRM Office), ARTEC (Telecommunication), PIROI/Croix-Rouge Française, Ministry of Interior, Ministry of Population. Madagascar is one of the most disaster-prone islands, with recurrent cyclones, floods, droughts and epidemics affecting vulnerable communities. As LDC and SIDS, Madagascar has limited infrastructure, weak institutional capacity increasing its exposure and inability to cope with these risks. Through CREWS, national stakeholders have initiated steps including community consultations, legal framework reviews, and development of a Pillar 4 Roadmap. However, the Pillar 4 "maturity index" shows that national systems remain at a basic level of preparedness and anticipatory action (gaps in financing mechanisms, public awareness, integration of local knowledge, etc.). Low weather forecasting accuracy is the major challenge facing the country in preparing for disasters and taking early action, the ultimate need to avoid disaster. This is due to lack of equipment and human resources in national and regional meteorological department services. High turnover of skilled personnel, especially at the administrative level, who have received training in disaster risk management, exacerbates the situation as they are supposed to lead all preparedness activities at the local level. Hence the need for repetitive training. Also, considerable efforts are still necessary to ensure that the population in the 19 regions highly exposed to cyclones are trained and equipped to take action following an alert to mitigate the effect of a hazard. Fragmented funding cycles further limit continuity and scale. Other than the current CREWS funding and Red Cross funding for the implementation of the EAPs, further implementation of the EW4ALL Roadmap remains unfunded. Despite recent progress under CREWS, Madagascar's national systems for AA and preparedness remain at a basic maturity level. Gaps persist in financing mechanisms, integration of local knowledge, effective communication and dissemination of alerts, and community understanding of warnings, resulting in alerts that are often not actionable or acted upon by the community. Limited technical and financial support to implement the National EW4All Roadmap for Pillar four and the interpillar component, in particular implementation of monitoring and evaluation. Recently, the RCRC Movement started developing an EW4All Pillar 4 Dashboard, but its scale-up beyond the pilot phase and Pillar 4 activities is hindered by limited funding.

Needs	Technical and financial support in the implementation of key activities of the EW4All pillar 4 Roadmap and moving from basic to advanced levels of preparedness and anticipatory action. Technical support to local administrative services to have effective communication first, and to reach the maximum of people alerted to increase the capacity to be prepared facing danger. Support community level awareness-raising activities to enhance warnings and alert understanding. Support for institutional strengthening (in terms of knowledge, equipment and staff) and coordination mechanisms for the EW4ALL initiative but also EWEA work, at the national and the decentralized levels. In particular, provide staff that can work closely with BNGRC to coordinate and monitor the implementation of the initiative at country-level, in collaboration with the GTAA coordinator. Due to the dependency between pillars, especially those of pillar three and pillar four, it would be important to provide technical/material support to the DRM office to ensure that everyone can receive alert on time and covered by early warning system, the main goal of the initiative. Technical, financial and human support to modernize forecasting infrastructure for the national and regional meteorological service, enhance staff capacities, and ensure the operationalization of anticipatory action. Technical support in implementing Anticipatory Action as per written in the National Framework for Anticipatory Action to the last mile. Training on Anticipatory Action and EWEA for the staff of the National DRM authority (BNGRC) and other key institutions at all levels. Technical support in the establishment and continuous work of the National Emergency Operational Centre set up by the national society, and to continue the joint hazard and vulnerability mapping with BNGRC; scenario development and planning based on forecasts. This includes contributing to the implementation of the RSU (Registre Social Unique) jointly with the Ministry of Population and that of Home Affairs, which is being piloted by the BNGRC. This would allow that social protection system is shock-responsive and that it incorporates an early action approach. Technical support to populate with latest equipment the National Society Operational Center, in order to enable use of latest technology (IA, drone) for piloting anticipatory action in regards of the forecast given by the met services. Implementation of community-facing activities around EWEA including simulation exercises, developing evacuation plans, alert multiplication, etc. As also mentioned in the background, to ensure continuity and sustainability, the intervention will support the implementation of a national EW4All Pillar 4 Dashboard beyond the pilot phase presented in august 2025, and to expand related activities nationwide. The requested support would enable the operationalization of the dashboard at different levels, integration with other national early warning systems, and capacity building for end users, including government agencies, Red Cross branches and other key stakeholders.
Demand	This proposal builds on a pluriannual commitment and engagement of Malagasy Red Cross in the launch, the development and the implementation of the EW4All initiative in the country. Also, it builds directly on the current CREWS funding active in Madagascar, which is supporting key activities to enable translating the EW4ALL roadmap for Pillar 4 into tangible action (CREWS SWIO Project Status Report). With support from CREWS and IFRC, the Malagasy Red Cross (CRM) has led community consultations in cyclone-prone regions to increase the involvement of communities into the work carried out. Activities include also anticipatory action preparedness activities, and the recruitment of technical consultants to develop training modules and a capacity building plan on early warning systems and anticipatory action to sensitize key stakeholders on SOPs and AA. The Malagasy Red Cross Society (CRM) has developed two Early Action Protocols (EAPs) (890,787 CHF for Draft-EAP_V1 (1) (1).docx and 215,089 CHF for sEAP_Floods_Madagascar_13-08-2025.docx) to enhance disaster preparedness and prepositioning: a simplified EAP for floods and a comprehensive EAP for cyclones; but also currently developed EAP for drought which is pending due to a lack of necessary resources. These protocols are designed to enable timely and effective implementation of early actions, based on pre-agreed triggers and early warning systems. Through the Preparedness and Resilience Programme funded by FCDO (PPRM, 7.9M CHF 240618 FCDO Madagascar Multi Hazard Preparedness Programme Proposal), CRM is implementing a diverse range of activities aimed at strengthening community resilience. These include community-based preparedness initiatives and income-generating activities that enhance local capacity to anticipate and respond to climate-related risk. CRM also contributes to the DG ECHO-funded Pilot Programmatic Partnership (PPP), which reached over 216,000 people between 2022 and 2025. This initiative strengthened CRM's operational capacity in early warning, cash and voucher assistance (CHF 2.9 million disbursed), contingency planning, and community engagement. It also enabled CRM to lead simulation exercises, construct regional warehouses, and co-develop multi-hazard contingency plans with BNGRC. These achievements are documented in the DG ECHO PPP Final Report, which confirms CRM's institutional readiness and strategic positioning within national and regional anticipatory action platforms). Across its programs, CRM has cultivated a strong partnership with the

	National Disaster Management Office (BNGRC), ensuring alignment with national priorities and challenges. This collaboration reinforces coordination with ongoing initiatives such as Early Warning for All and anticipatory action frameworks, contributing to a more coherent and impactful disaster risk management approach. The proposed project will explore opportunities for collaboration with the World Meteorological Organization (WMO) through its Regional Specialized Meteorological Centre (RSMC) in La Réunion, which provides regional forecasting and early warning services. In the case of Indian Ocean Islands, the initiatives and programs implemented jointly with the PIROI Center also play important roles in the roll-out of early warnings, through enhanced regional coordination and operational readiness for disaster response, but also as a recognized regional training center. The PIROI Center operates with an estimated annual budget of EUR 3 million, supporting shared expertise, prepositioned stocks, and training opportunities for Indian Ocean Island National Societies including CRM. Through PIROI's network, IOI National Societies benefits from shared expertise, prepositioned stocks, and training opportunities that strengthen its anticipatory action and early warning capacities. This partnership further promotes cross-country learning within the Indian Ocean region and supports a more harmonized regional approach to disaster risk management and climate resilience.
Leveraging Potential	The intervention aligns with the EW4All initiative, the Sendai Framework, the sustainable development goal (SDGs), and the UN Secretary-General's call for universal early warning coverage. It complements CREWS SWIO Phase 2, SOFF readiness support, and the AFD/GCF/EU Hydromet program, which collectively aims to strengthen forecasting infrastructure, institutional coordination, and early warning dissemination. It draws on lessons from recent anticipatory action activations, including the Start Network's drought response and WFP's Grand Sud initiative (2023/24), which emphasized the importance of pre-arranged financing, community engagement, and scenario-based planning. It also aligns with the UNDRR–BNGRC law harmonization project, offering a pathway to embed AA into national DRM legislation and operational protocols. The National Disaster Preparedness Baseline Assessment (NDPBA) further highlights institutional gaps and regional disparities, which this proposal seeks to address through inclusive, decentralized preparedness and stronger inter-agency coordination. With active engagement in SWIO platforms and potential contributions to SADC dialogues, Madagascar is well-positioned to serve as a regional model for proactive risk management in LDCs and SIDS.
Synergies with Ongoing and Pipeline Initiatives	

Country and Region (in alphabetical order)	**Malawi, Phase 2: Scaling Up Risk-Informed Planning, Hydro-Meteorological and Early Warning Services in Malawi**
Already in Pipeline as of 20th SC meeting	No
Indicative Budget (in USD millions)	5 M

Implementing Partner	WB (lead IP), with WMO, UNDRR, and the International Federation of Red Cross and Red Crescent Societies (IFRC)
Background and Rationale	Since 2000, Malawi has experienced increasingly frequent and severe disasters, primarily floods and droughts. These events affect an average of 100,000 people (floods) and 1.5 million people (droughts) annually and significantly impact infrastructure, agriculture and livelihoods with costs of about 1.7 percent of GDP each year. Climate projections indicate rising risk of more frequent and severe floods and droughts[1], with potential disaster-related losses of up to 16% of GDP by 2050. The first phase of the Climate Risk and Early Warning Systems (CREWS) Project (2022–2026, USD 3 million) made notable progress in strengthening the institutional and technical capacity of the Department of Climate Change and Meteorological Services (DCCMS), the Department of Water Resources (DWR) and the Department of Disaster Management Affairs (DoDMA). CREWS supported the development of key governance instruments such as the DRM Act and Policy, the preparation of the new Meteorology Policy, the revision of the draft Meteorology Bill, draft amendments to the Water Resources Act, and the DCCMS Strategic and Operational Plan. In the aftermath of the devastating Cyclone Freddy, it also supported assessments of preparedness and warning capacity and contributed to the design of substantive investments through the World Bank's Regional Program for Climate Resilience. The project also introduced modern forecasting and data management tools, revitalized community protection structures, and supported the development of Standard Operating Procedures for ward-level early warnings. Implementation of local level activities through the WMO were geographically focused to two districts (Zomba and Mzuzu) and piloted in 10 wards. The proposed **Phase 2** aims to help in institutional transformation of the primary early warning and early action ~~hydromet~~ actors, ~~agencies~~ improve operational coordination among national and local actors, **enacting the developed Policies and Bills, and adopt/implement the DCCMS Strategic and Operational Plans, enhancing digital capacity for real-time risk information sharing, scaling upward-level early warning coverage from two to at least 10 districts**, enhancing district level early warning and preparedness capacity, broaden hazard scope, strengthen the Emergency Management Planning framework by unifying annual and sectoral plans, operationalizing the National DRM Fund, and institutionalize early warning systems across all administrative levels — from local to national. These efforts demonstrate the importance of trusted community-based institutions for last-mile dissemination and preparedness, particularly in rural and hard-to-reach areas where communication infrastructure remains weak. Building on these achievements, phase 2 is expected to aid Govt of Malawi in substantively scaling pilot initiatives and technological innovations into a **national framework for multi-hazard early warning and anticipatory action** with a focus on: 1. **Institutional Strengthening and Legal Advancement:** The project will accelerate enactment of the revised Water Resources Bill, and the Meteorological Policy and Bill to create a legally backed, self-sustaining framework for hydrometeorological services, including revenue generation mechanisms through aeronautical meteorological and commercial services that would support the sustainability of investments. The operationalization of the DCCMS Strategic and Operational Plans, as well as the National Framework for Climate and Weather Services (NFWCS) will provide a sustainable coordination mechanism for integrating CREWS activities into national development and disaster risk management systems. This institutional strengthening will be complemented by reinforced coordination mechanisms between DCCMS, DWR, DoDMA, humanitarian actors, and auxiliary organizations such as the Malawi Red Cross Society, ensuring that institutional reforms translate into operational early warning dissemination and preparedness at community level. It will further facilitate connection with SADC Humanitarian and Emergency operation Centre and WMO designated regional centres for improving preparedness.

[1] GoM. (2020). The Third National Communication of the Republic of Malawi to the Conference of the Parties (COP) of the United Nations Framework Convention on Climate Change (UNFCCC). *Unpublished*.

	2. **Implementing a Quality Management System (QMS):** Establishing and operationalizing a QMS to enhance service standards, ensure compliance with international best practices, and introduce cost-recovery mechanisms through aeronautical meteorological services. Implementing the QMS across DCCMS and partner institutions will ensure standardized service delivery, certification readiness (ISO 9001:2015), and long-term institutionalization of best practices. This will anchor quality assurance and control, and cost-recovery mechanisms critical for sustaining scaled-up operations. Such standardized service delivery under the QMS will also support consistent interpretation and communication of warnings by non-technical actors, including trained Red Cross volunteers and local civil protection committees. 3. **Advancing implementation of Impact-Based Forecasting:** Enhancing the ability to deliver forecasts that translate scientific data into clear, actionable information for communities, focusing on potential impacts rather than only weather parameters. Building on the Phase 1 training, the developed Operational Decision Support System (ODSS) for monitoring and forecasting floods over the Shire River Basin, and risk knowledge studies and assessments (Multi-Hazard Risk Atlas), Phase 2 will support the expansion of Impact-Based Forecasting (IBF) to cover all major hazard types, further enhance nationally-owned loss and damage tracking systems, multi-hazard risk assessment and risk mapping for IBF, setting of triggers and early Action protocol and integrate decision-support tools to improve spatial coverage, automate data analysis, and provide sector specific services Technical support to strengthen national risk data ecosystems, improve access to risk information and exchange among key national agencies (DCCMS, DWR, DoDMA) and local authorities, and governance of risk and disaster impact data will also be prioritized to advance IBF. This will enable scaling from ward-level pilots to district-wide, multi-hazard IBF systems, including supporting national risk-informed planning. This expansion will be aligned with community-level interpretation and early action protocols, ensuring that impact-based forecasts are translated into clear, actionable messages that can be disseminated through trusted local networks and trigger anticipatory action. 4. **Artificial Intelligence Integration for Forecasting and Early Warning Systems:** Leveraging AI to improve forecast accuracy, hazard detection, and decision support**, Phase 2,** the project will scale up and institutionalize **Artificial Intelligence (AI)-based forecasting** to enhance the accuracy, speed, and accessibility of early warnings across Malawi. Building on the successful **AI for Early Warnings for All (EW4All) Pilot Project under** CREWS ASW, the initiative will embed AI-driven models such as the *Forecast-in-a-Box* and *Bris* systems into DCCMS's operational forecasting chain. A new **National AI Data and Forecast Hub** will be established to support continuous model operation, improve hazard prediction for floods, droughts, and storms, and strengthen real-time decision-making across government agencies and communities. This will be mainstreamed through use of the National data center (supported by WB Digital project). These AI-enabled forecasts will be linked with people-centred dissemination pathways and anticipatory action mechanisms, including forecast-based financing approaches already piloted by humanitarian partners in Malawi. 5. **Enhancing Digital Capacity and Innovation in Malawi's Early Warning Services for Socio-Economic Resilience:** Strengthening local innovation and technical capacity through collaboration with universities and research institutions will ensure sustained development and modernization of digital hydromet and early warning services. Strengthening sectoral focus on agriculture and food security, urban transport, and energy will enable real-time information to be transformed into actionable insights that directly support socio-economic resilience. Strengthening the agricultural advisory component through timely planting date guidance—and upscaling the maize planting dates model—will enhance agricultural planning and food security, ensuring farmers are better equipped to respond to seasonal variability. Building on DoDMA investments to strengthen Malawi's Digital Disaster Risk Information Management System (DDRIMS), improved standardization of risk and disaster impact data for MHEWS applications will be prioritized, including further digitization of national and sub-national disaster impact data to facilitate multiple applications across the above sectors. To reach all, including small holder subsistence farmers, among others, digital dissemination channels, including mobile platforms and community radio networks, will be leveraged to improve last-mile connectivity and ensure timely delivery of warnings to rural and underserved populations. 6. **Expanding Anticipatory Action (AA) Approaches to safeguard lives and livelihoods:** Strengthening systems that trigger **readiness and anticipatory** activities before hazards strike, reducing losses, and safeguarding livelihoods. To move from reactive to proactive disaster risk management, Phase 2 will institutionalize Anticipatory

	Action protocols linked with trigger-based financing under Malawi's Disaster Risk Financing Strategy (see item 7 below). The planting dates model will support the anticipatory action with adaptive advisories such as possible crops, varieties, and provision of the estimated yield. All this contribute towards the anticipatory livelihood protection. This will build on existing forecast-based financing and anticipatory action pilots implemented with humanitarian partners, ensuring that early warnings trigger predefined early actions at district and community levels. This will include a diversity of hydrometeorological hazards, including drought, flood, cyclones, and heavy rainfall. The IFRC and the MRCS have successfully supported the institutionalization of AA in existing national disaster risk management framework through their Disaster Law (DL) work. This includes, but is not limited to, adaptation of law for ex-ante cash delivery, to ensure risks can be mitigated before impacts materialize. Moreover, to increase the capacity of local authorities to prepare and anticipate disaster, the Making City Resilience initiative will be rolled out with focus on early warning systems. 7. **Strengthening Risk Financing Mechanisms:** Building on *Section 4.5 – Enhancing Digital Capacity and Innovation in Malawi's Hydromet and Early Warning Services for Socio-Economic Resilience*, this component focuses on introducing and scaling risk financing tools such as contingency funding instruments to enable faster recovery following climate shocks. By linking these financial instruments with the improved digital hydromet and early warning services, Malawi will be better positioned to trigger timely and evidence-based responses or anticipatory actions. Strengthening these innovative and sector-targeted digital services will also underpin the activation of the World Bank's Contingent Emergency Response Project (CERP) and the implementation of district-level resilience grants through the RCRP, providing a robust framework for protecting livelihoods, safeguarding development gains, and enhancing national preparedness for future climate-related risks. Linkages with community-level early action mechanisms and humanitarian response systems will ensure that financing is rapidly translated into protective actions for at-risk populations. **Strengthening Gender and social inclusion into EWS service delivery:** Ensuring that early warning systems and resilience plans address the specific needs and vulnerabilities of women, men, and marginalized groups. Gender, youth, and disability inclusion will be mainstreamed across all project components using the WMO/CREWS Gender Action Plan and social inclusion indicators. Women and youth will play leadership roles in community civil protection committees and digital communication initiatives, ensuring early warning messages are accessible to all. Women, youth, and persons with disabilities will be actively engaged in community early warning governance structures, dissemination, and feedback mechanisms, building on inclusive approaches already used by community-based organizations. Partners will work with women-led organizations and organizations of persons with disabilities and roll-out training on inclusive risk knowledge use for multi-hazard early warning system. A simulation (Table Top) exercise will be organized to test how inclusive the entire early warning and early action value chain is, from warning generation to action.
Needs	Malawi faces recurrent and severe climate-related hazards that cause significant economic and human losses. While CREWS Phase 1 has strengthened institutional and technical capacities, challenges remain in effective coordination among national authorities and ensuring that timely and actionable warnings reach the most at-risk populations. People-centred dissemination remains a critical gap, particularly in remote rural areas where communities rely on trusted local actors and volunteers to interpret and act on warnings. Last-mile connectivity is still limited, particularly in remote rural areas where infrastructure, mobile coverage, and communication channels are weak. Hazard coverage must be expanded to include storms, strong winds, and secondary hazards such as landslides, data on impact of disasters should be systematically collected and available for stakeholder, while sustaining and enhancing the technical capacities of DCCMS, DoDMA, and the DWR. Uneven penetration of information and communication technologies continues to constrain the speed and accessibility of warning dissemination. There is also a need to integrate local knowledge with scientific approaches, embed early warning services into sectoral plans, and strengthen community preparedness through regular training, drills, and contingency planning. Many districts still lack active civil protection committees or community response plans, and public awareness of how to respond to alerts remains uneven. Coordination among agencies is limited, with stronger data sharing and joint analysis needed to ensure synchronized decision-making.

	According to the WMO Country Hydromet Diagnostics for Malawi, eight out of ten critical hydrometeorological service components are assessed at an intermediate maturity level, indicating both areas of strength and priority areas for improvement. The diagnostics highlight shortfalls in observational networks—only about nine percent of automatic weather stations meet Global Basic Observing Network (GBON) requirements—as well as deficiencies in data management and user engagement mechanisms. These findings underscore the need for targeted investments to expand and modernize observation infrastructure, strengthen data management systems, and enhance mechanisms for engaging end users in the design and delivery of services. Meanwhile, the Climate Services Dashboard shows that DCCMS currently provides climate services at an essential level, but with notable gaps in observation, in the monitoring and evaluation of socio-economic benefits, and in the provision and application of climate services across sectors. Addressing these challenges will require coordinated investments across the entire climate services value chain, integration of early warning services into sectoral plans, and reinforcement of community preparedness so that no one is left behind.
Demand	The Government of Malawi has formally requested support to scale up the achievements of CREWS Phase 1 and integrate early warning systems and climate services into national disaster risk management structures. Demand is further reinforced by communities affected by recent extreme weather events, who have expressed a need for timely, understandable, and actionable warnings that lead directly to preparedness and early action. Early warning systems are identified as a priority in the country's Nationally Determined Contribution, such as establishing community-based early warning systems and flood water monitoring systems nationwide, and prioritizing them in problematic rivers, designing, testing, and executing multi-hazard contingency plans and Integrating DRM risk assessment and monitoring in all sectors and programmes, including Risk reduction/early warning systems in public works, transport infrastructure. As well as the Integration of Indigenous Knowledge (IKS) into scientific early warning for drought, the Disaster Risk Management (DRM) Act of 2023, the DRM Policy 2025, the National Resilience Strategy, and the National Development Plan. These frameworks underline the political commitment and policy alignment for investing in enhanced multi-hazard early warning systems. Demand is further demonstrated by the active participation of national institutions in CREWS coordination and stocktaking meetings, as well as the urgency expressed by local communities affected by recent extreme weather events, including Cyclone Freddy and recurrent flooding. There is a strong desire at both government and community levels to improve last-mile dissemination, link early warnings to early action financing, and ensure that warnings are people-centred, actionable, and inclusive. Therefore, CREWS Malawi Phase 2 will expand from pilot interventions to **national multi-hazard early warning coverage**, institutionalizing systems, operationalizing legal framework, enhancing digital capacity, financing mechanisms, and partnerships to sustain and replicate results. It will: • Scale from 2 pilot districts to **10+ districts**, reaching at least **5 million people**. • Establish **district-level Early Warning and Communication Hubs** linked to national systems. • Establish **disaster loss and damage accounting system** • Improve **access and use of risk knowledge** for impact-based forecast and early actions. • Ensure **sustainability through QMS implementation and ISO certification, cost-recovery frameworks, and inclusion in national budgets**. • Leverage **AI and digital innovation** to expand forecast coverage, and sectoral and community-tailored information and services. • Promote **community ownership and inclusive governance**, ensuring that early warnings benefit all. Support about 130,000 smallholder farmers with agricultural advisories.

Leveraging Potential	CREWS Malawi Phase 2 will build on significant ongoing investments and align with major national and regional resilience frameworks to maximize scale and efficiency. The project will leverage the nationwide operational presence of the Malawi Red Cross Society, including its extensive volunteer network across all districts, to strengthen last-mile dissemination, community preparedness, and feedback loops. It will integrate with the Green Climate Fund (GCF)-supported modernization of weather and climate information services, utilizing upgraded observation networks, data systems, and communication channels to expand service delivery to additional districts. The project will complement World Bank-financed Malawi Watershed Services Improvement Project (MWASIP) and the Regional Program for Climate Resilience (RCRP2) through which investment support is financing hydromet infrastructure (Radars, hydromet monitoring stations, calibration and information systems). RCRP2 is also supporting the establishment of the National Disaster Management and Climate Resilience Center (NDMCRC) which will house key agencies including disaster management (DoDMA), meteorology (DCCMS) and hydrology (DWR) as well as the national emergency operations center. Support to transform this from a building to a cohesive space for early warning will be a key achievement for the country., the African Risk Capacity, and Malawi's Catastrophe Deferred Drawdown Option (Cat DDO) to operationalize forecast-based financing. Partnerships with the Malawi Red Cross Society, WFP, and UNICEF will ensure broad community outreach and inclusion of schools, farmers, and vulnerable groups. Existing anticipatory action pilots and forecast-based financing mechanisms implemented by MRCS provide ready-to-scale operational models that complement the technical investments supported by the World Bank and WMO. In addition, DCCMS, in partnership with the University of Malawi – Centre for Research and Agricultural Forecasting Systems (UNIMA–CRAFS) and the National Smallholder Farmers Association of Malawi (NASFAM), is piloting an Artificial Intelligence (AI)-based Maize Planting Rains Prediction Project in four districts to provide localized rainfall advisories with at least 80 percent accuracy, helping farmers determine optimal planting dates, reduce losses, and improve food security, while its integration into the second phase of the Climate Risk and Early Warning Systems (CREWS) project will extend these early warning services to the agriculture sector Regionally, the project will align with the CREWS East and Southern Africa regional initiatives and utilize products from the SADC Climate Services Centre to promote interoperability, lesson sharing, and harmonized regional standards. Embedding Phase 2 within the National Framework for Climate and Weather Services (NFWCS) will guarantee government ownership, cross-sector coordination, and sustainability beyond the project's life. More importantly, the CREWS 2.0 is in line with the Malawi's long-term plans stipulated in Malawi 2063 and associated First 10-Year Implementation plan (MIP 1).
Synergies with Ongoing and Pipeline Initiatives	CREWS Malawi Phase 2 will be implemented in close coordination with a range of ongoing and planned national and regional initiatives related to Malawi's climate and disaster risk management, to ensure complementarity, build synergies and avoid duplication. It will directly align with the CREWS East and Southern Africa regional projects, which are strengthening hydrometeorological capacities and impact-based forecasting in the region, by extending these improvements to last-mile communities and integrating them into national disaster risk management systems. At the national level, the project will complement the Green Climate Fund-supported modernization of Malawi's weather and climate information services, leveraging the upgraded observation networks (automatic weather stations, hydrological gauges, and lake-based buoys), data platforms, and communication systems to disseminate actionable warnings to underserved communities, including to farming and fishing communities. It will work in synergy with World Bank International Development Association-financed resilience programmes, such as the Malawi Watershed Services Improvement Project (MWASIP) and the Regional Program for Climate Resilience (RCRP2) that support the establishment of the radar network and upgrade the land-based observation networks. It will also work in close coordination with the African Risk Capacity, and Malawi's Disaster Risk Financing Strategy to link early warnings with early action and financing mechanisms. Collaboration will be maintained with the Malawi Red Cross Society and its volunteer networks to support community outreach, training, and feedback mechanisms, and with relevant UN agencies such as WFP and UNICEF where there are overlapping objectives, such as school safety and social protection programmes. At the regional level, the project will make use of products and services from the SADC Climate Services Centre and participate in regional climate forums to share lessons and adopt best

	practices. These synergies will enhance efficiency, amplify the reach of project outputs, and ensure that CREWS Malawi Phase 2 is embedded within a broader, coordinated effort to build resilient communities and universal access to early warnings. Phase 2 will **leverage these modernized observation networks and communication channels** by focusing on operational uptake – ensuring the data from new stations feed into early warning models, and using the established mobile, radio, and telecom channels to send out community-targeted warnings and advisories. Additionally, the project will align with the **Africa Disaster Risk Financing programs** (such as Malawi's participation in the African Risk Capacity insurance pool and the new Catastrophe Deferred Drawdown Option facility), and the World Bank's Contingent Emergency Response Component (CERC) and community-level resilience grants to link improved early warnings with trigger mechanisms for funding relief efforts[2]. This will enhance the impact of warnings by facilitating early action and response once alerts are issued. Phase 2 also dovetails with Malawi's **National Resilience Strategy (2018–2030)**, which emphasizes risk reduction in agriculture and community resilience – the project's community-based EWS work will contribute directly to those strategic goals. Collaboration will be maintained with the Malawi Red Cross Society and its volunteer networks to support community outreach, training, and feedback mechanisms, and potentially engage other relevant UN agencies, such as WFP and UNICEF, where there are overlapping objectives, including school safety and social protection programs. At the regional level, the project will utilize products and services from the SADC Climate Services Centre and participate in regional climate forums to share lessons and adopt best practices. These synergies will enhance efficiency, amplify the reach of project outputs, and ensure that CREWS Malawi Phase 2 is embedded within a broader, coordinated effort to build resilient communities and universal access to early warnings. Close alignment with humanitarian anticipatory action initiatives will ensure that improved forecasts are systematically linked to early action protocols, community preparedness, and rapid response mechanisms. Phase 2 will also be linked with the Africa Multi-Hazard Early Warning and Early Action System (AMHEWAS) and Space for Early Warning project (SEWE project) and leverage their platforms, data, and capabilities to enhance risk monitoring, forecasting, and timely action.

Country and Region (in alphabetical order)	**Maldives**
Already in Pipeline as of 20th SC meeting	Yes
Indicative Budget (in USD millions)	5.0
Lead Implementing Partner	WMO

[2] MALAWI CONTINGENT EMERGENCY RESPONSE PROJECT (CERP)

Background and Rationale	The Republic of Maldives, with land area of 298 km^2 spread over a territory of 90,000 km^2, is one of the Small Island Developing States (SIDS) located in the Indian Ocean. It is among the most geographically dispersed nations, with around 1200 islands. The country has experienced steady economic development in the past decades with tourism as a main sector and was therefore severely impacted by the COVID-19 pandemic. With an average elevation of around 1.5 metres over the sea-level (80% are below 1m asl), it is highly vulnerable to the impacts of climate change and the rising sea level. This clubbed with a lack of disaster resilience and environmental sustainability can be a major threat to the development. The Republic of Maldives is frequently exposed to a variety of hazards such as severe rainfall, cyclonic winds, storm surges/ swells, saltwater intrusion, flash floods and coastal floods leading to damages and losses in the recent years. Secondary impacts on floods include the risk of dengue outbreaks. The CDC lists Maldives as a country with a 'continued or frequent' risk of dengue, its highest risk category. The eastern sectors of the Northern and Central Islands are highly exposed to tsunami while the Northern islands have the greatest exposure to surge hazards and cyclones. The risk profile of Maldives varies from North to South. The Southern islands are exposed to flash floods and large waves/ coastal inundation while the northern islands experience water shortages. Maldives has been proactively taking action to strengthen its adaptive capacity, however, the risk related to disasters, climate change and associated environmental risks are only expected to multiply implying the need for implementing long-term measures. In addition, the limited tools and skills for monitoring and forecasting, alongside with the disparate locations of the islands, pose significant challenges to the national services to cope with the increasing frequency of hazardous events and demands from users. From recent consultations with stakeholders in country the following gaps were highlighted: (1) Risk knowledge – governance of hazard, exposure and vulnerability information & impact tracking (losses and damages) for EWS and disaster risk reduction ● Unavailability of guidelines and standards (methodologies, products delivery, metadata, etc.) for collection and analysis of risk data on hazards, exposure, and vulnerability to inform tailored risks assessments. ● Risk information utilized for infrastructure and contingency planning (e.g., floods, storm surges, etc.) do not adequately consider outlook projections (climate change, population, etc.) ● Sector vulnerability assessment guidelines and standards lacking. Vulnerability assessments have been only conducted through specific projects and with limited scope. Socio-economic vulnerability information is highly fragmented, with missed opportunities for improving the application of vulnerability and exposure data to inform early warning services (including tailored warnings/advisories). ● Lack of standardized community level risk assessments conducted on regular basis, including strengthening national capacities in multi-hazard risk assessment, hazard and risk hotspot mapping, and institutionalizing national system to track loss and damage. ● Reporting on economic losses not mandated (e.g., agriculture or fisheries sector) and damage and loss registry by NDMA only covers household damage with no records systematically taken on disruptions to service (e.g. water distribution), damage to critical infrastructures and losses (e.g. increased maintenance costs) (2) Hazard monitoring and forecasting - ● Density and distribution of the observation network (e.g., radar coverage) ● High-cost maintenance and calibration of observation network leads of many non-functional stations. ● Limited marine observations (ground-proofing) climate change impact projections downscaling capacities. ● Limited capacity for monitoring and forecasting of flash floods ● Need to improve groundwater management ● Impact-based forecasting only piloted for floods and households in some islands ● Non-integrated human and animal health surveillance system (One Health)

	(3) Warning dissemination and risk communication ● The early warning messages do not provide suggested response actions, nor tailored to specific communities ● Lack of synergized SOPs between MMS, responders and media outlets. ● Public verification/2-way communication/ feedback mechanisms are not yet available ● Generalized alert and advice on actions are generalized (not specific for islands/ sectors/ social groups) ● App/social media alerts disseminated by MMS and NDMA depends on user subscription. Updating focal points and contact information from institutions is cumbersome. ● Limited inclusion accessibility and engagement of community-based groups; representing women, children and youth, migrants, elderly and disabled persons during regulation formulation and implementation process for warning dissemination and communication (4) Preparedness to respond to warnings • Absence of Early Action Protocol (EAP) for Maldives • Limited Coverage of local preparedness Capacity via national CBDRM Programme (in terms of the number of islands) • Absence /Limited Protocols/procedures for evacuation of last mile operators • Gaps in public awareness on hydro meteorological and geophysical hazards, and warning systems

Needs	Overall, priority needs for the Maldives including scaling and improving national and community early warning systems as well as strengthening capacities for producing, analysing, accessing and using risk information for early warning and capacities for anticipatory action. All activities shall be aligned with the Maldives EW4All Roadmap Particular needs to be addressed include: 1. Development and strengthening of institutions, mechanisms (for coordination) and capacities for EWS, including anticipatory action 2. Integration of disaster risk into policy and planning, including strengthening of risk and impact (losses and damages) data collection, management and application 3. Support with capacity building of the key agencies such as the meteorological services, the hydrological services, the disaster management agencies and Maldivian Red Crescent (MRC) including building the necessary capacities at atoll/island and community level. 4. Scale-up and enhancement of early warning services, including risk data management, products for the sectors and advisories at different time scales 5. Explore opportunities to work with the private sector and user sector for improving services and examine new business models for sustainability of investments. 6. Enhance risk knowledge, both on risk assessment standards and methodologies, including community risk assessments and diagnostic tools to improve early warning systems, as well as institutionalizing damage and loss tracking systems. 7. Strengthen technical capacity (MMS, NDMA, Water and Sanitation Department (WSD) of the Ministry of Climate Change, Environment and Energy (MoECCT), sectors, local councils, NGOs) on event tracking and impact estimation 8. Invest in sector-specific vulnerability assessment; harmonization on vulnerability and capacity assessment frameworks and data integration 9. Contextualize IFRC's Public Awareness and Public Education (PAPE) messages (on what the public should do when EW alerts are issued) to the country context, ensuring inclusion and engagement of various marginalized groups 10. Undertake public awareness and public education to ensure people are aware of how warnings will be disseminated, which sources are reliable and how to respond e.g. through campaigns, participatory learning, informal education and/or school-based interventions 11. Improve local response and anticipatory action capacities; The local capacity to act on EW messages from NHMS for both response and AA remains limited, especially at the sub-national level. Capacity building for MRC staff and volunteers, based on their existing structures, would greatly enhance sub-national capacities. 12. Expand National Community-based Disaster Risk Management Programme, with a focus on Community EWS using community risk assessment and a EWS diagnostic tool for priority regions or islands 13. Enhance understanding of people's trust in EWS, including through the IFRC Community Trust Index, perception and behavioural studies and the setting up/enhancement of community feedback mechanisms, in collaboration with UNDRR and UNEP under the GCF co-funded TRACT initiative. 14. Nationally-led data maturity assessment to guide the development of the Digital Disaster Risk Knowledge Platform (DDRKP) requested by government. 15. Strengthening national data ecosystem and cross-sector/cross-ministerial cooperation on tracking and accounting of loss and damage, exposure and vulnerability mapping, and impact analysis to improve impact-based forecasting.

Demand	Maldives is still at early stages of systematically contributing to building resilience to hazards. There is still lack of clear mandates for coordination, monitoring and reporting. Cross-sectoral and inter-agency coordination for data sharing and collection should be improved. This is a challenge, particularly at the local levels due to lack of technical capacity, budget and other resources. There is lack of a legal framework on disaster risk reduction (DRR) which also limits the effectiveness of the national initiatives on DRR. There is limited human resources in the country for managing emergency response and, the inner atolls and islands are dependent on the central government for this. Capacity building activities should be focused on strengthening the resilience of the communities and should be integrated as part of the national emergency responses. Further capacity building and technical support activities will be channelled under the EW4All initiative to strengthen end-to-end EWSs at national level across all four pillars, including conducting national workshop, gap analysis and implementation planning. Particular attention will be given to the technical support to ensure the uptake at national and sub-national levels of the tools, data and products made available through WMO World Meteorological Centres (WMCs) and Regional Specialized Meteorological Centres (RSMCs), within the framework of the Severe Weather Forecasting Programme (SWFP South Asia) and that of the South Asia Hydromet Forum (SAHF), which was initiated by WMO and the World Bank in 2018. It is supported by CREWS South Asia and the UK-funded WISER Asia-Pacific Programme. Focus will aim to enhance the capacity to monitor and assess hazards across the entire EWS value chain, from observation and prediction to dissemination and preparedness. Climate services capacity will also be expanded to ensure integration with EWS and to support informed decision-making, particularly in vulnerable island nations like the Maldives, where tailored services are critical for addressing unique climate and disaster risks During a national anticipatory action (AA) workshop in Dec 2024 with Government ministries, MRC, UN partners, there was notable interest from national stakeholders to engage more strategically on AA. A dedicated national TWG on AA will be taken forward, including through a national early action protocol (EAP) developed with relevant line ministries and coordinated by the Maldives Red Cross and IFRC, mitigating the impacts of the changing climate, including health risks such as dengue.

Leveraging Potential	Between 2019 and 2022, the WB was implementing a Development Policy Financing with Catastrophe Deferred Drawdown Option and Pandemic Emergency Financing Facility to respond to the Maldives' needs to enhance its financial capacity to address the economic impact of adverse natural events including health-related shocks. The program ended in September 2022, and since then, the World Bank mobilized funds under a technical assistance to carry out a capacity assessment of hydrometeorological services, provide tailored technical support as well as strengthen other aspects of disaster risk management. Furthermore, under the Digital Maldives operation, the World Bank is supporting the piloting of an early warning system based on the collaborative platform "Mobilize" developed by the University of Salford for Fuvahmulah island. UNDRR has promoted a multi-sector CADRI capacity diagnosis on DRR and CCA which initial phase was completed in October 2022 covering key sectors (fisheries, agriculture, tourism, infrastructure, education, health) and key cross cutting areas (environment, social protection, human mobility) and themes (understanding risk, climate services, financing DRR-CCA , risk governance). This diagnosis will inform the development of an integrated DRR and CCA national strategy and plan which the government, under leadership of President's Office, NDMA/Ministry of Defence and Ministry of Environment has committed to develop with UNDRR technical assistance. UNEP is implementing with government and non-government actors, including global EW4All pillar lead organizations, the a project co-funded by the Green Climate Fund (GCF) - "Toward Risk-Aware and Climate-resilienT communities (TRACT) – Strengthening climate services and impact-based multi-hazard early warning in Maldives", focused on strengthening climate services and impact-based multi-hazard early warning (WMO is one of the implementers, amonst several others). The project will provide a clear investment pathway to address the key gaps, needs and priorities identified through the EW4All initiative. CREWS funding will focus on addressing gaps not covered by this and other projects. Maldives is a member of the South Asia Hydromet Forum (SAHF) and benefits from regional knowledge sharing and operational capacity for forecasters. CREWS Maldives would allow to connect Maldives more closely to regional efforts and allow for further tailoring to national needs. Aligned to EW4All, CREWS funding in Maldives can initiate immediate technical support to address pressing gaps across the four pillars, while the project design for the longer-term GCF initiative is formulated. To this end, CREWS support will build upon this and other potential support that will be extended to the South Asia region and help build the necessary capacities at national, local and community level to better manage the disasters. Moreover, this will build upon the recent decision by CREWS to fund a CREWS ASW proposal by UNDRR, which enables a foundation of support on strengthening the disaster losses and damages database of the country and its application, enabling a more inclusive EWS, and leveraging the current risk information for stronger EWS, including the recently established ESCAP Risk and Resilience portal

Synergies with Ongoing and Pipeline Initiatives	Maldives is one of the initial priority countries under the EW4All initiative, and was the first to finalise its EW4All Roadmap in early 2024. The CREWS South Asia proposal will complement efforts undertaken at national level through the CREWS Maldives project. USAID funded the Climate Change Adaptation Maldives project that enhances adaptive capacities of public and private sectors as well as local communities in Maldives to climate change impacts by supporting MMS to improve weather forecasting capacity. However, it was stopped. In 2023, CREWS provided funding through the Accelerated Support Window (ASW) to enhance understanding of the status of risk knowledge and strengthen disaster data collection mechanisms, its aggregation and analysis with focus on EWS. MRC and the Gov of Maldives are part of ADPC's SNAP project that aims to strengthen 'national AA systems through preparedness'. Trainings on AA and a roadmap will likely be part of this project.

Country and Region (in alphabetical order)	**Mauritania**
Already in Pipeline as of 20th SC meeting	Yes
Indicative Budget (in USD millions)	5.0
Lead Implementing Partner	WMO
Background and Rationale	Mauritania, a Least Developed Country prioritized under the Sendai Framework, is a member of both the African Union and the League of Arab States. Its disaster risk profile is shaped by harsh environmental conditions and climate variability. Key vulnerabilities include erratic rainfall, drought and desertification, food insecurity, flooding from rain and river systems, locust and bird invasions, water pollution, weak vegetation cover, cold spells, coastal erosion, dune-barrier failures, and recurrent epidemics. These pressures are worsening due to accelerating climate change, rapid and unplanned urbanization, and population movements in search of better livelihoods, including increasing irregular migration flows transiting through the country.

	Mauritania's expanding mining and industrial activities, along with its growing oil sector, add new layers of technological and industrial risk. Underlying these challenges is a persistent security context that further compounds overall vulnerability. Mauritania is part of the PRESASS and SWFP West Africa. WMO and AGRHYMET have both initiated some capacity development activities since 2021, under CREWS West Africa, ClimSA and WISER, and identified clear opportunities for investments in early warning systems, with specific socio-economic benefits with a gender-disaggregated approach. The proposal is to build upon this analytical work, and start in parallel technical assistance funded by CREWS and investments funded by the Adaptation Fund. Mauritania is a costal West Africa country that is particularly vulnerable to rising temperatures and sea level, droughts and flooding, contributing to accelerating migration and urbanization patterns. Damage to crops and increased water stress cause significant economic losses, damage to agricultural lands and pose threats to human health and well-being. Vulnerability is exacerbated due to the country's high level of poverty and high dependence on 'climate change sensitive' sectors, such as agriculture, fisheries, mining and livestock. While climatic hazards and threats are expected to intensify, hydromet and EWS have the potential to reduce the negative impacts of climate variability upon people living in Mauritania.
Needs	The capacity of the Meteorological Office (Ministry of Transportation) and hydrological service (Ministry of Agriculture) is just enough to monitor weather parameters and provide forecasts on a daily basis, albeit not with sufficient detail More specifically, the needs relate to: a) disseminating the information in the most appropriate formats and b) improving communication for integration of weather, climate and hydrological information in decision-making. The delivery of warnings is limited to administrations, while the public receives monitoring and forecast information through TV, radio, newspapers. These forecasts are not specific enough to meet the needs of vulnerable communities. UNDRR conducted a landscape mapping for DRR and climate change adaptation policies, strategies and plans to examine entry points for achieving coherence among them. In December 2023 it also held consultations with a variety of stakeholders such as all ministries and governmental entities of Mauritania as well as UN and international and national NGOs that underscored the need for the aforementioned support. UNDRR also consulted with the implementing partners of the current CREWS project in the region that expressed support and interest in this work. While advances have been made, particularly in drought monitoring in recent years, there remains a lack of integration on early on-set hazards, a need for improved monitoring of rapid on-set hazards, and a severe lack of coordination in regard to communication of warnings. In 2024, UNDRR co-developed and supported the National DRR strategy that integrates climate information and establishment of National DRR platform. The strategy was consulted at national level and technical validation workshop was conducted in October 2024. The draft action plan was developed for the DRR strategy and is yet to be validated as further technical support is required. The UNDRR, in close coordination with its in-country partners, identified the need for enhanced early multi-hazard warning systems and to better understand existing infrastructure for improved use by these partners. They also identified the need for historical data on losses and damages and improved coordination and clarity about the roles and responsibilities of various stakeholders. The following are the needs identified on Risk knowledge and EWS in Mauritania. 1. Need for Data collection support 2. Reporting on SFM and Desinventar 3. DELTA-resilience data management system roll out 4. EW4ALL Roadmap development - National Multi-Hazard Early Warning System (MHEWS) Roadmap developed and/or adopted using results of the data ecosystem maturity assessment

	5. Increase in knowledge / know-how of national stakeholder participants on the use of risk knowledge across the EW value chain 6. Enhanced local and national capability to produce quality, timely, and contextualized risk and disaster (losses and damages) information, through inclusive and participatory approaches 7. Score card – Detailed resilience score card assessment and climate resilience addendum and accordingly develop the local resilience action plan for one city 8. Use of risk knowledge in the development of impact-based forecasts 9. Disaster-related (risk and disaster impact) data governance is enhanced to enable improved risk-informed decision-making 10. Enhanced capacities to monitor and report on the coverage and effectiveness of early warning systems and apply learning to improve approaches through After Action Event review ITU has provided technical assistance to the Autorite de Regulation (ARE) of Mauritania in the development of National Emergency Telecommunication Plan (NETP) as well as conducted multi-stakeholder consultations to implement NETP, Cell Broadcast EWS and Common Alerting Protocol. This is in addition to training on Cell Broadcast and Common Alerting Protocol. During the workshop in October 2025, the Minister of Digital Transformation and Public Administration Modernization underscored that building institutional preparedness for disaster and crisis response is a national priority. He emphasized that effective communication during emergencies is a vital safeguard for protecting lives and property and highlighted the government's strong commitment.
Demand	Strengthening of warning systems for climate slow-onset events and rapid-onset meteorological and hydrological events) is referred as a priority in the National Adaptation Plan of Action (NAPA, 2004), Strategy for Accelerated Growth for Shared Prosperity (SCAPP 2016-2030) and Intended Nationally Determined Contribution (INDC, 2015, as part of "strengthening the resilience of the vulnerable population to the effects of climate change") The project will bring together a variety of stakeholders to build the national capacities on early warning information, identify critical information gaps, and build the coordination mechanisms to support the process of developing a road map for the country for implementing a more comprehensive impact-based EWS. This will be done in collaboration with UNDRR, WMO, ITU, and IFRC. The capacities of the stakeholders will also be built through the establishment of a national disaster loss database to produce and use data from climate, weather and hydrological services, and disaster loss data, including through the harmonization of data sets. Through the data provided for the DesInventar and Delta resilience and discussions with the government, UNDRR will identify a city to implement the climate resilience scorecard, since the country is facing multiple hazards. Through the use of the scorecard, UNDRR will be able to develop a local resilience action plan. The aim is to support the establishment of a national multi-stakeholder coordination mechanism for DRR that will act as an advisory and coordination platform for the implementation of DRR activities and programmes, including thein line with Sendai Framework and in coherence with Paris Agreement and the SDGs, which is yet to be finalized due to additional technical assistance requests from policymakers. The improved horizontal and vertical coordination through the establishment of the National DRR Platform will also support the national and local authorities to make more risk-informed decisions when engaging with development and humanitarian agencies. The Minister of Digital Transformation and Public Administration Modernization underscored that building institutional preparedness for disaster and crisis response is a national priority. He emphasized that effective communication during emergencies is a vital safeguard for protecting lives and property and highlighted the government's strong commitment. Building on

	the development of the NETP and the CAP training, two multi-stakeholder working groups were created – one focuses on the implementation of the NETP and another to the operationalization of the CAP. Going forward, support is required to strengthen national dissemination and communication capacities, in line with EW4All and the Government's request to ITU. Priority needs include: - Technical assistance to strengthen the multi-channel public warning system, covering governance, institutional roles and end-to-end dissemination workflows. - Feasibility assessment of Cell Broadcast (CB) and other mobile-enabled alerting technologies, including technical, regulatory and economic requirements. - Support to implement and operationalize Cell Broadcast, including feasibility assessment, regulatory review, development of technical specifications, procurement support, system setup and integration with CAP and piloting with national authorities and mobile network operators. - Oversight of the multi-stakeholder working group on implementation of NETP and operationalisation of CAP ensuring interoperability between ARE, disaster management agency, telecom operators, and local authorities. - Strengthened institutional coordination between hydromet services, disaster management actors, the telecom regulator (ARE), and mobile network operators. - Capacity building for national authorities on Cell Broadcast, CAP, GIS and Early Warning Connectivity Map. - Capacity building for national and local authorities on crafting clear, actionable warnings tailored to different user groups, including women, youth, and vulnerable communities.
Leveraging Potential	The CREWS project would be implemented as a follow-up to institutional development carried out by WMO and AGRHYMET over 2021-2022 (strategic planning, action planning for resilience, etc.) and in coordination with a proposal, to be submitted to the Adaptation Fund, to address other aspects not covered by CREWS.
Synergies with Ongoing and Pipeline Initiatives	This project aligns to the UNSG's Early Warning for All Initiative and supports the ongoing CREWS project in West Africa, which focuses on strengthening regional coordination mechanisms. The project aligns with other global and UNDRR efforts on data harmonization, including the recent CREWS project on reporting on Early Warning Systems in alignment with Sendai Framework reporting (Target G) This project will utilize data gathered by the AGRHYMET Regional Centre on drought control. The implementing partners of the ongoing project (WB and WMO) welcomed this project and look forward to contributing to and receiving a copy of the feasibility study to support their ongoing efforts in the region. The project also aligns to the implementation of the Comprehensive Risk Management Initiative of UNDRR and contributes to the achievement of Target E of the Sendai Framework, which requires all countries to substantially increase the number of local and national DRR strategies and plans as a basis for implementing the other six global targets. This is materialized through the development of a National DRR Strategy for Mauritania that is informed by climate information and scenarios towards achieving risk-informed sustainable development.

Country and Region (in alphabetical order)	Mauritius
Already in Pipeline as of 22nd SC meeting	No
Indicative Budget **(in USD millions)**	*1 Million USD*
Lead Implementing Partner	IFRC
Background and Rationale	Mauritius Red Cross Societies (MRCS), NDRMC, PIROI/Croix-Rouge française, Red Cross Red Crescent Climate Centre, Mauritius Meteorological Services Mauritius is highly exposed to tropical cyclones, flash floods, storm surges. As SIDS, its vulnerability is aggravated by high population density in coastal areas and climate change effects such as intense coastal erosion. While Mauritius has advanced institutional structures for DRM, gaps in integrating AA into national systems remains. Other than the current CREWS funding, further implementation of the EW4ALL Roadmap remains unfunded. Building on the perception surveys on alerts and warnings currently underway, this proposed intervention aims to strengthen the integration of AA into national frameworks, reinforce community-level preparedness, and ensure that early warnings trigger timely and pre-arranged responses.
Needs	Critical gaps make the effectiveness of early warnings difficult. AA is not systematically integrated in national policies, and communication channels with communities remain insufficient to ensure timely, actionable responses. Coastal populations face heightened vulnerability due to concentration of people and infrastructure in highly hazard-prone areas. Limited technical and financial support to implement the National EW4All Roadmap, including partners coordination and implementation monitoring and evaluation. Also, Interpillar coordination of the EW4All initiative in country is limited. Capacity building for volunteers, local authorities, and community members on EWEA, scenario planning, and disaster simulations is much needed. Early Action Protocols (EAPs) for key hazards (e.g., cyclones, flash floods) need developing and funding in particular national-wide protocols applicable to all actors and administrative levels. Existing DRM laws and policies have limited alignment with early warning and early action principles. Also, the involvement of regional authorities (island-level) and communities to ensure policies and laws are locally operationalized needs improvement, especially in Rodrigues and Agaléga. Human resource capacity for the National DRM authority is limited in terms of staff and technical knowledge on end-to-end MHEWS and Anticipatory Action. Further technical support is needed to ensure that existing social protection systems are shock-responsive and that incorporate an early action approach and can quickly adapt to the diverse needs and potential impacts on at-risk populations, including particularly vulnerable groups such as women, children, migrants,

	etc. Community involvement in DRM, and AA other than through Red Cross Red Crescent volunteering, remains limited, and last-mile implementation/ operationalization of policies needs improvement to ensure effective community-based preparedness. The UNDRR has initiated the process of supporting the NDRRMC with updating risk indicators and profiles using the INFORM Subnational methodology for a few administrative areas. The next phase will require funding for expansion to other areas, and the generation of updated risk maps and profiles and the visualization using dynamics and static data layers. Additionally, there is a need to build capacities in the NDRRMC for multi-hazard risk assessment, as well as in other sector ministries and departments responsible for the generation and use of risk information.
Demand	Funding to operationalize the roadmap and scale up EWEA systems, including financial coverage for key activities that will be included in the EW4All Pillar 4 Roadmap, as well as funding for Interpillar activities. Support for institutional strengthening (in terms of knowledge, equipment and staff) and coordination mechanisms for the EW4All initiative but also EWEA work, at the national and the decentralized levels. This includes dissemination of the initiative, but also financial support to the finalization of the EW4ALL Roadmap for all Pillars, and the Interpillar component. Technical support in the development of national DRM laws and in their implementation to the last mile. Training on Anticipatory Action and EWEA for the staff of the National DRM authority and other key institutions at all levels. Technical support to establish shock-responsive social protection system that incorporates an early action approach. Technical support to develop Early Action Protocols on a key risk and to support its adoption at the national level. Implementation of community-facing activities around EWEA including simulation exercises, developing evacuation plans, alert multiplication, etc. This includes the implementation of sensitization activities in schools.
Leveraging Potential	From CREWS funding, Mauritius is building forward from a solid institutional base. This proposal builds on that momentum. It leverages perception surveys on alerts and warnings currently underway, which provide critical insights into public understanding and trust in early warning systems. It also amplifies MRCS-led community engagement and school sensitization efforts, which have begun to bridge the gap between national systems and last-mile activation. The Mauritius Red Cross Society plays an active role in schools nationwide, promoting disaster preparedness, first aid training, and health education among students. These initiatives contribute to fostering a culture of safety and resilience from an early age. Through its broader programming, the Mauritius Red Cross Society has established a strong partnership with the National Disaster Management Office (NDRT) and government authorities. This collaboration ensures alignment with national priorities and challenges and reinforces coordination with ongoing efforts in risk reduction and emergency preparedness. The proposal also builds on regional investments, including the AFD/GCF/EU Hydromet Programme, which provides a EUR 10.6 million regional envelope to strengthen hydrometeorological infrastructure and forecasting systems across Comoros, Madagascar, Mauritius, and Seychelles. In parallel, Mauritius benefits from the PIROI Center's regional programming, supported by an estimated EUR 3 million annual budget, which enables shared expertise, prepositioned stocks, and training opportunities for Indian Ocean Island National Societies including MRCS (PIROI Center). Despite a favorable enabling environment, Mauritius currently lacks dedicated grant support for last-mile early warning and anticipatory action, making this proposal a timely and catalytic opportunity to operationalize Pillar 4 of the EW4All roadmap. Building on this collaboration with PIROI, the proposal will explore synergies with the World Meteorological Organization (WMO) through its Regional Specialized Meteorological Centre (RSMC) in La Réunion, which provides regional forecasting and early warning services. Joint initiatives with PIROI play a pivotal role in rolling out early warnings through enhanced coordination, operational readiness, and capacity building. As a recognized regional training hub, PIROI's network strengthens anticipatory action and early warning capacities across IOI National Societies, while promoting cross-country learning and a harmonized regional approach to disaster risk management and climate resilience.

Synergies with Ongoing and Pipeline Initiatives	Mauritius is a committed actor within the EW4All initiative and a strategic contributor to the Southwest Indian Ocean (SWIO) regional roadmap. The proposed intervention aligns with the Sendai Framework, the Sustainable Development Goals (SDGs), and the UN Secretary-General's call for universal early warning coverage by 2027. It also directly complements CREWS Southwest Indian Ocean (SWIO) Phase 1 and Phase 2, which focus on strengthening regional multi-hazard early warning capacities across Comoros, Madagascar, Mauritius, and Seychelles. Under CREWS SWIO, Mauritius benefits from initiatives that enhance forecasting, risk information, operational readiness, and hazard monitoring, including tropical cyclone early warning coordination across the basin. The intervention connects with CREWS SWIO Phase 2, which promotes regional coherence, harmonized methodologies, and technical strengthening across Indian Ocean islands. This includes support for impact-based forecasting, hydrometeorological service improvements, and enhanced regional collaboration through National Meteorological and Hydrological Services (NMHSs). These upstream investments provide the foundation upon which this proposal strengthens community preparedness, institutional coordination, and legal frameworks. Mauritius is also advancing through Systematic Observations Financing Facility (SOFF) readiness support, which focuses on improving essential climate data availability and compliance with the Global Basic Observing Network (GBON). The proposed project complements these upstream meteorological investments by ensuring that improved observations translate into actionable preparedness and anticipatory action at the national and community levels. Synergies also exist with the AFD/GCF/EU Hydromet Programme, which provides a EUR 10.6 million regional envelope for hydrometeorological infrastructure, forecasting enhancements, and capacity strengthening across Comoros, Madagascar, Mauritius, and Seychelles. This proposal ensures that the benefits of these technical improvements are carried through to last-mile dissemination and community readiness. Mauritius benefits from the PIROI Centre's regional programming, supported by an estimated EUR 3 million annual budget—which provides shared expertise, pre-positioned stocks, emergency response training, and support for Indian Ocean National Societies. Collaboration with PIROI reinforces harmonized approaches to early warning dissemination, regional simulation exercises, and school-based preparedness. PIROI's role as a regional training hub also enables the Mauritius Red Cross Society to participate in knowledge exchange and specialized capacity-building activities. Building on this collaboration, the proposed intervention will explore synergies with the World Meteorological Organization (WMO) through its Regional Specialized Meteorological Centre (RSMC) La Réunion, which provides tropical cyclone forecasting and warning services to Mauritius and the broader region. Strengthening coordination between RMCS La Réunion and Mauritius Meteorological Services enhances the accuracy and timeliness of warnings, supporting improved anticipatory action at national and community levels. The proposal also aligns with technical support provided by the Red Cross Red Crescent Climate Centre (RCCC), PIROI, and other Movement partners, which contribute tools and methodologies for community perceptions research, anticipatory action design, and behaviourally informed early warning communication.

	Additionally, Mauritius can leverage ongoing coastal resilience initiatives, including UNESCO's IOC–IHO coastal hazard and resilience programmes and WMO's coastal inundation early warning efforts, which are strengthening ocean–climate early warning capabilities across Indian Ocean islands. Together, these regional and national initiatives provide a strong platform upon which CREWS-funded activities can operationalize early warning and anticipatory action systems. By reinforcing institutional structures, building localized early action protocols, and embedding preparedness into community systems, Mauritius is well positioned to serve as a regional model for inclusive and actionable early warning–early action systems.

Country and Region (in alphabetical order)	**Mozambique**
Already in Pipeline as of 20th SC meeting	No
Indicative Budget (in USD millions)	3 million
Lead Implementing Partner	IFRC
Background and Rationale	Mozambique is one of Southern Africa's most disaster-prone nations. It regularly experiences droughts, floods, and tropical cyclones, with cyclones causing the greatest damage due to intense winds, heavy rainfall, and storm surges. Despite some early warning systems in place, Mozambique continues to face significant challenges in preparedness and response, such as fragmented coordination, limited capacity, and inadequate legal and policy frameworks. Strengthening anticipatory action and early warning preparedness is critical (because it's become a matter of 'when' not 'if') to proactively protect lives and livelihoods against the increasing frequency and severity of climate-related disasters.

Needs	The effectiveness of early warning systems in Mozambique is limited by fragmented coordination among institutions, inadequate integration of forecasts into preparedness and response plans, and insufficient investment in community-level awareness and anticipatory action to translate early warnings into timely, life-saving measures. Furthermore, gaps in legal and policy frameworks hinder the systematic implementation of early warning and early action mechanisms. Inadequate resources, weak interoperability, and the absence of Standard Operating Procedures and feedback loops between national, regional, and community systems further exacerbate delays in anticipatory and response activities, leading to preventable loss and damage. Addressing these gaps requires mobilizing sufficient resources, a conducive legal environment, strengthening institutional coordination, enhancing technical capacity, and embedding anticipatory approaches into disaster preparedness systems to ensure faster, more effective, and people-centered responses. On the 1 December 2025, a multi-stakeholder EW4All monitoring workshop was conducted which brought together stakeholders from across all four pillars of early warning to assess collective progress towards the EW4All roadmap implementation. The workshop noted marked progress since the launch of the initiative in Mozambique/ However, significant funding gaps remail across all pillars. The absence of dedicated funds int eh donor community for Mozambique or for specific sectors has resulted in unmet needs. For example, there is still a need for enhancing the production of risk knowledge, and there is a need for subnational table-top exercises and simulations to improve coordination and decision-making among stakeholders. Further, an investment in impact data was noted, together with the need for improving capacities for multi-hazard risk assessment at different levels of the national disaster management structures.
Demand	To sustain and scale up preparedness to respond to early warning (EW4All) and anticipatory action (AA) efforts, Mozambique requires critical support in the following areas: • Inter-ministerial support to strengthen legal and policy instruments to strengthen preparedness to early warning through capacity building, advocacy, and technical support following the review of Mozambique's legal and institutional DRM framework. • Support the establishment of ownership and integration of the SADC INFORM Sub-national Risk Indicators by embedding them into National Society risk analysis and planning tools, training staff and volunteers on their use, and applying the data to inform Early Action Protocol (EAP) development. • Assess and establish feedback mechanisms as well as CEWSs based on the findings of the completed study 'Assessing Risk Perceptions, Trust in, and Acceptability of Early Warning Systems in Mozambique using the Community Trust Index and Community Perceptions Tool. • Physical simulation exercises to strengthen preparedness for Effective Response (PER), (to early warning on drought. • Strengthening capacities and eligibility to access resources for prepositioning supplies for Effective Response (PER), • Strengthen risk communication and public awareness through CAP training, communication channel mapping, co-design workshops, media capacity building, and the use of recently developed IFRC multilingual audio-visual materials and dissemination strategy to enhance community preparedness for early warning, as outlined in Mozambique's EW4All Roadmap. • Communication and coordination between anticipatory action and disaster response partners through facilitated meetings and improved communication channels. • Partnership and peer-to-peer learning opportunities for better coordination. Continued support for the National EW4All Roadmap, particularly under Pillar 4, is vital, along with fostering trust-building measures in disaster preparedness.

Leveraging Potential	This proposal builds on existing national and regional efforts to strengthen early warning and anticipatory action systems in Southern Africa. It aligns with the Early Warnings for All (EW4All) initiative and the vision of the SADC Humanitarian Operation Center (SHOC). The intervention will leverage the coordination structures led by INGD and the MOU between the IFRC and SADC to strengthen preparedness to disasters in Mozambique and southern Africa. By proposing the embedding of the SADC INFORM Sub-national Risk Indicators into risk analysis and planning tools, and training staff and volunteers in their use, the proposal enhances data-driven decision making and supports the development of evidence based Early Action Protocols (EAPs). The proposal also draws on findings from the recent community trust and risk perception study to strengthen trust, improve feedback mechanisms and community-based early warning systems. In addition, the proposal strengthens coordination between anticipatory action and disaster response partners through peer learning, joint advocacy, and simulation exercises. Mozambique Red Cross with its vast AA experience can align its proposal with a robust ecosystem of existing national and regional initiatives. The proposed intervention can directly complement the SADC Disaster Risk Management Strengthening (DRMSS) project (4.625 mio. EUR) Disaster Risk Management Strengthening in SADC (DRMSS) Project (2023-2026) | EEAS, the Systematic Observations Financing Facility (SOFF) and the EU- and Swedish-funded coordination mechanisms already operational in-country. Furthermore, the proposal builds on Mozambique Red Cross AA partnership with Swedish Red Cross (94,000 USD), German Red Cross and Belgian Flanders Red Cross Society (310,000 EUR). These platforms offer a strong foundation for technical integration, policy coherence, and multi-stakeholder engagement. Mozambique Red Cross can further leverage its collaboration with IFRC and WFP on anticipatory action programming, reinforcing its operational credibility and readiness to scale early warning and early action systems. Mozambique: Anticipatory Action and Early Response Framework - Cyclones (As of 9 January 2025) | OCHA ($6 million). Through these synergies, the initiative will reinforce national ownership of the EW4All Roadmap, enhance community trust and readiness for timely and effective action, as well as expand preparedness capacities in the region. By positioning Mozambique as a demonstration country for regional early action integration under EW4All Pillar 4, the proposal can showcase scalable models for cross-border coordination and climate resilience. This convergence of strategic partnerships, institutional capacity, and regional relevance makes Mozambique Red Cross capable of delivering high impact, locally led solutions that strengthen early warning systems and protect vulnerable communities with CREWS funding
Synergies with Ongoing and Pipeline Initiatives	The proposed project aligns with the Systematic Observations Financing Facility, a 7.8 million USD programme to install six new land surface stations, upgrade 15 existing stations, and establish four upper-air stations in Mozambique. It will also complement system building efforts for Early Action Protocols funded being funded by the Italian grant with 250,000 CHF. This is being done by the Mozambique Red Cross, together with technical support from the German Government's anticipatory action programme. Through this investment, Mozambique will enhance its multi stakeholder coordination, ensuring that EAPs can be activated reliably when thresholds are met.

	At the community level, this proposed project will build on the progress made with funding received from the Irish government (60,000 USD) and Sweden (170,000 CHF), which identified gaps in the legal framework, strengthened volunteer networks, improved coordination with local authorities and enhanced community preparedness. These investments have already led to stronger recommendations to improve legal framework of MHEWS in Mozambique and actionable communication during early warnings. The proposed project will sustain and scale these gains in high-risk districts affected by repeated floods, droughts, and cyclones. Regionally, the intervention aligns with the EU funded 4.6 million USD Disaster Risk Management Strengthening in SADC project, which is operationalizing the SADC Humanitarian and Emergency Operations Centre to improve coordination, information exchange and joint response. By strengthening interoperability between national and regional early warning systems, the project supports cross border preparedness and strengthens Mozambique's preparedness to anticipate and respond to early warnings. Together, these linkages show that CREWS funding will not operate in isolation but will reinforce an established ecosystem of investments, partnerships, and technical momentum.

Country and Region (in alphabetical order)	**Myanmar – Urban Areas (Yangon, Mandalay)**
Already in Pipeline as of 20th SC meeting	Yes
Indicative Budget **(in USD millions)**	5.0 million USD
Lead Implementing Partner	IFRC
Background and Rationale	Myanmar's deltaic, coastal, and riverine regions are highly prone to seasonal floods and storm surges triggered by monsoonal rainfall, cyclones, and inadequate drainage infrastructure. These hazards repeatedly damage crops, destroy livelihoods, and lead to the displacement of vulnerable households, particularly in low-income, densely populated areas. Strengthening community-based flood preparedness and accessible early warning systems is essential to reduce these impacts.

	The country is also highly exposed to severe cyclones, as evidenced by Nargis (2008), Giri (2010), and Mocha (2023). High population density in exposed coastal areas, limited preparedness capacities, and structural vulnerabilities increase risks of casualties and economic loss. Strengthened early warning dissemination, safer evacuation systems, and preparedness protocols are critical for risk reduction. In recent years, Myanmar has experienced increasingly intense heatwaves that pose major threats to public health, agriculture, and energy systems. Urban centres such as Yangon and Mandalay face heightened vulnerability due to dense built environments, limited cooling options, and low awareness of heat-related health risks. The elderly, children, outdoor labourers, and low-income households are particularly affected. These combined hazards underscore the need for integrated, multi-hazard early warning and early action systems, especially in urban and peri-urban areas where population density magnifies risks and response time is limited.
Needs	Flood Risk: • Many flood-prone communities lack access to real-time warning information, safe shelters, and flood-resilient infrastructure. • Coordination challenges between DMH, DDM, and local authorities limit the timely flow of information. • Preparedness and response capacities remain weak, especially in remote delta and peri-urban areas. Cyclones: • Alerts do not consistently reach vulnerable coastal and island communities in time. • Many areas lack adequate evacuation shelters and resources for early action. • Coordination gaps between DMH, DDM, MRCS, and local authorities reduce the speed and effectiveness of response. Heatwaves: • Heatwave early warning coverage is limited, with gaps in accessibility and public understanding. • Communities lack awareness of heat-related health risks and practical coping measures. • There is insufficient access to hydration points, shaded spaces, and public cooling areas during extreme temperatures. Across hazards, communities and municipal authorities require strengthened local preparedness systems, risk communication, and coordinated early action mechanisms.

Demand	Myanmar faces increasing impacts from floods, cyclones, and extreme heat, and national and local stakeholders have consistently expressed the need for more accessible early warning information, clearer preparedness guidance, and stronger coordination mechanisms. Community consultations conducted by MRCS indicate strong local demand for improved warning communication channels, practical evacuation procedures, and strengthened preparedness for recurrent floods in both rural and peri-urban areas. National institutions, including the Department of Meteorology and Hydrology (DMH) and the Department of Disaster Management (DDM), have signalled a need for more structured collaboration with MRCS, particularly in "last-mile" dissemination and strengthening community-level early action mechanisms. Existing government policy frameworks such as the Myanmar Action Plan on Disaster Risk Reduction (MAPDRR) and the National Disaster Management Law (2013) explicitly call for enhanced multi-hazard early warning systems, community engagement, and preparedness at township and ward/village levels. These frameworks emphasize the need for integrated systems for floods, cyclones, and heatwaves, matching the multi-hazard nature of this proposal. Local authorities and township administrations also highlight the need for greater public awareness, improved evacuation planning, and faster coordination during cyclone warnings. Following Cyclone Mocha (2023), communities and responders identified early action and preparedness gaps as critical issues requiring targeted investment. There is also growing national and community-level concern regarding heatwave impacts in major urban centres such as Yangon and Mandalay. Stakeholders have requested more systematic heat risk communication, preparedness measures, and public awareness initiatives to reduce health risks among vulnerable groups. Together, these documented needs and stakeholder requests represent a clear and consistent demand for a CREWS-supported programme that strengthens early warning dissemination, local preparedness, and multi-hazard early action capacities in urban and peri-urban areas.
Leveraging Potential	The proposed CREWS Myanmar intervention can build on several ongoing nationally and internationally funded programmes that strengthen early warning, disaster risk management, and climate resilience. These initiatives provide a strong foundation that CREWS can complement and extend toward community-level and last-mile action. 1. Flood Preparedness and Hydromet Strengthening • Myanmar has benefited from the Hydromet Modernization programme supported by the *World Bank*, which has strengthened DMH's observation networks, data systems, and flood forecasting capacities. • The Enhancing Community Resilience Project supported by *UNDP* continues to work with local authorities on flood preparedness, risk mapping, and community resilience planning. CREWS can add value by connecting these national and township-level improvements to community alert protocols, risk communication tools, and preparedness capacities through MRCS branches and volunteers. 2. Cyclone Preparedness and Coastal Risk Reduction

	• The Rakhine Disaster Risk Reduction and Resilience Programme, supported by *UNDP*, *WFP*, and other partners, has focused on cyclone preparedness, awareness raising, and community contingency planning in cyclone-prone areas. • The ASEAN Agreement on Disaster Management and Emergency Response (AADMER) work plan—supported by multiple donors—includes ongoing activities on cyclone response, risk communication, and preparedness coordination with Myanmar authorities. These initiatives offer a strong platform for CREWS to strengthen community evacuation readiness, early action messaging, and clearer coordination between DMH, DDM, and MRCS. 3. Heatwave Preparedness and Urban Resilience • Ongoing urban resilience and climate adaptation programmes supported by *UN-Habitat*, particularly in Yangon and Mandalay, include components related to heat risk awareness, urban planning, and public health preparedness. • The Health Emergency and Disaster Risk Management (HEDRM) programming led by the *Ministry of Health* with WHO support provides an operational entry point for enhancing community-level heat-risk awareness and early warning communication. CREWS can enhance these efforts by linking DMH's heat alerts, MRCS's community communication channels, and municipal preparedness actions (e.g., water points, shaded areas, public messaging). 4. MRCS Operational Networks and National Coordination • MRCS's existing disaster preparedness and community outreach networks—supported through various IFRC and partner NS programmes—provide a ready mechanism for local dissemination, preparedness activities, and early action support. • MRCS's auxiliary role positions it as a key bridge between national systems and local communities, enabling CREWS to translate national hydromet improvements and DRR planning into actionable, localized early warning and early action systems.
Synergies with Ongoing and Pipeline Initiatives	The proposed CREWS intervention aligns with CREWS **flood risk reduction priorities** and complements MRCS's strategies in disaster preparedness and response. It builds on existing forecasting, communication, and volunteer systems to strengthen early warning, response coordination, and local resilience. It also complements ongoing **early warning and disaster risk reduction initiatives**, including development of simplified Early Action Protocols (sEAP) for cyclone hazards. The project aligns closely with CREWS objectives by improving communication, coordination, and community-level response capacity. For heatwaves, the project aligns with CREWS' expanding global focus on **extreme heat resilience** and complements MRCS's health awareness and climate adaptation work. It leverages existing data, volunteer networks, and communication platforms to enhance preparedness and protect vulnerable populations.

Country and Region (in alphabetical order)	Nepal
Already in Pipeline as of 20th SC meeting	Yes
Indicative Budget (in USD millions)	5
Lead Implementing Partner	WMO
Background and Rationale	Nepal is a landlocked country in South Asia and is the second most vulnerable country globally to mortality risk from multiple hazards, in addition to loss of livelihoods, and damage to the environment. Research shows that the changing climate will continue to impact the country with higher intensity and frequent hydro-meteorological events such as floods, flash floods, glacier lake outburst flood (GLOF), landslides, heatwaves, forest fires, earthquakes, and health-related hazards exacerbated by climate change. Growth and development in Nepal cannot happen without sustained efforts to reduce risks, prepare for crises, and build community resilience. The country has been strengthening its capacity to respond to hydro-meteorological risks. The "Building Resilience to Climate Related Hazards Project" (2013-2020) laid a foundation for modernizing hydromet services in Nepal. Similarly, the Disaster Risk Reduction and Management Act of 2017 enabled the establishment of a National Disaster Risk Reduction and Management Authority (NDRRMA) with a mandate to coordinate all hazards including hydro-meteorological ones, together with the Department of Hydrology and Meteorology (DHM). The Authority now leads a 14-ministry task force on Multi-Hazard Early Warning Systems (MHEWS), which developed a concept note and action plan for the country to establish and implement an end-to-end, inclusive MHEWS. The concept note (pre-dating the EW4All initiative) highlights the need for policy and regulatory reforms to more clearly define roles and responsibilities in the MHEWS value chain and strengthen sectoral inputs and implementation; capacity building on MHEWS across sectors and at the sub-national level to both forecast and communicate warnings to communities; and enhanced technology to forecast, monitor, and send MHEWS. Further, the approval of the Hydromet Policy in 2024 (one of the prior actions of the WB financed Development Policy Credit with Green Resilient and Inclusive Development Project) provides an enabling environment to continue to strengthen hydro-meteorological services, which will also be addressed in the upcoming AF HydroSOS Bangladesh Nepal Project, led by WMO. At present, the DHM is preparing a "hydromet master plan", which outlines interventions for short (5year), medium (10years) and long-term (15years). However, considering the continuous hydrological and meteorological risks, the country faces and the exacerbating effect of future climate change, current capacities are insufficient, and significant gaps persist in the generation and dissemination of timely and reliable impact-based weather forecasts, multi-hazard risk information and early warnings, as well as sector tailored services for aviation, tourism and agriculture.
	The national consultation for EW4All in September 2023, and subsequent meetings, further highlighted the need for stronger engagement of local communities in

	MHEWS - from using local and indigenous knowledge, to sharing warnings in local languages and with local customs; greater inclusion in early warning messages including for persons with disabilities, women, and indigenous communities; and stronger partnership with regional neighbours and organizations to better forecast and monitor transboundary hazards that Nepal remains extremely at-risk of. This inclusive process has resulted in the national EW4All Roadmap, which is now in December 2025 in its final draft. National consultations and recent IFRC–NRCS pilots setting up an AA Clinic and other technical support to NDRRMA as well as at local government level have further shown that institutional challenges also exist to embed Anticipatory Action into Nepal's broader disaster risk management system. This includes the need for national AA governance structures, integration of AA into DRM strategies and policies, and further clarity in national roles and responsibilities across the EW/EA value chain. Alongside these system-wide needs, there remain major gaps in operationalizing early warning and anticipatory systems at municipal and community levels, particularly in inclusive risk communication, local contingency planning, and uptake of early warning messages in local languages and formats. These needs are reflected in the Government's EW4All implementation plan, which remains largely unfunded. This proposed project will focus on supporting DHM, NDRRMA, MoCIT and MoHA in line with the national EW4All roadmap and the "hydromet master plan" which are both currently in the final phase of development. Along with this, strengthening of local stakeholders' capacities including communities will be pursued to ensure early warnings services are provided timely and that necessary anticipatory or response actions are taken up at the local levels and by the communities most at risk.
Needs	While many initiatives address various aspects of strengthening Nepal's MHEWS, there remains a critical need for a project that holistically enhances Nepal's capacity to observe, monitor, analyze, and forecast weather-related hazards. This project aims to improve the dissemination of timely and actionable warnings by leveraging existing capacities and extending these enhanced capabilities to local levels. At the national level, support is also needed for NDRRMA and relevant ministries to operationalize the emerging National Anticipatory Action Framework, strengthen Anticipatory Action (AA) governance structures, and integrate AA into national DRM and climate change strategies and regulatory frameworks. Capacity is needed to use loss and damage data for trigger-setting, and to embed AA procedures within federal and provincial institutions. At the same time, municipalities require strengthened capacities to interpret warnings, implement AA protocols, roll out simplified Early Action Protocols (sEAPs), and operationalize local Emergency Operation Centres. Communities require localized EVCAs, community action plans, community early warning systems, and regular SIMEX exercises. In doing this, the project seeks to strengthen DHM's technical capacities and further engage with NDRRMA to strengthen the local capacity of disaster managers to be able to provide accessible, clear, and comprehensive actions for communities in the face of warnings. For this, it is imperative to build capacity on historical loss and damage data, as well as hydrometeorological data to provide impact-based forecasts and information that is better understandable to those most vulnerable. There is a need for Emergency Preparedness and Response trainings, as well as community based early warning systems at local level. Further, testing local response capacities through SIMEX to enhance readiness capacity of the local authorities and communities will be needed. The primary goal of this project is to ensure that everyone in the country, especially those most at risk, is better safeguarded through effective, life-saving early warning systems. The project will take a people-centred, holistic, and inclusive approach, emphasizing active engagement with vulnerable communities—such as persons with disabilities and children—through dedicated pilot activities in target regions. It will prioritize the planning and implementation of accessible MHEWS while maintaining a strong focus on gender inclusivity.

	The government of Nepal under the leadership of NDRRMA with the support of four national pillar leads (NDRRMA, DHM, MoCIT, MoHA) and co-leads (WFP, UNDP, BBC Media Action, NRCS) for EW4All, with the support of the four global pillar leads (UNDRR, WMO, ITU, IFRC) have developed the national EW4All roadmap, and there are plans underway validate and launch the roadmap, tentatively before the end of 2025. With the launch of the national roadmap, there is a strong need to leverage the momentum and support the government in the implementation of the activities in the roadmap across all four pillars. Key currently identified needs in pillar 1 are the following: Developing a dynamic risk profile Harmonising Disaster and Climate Resilience framework and actions Clarifying mandates with roles, responsibilities and resources missing for risk assessment Developing capacity of human resources for data collection, analysis, production, verification, use and dissemination of risk information Maintaining a central standardized repository established to store all event/disaster and risk information Mapping for critical infrastructure, evacuation routes, safe shelters not available in Municipalities Establishing relationship between risk and sectoral variables not established limiting impact forecasting Integrating Earth Observation (EO), empirical relationship, modelling and in-situ observation in Spatial Decision Support System (SDSS) Digitizing exposed species by invasive species Developing baseline of database and SDSS on environmental impact by hazards Assessing legislation and cultural norms to identify gaps that may increase vulnerability Enhanced sharing of transboundary earth observation and risk information For Pillar 2, Following needs and key priorities are proposed for strengthening of the DHM's capacities for monitoring, forecasting and early warning services for weather related hazards - Enhanced data exchange and access for forecasting and warning systems especially with the improvement in the meteorological modelling (NWP) and forecasting - strengthened and access to regional products improved Regional Climate Centre Collaboration - Nowcasting is available using the NWP (system in place) for urban areas especially Kathmandu valley - Forecasts Warnings are produced for weather and floods forecasts - Develop customized capacity development programs and training initiatives focused on enhancing forecasting skills, NWP, climate analysis and forecasting, impact-based forecasting methodologies, risk assessment techniques, data analysis tools, and decision support systems at various levels of proficiency, fostering a culture of collaboration, innovation, and continuous learning in the field of disaster risk management. - Impact-based forecasts and warnings are co-produced with stakeholders and academia Support is required to strengthen national dissemination and communication capacities, in line with EW4All and the Government's request to ITU. Priority needs highlighted include: - Capacity building in emergency telecommunication system and early warning platforms tailored to Nepal.

	- Capacity building in national emergency telecommunication frameworks and the role of ICTs, telecom operators and spectrum planning in disaster scenarios, public alert platforms. - Effectiveness of Emergency Telecommunication Cluster for early warning and disaster relief. - Technical assistance to design and implement a multi-channel public warning system, covering governance, institutional roles and end-to-end dissemination workflows. - Support to implement and operationalize Cell Broadcast, including feasibility assessment, regulatory review, development of technical specifications, procurement support, system setup and integration with CAP and piloting with national authorities and mobile network operators. - Development of national CAP-compliant architectures, ensuring interoperability between MoCIT, NTA, NDRRMA, DHM, telecom operators, and local authorities. - Strengthened institutional coordination between DHM, disaster management actors, the telecom regulator (NTA), and mobile network operators. - Capacity building for national and local authorities on crafting clear, actionable warnings tailored to different user groups, including women, youth, and vulnerable communities.
Demand	DHM has expressed its need in strengthening hydromet services through different projects 1) WB-financed lending operation - conversations ongoing for additional support 2) WMO project on strengthening hydrological status and outlook system for Nepal. (see Leveraging potential) In the meantime, DHM has requested a continuation and expansion of technical assistance to close persisting gaps. To assess the situation prior to the development of this project proposal, WMO conducted rapid EW4All Pillar 2 capacity assessment, End to End Early Warning System for Floods and Drought (made available for the HydroSOS BaNe project) and recently concluded field visits (including consultation with DHM, IFRC, and other local authorities) following the recent flooding events in Kathmandu valley in September 2024. The assessments helped identify the priority hazards of focus, while also assessing capacities across different areas of work. The proposed activities are further informed by the outcomes of the EW4All roll-out process and aligned with the Systematic Observations Financing Facility (SOFF) activities (including the Country HydroMet Diagnostic) for Nepal. They are also based on consultations with the respective national actors. The proposed project seeks to focus on the following activities: • **Further institutionalizing of Anticipatory Action:** At the national level, successive national dialogue platforms on Anticipatory Action (2022–2024) have highlighted strong demand for establishing a consistent National AA Framework, agreed national triggers, and clear roles across ministries. The NDRRMA-led AA Community of Practice and AA clinic demonstrate government commitment to institutionalizing AA in national systems. Municipalities have simultaneously expressed strong demand for support to translate these national frameworks into local disaster plans, strengthen preparedness capacities, and operationalize early warning and anticipatory actions.**Support the development of a legal framework for improved weather, water and climate services in Nepal**: The Hydromet Policy and the hydromet master plan already provide an enabling an environment. The finalization of the hydromet master plan and the development of a legal framework are imperative to institutionalize and implement the policy provisions including provisioning of adequate staff, service delivery and long-term sustainability. In parallel, support will be provided to NDRRMA and relevant ministries to integrate Anticipatory Action into national DRM strategies and regulatory frameworks, including informing future updates of disaster law, in line with the pillar 4 gaps analysis indicating that Nepals DRM legal framework would benefit from alignment with EW/AA protocols. This will help establish nationally endorsed AA roles, responsibilities, and trigger-setting mechanisms aligned with EW4All and the emerging National AA Framework.

	• **Strengthen technical capacity of DHM in weather forecasting, including impact-based forecasting for urban areas, lightening detection, multi-hazard early warning, and Common Alerting Protocol (CAP) development and implementation:** This component includes a tailor-made capacity building programme to in modelling, weather forecasting, impact-based forecasting, early warning and communication. The existing Calibration Lab, Numerical Weather Prediction (NWP) model, TV studio, Lightening Detection Network, RADAR, and Workstation installed during the BRCHP further demand technical trainings for their operation and enhanced functionality through product generation. Specifically, the activities include: ○ Strengthening and **Enhancement of** NWP for improved monitoring of severe weather events ○ Development of a foundation for **Nowcasting**, including piloting of lightning detection network and with a special focus on GLOFs. This will also be important for improving urban flood forecasting in Nepal following recent flooding events. ○ Improvement of **general weather forecasts** (e.g. verification of manual forecasts, weather analysis for severe weather events, capacity development, sectorspecific forecasts, forecasts of fog. ○ **Impact-based forecasting** and implementation in specific priority sectors (dam operation, water utility, agriculture, aviation, and irrigation, etc.) for prioritised hazards to improve day-to-day activities, building on improved hazard cataloguing and risk knowledge. ○ Training on operationalizing the calibration lab, TV studio, Lightening Detection Network, Radar data analysis, and workstation. • **Strengthening tailored services to irrigation, aviation, tourism, hydropower, and agriculture sectors:** This includes support in the development and implementation of a standardized Quality Management Systems (QMS) adhering with the ICAO and WMO technical regulations, and the development of an end-route weather forecast for aviation sector. • Further strengthening of the **application of CAP** (currently implemented through the CREWS EW4All Accelerator Project) in dedicated target sectors • Strengthening of DHM's capacity for operational development of the ensembled **flood modelling for multi-hazard early warning services** • Strengthen risk communications of NDRRMA and the **understanding and efficacy of community actors, particularly those at greater risk to be included in the creation, dissemination, and responses to EW messages.** This national-level work will be complemented by the development of contextualized, behaviourally informed risk communication strategies at community level, drawing on NRCS and IFRC experience with local languages, trusted channels and inclusive messaging for persons with disabilities, women, and indigenous groups. • **Strengthen capacity of NDRRMA and local actors in the collection and use of loss and damage data** to issue warnings, take early actions, and reduce impacts of disaster events. **Development and roll-out of national Anticipatory Action (AA) Framework,** as requested during national dialogues on AA. These AA frameworks will build on the improved IBF capacities of DHM and incorporating self-help actions for communities not directly serviced by these AA frameworks. Support will also focus on strengthening national AA governance, including capacity building for NDRRMA, DHM, and sector ministries on trigger-setting, use of loss and damage data, and integration of AA into federal and provincial institutional systems. The AA clinic and AA Community of Practice will be leveraged to ensure consistency across national AA procedures. • **Based on improved impact-based warning services from the DHM and use EWS at the local/community level, support the Scale-up of AA practices.** Through the national AA Community of Practice there is a wish to get more involved in EWS and localization of AA practices and to pilot approached within communities. At subnational and community levels, the project will support development of sEAPs, integration of AA procedures into municipal DRM plans, and operational readiness through EVCA processes, community action plans, CEWS expansion, and SIMEX exercises. Local EOCs will be strengthened to ensure timely activation of early and anticipatory actions. • Implementation of community-based approaches for developing **self-help capabilities of vulnerable communities** for early or anticipatory actions **Enhance the capacities of multi-stakeholders in warning dissemination and communication,** leveraging on the activities completed under CREWS Multi-stakeholder Accelerator for LDCs and SIDS, and providing technical support to the MoCIT and NTA (regulator) in implementing Pillar 3 activities in the EW4All national roadmap. This includes support for cell broadcast, capacity building on the Early Warning Connectivity Map, strengthening the application of CAP amongst the stakeholders, implementation and capacity of the National Emergency Telecommunication Plan, development of standard operating procedures and contingency plan and capacity building.

	Enhance capacities in disaster preparedness for local communities (interpretation of warnings received from DHM, NDDRMA) **and response actions, including establishment and operationalization of the local emergency operation centre, (**dissemination of warnings) **and definition of rapid response measures.** In the new federalized system, the local governments (municipalities) have greater roles and responsibilities in disaster risk management. To ensure this increasingly localized system is prepared to respond to early warnings, local municipalities' capacities will be strengthened with regards to forecast interpretation and translating those into action.
Leveraging Potential	The proposed project will leverage and align with a number of projects and partners active in the country. It seeks to engage various stakeholders, including regional and other national organizations and mechanisms (governmental and non-governmental), particularly the South Asia Hydromet Forum (SAHF, supported by CREWS South Asia and the UK's WISER Asia-Pacific Programme), to facilitate peer-to-peer learning, share best practices, and build/strengthen partnerships for implementation and maintenance. Collaboration will also be sought with other development partners such as the Asian Development Bank (ADB), Japan International Cooperation Agency (JICA) or the, Foreign, Commonwealth and Development Office (FCDO)/UK Met Office, and Finnish Meteorological Institute (FMI). Especially, the project will create synergies and align with HydroSOS BaNe – Hydrological Status and Outlook System for Integrated Water resources Management and Climate Resilience in the Ganga Brahmaputra Meghna Basin (Bangladesh, Nepal) (USD 12 million), submitted to the Adaptation Fund. While the HydroSoS BaNe project will focus on strengthening operational hydrology of DHM and other competent authorities, the envisioned CREWS project aims to focus on strengthening meteorological and climatological services in Nepal. The project will also leverage extensive IFRC and NRCS experience in inclusive multi-hazard EWS, heat and health preparedness, community risk communication, and anticipatory action. Ongoing Finnish RC, Swiss RC, American RC/Rockefeller and IFRC Network initiatives provide strong foundations for both national-level AA institutionalization and downstream implementation. The AA clinic and AA COP at NDRRMA offer existing mechanisms for institutional coordination and learning. UNDRR has recruited a national EW4All coordinator to support the government with the EW4All Roadmap development and implementation. The project will leverage those activities accordingly. It will also built on the strong efforts on anticipatory action (AA) occurring in Nepal through increased capacity to conduct impact-based forecasting, in line with NDRRMAs current efforts to create a national AA policy. To ensure forecasting capacities are embedded in response capacity and early actions are relevant to communities, the Nepal Red Cross Society (NRCS) will be included, and its capacity leveraged as key implementing partner. In that, the Finnish RC funded activities, implemented by NRCS, to strengthen hydro-met services and MHEWS as a whole, combined with AA activities will be leveraged as well. Several IFRC Network Early Action Protocols (EAP) are currently being implemented, including a simplified EAP on Floods and Heat The project will ensure alignment with these activities likewise. The CREWS Multi-stakeholder Accelerator for LDCs and SIDS also supported the completion of Pillar 3 activities, such as development of gap analysis which contributed to the roadmap; the development of Early Warning Connectivity Map to identify the population at risk that are not within digital network; technical assistance to set up cell broadcast and development of technical specifications for the tender process; and training on the use of Common Alerting Protocol (CAP) in collaboration with WMO. These activities progress the implementation of the national EW4All roadmap.

Synergies with Ongoing and Pipeline Initiatives	The proposed project aims to build on and create synergies with activities implemented under the CREWS EW4All Accelerator Project for LDCs and SIDS, in which WMO, UNDRR and IFRC are already collaborating to scale up EW4ALL in the country. Synergies will also be ensured with IFRC–NRCS initiatives, including community-based MHEWS efforts, simplified EAPs for floods and heat, EVCA-based risk assessments, and community insight work on warning uptake. These initiatives provide practical application pathways for the strengthened hydromet services and national AA governance under this project, ensuring that upstream improvements translate into actionable early warnings and anticipatory actions for at-risk populations. Further, it will benefit from a strong alignment with the CREWS South Asia project and through strengthening collaboration with regional mechanisms such as the South Asia Hydromet Forum (SAHF), RIMES, ADPC, BIMSTEC, ICIMOD, etc. Activities will further be closely coordinated with SOFF and FMI (SOFF peer advisor) and the United Nations Environment Programme (UNEP, Implementing Entity). It will further strongly align with projects implemented by WMO in the region, such as the South Asia Flash Flood Guidance System (FFGS, funded through USAID/BHA), the Severe Weather Forecasting Programme (SWFP) for South Asia, and with activities implemented in the framework of a WB-led project in the country. Strengthening of tailored services will build on the WB-led Climate Adaptation and Resilience for South Asia (CARE) project interventions and improve the existing decision support systems developed at NDRRMA, Ministry of Agriculture and Livestock Development and Department of Roads. Synergies with further projects, e.g. those implemented by the UK Met Office, will also be sought during project development, e.g. WISER Asia Pacific supporting SAHF in relation to impact-based forecasting and climate services. With support from the Nepal Red Cross Society (NRCS), the NDRRMA has established an AA clinic to strengthen coordination and collaboration and institutionalization of AA initiatives. All project activities will be aligned with this ongoing effort. All project activities will be further aligned with the National Framework on AA and National Roadmap for Implementation of EW4All Initiatives and implementation of the EW4All priorities.

Country and Region (in alphabetical order)	**Papua New Guinea (PNG)**

Already in Pipeline as of 20th SC meeting	No
Indicative Budget **(in USD millions)**	**3.0 million USD**
Lead Implementing Partner	**IFRC**
Background and Rationale	Papua New Guinea is already experiencing the impacts of climate change. The patterns of temperature and precipitation are shifting and becoming more extreme; droughts, coastal erosion, and saline intrusion are increasing; and floods driven by sea-level rise and more intense storms are becoming more severe. Every year, 2% of GDP is lost due to extreme hydrometeorological events. The country ranks 16th in global climate vulnerability, with over 40% of the population frequently impacted by floods, droughts, and extreme heat. 70% of PNG households depend on subsistence agriculture, and staple crop yields are expected to decline by 10% by 2050, threatening food security. Early warning systems remain limited, with fragmented coverage exacerbated by challenging topography—87% of the population lives in extremely remote areas across mountainous terrain and scattered islands. Effective risk communication is further complicated by PNG's extraordinary linguistic and cultural diversity, with 850 languages shaping highly localized risk perceptions and communication norms. An integrated, culturally appropriate community-based multi-hazard early warning system capable of reaching remote communities is therefore essential to prevent future humanitarian crises and advance the objectives of Early Warnings for All in one of the world's most climate-vulnerable countries.
Needs	Papua New Guinea has made significant progress in meteorological services, improving weather observation systems, climate data management, and establishing a National Multi-Hazard Early Warning Centre. However, the country still has limited capacity to support households and communities to prepare for and respond to hydrometeorological hazards, especially in remote and linguistically diverse areas. A CREWS Papua New Guinea initiative is proposed to leverage recent investments in national observation and data systems by developing and strengthening integrated, culturally appropriate, community-based multi-hazard early warning systems that can reach the most isolated populations. Proposed Interventions

	1. Risk Assessment • Support the National Disaster Centre (NDC) and Climate Change Development Authority (CCDA) to increase the resolution of PNG climate risk assessments. • Conduct community-level risk assessments (EVCA) and prepare risk-informed community action plans. • Expand PNGRC's work on community insights, trust, accountability, and behavioural drivers of early warning uptake. • Develop and contextualize warning dissemination and risk communication strategies adapted to linguistic and cultural contexts. **2. Early Warning Systems** A) Community Early Warning Systems (CEWS) • Strengthen local capacities and governance for CEWS based on EVCA-identified gaps. • Establish or enhance Community Disaster Management Teams (CDMTs). • Provide materials, equipment, and technical support for CEWS operation. • Develop behaviourally informed, inclusive, community-driven contingency plans. B) Simplified Early Action Protocols (sEAPs) • Prepare hazard-specific sEAPs in coordination with NDC, CCDA, and other government agencies and humanitarian partners that have already developed triggers and protocols. • Catalyze IFRC Network, Asia Pacific TWG on AA, and EW4All expertise to operationalize anticipatory action triggers and protocols. **3. Capacity Building and Operational Strengthening** • Conduct organizational capacity assessments for PNGRC and partners. • Provide staff and volunteer capacity strengthening, tools, and equipment for early action delivery. • Support stockpiling and pre-positioning of anticipatory action-related aid such as emergency food, water, and health kits. **4. Early Warning / Early Action Governance** • Support PNG authorities to institutionalize anticipatory action in national DRM systems.

	• Establish a national Anticipatory Action Technical Working Group Facilitate integration of CEWS, community action plans, and sEAPs into national and local DRM and climate change strategies, plans, and regulations.
Demand	Papua New Guinea has explicitly prioritized the strengthening of anticipatory action, community preparedness, and early warning systems in multiple national policy documents. The National Disaster Risk Reduction Framework (2017–2030) calls for enhanced risk information, community-level preparedness, and localized early warning mechanisms. The National Climate Change Management Act and PNG's Updated Nationally Determined Contribution (NDC, 2020) reinforce commitments to building climate-resilient communities and expanding early warning reach, especially in vulnerable and remote areas. The National DRM Strategy and Provincial DRM Plans highlight the need to establish local disaster committees, integrate community early warning systems, and amplify risk-informed planning—directly aligning with the proposed CREWS activities. IFRC has also received a formal request from the Papua New Guinea Red Cross Society (PNGRCS) to support the establishment of a national CREWS programme. Key government agencies, including the NDC and CCDA, have affirmed the urgent need for strengthened anticipatory action systems, particularly for climate- and weather-related hazards that disproportionately impact remote populations. Together, these commitments constitute a clear national demand for a CREWS-supported initiative to expand community-centred EWS, anticipatory action preparedness, and last-mile risk communication.
Leveraging Potential	CREWS Papua New Guinea will build upon and operationalize a strong foundation of ongoing national and regional initiatives. It will extend and connect investments from: • WMO's CREWS Weather and Climate Early Warning System for PNG (2017–2020), which improved observation networks, forecasting capacities, and warning dissemination. • The EU-funded Building Safety and Resilience in the Pacific (BSRP, 2025–2026), including national components focused on MH-EWS infrastructure and hydrological monitoring. • The Asia Pacific Technical Working Group on AA (co-led by IFRC and FAO), ensuring coordination among regional and national partners. • National efforts of humanitarian partners working on AA, including drought triggers and Government engagement. • Ongoing WMO Early Warnings for All (EW4All) workstreams supporting national multi-hazard early warning planning and systems strengthening. • The IFRC–PNGRCS Strategic Partnership with DFAT/ARC (2025–2032), which enhances PNGRC's operational capacities and climate resilience portfolio. • Existing PNGRC community programmes on chronic crises, climate change, protection and inclusion, and youth empowerment, providing trusted access and local presence. CREWS PNG will add value by:

	1. Translating national-level meteorological and hydrological investments into actionable community-owned systems, especially for remote linguistic and cultural groups. 2. Strengthening anticipatory action governance and institutionalization, embedding CEWS, action plans, and sEAPs into DRM and climate frameworks. 3. Extending EW4All efforts to the last mile, ensuring both coverage and behavioural uptake. With 12 PNGRC branches and extensive volunteer networks, CREWS PNG is uniquely positioned to bridge national capacities with community realities, ensuring that existing investments translate into risk-informed decision-making and timely early action for remote and vulnerable populations.
Synergies with Ongoing and Pipeline Initiatives	This initiative will complement the earlier CREWS Weather and Climate Early Warning System for Papua New Guinea (2017–2020), implemented by WMO, which strengthened meteorological capacity, observation networks, climate data systems, and early warning dissemination. This project focused on improving surface and upper-air observations, enhancing forecasting capabilities, and supporting early warning dissemination through upgraded national systems. PNG has also benefited from the regional CREWS Pacific programme, which supports strengthened multi-hazard early warning systems across Pacific SIDS. Through this regional CREWS investment, PNG has received technical assistance on risk information management, hydrometeorological services, regional climate outlook processes, and improved coordination through Pacific regional mechanisms. In addition, PNG is part of current WMO-led Early Warnings for All (EW4All) support in the Pacific, which includes national guidance on multi-hazard early warning planning, institutional coordination, and hydromet systems strengthening, providing a technical basis on which CREWS PNG will expand community-level systems. The initiative will also align with the national component of the recently launched Building Safety and Resilience in the Pacific (BSRP) programme funded by the European Union (2025–2026), which is enhancing national MH-EWS infrastructure and hydrological monitoring systems. These programmes collectively build the technical backbone for forecasting and warning generation that CREWS PNG will extend to the community level. CREWS Papua New Guinea will further leverage: • the Asia Pacific Technical Working Group on Anticipatory Action (co-led by IFRC and FAO), which facilitates coordination, technical exchange, and support for anticipatory action mechanisms; • national drought and flood trigger work by humanitarian partners in PNG, which provides inputs for simplified Early Action Protocols (sEAPs); • existing WMO, UN agencies, and regional Pacific partners' support to PNG's hydrometeorological and DRM systems under EW4All workstreams. IFRC will work closely with the Red Cross Red Crescent Climate Centre, the broader IFRC Network, humanitarian partners in PNG, and regional mechanisms to ensure technical alignment—particularly for the development of sEAPs and for ensuring integration into the national DRM context. Further opportunities for synergy with ongoing programmes will be explored during project development.

Country and Region (in alphabetical order)	Senegal
Already in Pipeline as of 20th SC meeting	Yes
Indicative Budget (in USD millions)	4.5
Lead Implementing Partner	UNDRR
Background and Rationale	The Senegal Meteorological Agency is an accredited WMO regional resource center and supports African states in severe weather forecasting. This pipeline proposal seeks to strengthen the Integrated Early Warning Systems (IEWS) which is critical to providing adequate climate services (e.g., forecasts and early warning information communicated in accessible language) and to facilitate the early actions of both first responders and affected populations (e.g., contingency plans, community-based interventions, etc.). The IEWS is also deemed instrumental in supporting the operations and maintenance of the built stormwater drainage systems as it will contribute to the long-term urban resilience of Dakar and select secondary cities Activities will also be undertaken to strengthen the capacity of the ECOWAS Situation Room to provide early warning and action bulletins and to ensure that authorities in Senegal can interpret and use this information in their national early warning system. Furthermore, significant dissemination and communication gaps persist in Senegal, especially in ensuring that actionable alerts reach at-risk populations across the country (including remote and rural areas) in a timely, targeted, and trusted manner. Current warning dissemination channels remain fragmented, with limited interoperability between national authorities, hazard monitoring institutions and telecommunications actors. As part of the Early Warnings for All (EW4All) initiative, the Government of Senegal has formally requested ITU's support to strengthen the dissemination and communication components of the Integrated Early Warning System (IEWS). This includes adopting global good practices on multi-channel alerting, improving governance and regulatory frameworks for public warning systems and exploring Cell Broadcast (CB) as a high-priority solution to complement existing mechanisms. Institutionalization of the Extreme Heat Governance Framework and Toolkit, https://www.undrr.org/publication/documents-and-publications/extreme-heat-risk-governance-framework-and-toolkit, among national actors will also be advanced with local partners. This toolkit is designed to support decision makers to measure, understand, strengthen and sustain extreme heat risk governance. As a tool supporting integrated approaches, it is intended to be applicable at different scales and in and among multiple sectors. The toolkit includes three core tools that decision makers can apply directly: Tool 1: **Assess the Maturity of your Extreme Heat Risk Governance** enables decision makers to systematically evaluate the current state of their extreme heat risk governance systems; Tool 2: **Operationalise Extreme Heat Risk Governance** guides decision makers in fostering cross-sectoral coordination, information-sharing and institutional capacity; and Tool 3: **Plan for Heat Action** guides decision makers in identifying the core components of effective Heat Action Plans (HAPs), alongside good practices and strategies

Needs	The support is required to provide further technical assistance for the design and implementation of the IEWS, scale up workshops on community participation and gender and to promote knowledge exchange on best IEWS practices from previous and ongoing experiences in the region. There is sufficient human resource capacity. The support is expected to strengthen the tracking of hazard events and the associated losses and integration of exposure and vulnerability into impact-based EWS and the establishment of a comprehensive Decision support system Support is required to strengthen national dissemination and communication capacities, in line with EW4All and the Government's request to ITU. Priority needs include: - Technical assistance to design and implement a multi-channel public warning system, covering governance, institutional roles and end-to-end dissemination workflows. - Feasibility assessment of Cell Broadcast (CB) and other mobile-enabled alerting technologies, including technical, regulatory and economic requirements. - Support to implement and operationalize Cell Broadcast, including feasibility assessment, regulatory review, development of technical specifications, procurement support, system setup and integration with CAP and piloting with national authorities and mobile network operators. - Development of national CAP-compliant architectures, ensuring interoperability between ANACIM, Civil Protection, telecom operators, and local authorities. - Strengthened institutional coordination between hydromet services, disaster management actors, the telecom regulator (ARTP), and mobile network operators. - Capacity building for national and local authorities on crafting clear, actionable warnings tailored to different user groups, including women, youth, and vulnerable communities.
Demand	The Government of Senegal has explicitly expressed demand for ITU's support under EW4All to strengthen national early warning dissemination systems and ensure end-to-end delivery of alerts to populations at risk. This includes support with: 1) introducing Cell Broadcast as a high-impact, inclusive technology capable of sending real-time, geo-targeted alerts without subscription barriers. 2) Enhancing coordination with ECOWAS' Situation Room so that regional warning products can be rapidly translated into clear national and local alerts. 3) Ensuring interoperability with existing and planned initiatives, including the World Bank flood management project, the AMHEWAS platform, and CREWS West Africa. 4) Promoting knowledge exchange with other countries implementing CB and CAP-based systems and scaling up training on dissemination and community engagement. The strong alignment with national strategies, the ongoing development of an IEWS under the World Bank project, and Senegal's participation in regional hydromet networks make the proposed support highly requested, feasible and timely.
Leveraging Potential	In Senegal, the WB team is preparing an emergency flood management project to address the catastrophic effects of recent flooding in Dakar and secondary cities. To complement infrastructure investments for flood reduction, the project includes a subcomponent on Integrated Early Warning Systems (IEWS) that aims to strengthen the institutional capacity of Hydromet service providers and first responders (e.g., the Central Emergency Preparedness and Response actors, the National Emergency Operation Center and local authorities) as well as the local capacity of exposed communities to reduce their vulnerability. Senegal is also one of the countries covered by the ongoing CREWS West Africa project. Synergies between the proposed country level work and those implemented through the regional project will be complementary. FCDO has confirmed its interest to integrate extreme heat risk governance, including management of health impacts, into Senegal's early warning system. CREWS Accelerated Support Window may be tapped to initiate heat governance interventions, while this larger initiative is formulated pending endorsement by CREWS Steering Committee. Other initiatives can be scaled-up such as SWIFT (Met Office) that makes research advances significant for improvements in weather forecasts in Africa, and the tropics more generally, from the hourly to the seasonal timescale.
Synergies with Ongoing and Pipeline Initiatives	Senegal is benefiting from the information and capacity support on offer through the African Union Commission Africa Multi-Hazard Early Warning and Action (AMHEWAS) programme and the ECOWAS Disaster Operations Situation Room in Abuja Nigeria, funded by the Government of Italy and supported by UNDRR.

Country and Region (in alphabetical order)	**Tanzania**
Already in Pipeline as of 19th SC meeting	Yes
Indicative Budget (in USD millions)	5.0
Lead Implementing Partner	UNDRR
Background and Rationale	Tanzania has been among the beneficiaries of the pilot action which led to the development and endorsement of the Africa Road map for improving the availability, access and use of disaster risk information for early warning and early action, including in the context of transboundary risk management. The proposed initiative will build on this work and will benefit from the synergies resulting from the implementation of similar activities in Malawi and Zambia, particularly in relation to exchange of data and for transboundary risk management. Institutions involved in the EWS phases are committed to their mandate and some resources (human and budgetary) are recognized by the government in support of the institutions' respective mandates. However, warning messages are only loosely connected with impact scenario descriptions, which results in actions recommended to the population being too general. A closer connection between the severity of the forecasted event, its impact and the actions recommended at different levels, from the civil protection system, down to the population should be sought. The available risk information is sparse and insufficiently consolidated to support preparedness and EWS. Historical data related to flood and droughts, as well as for other hazards, are being updated and this initiative should be further supported. In Tanzania Mainland and Zanzibar, the placement of disaster management is at a high political level. The Prime Minister's Office – Disaster Management Department (PMO-DMD) in Tanzania Mainland and the Second Vice President's Office – Disaster Management Commission (SVPO-DMC) in Zanzibar have developed a well-defined policy as well as an institutional and operational framework for disaster and climate risk management. In 2022, the PMO-DMD in Tanzania Mainland took steps to improve the regulatory and operational framework for disaster management. They introduced the new Disaster Management Act (Act No. 6 of 2022) and the National Disaster Management Strategy 2022–2027. They also created the National Disaster Preparedness and Response Plan 2022, National Disaster Communication Strategy 2022 and National One Health Strategic Plan 2022–2027. On 10 June 2024, a National Disaster Situation Room will be opened in Tanzania, supported by UNDRR and the Government of Italy. The Situation Room will provide disaster bulletins and early warning and early action advisories and provide a coordination function to enhance the effectiveness of early action in the country. UNDRR aims to continue its technical support to

	enhance access to and use of risk information by the Situation Room; to diversity the hazards covered and the bulletins provided; and to support its capacity on national coordination and for impact governance -based early warning and early and anticipatory action. This situation room will be linked to the SADC SHOC Situation Room in Mozambique from which will also receive data and capacity support. Under the Early Warnings for All (EW4All) initiative, the Government of Tanzania has requested that ITU support the strengthening of national warning dissemination and communication capacities, particularly the modernization of mobile-enabled public alerting. Tanzania is already well positioned to advance this work: ITU and GSMA have jointly developed a Cell Broadcast (CB) Blueprint for the country, outlining technical options and preparatory steps for deployment. This makes Tanzania one of the most CB-ready countries in the region. Building on this groundwork, CREWS support will enable UNDRR and ITU to institutionalize global standards such as the Common Alerting Protocol (CAP), enhance interoperability between the Situation Room, telecom actors, and local authorities, and help ensure that warnings are impact-based, localized, and trusted. These investments will complement UNDRR's work on risk information, hazard monitoring, and impact governance, as well as the transboundary efforts underway in Malawi and Zambia.
Needs	Operational capacity of the EOC that should provide a 365/24/7 service implementing fail-safe systems and standardized procedures for the issuing of warnings. Improvements are needed in the means used for communication to enhance EWS coverage. Tanzania's national risk profile for drought and flood were developed in 2018 and updated in 2019. Both hazards are well assessed but the identification of exposure, vulnerability and capacity are not systematic. Risk profiles and information are likewise not sufficiently consolidated or incorporated in EWS, preparedness planning and emergency response. As part of EW4All support, focus will be placed on strengthening Tanzania's capacity to produce, analyse, access and use risk information as well as to monitor and assess disaster loss and damage by further institutionalizing disaster losses and damages tracking to better inform EWS and strengthen national capacity for Target G reporting under the Sendai Framework. Under pillar 2, TMA seeks to enhance its observation network, strengthen its data sharing and management systems, increase the use of diverse models and innovative technologies for forecasting hazards, and conduct outreach to share climate and weather information with users at the local level Priority needs identified by the Government of Tanzania, aligned with EW4All and complementing UNDRR's work on risk information and governance, include: - Strengthening operational linkages between national risk monitoring institutions, the National Disaster Situation Room, and downstream authorities to ensure warnings are translated into clear, actionable communication. - Implementing and operationalizing Cell Broadcast (CB) for public warning, building on the existing ITU–GSMA Blueprint, including technical design, regulatory alignment, procurement support, installation and integration with national systems and piloting with multiple mobile network operators. - Training national and subnational authorities, including telecom regulator, MNOs and local disaster committees, on multi-channel dissemination protocols, message design and operating procedures. - Establishing a national CAP framework and integrating it into existing systems and workflows across Tanzania Mainland and Zanzibar - Enhancing institutional capacities to craft, validate and disseminate impact-based warning messages aligned with the severity of expected hazards and localized risk profiles.

Demand	Tanzania aims at improving the monitoring and forecasting services by increasing the use of automated measurement stations (e.g. precipitation, discharge) and initiating advancements in the technological and scientific tools in support of the monitoring and forecast system. Initial discussions with NDMA indicate their needs to: i) enhance capacities to collect disaster impact data, and update the disaster loss and damage database; ii) build capacity to produce and use risk information; and iii) integrate the risk information in the MyDewetra platform to support impact-based forecasting, as well as the provision of bulletins and advisories. The Government of Tanzania has expressed strong demand for ITU's technical support under EW4All to: - Advance the rollout of a modern, multi-channel public warning system capable of reaching large populations across diverse geographies, including rural and island communities. - Translate the existing ITU–GSMA CB Blueprint into full operational deployment, including regulatory adjustments, system integration and nationwide training. - Ensure the new National Disaster Situation Room can issue CAP-compliant alerts to mobile networks, broadcasters and local authorities seamlessly. - Institutionalize national procedures for warning dissemination and communication so that impact-based messages reach communities rapidly and consistently. - Strengthen coordination between PMO-DMD, SVPO-DMC, the Tanzania Communications Regulatory Authority (TCRA), meteorological services and mobile network operators. - Enhance cross-border alerting with DRC and Zambia.
Leveraging Potential	Denmark's contribution to EW4All, CREWS East Africa
Synergies with Ongoing and Pipeline Initiatives	UNDRR Italy funded: Disaster Risk Reduction Capacity Building in Africa: UNDRR and its partners are working to support the Government of Tanzania to install and train experts on an open-source platform (establishment of a situation room) that can provide forecasts and integrate historical disaster losses and damages data, and to design standard operating procedures for early warning messages. Through the EW4All initiative and pillar 1 implementation, Tanzania will receive capacity development and technical support towards strengthening risk knowledge, namely the production, analysis, use and access to risk knowledge, data and information. In addition, support will be provided towards setting up national disaster loss databases and damage and loss accounting and monitoring, Supporting the implementation of the CADRI recommendations- Understanding Climate and Disaster Risk.

Country and Region (in alphabetical order)	**Timor-Leste**

Already in Pipeline as of 20th SC meeting	Yes
Indicative Budget (in USD millions)	5
Lead Implementing Partner	UNDRR
Background and Rationale	This proposal marks Timor-Leste's first fully fledged CREWS project proposal, translating earlier ASW work into a project covering the complete EW4All value chain involving all global and national pillar leads, grounded in national systems and positioned to leverage and generate new (funding) opportunities as Timor-Leste has now joined the Association of Southeast Asian Nations (ASEAN). Timor-Leste, classified as both a Least Developed Country (LDC) and a Small Island Developing State (SIDS), faces acute and recurrent climate-induced disaster risks due to its geographic characteristics and socioeconomic and environmental vulnerabilities. Tropical cyclones, heavy rainfall, flash floods, landslides, droughts, and strong winds occur regularly, with devastating impacts on infrastructure, agriculture, and livelihoods. Nearly 70% of the population relies on subsistence farming, making communities highly sensitive to even moderate climate shocks. The Global Climate Risk Index (2021) places Timor-Leste among the countries most affected by extreme weather events in recent decades. With 41% of the population living below the national poverty line, limited access to services, and widespread rural isolation, the country's adaptive capacity remains constrained. Progress has been made in multi-hazard early warning system enhancement since 2021 through large-scale investments such as the United Nations Environment Programme (UNEP)-Green Climate Fund (GCF) FP171 project (Enhancing Early Warning Systems to Build Greater Resilience to Hydro- meteorological Hazards in Timor-Leste), strengthening observational infrastructure, forecasting capabilities, and preparedness. The development of the National Framework for Climate Services (NFCS) Strategic Plan 2023–2028 provides an important institutional foundation for improved weather and climate services. However, despite these advancements, major gaps persist along the early warning value chain, particularly in last-mile delivery, institutional coordination, hydrological observations and forecasting, landslide monitoring, and risk communication. In 2025, Timor-Leste underwent a major shift in political momentum toward multi-hazard early warning strengthening. In partnership with the UN Resident Coordinator's Office (RCO), UNEP, UNDRR, WMO, ITU, and IFRC/Timor Red Cross, the Government has initiated preparations to implement the Early Warnings for All (EW4All) global initiative. A national launch is planned for early 2026. This provides a unique opportunity for CREWS to reinforce a government-led, evidence-driven transformation of the country's MHEWS under the EW4All framework. A major study on Early Warning Effectiveness in Timor-Leste, conducted under the CREWS ASW project in 2025, highlights striking gaps in the reach and usability of early warnings, especially in rural and last-mile communities. Many households do not consistently receive official warnings, rely heavily on informal channels (e.g., Facebook, WhatsApp, neighbours), and face delays along the dissemination chain between the National Directorate of Meteorology and Geophysics (DNMG), Civil Protection Authority (CPA), municipalities and communities. The study also found that persons with disabilities and older persons frequently do not receive alerts due to inaccessible formats, lack of device access, or dependence on family members. These findings reaffirm the urgency of targeted, people-centred CREWS investments to ensure early warning services reach everyone, especially the most vulnerable.

	As the newest member of ASEAN since October 2025, Timor-Leste opens its border to broader socio-economic interactions and exchanges with the other regional economies. This presents tremendous opportunities in learning and exchanging the knowledge, technology, and experiences accumulated in the region with regards to MHEWSs. National Setup: **Disaster Management Authority**: The Secretary of State for Civil Protection, under the Ministry of the Interior, oversees disaster preparedness, response and mitigation. The Civil Protection Authority (CPA) leads national coordination for multi-hazard early warning dissemination and public communication. **National Meteorological Service**: The DNMG under the Ministry of Transport and Communications provides meteorological and geophysical monitoring and forecasting, and is undergoing major strengthening under UNEP-GCF project, with the goal of reaching WMO Category 2 (Essential Services) by 2027. **National Hydrological Service:** The National Directorate for Water and Sanitation (DGAS) under the Ministry of Public Works is the designated hydrological authority. However, hydrological operations remain extremely limited, with inadequate data flows, manual processes, lack of maintenance capacity, absence of hydrological forecasting, and no functional operational hydrology value chain. **National Communications Authority of Timor-Leste, formally Autoridade Nacional de Comunicações (ANC)** is a statutory authority established by the Telecommunications Decree-law No. 15/2012 of 28 March 2012 and Decree-law No. 31/2024 of 06 September 2024. National Communications Authority is Timor-Leste's regulator for telecommunications, radio-communications, broadcasting (in part) and the Internet. **Broadcast and Telecommunications Operators:** Public and private communication providers, including national radio and television broadcasters, community radio networks, and mobile network operators (Timor Telecom, Telkomcel and Telemor), are essential dissemination channels for emergency alerts. While ANC regulates the sector, these operators are the frontline conduits for SMS-based alerts, radio announcements, and other rapid communication during emergencies. **Sectoral Ministries:** Several line ministries contribute hazard-specific expertise and early action capacities. The Ministry of Agriculture and Fisheries monitors drought, pests and crop vulnerabilities; the Ministry of Environment provides environmental and climate-risk information; and the Ministry of Public Works supports infrastructure-related risk mitigation for floods and landslides. **Local Governance Structures:** Municipal Authorities, Post-Administrations and Suco Councils play a central role in last-mile warning dissemination and community preparedness. Under the disaster management law, they are responsible for relaying alerts issued by national agencies, coordinating local response actions, supporting evacuation, and ensuring that vulnerable groups, including persons with disabilities, receive timely and accessible warnings. **Humanitarian and Civil Society Partners:** The Timor-Leste Red Cross (CVTL), NGOs, and organizations of persons with disabilities (OPDs) support community outreach, preparedness activities and inclusive communication. These partners complement government efforts by mobilizing volunteers, conducting community-based risk reduction, and ensuring tailored messaging for at-risk groups. Early Warning and Climate Services Landscape:

	• The NFCS Strategic Plan (2023–2028) outlines national priorities across observation, forecasting, climate services, communication and response. • The UNEP-GCF project (FP171) is establishing foundational infrastructure and systems, including GBON-aligned observation networks. • Systematic Observations Financing Facility (SOFF) financing has been mobilized for upper-air monitoring. Country Hydromet Diagnostic Report (October 2023, FMI and UNEP for SOFF) • Timor-Leste participates in the Severe Weather Forecasting Programme (SWFP) and Flash Flood Guidance System (FFGS) for Southeast Asia-Oceania. • Complementing these initiatives, the Government of Timor-Leste, the IFRC Network, the Red Cross Red Crescent Climate Center, Cruz Vermelha de Timor Leste (CVTL) and partners of the Asia Pacific Anticipatory Action Hub (co-led by IFRC and FAO) have jointly developed and recently launched the Timor-Leste Anticipatory Action Roadmap 2025–2029. The roadmap captures national priorities and concrete steps to reduce hazard-related losses and damages and to protect lives and livelihoods, particularly of rural communities who make up around 70% of the population and are highly dependent on climate-sensitive sectors such as agriculture and fisheries. It also reflects the increasing risks from sea level rise, floods, landslides, droughts, tropical cyclones and extreme heat, including recurrent losses of rice yields and growing impacts on health, nutrition and urban flooding in Dili. A CREWS Timor-Leste investment will help accelerate implementation of this roadmap and strengthen people-centred, multi-hazard early warning and anticipatory action across the country. • The CREWS ASW Timor-Leste project introduced inclusive MHEWS guidelines and generated the insights on the current reach of early waning in Timor-Leste. • The EWS Working Group has been revitalized and, under EW4All preparations, is contributing to stakeholder mapping and gap analysis. • Private sector players such as Similie provide low-cost, real-time flood early warning solutions. Since 2016, Simile has deployed community flood-warning pilots in rural areas and later expanded to a city-wide system in Dili, using sensors, cloud platforms, and AI-supported forecasting. Simile has been cultivating partnerships with international NGOs to work on lowering technical and financial barriers for government-led early warning efforts. • As a new ASEAN Member State, Timor Leste can now benefit even more from ASEAN infrastructure including the ASEAN Specialised Meteorological Centre (ASMC) and AHA Centre, apart from existing support via WMO regional centres. • These existing investments create strong foundations for further CREWS support, but significant gaps remain.
Needs	Timor-Leste continues to face significant gaps across the early warning value chain, which require coordinated, system-wide strengthening. **Risk information** remains fragmented and underutilized, as CPA and line ministries lack standardized mechanisms for compiling, validating, and analysing disaster losses and damages data. Although extensive hazard, exposure and agricultural vulnerability datasets exist, they are not systematically integrated into planning or forecasting processes. This presents a major obstacle to developing impact-based forecasting and conducting risk-informed decision-making across sectors. **Observation and forecasting capacities** also require substantial enhancement, including on hydrology and landslides, where national capabilities remain extremely limited. Key constraints include absent hydrological forecasting functions, incomplete observation networks, minimal DNMG–DGAS data-sharing, and insufficient maintenance and calibration systems. Drought monitoring and seasonal forecasting, critical for an agriculture sector dependent on rainfall, need further development despite progress under the UNEP-GCF project and FAO, as

	communities continue to face recurrent water scarcity and widespread food insecurity linked to El Niño events. The CHD reports identified clear needs for further automatising the forecast and warning process, introducing new tools and software with associated training, trainings on nowcasting, radar data analysis, aviation and maritime forecasting. **Communication and dissemination** systems remain unreliable, inconsistent and insufficiently inclusive, as demonstrated by the 2025 Early Warning Reach and Effectiveness Study. Many rural and last-mile communities do not consistently receive official alerts, instead relying on informal networks and social media. Timor-Leste has yet to adopt telecom-based emergency alerting such as cell broadcast, and existing channels are not accessible for persons with visual, hearing, cognitive or mobility-related disabilities, nor for many older persons. **Preparedness to act** at the community level is also limited, with warning messages often lacking specificity on expected impacts, affected locations, timing and recommended protective actions. Subnational authorities require clearer standard operating procedures (SOPs), training, and community-based tools to translate national warnings into timely and actionable measures, particularly following recent upgrades to observational systems. Finally, **governance and coordination** require strengthening, as roles and responsibilities across DNMG, DGAS, CPA, municipalities and sucos remain unclear, and with some weakness in standardized SOPs link national warning issuance to local dissemination and response. CPA's planned development of a national Disaster Risk Reduction Strategy in 2026 presents an important opportunity to clarify mandates, institutionalize early warning governance, and ensure alignment with EW4All, NFCS, and future CREWS-supported interventions. Building on this, the Timor-Leste Anticipatory Action Roadmap 2025–2029, prepared by the Government in collaboration with the IFRC Network and other partners, consolidates national needs and priorities for anticipatory action. The roadmap is aligned with the National Climate Change Policy 2022, the Disaster Risk Management Strategy for Agriculture 2022, the National Adaptation Plan 2021 and the National Framework for Climate Services 2023–2028. It identifies needs along four main pillars: (i) improving risk information, including community-level assessments (EVCA) and evidence-based action plans; (ii) strengthening early warning systems through community early warning systems and simplified Early Action Protocols (sEAPs) for hazards such as droughts, floods and cyclones; (iii) enhancing capacity and operational readiness, including standard operating procedures, anticipatory cash, CEA mechanisms and strategic pre-positioning of critical supplies; and (iv) embedding early warning–early action governance so that CEWS, local action plans and sEAPs are integrated into national and local disaster risk management and climate change frameworks.
Demand	Timor-Leste requires coordinated, system-wide support across five critical areas to operationalize a fully functional MHEWS. First, on **disaster risk information**, national institutions need support to strengthen the collection, standardization and analysis of disaster losses and damages data, enabling its integration into planning, sectoral decision-making, and the transition toward impact-based forecasting. This includes continuing to advance systematic mechanisms for CPA and line ministries to compile historical impacts and generate actionable risk information products that can guide policy, financing and early action, including readiness for future applications to various policy actions and other external financing such as the Loss and Damage Fund (FRLD) and Santiago Network. Second, on **observation and forecasting**, the country requires significant investment to strengthen meteorological, marine, and hydrological and multi-hazard forecasting capacities. Priorities include developing a national Concept of Operations (CONOPS) clarifying DNMG–DGAS–CPA roles; conducting a hydrological National Capacity Assessment (NCAT), given that several broader assessments were conducted already (e.g. EW4All Pillar 2 Rapid Assessment, GBON Gap Analysis, CHD); automating hydrological data flows with robust Quality Assurance (QA)/Quality Control (QC); and building forecasting capabilities for flash floods, riverine and coastal floods, landslides, and drought. Developing Hydrological Status and Outlooks (HydroSOS) and expanding drought monitoring and advisory services are also essential, supported by comprehensive training programmes for meteorology, hydrology, ICT, instrument maintenance, and modelling.

	Third, on **communication and dissemination**, Timor-Leste requires support to modernize its national alerting system, including the deployment of cell broadcast, adopting CAP for inter agency coordination in collaboration with ITU and telecom operators, and the development of national SOPs for emergency telecom activation. A multi-channel dissemination strategy, including radio, telecom, digital and community networks, is needed to ensure redundancy, reliability and inclusiveness, informed by the 2025 Early Warning Effectiveness Study. Fourth, on **preparedness to act**, CREWS support is needed to help DNMG and CPA redesign warning messages based on impact scenarios, ensure accessible formats for persons with disabilities and older persons, and strengthen subnational and community-level readiness. This requires operationalizing inclusive MHEWS guidelines, enhancing municipal SOPs, and improving training and community-based procedures so warnings can be translated into timely protective measures. Finally, on **governance and coordination**, Timor-Leste requires strong alignment between EW4All rollout steps and national frameworks. This includes defining institutional roles across DNMG, DGAS, CPA, municipalities and sucos; strengthening SOPs at national and subnational levels; and supporting monitoring of EW4All progress using Sendai Framework Target G indicators and EW4All maturity indices. CREWS support will also reinforce CPA's leadership as the country prepares to develop a national Disaster Risk Reduction Strategy in 2026, ensuring coherence with NFCS, EW4All, AA, and the broader early warning governance architecture. (At the request of the UN Resident Coordinator in June 2022, the CADRI Partnership facilitated a review of development and humanitarian partners programming in disaster risk reduction and climate change adaptation to derive recommendations to enhance the coherence and impact of DRR interventions at national and local level.) There is explicit demand for support to advance the anticipatory action agenda. IFRC has already received a request to support a Timor-Leste CREWS project, building on the jointly developed Anticipatory Action Roadmap 2025 – 2029. This request reflects strong interest from national authorities and partners to institutionalize anticipatory action within disaster risk management structures and link it with ongoing investments in early warning systems. EW4ALL (Early Warnings for All) initiative with national strategies and priorities for hydrometeorology and disaster risk reduction (DRR).
Leveraging Potential	A national CREWS project in Timor-Leste builds on the following existing investment. 1. UNEP-GCF FP171 (USD 21M): Providing foundational infrastructure, NFCS development, and institutional strengthening. 2. SOFF Investment for GBON Compliance: Supporting upper-air observations, data exchange and network sustainability. 3. CREWS ASW Timor-Leste (2024–2025) The project will facilitate leveraging additional investment in early warning systems strengthening. Those opportunities include: • ASEAN Accession (October 2025): Timor-Leste joins ASEAN as its 11th Member State, creating powerful opportunities for regional cooperation and capacity building on disaster risk reduction and management, forecasting of meteorological, hydrological and coastal hazards, drought management, flash flood guidance, and risk communication through ASMC, ACDM, the AHA Centre, and other ASEAN mechanisms. • Future Access to the Loss and Damage Fund (FRLD) and Santiago Network: CREWS support will strengthen risk governance and data systems needed for Timor-Leste to access external financial resources. • CREWS Timor-Leste will also leverage existing IFRC Network initiatives through the IFRC–FAO co-led Asia Pacific Anticipatory Action Hub and the Early Warnings for All partnership (including WMO, UNDRR and ITU). CVTL, through its 13 branches and extensive volunteer network, has a nationwide presence, including in remote communities, and implements Integrated Community-Based Risk Reduction (ICBRR) programmes that work with communities on disaster risk reduction and its implications for health and livelihoods. CVTL has a strong track record of forming and supporting Village Disaster Management Councils (VDMCs) to disseminate early warnings and help households prepare disaster response plans.

	CVTL and IFRC also have hands-on experience with simplified Early Action Protocols, including a sEAP for droughts active until February 2027, and maintain close collaboration with key government agencies in their auxiliary role, such as the Civil Protection Authority, DNMG, the Ministry of Health, the Ministry of Public Works and the Secretary of State for Environment
Synergies with Ongoing and Pipeline Initiatives	• EW4All: The national EW4All process will anchor CREWS investments. The Government's endorsement for implementing the EW4All initiative, expected in December 2025, will initiate an EW4All roadmap process that would result in a budgeted national action plan aligned with NFCS and other national plans and informed by existing and future gap analyses/capacity assessments. • UNEP-GCF FP171: CREWS will complement infrastructure upgrades with community-level communication, telecom alerting, and IBF/impact modelling. • SOFF: Hydrological forecasting and information management will build on meteorological data improvements funded through SOFF • scale up ongoing anticipatory action initiatives. It will build on existing Early Action Protocols for droughts (FAO) and floods (IFRC) in Timor-Leste, as well as CVTL's ICBRR programmes and its established network of Village Disaster Management Councils. IFRC will work closely with the Red Cross Red Crescent Climate Center, the IFRC Network (including Australian Red Cross and American Red Cross), and the other EW4All Pillar Leads, in coordination with the Timorese Civil Protection Authority. Synergies with the ICBRR programme and the Anticipatory Action Roadmap 2025–2029 will ensure that improved hydrometeorological and institutional capacities are matched by strengthened community-level preparedness and anticipatory action mechanisms. • Inclusive MHEWS Guidelines (Government of Portugal + CREWS ASW): CREWS will operationalise these guidelines at national and community level. • Flash Flood Guidance System for Southeast Asia-Oceania (SAOFFGS): CREWS will enable Timor-Leste to leverage the regional system led by Indonesia/Philippines. • Severe Weather Forecasting Programme for Southeast Asia-Oceania (SWFP-SAO), co-funded e.g. by UK WISER Asia-Pacific • AADMER and other ASEAN frameworks and projects (possibly through WISER, Canadian funds, etc.)

Country and Region (in alphabetical order)	**Togo (Phase 2)**
Already in Pipeline as of 20th SC meeting	Yes

Indicative Budget (in USD millions)	2.8
Lead Implementing Partner	WMO
Background and Rationale	Togo is frequently affected by a range of hydro-meteorological and climatological disasters, notably floods, and droughts. Flooding is critical in urban, rural, and coastal areas, between 1925 and 2018, Togo endured more than 60 flood events that caused major damage to infrastructure, and significant loss of life. From 2019, flooding and associated impacts has increased significantly in Togo. In coastal areas, especially in the Lake Togo basin, a combination of erosion and salinity are aggravating factors that increase flooding and reduce the agricultural productivity of soils respectively, representing a negative social and economic impact in the country. Drought events produce agriculture and hydrological impacts, which are higher in northern of the country, especially in Kara and Savannah regions. This affects crops areas over the national territory and the generation of hydroelectric energy, such as from Nangbéto Dam. Under CREWS Togo, the national institutions ANAMET (NMS), DRE (NHS) and ANPC (Civil Protection) has been enabled to improve technical capabilities on the production and delivering of climate and hydrological information and services (seasonal and sub-seasonal) with a focus on agriculture sector including dedicated training and advise to farmers. It has been developed information and strategies to improve disaster risk reduction in local communities, including developed flood vulnerability maps in 34 municipalities, trained local authorities and minor groups (including women lead) on flood disaster risk management,. CREWS Togo introduced significative institutional improvement such as, the consolidation of the National Agency of Meteorology ANAMET whit an institutional strategic plan, the operational use of the Common Alerting Protocol (CAP), mainly for severe weather events. It has also strongly supported national institutions in the operationalization of the National Framework for Climate Services (NFCS) and in increasing technical and managerial capabilities to better take advantage from other projects Togo faces increasing exposure to multiple and interlinked climate hazards, including recurrent riverine and flash floods, coastal erosion, droughts affecting agricultural productivity, and heat extremes that threaten human health and economic activities. Vulnerable groups include smallholder farmers, coastal fishing households, and informal urban populations in flood-prone zones. While Togo has adopted progressive policies such as the National Adaptation Plan, the National Strategy for Disaster Risk Reduction, and the National Climate Change Response Plan, significant operational and technical gaps persist across the early warning value chain. The proposed CREWS intervention will strengthen Togo's capacity to generate, translate, and disseminate actionable warnings; improve institutional coordination; and enable anticipatory action to reduce disaster losses and strengthen resilience at both community and institutional levels.
Needs	The ANAMET, DRE and ANPC (beneficiary institutions of CREWS Togo) have has developed capabilities to improve existing climate and meteorological information and services and support the adaptation and integration to the local context (communities, farmers, etc). This with a focused on using local observations for analysis and production of guidance on sub-

	seasonal trends for farmers (e.g. 5 training delivered for agriculture users and fishermen for agricultural planning), severe weather bulletins improved (with more descriptive information), and increased of the reliability of the weather forecast and related warnings (disseminated by CAP). Institutional collaboration between ANAMET, DRE and ANPC has also improved, including preparation of a framework for the development of MHEW Services, joint analysis of hydrometeorological situations, establishment of guidelines for communities on understanding hydrometeorological information. However, one of the major needs in terms of capacity development remains at the DRE, which has been operating with 1 staff and 2 technician collaborators since 2021. However, recently (End of 2024) the Togo government confirmed the engagement of 5 staff for DRE. *Despite these advances, important gaps remain along the early warning and anticipatory action value chain:* • *Observation and Instrumentation:* inadequate density of meteorological and hydrological observation networks, insufficient maintenance, and limited radar or river gauging capacity.* • *Data Integration and Forecasting:* fragmented data management and limited cross-sectoral information sharing between ANAMET and ANPC; weak use of impact-based and probabilistic forecasting models.* • *Early Warning Communication:* gaps in last-mile dissemination, particularly for remote and vulnerable communities; limited radio coverage and low use of mobile/SMS-based systems in local languages.* • *Anticipatory Action and Financing:* absence of institutionalized early action protocols, predefined triggers, and financing mechanisms for forecast-based responses.* • *Institutional Coordination and Governance:* weak inter-ministerial coordination mechanisms, and absence of standardized SOPs and joint contingency planning frameworks.* • *Community Preparedness:* limited community-level contingency plans, insufficient training and simulation exercises, and weak inclusion of women and persons with disabilities in preparedness systems.* • *Sustainability:* lack of clear maintenance budgets for observation and ICT systems and the need for sustainable funding mechanisms for EWS operations.* • *PMER/MEL:* limited monitoring and evaluation of early action effectiveness and the need for standardized indicators to assess warning-to-action linkages.* Based on the above, priority needs are structured on three main axes: i) support the development of DRE capabilities through a tailor training plan, ii) support the continuation of capacity development on services production and delivery ensuring sustainability to the supports already introduced in the country with a focus on improving development and integration of sectorial information for Agriculture and Health sectors as part of the NFCS, and iii) support the preparation of national institutions to better contribute in other projects in preparation in Togo with a focus on better structure and present to the government the socioeconomic benefits of MHEWS in the country.
Demand	The ANAMET, DRE and ANPC recognized the positive impact introduced by CREWS Togo, on the improvement of climate related warning services and DRR process at national, communitarian and sectorial level. The three institutions would like to request a financial extension of CREWS Togo. This to address the mentioned needs, and to support the implementation of the MHEWS action plan for Togo in synergies with the CREWS Togo existing workplan and other projects. The extension will allow to achieve the following outputs: i) Updated and developed operational procedures for the production and delivery of climate, meteorological and hydrological information and services for key economic sectors (mainly, DRR, Agriculture, Health), including a revised concept to improve related warnings.

	ii) Trained DRE new staff with operational skills on data management, short-term, sub-seasonal and seasonal hydrological forecasting through a tailored plan supported by national and regional specialists. iii) Ensured technical and institutional support to national institutions for the preparation and implementation of various projects, which mainly will/are cover/ing improvement of climate, hydro-meteo, observations, DRR strategies and integration of information into local communities. This will support the mobilization of qualified expertise to support national institutions in the preparation of Terms of references, concept notes, as well as in raising the value added of MHEWS to national government for requesting support and ensuring sustainability. The Government of Togo has expressed strong political and institutional commitment to strengthening early warning and anticipatory action capacities. The Ministries of Environment, Agriculture and Civil Protection, alongside ANAMET and ANPC, have actively engaged in consultation with WMO, IFRC and CREWS partners and have demonstrated readiness to adopt integrated MHEWS approaches and co-develop protocols for anticipatory action. The Togolese Red Cross Society, leveraging its extensive community network, is prepared to operationalize forecast-based action protocols, support local preparedness, and ensure inclusive participation of vulnerable groups. The Government is ready to contribute in-kind resources, staff time and facilities for the implementation of the project.
Leveraging Potential	CREWS Togo has supported a feasibility study on enhancing capabilities of national meteorological services, with allowed to mobilize 1,1 Mo USD for 5 years (>2024) from the government of Togo. This focused mainly on infrastructure (construction and rehabilitation of buildings, acquisition of media studio, data base system, etc). It has been supporting ANAMET and DRE in the preparation of the GCF-BOAD project proposal (25 Mo, ~ 6 Mo for climate, meteorological and hydrological services). CREWS Togo has also allowed national institution to technically and managerially better prepare for various project, such as the on-going regional food security FSRP project, led by WB (1.3 Mo for meteorological services), or the closed regional Volta basin project (6 Mo) led by WMO. *The proposed extension will further capitalize on and align with partner investments and expertise:* • *IFRC and Togolese Red Cross:* building on existing community-based disaster preparedness experience and forecast-based action operational models.* • *WMO and CREWS regional initiatives:* strengthening data interoperability, technical training and regional hydromet standards through collaboration with AGRHYMET and ECOWAS.* • *Multilateral projects:* aligning with World Bank/GFDRR hydromet modernization initiatives and GCF readiness/adaptation projects under implementation in Togo.* • *National systems:* capitalizing on ANAMET's data infrastructure, ANPC's coordination platforms, and the Ministry of Environment's climate adaptation frameworks.* • *Private sector:* engaging mobile network operators for SMS and voice alert systems and local media/radio for localized and multilingual message dissemination.* • *Key national stakeholders include the Togolese Red Cross Society and government agencies such as the Agence Nationale de la Protection Civile (ANPC-Togo), Agence Nationale de la Météorologie (ANAMET), the Ministry of Environment and Forest Resources, the Ministry of Agriculture, Livestock and Rural Development, the Ministry of Security and Civil Protection, and local municipal authorities. Regional and international partners include WMO, the CREWS Secretariat, UNDP, the World*

	Bank/GFDRR, AfDB, AGRHYMET, the ECOWAS Directorate for Environment and Agriculture, UN OCHA, WHO for health–climate linkages, and the IFRC Climate Centre. Civil society, academia and private sector actors—local NGOs, universities, community radio networks, telecommunications operators and private data service providers—will also be engaged to reinforce early warning and anticipatory action capacities.
Synergies with Ongoing and Pipeline Initiatives	The CREWS Togo Phase 2 intervention will be closely coordinated with regional and global initiatives to maximize impact and avoid duplication. It will align with the CREWS West Africa Regional Project (WMO/CREWS) on standards, training and knowledge management; World Bank/GFDRR hydromet modernization programmes that provide complementary investment in observation and forecasting systems; and GCF-funded adaptation projects that reinforce sustainability and capacity-building components for early warning and resilience. IFRC and UNDP anticipatory action initiatives will be leveraged to facilitate harmonized triggers, simulation exercises and evidence-based scaling of forecast-based action protocols. AfDB and ECOWAS regional programmes will support integration with broader climate resilience and regional early warning frameworks, ensuring that national advances in Togo are embedded within a wider West African MHEWS architecture.

Country and Region (in alphabetical order)	**Yemen**
Already in Pipeline as of 20th SC meeting	Yes
Indicative Budget (in USD millions)	5.0
Lead Implementing Partner	World Bank
Background and Rationale	The Republic of Yemen is witnessing a marked increase in the frequency and severity of natural and man-made disasters and the resulting losses, particularly in the last two decades. This is due to the interplay of environmental, climatic, social, and institutional factors. The current situation in the country, coupled with weak infrastructure and deteriorating public services, has exacerbated its vulnerability to various hazards. The country is subjected annually to flash floods, torrential rains, cyclones, and storms, in addition to droughts, desertification, agricultural land degradation, and rising temperatures. All these events cause significant human and material losses that exceed the country's and society's capacity to bear on its own resources. Furthermore, they lead to the disruption of basic services, land degradation, a decline in agricultural production, and threaten the livelihoods of millions. Data from the national DesInventar system for recording losses and sources from United Nations agencies indicate that the average number of extreme weather events has doubled in the last ten years, directly impacting vital sectors such as water, agriculture, health, and housing. This is in addition to other hazards such as fires, landslides, and epidemics, which further complicate the catastrophic situation in the country. The Importance of Shifting from Response to Prevention and Resilience Building National and regional experiences have shown that focusing solely on post-

	disaster response is no longer sufficient, as its economic and human costs remain prohibitively high. Hence the urgent need to shift to a proactive and preventative approach based on reducing risks before they occur, addressing the root causes of disasters, and enhancing resilience and recovery. This shift is based on a comprehensive vision that considers disaster risk reduction not merely an emergency measure, but a fundamental component of sustainable development and a contribution to achieving national goals related to food security, integrated resource management, protection of infrastructure and vital services, and strengthening the stability of local communities. Building resilience in Yemen requires adopting an integrated, multi-sectoral approach in which various stakeholders (central and local government institutions, the private sector, and civil society) participate in the planning and implementation process. This ensures the effectiveness and integration of efforts within a unified national vision, while simultaneously adopting a comprehensive management approach that incorporates risk knowledge through multi-hazard management, including climate risk, and addresses exposure reduction and vulnerability. In light of the climate change risks that are taking center stage in the world nowadays, which turned Yemen into one of the most exposed countries to disaster risks that entail a heavy toll of losses in lives and damages, infrastructure and services losses, and socio-economic losses that outweigh in total our country's capacity to counter or address their impacts. Some of the last disasters that hit are the destructive earthquakes and rainfall triggered by tropical cyclones and atmospheric depressions over the last years in the majority of Yemeni governorates and have become frequent on an annual or semi-annual basis. This adds to the growing losses suffered by war due to the coup d'état that left behind hundreds of thousands of deaths and caused the migration of millions of citizens, and that increased poverty at all social levels and affected their livelihoods. Consequently, rates of losses could increase in the future and threaten vital sectors, infrastructure, services, and key facilities unless disaster risks good governance measures are adopted at all the different stages (prevention, mitigation, preparedness, response and recovery) to address the root causes of the rise in natural disaster losses.
Needs	- Develop an EW4ALL Roadmap for Multi Hazard Early Warning Systems in Yemen Improve the response capabilities/early action of individuals, communities and local institutions e.g. through implementing community-based flood management. The Ministry of Water and Environment (MWE) being the international and regional focal point in DRR highlighted the following priorities: - Strengthen knowledge and understanding of disaster risks in all their dimensions such as fragility levels, vulnerability, disaster response capacity, risk specificity and impacts. - Reinforce governance in DRR during the stages of prevention, mitigation, preparedness, response, and recovery. - Encourage investments in DRR to increase the capacity of response and recovery. - Strengthen disaster preparedness measures to respond to warnings and build back better. Yemen has multiple hydrometeorological needs. The Yemeni Meteorological Service in Aden has significant observation gaps, mainly due to the limited number of automatic weather stations; numerical weather prediction system; access to satellite images and observational data; seasonal forecasting; and more critically severe weather forecasting, notably tropical cyclones and heavy rainfall forming in the Arabian Sea. **Coordination and Communication** There is a need to ensure that validated information from forecasting entities reaches the governorate level promptly. That would require: In light of the above the following will be needed to be implemented: 1. Develop an EW4ALL Roadmap for Yemen for upcoming years. 2. Build the capacity of the national government and national DRR platform members on DRM. 3. Build the capacity of staff at the Yemeni Meteorological Service in Aden on severe weather forecasting, and numerical weather prediction while implementing CAP and introducing the meteorological service to impact-based forecasting concepts 4. Strengthen climate and risk data governance, generation, distribution and application to national planning and investment in EWS.

	5. Strengthen preparedness and anticipatory action capabilities using Multihazard risk assessments for floods and droughts. 6. Creation and validation of hazard- and sector-specific exposure and vulnerability maps 7. Multihazard risk assessment training for Yemeni counterparts 8. Delta resilience Model roll out and training 9. Increase in knowledge / know-how of national stakeholder participants on the use of risk knowledge across the EW value chain 10. National Multi-Hazard Early Warning System (MHEWS) Roadmap developed and/or adopted using results of the data ecosystem maturity assessment 11. Integration in IBF platforms for real-time monitoring and impact assessments 12. Disaster-related (risk and disaster impact) data governance is enhanced to enable improved risk-informed decision-making 13. Increased understanding of EWS roles, responsibilities, coordination mechanisms, and operational protocols among EWS players participating in TTX 14. Enhanced capacities to monitor and report on the coverage and effectiveness of early warning systems and apply learning to improve approaches through after action event review Strengthening Information Flow between CAMA, NWRA, and MAI, and coordination mechanisms with Governorate Level. Improve coordination between CAMA, NWRA and MAI including shared management of weather stations, shared centralized calibration center, coordinated capacity building and training **Administrative and Legal Framework** The National DRM strategy needs to be supported by an updated legal and regulatory framework that would account for major changes in Yemen, including the establishment of local councils (RDC 04/2000), and should incorporate proactive disaster risk management (rather than reactive responses), Early Warning System (EWS) components, including provisions for anticipatory action, and a disaster recovery phase. The Yemeni Meteorological Service in Aden will be supported through the development of a national strategic plan, following similar methodologies implemented by WMO in CREWS projects. **Human and Technical Capacity** There is a need to upgrade the hydrometeorological technical capacity of the country. The more critical sectors include: The Observation Network including non-functional rain gauge stations, Insufficient number of surface observing stations including coastal stations and offshore buoys; Capacity building of staff at the Yemeni Meteorological Service in Aden on forecasting techniques, numerical weather prediction, CAP and IBF. Compilation of field inventory of stations from CAMA, NWRA and MAI, standardization of equipment across all monitoring stations; Rehabilitate and update the YMS calibration lab in Sana'a and if necessary, establish a lab in Aden to support the rain gauge networks. -Upgrading Data Management: Implementing a modern Climate Data Management System (CDMS) at CAMA/YMS to streamline data handling and quality assurance, consolidating existing climate archives into a unified record. Strengthening warning dissemination and communication mechanisms and national capabilities: - Technical support on development of National Emergency Telecommunication Plan (NETP) to enhance the country's capacity in disaster risk management and coordination.

	- Technical assistance to design and implement a multi-channel public warning system, covering governance, institutional roles and end-to-end dissemination workflows. - Feasibility assessment of Cell Broadcast (CB) and other mobile-enabled alerting technologies, including technical, regulatory and economic requirements. - Support to implement and operationalize Cell Broadcast, including feasibility assessment, regulatory review, development of technical specifications, procurement support, system setup and integration with CAP and piloting with national authorities and mobile network operators. - Technical support on communication strategies, telecom resilience, and last-mile connectivity. - Development of national CAP-compliant architectures, ensuring interoperability between regulator, National Disaster Management Office, telecom operators, and local authorities. - Strengthened institutional coordination between hydromet services, disaster management actors, the telecom regulator, and mobile network operators. - Capacity building workshop for government, telecom operators, and emergency responders. - Capacity building for national and local authorities on crafting clear, actionable warnings tailored to different user groups, including women, youth, and vulnerable communities. **Community based EWS and anticipatory action:** - Training for Yemen Red Crescent Society (YRCS) and Ministry of Water and Environment officials and volunteers on anticipatory action (together with relevant government counterparts) and Community early warning systems (CEWS). - Development of national and local risk assessments and hazard mapping, particularly for floods and cyclones. - Development / expansion of anticipatory action frameworks Establishment of Community Early Warning Systems and development of national and local EWEA/ contingency plans, including participatory community training and exercises/simulations. - Contextualize Ministry of Environment, relevant Ministries and IFRC's Public Awareness and Public Education (PAPE) messages (on what action the public should take when EW alerts are issued), ensuring inclusion and engagement of various marginalized groups, and attach those to alerts - Undertake public awareness and public education to ensure people are aware of how warnings will be disseminated, which sources are reliable and how to respond - Enhance understanding of people's trust in EWS, including through the IFRC Community Trust Index, perception and behavioural studies and the setting up/enhancement of community feedback mechanisms
Demand	The demand was raised by the Ministry of Water and Environment requesting UNDRR to support the national and local authorities on effective early warning systems. The above action points are shared in the Yemen draft action plan for DRR strategy. WMO has been requested by the Yemeni Meteorological Service in Aden to support the capacity building of its staff on numerical weather prediction, and severe weather forecasting, notably of tropical cyclones and heavy rainfall. Furthermore, there is a strong demand for access to satellite images and observation infrastructure to allow for reliable weather forecasting. Yemen is **not** currently programmed under SOFF. The Ministry of Public Work requested support from the World Bank for the preparation of a Disaster Risk Management (DRM) strategy, related background studies, and institutional capacity building for its implementation.

	The Yemen Red Crescent is present in all communities throughout Yemen. As part of their National Society Auxiliary Role to Government, YRCS is scaling up to respond to government requests to support in the area of climate emergencies and adaptation.
Leveraging Potential	The majority of financial support to Yemen is for humanitarian response, while the government is requesting full support to build their capacities to reduce the effects of climate risks including flooding and cyclones. Accordingly, this proposal will be an advantage to improve the capacities of the government to reduce risks and build resilience. The modernization of hydrometeorological services and the Disaster Risk Management (DRM) strategy will be a stepping stone for transitioning from a reactive approach to enhancing preparedness for long-term development goals. This is critical for guiding the development pathway in a holistic manner and ensuring that Yemen takes ownership of its development, rather than relying on supply-driven initiatives. Leveraging the community reach of the Yemen Red Crescent Society (YRCS): YRCS is a key humanitarian actor in Yemen, with a well-recognized presence throughout the country. The YRCS has ongoing programs in health, water, sanitation and hygiene, food security and disaster preparedness and risk reduction. It provides humanitarian relief to the most vulnerable, especially those affected by conflict and disasters. In its auxiliary role to the Yemen Government, YRCS regularly supports the authorities to respond to emergencies such as floods, drought, disease outbreaks. The YRCS is present across Yemen, with 22 branches, 30,000 youth and volunteers, and 3,000 staff members.
Synergies with Ongoing and Pipeline Initiatives	Synergies with the ongoing WISER MENA *Istibak* project implemented by WFP and supported by IFRC, will be ensured by building up and adding to the support given to the Yemeni Meteorological Service in Aden in better tailoring and producing weather forecasts to the humanitarian sector. Collaboration and synergies will also be sought with the current CREWS Djibouti ($ 3.6 million) project being implemented by WMO and UNDRR. The enhancement of the forecasting and observational capacities of the National Meteorological Agency of Djibouti could benefit Yemen, one of its closest neighbours. WMO will foster this collaboration in a potential national project for Yemen. This initiative supports the scaling up of existing initiatives such as the simplified Early Action Protocol that the IFRC and the Yemen Red Crescent have developed in support of early interventions in advance of flooding in IDP camps. This will build on the increased capacities envisioned for the Yemeni Meteorological Services and the improved availability of risk, disaster loss, and vulnerability data. IFRC and WFP are part of a regional WISER UK MET consortium that is focused on enhancing Early Warnings for at-risk populations such as the internally displaced. This initiative also builds on a 3 year ECHO PPP project that supported the enhancement of YRCS capacities in early warnings and risk management approach to managing disasters.

Country and Region (in alphabetical order)	**Zambia**

Already in Pipeline as of 20th SC meeting	**No**
Indicative Budget **(in USD millions)**	3 million USD
Lead Implementing Partner	IFRC
Background and Rationale	Zambia Red Cross Society Netherlands Red Cross (Partner National Society) Red Cross Climate Centre (RCCC) Government of Zambia: Disaster Management and Mitigation Unit (DMMU); Zambia Meteorological Department (ZMD); Ministry of Agriculture (MoA); Water Resource Management Authority (WARMA); Ministry of Health (MoH); Ministry of Fisheries and Livestock (MoFL); Zambia Information and Communications Technology Authority (ZICTA). Zambia faces several significant climate-related shocks that impact its economy, communities, and natural resources. These include droughts, floods, high temperatures and heatwaves, and other associated disasters such as cholera outbreaks due to poor sanitation during floods. These shocks disproportionately affect the social and economic livelihoods of a great number of the populations with sectors such as the agricultural and energy sectors bearing the brunt as these sectors significantly support the population through hydroelectric power and rainfed agriculture. More than 70% of the country's population depend on the agriculture sector for their livelihoods and food security. (https://www.fao.org/zambia/our-office/zambia-at-a-glance/en). Similarly, the energy sector is critical for the daily sustenance of many Zambians, with more than 80% of the country's electricity generated from hydropower, however with the inconsistent supply due to bad climate patterns the socio-economic status of many Zambians especially the vulnerable groups and small business owners are deeply affected. (https://www.erb.org.zm/wp-content/uploads/ERB-2024-Annual-Report.pdf). With these challenges, Zambia is actively working to build resilience through climate-smart agriculture, early warning systems, disaster preparedness, and policy reforms. However, these strides are marred by inadequate stakeholder coordination, failure to reach the most fragmented segments in far-flung areas, inefficient resource mobilization and lack of infrastructure adaptation. Recognizing the importance of resilience building, the country has a Technical Working Group for Anticipatory Actions, actively managing a National Multi-Hazard Early Emergency Operating Center which serves as a centralized hub for coordination, gathering, analyzing, and disseminating early warning information on disasters such as droughts, floods, and disease outbreaks. The efforts are linked to the Africa Multi-Hazard Early Warning and Early Action System (AMHEWAS) program, Humanitarian and Emergency Operations Centre (SHOC) and the African Union continental early warning mechanisms. The Zambia Situation Room enhances the country's capacity to prepare, respond, and recover from climate-related hazards in a timely and coordinated manner, thus improving regional disaster resilience. Zambia is part of Early Warning for All (EW4All) global initiative which is led by the United Nations Disaster Risk Reduction (UNDRR) to ensure that every person worldwide is protected from hazardous weather, water, climate, and related environmental events through timely, accurate, and accessible early warning systems by 2027. IFRC and Zambia Red Cross Society Pillar 4 led at Global and National respectively. Pillar four (4) focuses on Preparedness and Response Capabilities and is aimed at strengthening response systems and community readiness to act on warnings.

Needs	Zambia's early warning system faces several structural and operational challenges that limit its effectiveness in protecting communities from climate-related and compounding hazards. These challenges are evident and crosscutting across all four critical components of an effective early warning system namely: disaster risk knowledge, observations and forecasting, dissemination and communication and preparedness to respond to warnings. The country continues to grapple with limited disaster risk knowledge due to the following reasons: insufficient risk mapping, inadequate integration of vulnerability data and weak linkages between scientific information and community-level realities. Additionally, observations and forecasting capacity remain constrained by inadequate meteorological and hydrological infrastructure, with many observation stations either outdated or non-functional, resulting in poor spatial coverage and generalized forecasts. Furthermore, the shortage of skilled personnel in meteorology, hydrology and data analysis coupled with limited access to modern forecasting technologies hampers the generation of accurate and localized warnings. Additionally, dissemination and communication of early warnings also remain weak characterized by coordination bottlenecks among institutions, limited public awareness and communication barriers that restrict last-mile delivery particularly in rural communities where early warning information is not easily comprehended. Preparedness to respond to warnings is further limited by insufficient institutional capacity, lack of community-based response mechanisms and inadequate resources to translate scientific forecasts into timely action. Therefore, there is need to bridge these gaps by strengthening Zambia's capacity across all four pillars of an effective early warning system. UNDRR and the African Union Commission have supported the initial catalytic phases of the establishment of a national situation room in Zambia. Activities conducted to date include a scoping mission to determine the feasibility of establishing the situation room, including multi-stakeholder consultations, engagement of a consultant to design and develop the schematics of the situation room. Moving forward, there is a need for further funding to training stakeholders in situation room operation as well as to build capacity to run software platforms such as MyDewetra while improving the connectedness of the national situation room with sub-national decision-making processes structures.
Demand	Zambia officially launched the Early Warning for All (EW4ALL) initiative on September 24, 2025. The event was coordinated by UNDRR and Disaster Management Mitigation Unit. It was presided over by the Republic's Vice President and attended by various government line ministries and departments, The National Red Cross Society, the Partner National Society (Netherlands Red Cross - NLRC), the IFRC, UN Agencies, Hydrology and Meteorology institutions, Local and International Non-Governmental Organizations and Higher Learning institutions. This was followed by a Gap Analysis and Development of National Road Map for actualizing EW4All initiative in the Country. This project is therefore aimed at contributing towards addressing some of the key gaps which were identified and prioritized within the four main initiative pillars as reflected in the EW4ALL implementation road map. While the EW4All document is currently going through the process of validation, it still clarifies key priorities such as the need to improve data generation for early warning, creating data governance systems for early warning and enhancing the production, access and use of risk knowledge for impact-based forecasting. Additional financial support to these initiatives will ensure that Zambia generates enough risk knowledge for decision support in crises and strengthen capacities across all four pillars.
Leveraging Potential	Zambia offers a strong foundation for scaling up anticipatory action through CREWS, underpinned by strategic internal and external synergies. Internally, the Zambia Red Cross Society (ZRCS) is implementing the Preparedness for Effective Response and Anticipatory Humanitarian Action Project (RP III), in partnership with the Netherlands Red Cross and the Ministry of Foreign Affairs EUR 807,007 in three years. This initiative enhances ZRCS's institutional capacity and national leadership in disaster preparedness, anticipatory action, and effective response. It also supports broader national systems through key interventions such as convening technical working groups on anticipatory action, conducting comprehensive risk assessments (e.g., VCAs through ZVAC), and developing early warning tools including Early Action Protocols (EAPs) like the Drought EAP CHF 541,853).

	The proposed CREWS project will build on these achievements to deepen ZRCS's role in supporting the Government of Zambia's disaster risk management agenda. It will reinforce national coordination mechanisms, strengthen data-driven decision-making, and institutionalize anticipatory action within Zambia's preparedness architecture. Externally, Zambia can leverage high-impact synergies with UNDRR's EW4All coordination mechanism, the World Bank's Transforming Landscapes for Resilience and Development initiative, and the RP III project itself. These partnerships provide strategic entry points for embedding CREWS-supported systems into Zambia's broader resilience and development frameworks. Regionally, Zambia's alignment with platforms such as the Africa Multi-Hazard Early Warning System (AMHEWAS) and the SADC SHOC enhances coherence and scalability. These regional mechanisms offer operational and policy-level support for multi-hazard early warning and response, positioning Zambia as a key contributor to regional resilience efforts. By harnessing these synergies, Zambia can ensure that CREWS investments are catalytic, sustainable, and transformative anchored in existing systems, aligned with regional priorities, and contributing meaningfully to the global Early Warning for All agenda
Synergies with Ongoing and Pipeline Initiatives	Within the Red Cross and Red Crescent Movement, the proposed project aligns closely with existing initiatives supported by CREWS and other partners by strengthening Zambia's early warning and anticipatory action capacities. It complements the United Nations Disaster Risk Reduction (UNDRR) Early Warning for All (EW4All) initiative and builds on ongoing efforts such as the Preparedness for Effective Response and Anticipatory Humanitarian Action in Zambia Project (RP III) under the auspices of the Netherlands Red Cross Society. Ongoing efforts through the RP III project including among others supporting the Early Warning Subcommittee and the National Anticipatory Action Technical Working Group (TWG) will be upscaled. Externally, the proposed project will complement government efforts under the World Bank funding for the Transforming Landscapes for Resilience and Development initiatives. UNDRR Early Warning for All Initiative Transforming Landscapes for Resilience and Development Early Warning Subcommittees in the National DRM Legal Framework and AA TWG.

Regional	
Country and Region (in alphabetical order)	**Africa (continental)**
Already in Pipeline as of 19th SC meeting	Yes

Indicative Budget (in USD millions)	6.0
Lead Implementing Partner	WMO
Background and Rationale	Proposed Title: **Strengthening of regional collaboration and institutional capacities for early warning and early action in Africa** CREWS is supporting regional economic communities (RECs) and WMO-designated regional centers (RSMC, RCC, RTC, RWC, GISC, RIC, etc.) in several sub-regions in Africa (West, Central, SWIO, Horn, East); it does not yet provide support for functions outside these designated centers, nor at continental level. The Africa Union Commission, Regional Economic Communities have established the Africa Multi-Hazard Early Warning and Early Action System for DRR. The African Centre of Meteorological Applications for Development (ACMAD),established in 1985, is part of AMHEWAS and also promote the training of African scientists and technicians in the application of meteorology for development. To better strengthen and monitor the performance of meteorological services in an easily understandable and coherent manner, ACMAD has established User Interface Platforms (UIPs) in four key sectors including DRR, agriculture, water, and health. ACMAD can support NMHSs of Africa beyond the scope of current (sub-) regional centers' designations, namely for institutional strengthening, digital transformation, quality management, etc., as well as support the regional centers to deliver more efficiently upon their mandate. AUC and Regional Economic Communities support National Disaster Risk Management Authorities and NHMS to access reliable risk information for Impact Based Forecasts and support strengthening coordination and preparedness
Needs	Most African NMHSs rely heavily on donor funding and lack national budgetary support, human resource management, and digital tools to reach their users such as affected communities and civil protection / disaster management entities. They also lack capacities to contribute to sub-regional and regional emergency coordination processes. WMO initiated some support for strategic plans, business models and digital transformation (see ClimWeb), with support from different projects (see NMHS strategic planning CoP). The support from ACMAD would assist the NMHS and regional centers for the development of management capacities including human resources, developing business models for revenue generation, developing capacities to manage donor-funded projects, development of digital tools to enhance data transmission and warning service delivery, strengthening regional cooperation within Africa and reducing reliance on third parties from the North. Moreover, the support will improve the services of AMHEWAS networks and situation rooms, improve the coordination among NHMS, NMDA, Regional Climate Services and RSMC, ensure that the risk information produced by AMHEWAS centres are coordinated, integrated with national knowledge, reach the designated users and used for early warnings and early actions. Special focus will be dedicated to extending existing services to larger number of hazards (i.e. Landslides, heat waves, sand storm etc) and to impact based forecasts, integrating data on exposure and vulnerability.

Demand	The Integrated African Strategy on Meteorology (2021-2030) and Early Warnings for All Africa Action Plan 2023-2027 both call for sustainable strengthening of institutional capacities for entities involved in early warning services (in priority meteorological, hydrological, food security, health and civil protection). The project would also support the implementation of the Africa Road Map for Improving the Availability, Access and Use of Disaster Risk Information for Early Warning and Early Action, including in the Context of Transboundary Risk Management, as recommended by the November 2021 Seventh High-level Ministerial Meeting for Disaster Risk Reduction Nairobi Declaration; as well as the Ministerial recommendations expressed in AMCOMET (2019, 2021) for ACMAD to act as "center of excellence" or "meteorological (weather and climate) technical arm" for the African Union Commission.
Leveraging Potential	The institutional strengthening of NMHSs would ensure more optimal use of the resources available from other projects: CREWS (WA, CA, EA, HoA, SWIO), NORCAP (digital transformation), Italy (AMHEWAS), EU (ClimSA, SEWA, EADW), GCF (IOC, Burkina Faso, Mali, SADC), AfDB (Niger Basin), AFD (Côte d'Ivoire, Guinea), SG (Angola), UNDP (Chad, Ethiopia, Somalia), IDA (Burkina Faso, Mali), Adaptation Fund (Lake Chad, Volta), with clear investment priorities identified at country, sub-regional and regional levels; and more optimal alignment of donor funding to contribute to the EW4All Africa Action Plan. Many good practices have been developed at sub-regional and country level but there is no ownership for exchange at higher level, ACMAD will play a role of leveraging "good practices" over the continent and foster exchange.
Synergies with Ongoing and Pipeline Initiatives	The proposed project will support and complement various regional projects (West, Central, SWIO, Horn, East Africa), as well as national projects in Benin, Burkina Faso, Chad, Dem. Rep. of Congo, Malawi, Mali, Niger. It will go beyond the scientific and technical approaches and focus on leadership and institutional development.
Country and Region (in alphabetical order)	**Guyana and Suriname**
Already in Pipeline as of 20th SC meeting	No
Indicative Budget **(in USD millions)**	5 M

Lead Implementing Partner	UNDRR
Background and Rationale	As per CDEMA's contribution to the Sendai Framework Mid-Term Review titled " Caribbean Multi-Hazard Early Warning systems (MHEWS) Thematic Case Study" (2023), the Caribbean region – which includes Guyana and Suriname as SIDS and CDEMA participating Member States - has been transitioning in recent years from a merely technical view of EWS towards a more holistic view of EWS with a multi-hazard, gender and systemic governance lens and more aligned to disaster risk reduction, while also recognizing the potential for engaging the private sector as well as for strengthening articulation between gender, vulnerable or marginalized groups and MHEWS, and the importance of impact-based forecasting. This study also recognized the need to create specific funding related to disaster risk reduction financing within the climate action agenda, and specifically for improving MHEWS. **Guyana** Being a low-lying coastal state located on the northeast of South America, Guyana is particularly vulnerable to the impacts of climate change as its low coastal plain lies 1.4m below the mean high tide level of the Atlantic Ocean, and is particularly vulnerable to flooding, erosion and salination. With an estimated 90% of its population, critical infrastructure and arable agricultural lands located in the floodplains, the country's exposure and vulnerability are of particular concern. Priority hazards in Guyana include coastal flooding and sea level rise, flooding due to excessive rainfall, drought, and wildfires. Guyana experiences frequent flooding during the rainy seasons, affecting both the inland regions and the coast. Notably, periods of heavy rainfall coupled with drainage blockages and pump malfunctions intensifies flooding in various regions across Guyana. Guyana is also at risk from drought resulting in water rationing and extensive crop and livestock losses. Additionally, climate change will threaten agriculture production through increased competition for water resources, loss of agricultural lands due to flooding, heat stress, and increased incidence of pests and disease. Wildfires primarily occur within the hinterland regions and affect both rural and urban areas. As an oil producing country, there is also the urgent need for strategic foresight for new and emerging risks. It is against this backdrop that throughout 2025, the Government of Guyana through the Civil Defence Commission (CDC) carried out the steps of the EW4All implementation toolkit that culminated in its national defined 2026-2030 implementation roadmap aiming to close the gaps in the EW4All defined pillars and advance MHEWS for all. This Roadmap presents a set of recommended actions designed to prioritize investments in EWS and DRR, in accordance with Target G of the Sendai Framework for Disaster Risk Reduction 2015-2030, and Guyana's Low Carbon Development Strategy (2030). It was developed according to the results garnered from stakeholders through bilateral meetings, two National Consultive Workshops, and a one-day virtual workshop that was guided by the *EW4All Checklist for Gap Analysis* and the *Inclusive Early Warning Early Action Checklist*. The roadmap follows a results-based management approach, utilizing a logic model to outline outputs, activities, responsible parties, timelines, proposed budget, and potential funding sources. These are organized by four (4) MHEWS pillars, together with the interpillar on governance. The roadmap Identifies 55 responsible agencies with lead and supporting roles to implement the 140 activities over a five (5) year period 2026 – 2030, with a total budget of USD $14,100,000 which is broken down as follows: Pillar 1: $2,740,000; Pillar 2: $5,563,000; Pillar 3: $1,570,000; Pillar 4: $2,930,000; and Interpillar on governance: $1,297,000. Cross-sectoral commitment to implementation at the highest level of governance, gender- and disability-responsive EWS, child and youth-sensitive EWS, and inclusiveness are considered vital tenants for its success. **Suriname**

	Suriname, a country with 97.4% of its land area being forest coverage, 7,820 km^2 water area and 386 km of coastline, is one of the most vulnerable countries to river and coastal floods. Almost 30 percent of the country is within a few meters above sea level, making it susceptible to coastal flooding. Additionally, as nearly 90 percent of Suriname's population (two thirds of whom live in the capital, Paramaribo) and most of the country's fertile land and economic activity are located in the 384 kilometer-long coastal plain, sea level rise represents a very significant development challenge. According to a 2024 national disaster preparedness baseline assessment by the Pacific Disaster Center, Suriname has made some notable advances in recent years, including protective legislation through the Environmental Framework Act 2020. The Act addresses integration and involvement of indigenous and tribal peoples, ensuring information and education on activities within communities is widespread and accessible for effective decision-making and informed consent. The NCCR maintains close relationships with its response partners (government, non-government, and private sector) and is committed to protecting the people of Suriname. However, it faces notable challenges in effectively providing disaster operational and logistical support to the districts due to the lack of an approved Disaster Management Law and chronic lack of financing. An effective Law that codifies disaster management authorities and roles / responsibilities would enable NCCR to move beyond a posture of reactive disaster management towards more effective planning, preparedness, and mitigation. Through a project financed by the European Union -Caribbean Resilient Programme (EU-CA-RES), the EW4All implementation toolkit will be applied in Suriname in 2026 , under the leadership of the National Coordination Centre for Emergency Management (NCCR) and involving inclusive and participatory processes supported by the EW4All pillar lead agencies to develop its proposed MHEWS implementation roadmap that will define the necessary actors, resources and support for closing the gaps in MHEWS.
Needs	This will build on ongoing initiatives in both countries. **Guyana**: as noted by the World Bank in 2024, Guyana is among the countries most vulnerable to climate change with studies showing that rising sea levels, among the highest in the world, expose 100 percent of the country's coastal agriculture and 66.4 percent of its coastal urban areas to flooding and erosion, with potential GDP losses that could exceed 46.4 percent. Guyana's coastal drainage system comprises a unique, intricate network of canals, culverts, sluices, and pumps. Over time, its operational capacities have declined due to insufficient investments in maintenance and growing flood risk arising from urbanization and the impacts of climate change. Recognising the importance of strong EWS, Guyana's Low Carbon Development Strategy (2030); Multi-Hazard Early Warning Systems Gap Analysis Report (2022); National Multi-Hazard Early Warning Systems Roadmap (2022); and Disaster Risk Reduction Situational Analysis (2022) outlined the need for EWS to be prioritized in Guyana. The main hazards faced by Guyana are those associated with hydrometeorological phenomena such as floods and droughts. The onset of climate change and climate variability exacerbates these risks. Guyana has become an oil producing nation with a burgeoning offshore oil and gas industry that promises to dramatically transform the lives of Guyanese. While this industry promises an economic transformation, it also brings with it associated risks which necessitate planning. One of the Civil Defence Commission's (CDC) targets is to increase the availability and accessibility of multi-hazard early warning systems, and one of its priorities is to improve disaster risk understanding.

	Key needs identified through the 2025 application of the EW4All gap analysis checklist and inclusive early warning early action checklist highlight the following, among others: Pillar 1: the need to strengthen critical data management infrastructure, national risk repository and protocols for information sharing across national agencies, the need for quality data and disaggregated data, especially on vulnerable communities and populations, and the limited availability and integration of environmental impact and risk data in impact-based forecasting. Guyana has a government-owned disaster tracking system. Data coverage indicates partial but consistent use of the system, and there is much room to improve continuity and expand data collection to ensure more comprehensive and regular coverage. This is coupled with insufficient information about gender- differentiated disaster impacts and a complete lack of sex, age and disability disaggregated data as well as active inclusionary and gender considerations in national policies and plans. While government investment in DRM has increased, approval of the draft DRM Bill (2020) and finalisation of the mechanisms it establishes, especially the Disaster Fund, are seen as critical next steps towards strengthening preparedness and response capabilities for MHEWS and other critical elements of DRM. The absence of Disaster Risk Management (DRM) legislation also presents a significant challenge for the cross-cutting interpillar of Governance. Pillar 2: Hydrometeorological Service of Guyana needs to expand automatic hydrological stations network for real-time water-level and discharge monitoring, especially in the Essequibo, Demerara, Berbice, Pomeroon, and coastal drainage basins. That also implies to upgrade outdated manual stations to telemetry-enabled systems and standardize rating curves and gauging procedures, including updated discharge measurements. In terms of Data management and ICT Infrastructure, a centralized hydrological database with robust QA/QC workflows (e.g., WIS2-ready systems, Aquarius, FEWS) is needed. Improved data transmission reliability (satellite/GSM) and backup servers, and implementation of data integration with meteorological, oceanographic, and flood-forecasting systems and to establish/enhance a real-time flood forecasting system for coastal and riverine flooding are critical. For Guyana, a special effort is required to integrating one of some of Hydrological and hydraulic modelling capabilities (HEC-HMS, HEC-RAS, MIKE) and furthermore establish Operational SOPs for flood warning dissemination aligned with the national Multi-Hazard Early Warning System. Additional trained hydrologists, field technicians, and data analysts are required especially for: hydrometry and field measurements, hydrological modelling, GIS and remote sensing and continuous professional development aligned with WMO qualification frameworks. In the case of Guyana, a national defined multi-hazard early warning systems implementation roadmap has been developed through a multisectoral and multistakeholder inclusive consultative process. This implementation roadmap, developed with support from CREWS 2.0 under the leadership of Guyana's Civil Defense Commission and technical assistance from UNDRR, WMO, ITU and IFRC as well as the UN Resident Coordinator's Office and UN Country Team, lays out the main recommended actions for closing the identified gaps in MHEWS in Guyana. It prioritizes an inclusive and gender sensitive approach. **Suriname:** with a population of approximately 623,000, of which approximately 87% lives along the coastal plain, and an economy driven by its abundant natural resources, Suriname's risk profile is predominantly characterized by floods that, according to the World Bank in 2025, affects most of the population and an estimated 90% of human activity. In 2006, the country experienced severe flooding that directly impacted approximately 25,000 individuals across 150 villages, with estimated costs reaching USD 40 million. More recently, the April 2021 floods affected all ten districts of the country, with final costs still pending determination. In the case of Suriname, while the initial phase as conceived in the EW4All initiative will only take place in 2026, the need to develop specific legislation and to clarify mandates, roles and responsibilities while strengthening the technical and human capacities, can already be considered as key action points to strengthen EWS.

	In the case of Suriname, the absence of specific Disaster Risk Management (DRM) regulations makes it highly challenging to clearly determine the mandates and responsibilities of sectors, ministries, and public service entities regarding the development of emergency or contingency plans and the operation of early warning systems. Suriname appears to not have a standardized hazardous event and disaster loss and damage tracking system, along with limited analytics, use of technology solutions and other areas of risk knowledge production. While its risk information sharing can be considered substantial, it lacks a risk data repository. It is entirely foreseeable that this would involve: • Rollout the DELTA Resilience System to update the disaster loss database in Guyana and develop such a database in Suriname where no such tracking system currently exists; to strengthen the link between loss and damage data with impact-based forecasting and anticipatory action, including a better disaggregation of exposure, vulnerability and impact data. • Development of probabilistic risk assessments for the prioritized hazards, as per the national roadmaps, improving resolution levels compared to previous studies as well as updating information, particularly related to exposure and vulnerability. • Integration of the inputs (e.g., exposure and vulnerability datasets), and outputs (e.g., risk curves) from probabilistic risk assessments into impact-based forecasting and anticipatory action (emphasis in setting thresholds and triggers), respectively. • Development and/or update of country risk profiles to improve risk communication efforts among national stakeholders, providing updated and concrete evidence regarding hazard, exposure, and vulnerability components. • Local DRR plans with a focus on MHEWS and priority segments of the population (gender and intersectionality, inclusion of persons with disabilities). • Needs in Guyana are largely defined through the nationally defined EW4All implementation roadmap led by CDC with technical support by UNDRR, WMO, ITU and IFRC. In the case of Suriname, they will be defined through the proposed nationally defined EW4All implementation roadmap to be led by NCCR with technical support by the EW4All pillar lead agencies to be undertaken in 2026. • All efforts will be taken to prioritize marginally and at-risk groups, particularly inclusion of persons with disabilities, the need to consider minority languages and cultural norms, as well as to ensure that activities are not only gender sensitive but ideally gender transformative, particularly at the local level. Pillar 1 serves as the foundation for effective Early Warning and Early Action (EW-EA), employing a systematic approach to producing, accessing, utilizing, and continuously improving risk data. This strengthens disaster preparedness and resilience through robust risk and impact data ecosystems at country and regional levels, providing a comprehensive understanding of hazards, exposure, vulnerabilities, and capacities across national, sub-national, and community contexts. In both cases, governance and coordination will also be a strong project component. Similarly, links will also be made with the finance and planning sectors to ensure that MHEWS are not only budget tagged but strengthened in national budgetary assignments and forward-looking planning procedures. It will also actively engage with academia as well as with the private sector as an important yet often overlooked player in EWS. Similarly, emphasis will be placed on strengthening capacities in country. There is a noted need for improved understanding of financing needs and financing flows for informed decision-making and enhanced financing of EWS at the country level. Pillar 2:

	The Main operational needs of the Meteorological Service Suriname (MDS) are related with bringing surface stations up to GBON standards (several surface sites are currently non-compliant) and add/redeploy stations to meet the high-density network requirement for Suriname's territory. To rehabilitate and sustain the upper-air sounding capability (two daily soundings recommended) and install/upgrade automatic weather stations (including in remote inland locations). To set up Reliable GSM/satellite telemetry from remote sites, redundant data transmission paths, and resilient backup servers to avoid data gaps and improve timeliness of forecasts/warnings. A centralized hydromet database with documented QA/QC workflows, metadata, WIS/HydroSOS readiness and standardized formats for data sharing with regional/global systems are critically required. In terms of services delivery, operational hydrometeorological and impact-based forecasting systems (river / coastal flood models, nowcasts, ensemble forecasts) and integration into national MHEWS and sectoral user channels and formalize and implement the MDS SOPs (draft exists) for observations, radiosondes, data QA/QC, forecasts and warnings; adopting a QMS approach to ensure consistency. To develop regular impact-oriented products (coastal flooding advisories, agro and water-resource bulletins) and formal channels/agreements with disaster management, ports, aviation, agriculture and utilities. Targeted training and staff reinforcement for: upper-air operations, instrument maintenance/hydrometry, data management (DBA/QA), modelling, and communications/outreach. Also establish retention and career pathways.
Demand	In the case of Guyana the demand is highly evident dating back to Guyana's selection as one of 30 countries selected globally to receive a first round of technical support under the EW4All initiative, as communicated by the UN Secretary General in his missive the initial acceptance of 17 March 2023 directed to Hon. Brigadier (Ret'd) Mark Phillips, Prime Minister of the Co-operative Republic of Guyana, and the Prime Minister's acceptance as communicated on 6 March 2024. These highest-level agreements permitted the initial phase, with support by CREWS 2.0, which is nearing completion in 2025 through the nationally defined MHEWS implementation roadmap, with Guyana's Civil Defense Commission (CDC) as the national lead. Notwithstanding, the implementation roadmap, albeit an important advancement, will not lead to meaningful change if not carried out. As such, this project would facilitate concretizing that implementation roadmap and activities determined as key through the broad consultative process that took place. In the case of Suriname, the National Coordination Centre for Disaster Relief (NCCR) has taken the lead and has expressed support for advancing in identifying the country's gaps and an ensuing implementation plan / roadmap. This is in keeping with the country's efforts to establish its national strategy for disaster risk reduction, or Country Work Programme, in alignment with the nation's climate change adaptation plans and actions, including its 2020 National Adaptation Plan, and with the 2022-2026 Multi-annual Development Plan. According to Suriname's Third National Communication (NC3) to the UNFCCC, the proposed adaptation measures for the health sector include developing early warning and response systems for climate-sensitive health risks. In Suriname, as with other countries, women have more limited access to information and early warning systems (EWS) than men during floods and extreme weather events; a disparity that is reinforced by socio-cultural norms that limit access to information and skills as well as opportunities. The Bureau for Gender Affairs (BGA) is responsible for implementing the national gender policy with a mission to coordinate, guide, and monitor actions that promote gender equality and ensure that gender perspectives are systematically integrated into national policies and programs, including disaster management and climate change adaptation frameworks. Lack of sex-disaggregated data at the sector level is also reported in the National Adaptation Plan NAP for Suriname (Government of Suriname, 2019), contributing to a weakened evidence base from which to generate policy-level and strategic decisions to close gender gaps in risk and vulnerability. While the Government of Suriname has not yet explicitly integrated gender equality into its disaster-related laws and policies, the National Coordination Centre for Disaster Relief (NCCR) has begun incorporating gender considerations into its programs by training regional district administration offices in disaster risk management (DRM) procedures and planning. Pillar 1 will abide by UNDRR's proposed structured yet adaptable approach focused on the production, access and use of risk knowledge; from foundational activities such as baseline assessments (including capacity and data maturity assessments), improvements in risk data governance (enhancing mechanisms for data ownership, standardized collection protocols,

	clear data-sharing frameworks, and seamless integration across multiple systems relevant for EWS performance), and customized risk assessment methodologies, to an iterative process involving the regular updating of hazard, exposure, and vulnerability assessments, their integration into existing monitoring and visualization systems, and continuous refinement of threshold-based alerts, triggers, and response plans. Existing policy and regulatory frameworks will be leveraged to strengthen cross-sectoral governance and coordination mechanisms. Governance would also benefit from the provision of technical support to improve understanding of financing flows, financing needs and policy options associated with financing the development, maintenance and continuous improvement of their MHEWS.
Leveraging Potential	This project would be carried out in close collaboration with the Caribbean Disaster and Emergency Management Agency (CDEMA), the Caribben Meteorological Organization (CMO) and other branches of the Caribbean Community (CARICOM), in addition to the concerted coordination with other EW4All pillar leads and partners. Building therefore on the experiences through CREWS 2.0 and others, it will not only benefit from processes and lessons learned in the Caribbean but contribute to their advancement and consolidation. Given that Suriname and Guyana share a border (of approximately 910 km), this project will also consider transboundary risk.
Synergies with Ongoing and Pipeline Initiatives	Synergies with ongoing CREWS 2.0, and all efforts will be taken to align in the case of Guyana with the World Bank's Coastal Adaptation and Resilience Project. In the case of Suriname, this will build upon the EU's Caribbean Resilience (EUCARES) project, in which UNDRR will lead the process in 2026 to coordinate across EW4All pillar lead agencies to support the Government of Suriname through NCCR's lead for an inclusive and participatory processes leading to a proposed implementation plan / roadmap.

Country and Region (in alphabetical order)	**Hindu Kush Himalaya and South Asia (Afghanistan, Bangladesh, Myanmar, Maldives, Nepal and Sri Lanka)**
Already in Pipeline as of 20th SC meeting	Yes
Indicative Budget (in USD millions)	5.5

Lead Implementing Partner	UNDRR
Background and Rationale	This project aims to focus on strengthening early warning systems across the Hindu Kush Himalaya mountainous region particularly focusing on the inclusivity and effectiveness of early warning communication to communities across the mountain region. The project aims to strengthen cross boundary EWS by linking countries together to bolster existing sharing mechanisms and crafting messages that are clear, actionable, and reach all in the region, including delivery across national orders. With the mountainous terrain, remote communities, and challenges around data and information sharing across borders, there is a strong need to bring all countries and communities to the table together to better understand the current status of understanding disaster risk, communicating that risk and mechanisms to reduce said risks, and bolstering existing systems and relationships that enable greater understanding and sharing of risk knowledge. These aims will be met through the employment of risk assessments to better characterize the exposure and vulnerabilities of the communities across the HKH, survey methodologies to understand community awareness of these risks and the early warning messages they receive, and targeted support to governments and partners in the region to craft messaging that is understandable, actionable, and timely in issuing warnings to communities. To achieve the aims, the CREWS IPs will collaborate with national governments of those in the HKH while building on the strong partnerships of IGOs active in the region, including ICIMOD and BIMSTEC, who hold membership of the aforementioned countries and have been supporting DRR and EWS efforts to communities across the region for decades. ICIMOD, the International Centre for Integrated Mountain Development, is an intergovernmental knowledge and learning center working on behalf of the people of the HKH, and its members include Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan. Their mandate, established in 1983, focuses on addressing climate and environmental risks and building resilient economies and landscapes, two central focal areas for DRR and EWS. More specifically, their focus areas on DRR includes supporting partners to understand and respond to multi-hazard and cascading hazard risks; develop inclusive solutions to enhance resilience of vulnerable communities and infrastructure; and strengthening regional and national institutions for disaster risk reduction, preparedness and resilience. The Hindu Kush–Himalaya region faces frequent flash and riverine floods driven by intense rainfall, rapid snowmelt, glacial lake outbursts, and complex terrain. Strengthening an integrated early warning system is essential to protect vulnerable communities. A joint monitoring system through support of WMO and other partners (ICIMOD) would combine high-resolution hydro-meteorological monitoring, real-time data sharing across borders, impact-based forecasting, and community-centered communication channels. Enhanced regional cooperation, capacity-building for national services, and the incorporation of local knowledge can significantly improve lead times and ensure timely, actionable warnings that reduce loss of life and livelihoods. BIMSTEC, the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation, focuses on economic growth and prosperity with their members, which include Bangladesh, Bhutan, India, Myanmar, Nepal, Sri Lanka, and Thailand. It includes priorities on environment and climate change, disaster management, and connectivity—all central tenants of EWS. BIMSTEC also oversees centres on weather and climate and technology transfer. IFRC, the International Federation of Red Cross and Red Crescent Societies (IFRC), is one of the key implementing partners for the Early Warning For all Global initiative for pillar 4 and has a wide network in its 191 member countries, including the countries of South Asia and Hindu Kush Regions. IFRC through its National Red Cross Red Crescent societies, is reaching the hard-

	to-reach(last-mile) communities through its wide network of local chapters across the country with volunteers speaking local languages and bringing, community trust and acceptance across its members countries. These institutions provide a strong collaborative partnership to build upon the strengthening of economies across the HKH, and collectively advance the utility of crossboundary early warning systems across the region. Maldives is one other country in the South Asia region that is not covered in the above list but is a SAARC Member State. Additionally, their longstanding histories in the region enable CREWS to work directly with communities and governments across the region for a better understanding of risks from the community perspective and more clearly deliver future early warning messages and risk communications. UNDRR is partnering with WMO and UNDP to build a global hazardous event and disaster losses and damages tracking system. This is expected to be initialized through a pilot over 2025 thus supporting countries in strengthening their data governance mechanism for tracking losses and damages from disasters across large to small scale. In response to the rapid rise in the scale, intensity, frequency and duration of extreme heat, UN Secretary-General has called for an urgent and concerted effort to enhance international cooperation to address extreme heat in four critical areas: Caring for the vulnerable; Protecting workers; Boosting resilience of economies and societies using data and science; and Limiting temperature rise to 1.5°C by phasing out fossil fuels and scaling up investment in renewable energy. Based on demand from national actors in Afghanistan, Bangladesh, Myanmar, Maldives, Nepal and Sri Lanka, and opportunities for collaboration, the project will support the institutionalization of the Extreme Heat Governance Framework and Toolkit, https://www.undrr.org/publication/documents-and-publications/extreme-heat-risk-governance-framework-and-toolkit, among national actors will also be advanced with local partners. This toolkit is designed to support decision makers to measure, understand, strengthen and sustain extreme heat risk governance. As a tool supporting integrated approaches, it is intended to be applicable at different scales and in and among multiple sectors. The toolkit includes three core tools that decision makers can apply directly: Tool 1: **Assess the Maturity of your Extreme Heat Risk Governance** enables decision makers to systematically evaluate the current state of their extreme heat risk governance systems; Tool 2: **Operationalise Extreme Heat Risk Governance** guides decision makers in fostering cross-sectoral coordination, information-sharing and institutional capacity; and Tool 3: **Plan for Heat Action** guides decision makers in identifying the core components of effective Heat Action Plans (HAPs), alongside good practices and strategies. The Gender Action Plan to support implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 (Sendai GAP) was launched at the 68th session of the Commission on the Status of Women at the United Nations in New York, co-sponsored by Australia, Norway, the Philippines, Peru, UNDRR, UNFPA and UN Women. The Sendai GAP aims to accelerate progress towards the mutually reinforcing goals of gender equality and the prevention and reduction of disaster risk by ensuring DRR efforts are gender-responsive, and promote and support women's empowerment and leadership.
Needs	Recent years have seen increasing hazards across the HKH that have led to increasing disaster events that extend beyond national borders. For instance, in August 2024, 4.5 million people were affected by flooding in Bangladesh that started from rains originating in Northeastern India. Additionally, glacial lake outflows (GLOFs) hazards originating often in Nepal and China have becoming an increasingly large challenge in the face of rising temperatures from climate change. Finally, increasing temperatures, including the largest increases across South Asia, have led to extended and intensifying heatwaves leading to the UN Secretary General Call to Action on Extreme Heat in 2024.

	The impact of climate change on mountains threatens both mountain communities and millions in the plains across the Hindu Kush Region, with risks ranging from massive floods and landslides to loss of safe water, to reinforced vulnerability to air pollution. The IFRC is leading a regional initiative to reduce these risks through anticipatory actions, preparedness activities, and ecosystem protection. This collaborative effort will safeguard lives and livelihoods from the mountains to the plains. While these hazards have been documented by recent disaster events, limited progress has been made on the sharing of information across the region and involving communities in the decision-making processes and early warning systems. This improved access to and action on information will require regional cooperation and inclusion of communities across the region in discussions around risks and reducing those risks. Implementing partners will collaborate with long-standing regional coordination partners such as ICIMOD and BIMSTEC in building support for cross-border collaboration on disaster risk reduction, while at the same time tapping into existing community-based relations and programmes to ensure communities, particularly those on borders and most at-risk, are consulted and included in decision making around risk reduction and early warning messages and their dissemination. In addition to information sharing, there is also a need to gather additional scientific data to generate practical evidence in order to strengthen community-driven interventions while producing clear insights that can inform climate-resilience policies in the region. In order to have a smooth exchange of expertise and good practice among NDMOs in partnership with IGOs and technical partners a network could be established to assess risk knowledge in relation to EWS issues including: • Science-policy interface for early warning through bridging the digital divide • Indigenous knowledge for EWS • School safety through early warning • Health and well-being addressing climate-accelerated health risks • Any other area prioritized by the Network Need for establishing a regional support mechanism for supporting South Asia countries on disaster losses and damages tracking engaging NDMOs and related parts of national statistical organizations. It will involve a package of support ranging from onsite or online training to provision of advisory support on adaption of the software platform to specific country contexts. **Regional information exchange on mountain resilience:** Supporting information and experience exchange among Red Cross Red Crescent National Societies and authorities in the Hindu Kush region on mountain resilience. **Promoting border-area EWS and mutual assistance:** Organizing discussions and possibilities for complementary EWS in border mountain areas There is an emerging need for a regional Community of Practice for action on extreme heat in line with UN Secretary-General's call for action on extreme heat and other hazards as may be prioritized by the network of NDMOs

	Implementation of the Sendai GAP, especially Key Objective 7 on end-to-end multi-hazard early warning systems and anticipatory action; and roll-out of the checklist and implementation guide on inclusive early warning action as developed under the CREWS Pacific initiative is very essential. This well help achieving a gender responsive and disability inclusive pathway to achieving the Sendai targets and associated SDGs.
Demand	Countries throughout the region have committed to regional partnership through their active membership and participation in regional bodies such as ICIMOD, BIMSTEC, and SAARC. Moreover, communities have continually called for further engagement, including recent calls for stronger engagement between India and Bangladesh during the recent flooding events and a call from Nepal's EW4All National Consultation holding a panel on the exact topic of cross boundary EWS, where discussions abounded on the need to strengthen data sharing across borders and the need to tap into border communities that had relationships on both sides of borders and often using these community relations to share out information such as early warnings and risk reduction techniques. In addition, across the region there is a strong focus on the need to include people at greater risk and building off of UNDRR and partners long standing efforts and expertise on this including the CREWS supported Inclusive EW-EA Checklist, Sendai GAP, and Words into Action on Indigenous Knowledge. These community engagement strategies will bolster the efforts of CREWS in strengthening cross-boundary EWS across the HKH region. Asia Pacific Action Plan 2024-2027 for Implementation of the Sendai Framework has been updated in the run up to APMCDRR 2024. It highlights the requirements as envisaged by the DRR fraternity in the Asia Pacific led by the UN Member States. **Filling critical data and early warning gaps** on glacier mass, GLOF risk factors, glacial and snow melt flows, and high-altitude precipitation in the mountains A research element in the project will also create opportunities for cross-country learning and exchange among Red cross Red Crescent National Societies and communities, helping to identify and share effective practices across HKH mountain contexts. Examples of themes that will be studies include: understanding how rapid urbanization is reshaping risks and adaptation needs for mountain communities; exploring innovative and blended financing options that can reach and support the people of remote mountain environment ; and identifying practical indicators and data systems that combines community generated information with technical monitoring of multi-hazard risks across Hindu Kush Himalaya region (HKH) region
Leveraging Potential	This effort will continue building relationships across South Asia and the HKH region, leading to further opportunities to bolster DRR and EWS. It will also complement the work of the South Asia CREWS program under development by ensuring NDMOs and communities grow at the same rate as the hydromet offices in the region. This will ensure sustainable efforts on EWS continue well beyond the project timeline.

Synergies with Ongoing and Pipeline Initiatives	This project will align with the proposed CREWS South Asia Project that seeks to bolster the South Asia Hydromet Forum by linking the hydro-met agencies with NDMOs, while ensuring community voices are a central focal point of both projects. Moreover, the CREWS funded EW-EA checklist that has been developed in the Pacific and launched in several South Asian countries will be a focal point of the initiative to strengthen this cross-boundary effort in the most inclusive manner. The IFRC is a pillar 4 lead for the Early Warning 4 All (EW4ALL) global initiatives. The roadmap developed based on consultations will guide to implement early warning activities in South Asia. In Nepal for example, The IFRC and Nepal Red Cross Society is one of the key actors supporting the government to implement the Community of Practice on AA, which will guide other countries to build similar initiatives. Similarly, the IFRC, through Nepal Red Cross Society, together with the Government and other key stakeholders, is organizing a regional dialogue on Anticipatory Actions, which will provide a key platform to build similar synergies among the South Asian and Hindu Kush Himalaya Region. The existing community feedback mechanism of the National Red Cross Red Crescent will help to identify the need for EWS messaging, will help to shape messages together with the Government agencies, and will help to disseminate across communities. A tool called Community trust Index has been specifically developed by IFRC to measure trust in EW messages and will be used also for this project.

Country and Region (in alphabetical order)	**Southern Africa -** 16 SADC Member States - Comoros, Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Seychelles, United Republic of Tanzania and Zambia, (overlap with SWIO for Comoros, Madagascar, Mauritius, Mozambique, Seychelles)
Already in Pipeline as of 20th SC meeting	Yes
Indicative Budget (in USD millions)	5.5
Lead Implementing Partner	WMO,

Background and Rationale	Natural hazards in the SADC region have been increasing in frequency and intensity over the past three decades and warming over the region is faster than the global average. The entire region is affected by droughts, floods, and cyclones. In March 2019 Southern Africa was hit by Tropical Cyclone Idai that caused devastation in Mozambique followed a month later by Tropical Cyclone Kenneth, which is the strongest cyclone ever recorded in the Southern Hemisphere. In February-March 2023, the Southern Africa region was again hit by Cyclone Freddy the longest lasting cyclone ever recorded. Despite investments in Multihazard Early Warning Systems (MHEWSs) at local, national and regional levels, there is a strong remaining need to address gaps and requirements from both the meteorological and disaster risk management communities for effective and informed early warning systems; this includes enhancing predictive and warning capabilities, strengthening collaboration and coordinated communication for anticipatory action and developing strategies for reaching the last mile whilst enhancing the use of ICT technology as well as operational coordination and collaboration between meteorological and disaster risk management institutions. A CREWS Southern Africa Project will aim to strengthen Hydromet and Early Warning Systems as well as preparedness, early action and response by disaster management offices to hazardous hydromet events across the SADC region. The project will also strengthen the existing regional coordination mechanisms such as the Southern African Regional Climate Outlook Forum (SARCOF), Tropical Cyclone Committee (TCC), Regional Instrument Center (RIC), Regional Training Center (RTC), Regional Specialized Meteorological Center (RSMC), Severe Weather Forecasting Program (SWFP); Flash Flood Guidance System (FFGS), Regional WMO Integrated Global Observing System Center (RWC); to improve lead-time, accuracy, reliability and dissemination of forecasts and warnings of high-impact events. To promote impact-based early warnings that lead to early action, the project will also support strengthening the capacities SADC DRR unit, Climate Centre as well as the SADC Humanitarian Operations Centre (SHOC), by improving timely exchange of risk information and support Member States Preparedness, as well as promote synergies with the Africa Multi-Hazard Early Warning and Action System.
Needs	The need for strengthening MHEWS in Southern Africa has been recently emphasized and driven by the commitment of SADC member states to scaling up MHEWS across the region at the *Ministerial Meeting on Integrated Early Warning and Early Action System Initiative held from 5 to 9 September 2022*. Following this, the Maputo Declaration on the Commitment by SADC to enhance Early Warning and Early Action in the Region was endorsed by the SADC member states. There is a need to support the operationalization of the SADC Humanitarian and Emergency Operation Centre (SHOC) based in Nacala Mozambique that can be linked to the African Union, ACMAD, IGAD ICPAC situation rooms as recognized in the Maputo Declaration. Additionally, some SADC Member States have also requested further support for EWS (Mozambique, Tanzania, Namibia). In line with *Maputo Declaration*, and *the SADC Regional Infrastructure Development Master Plan for Meteorology,* specific weather, climate, and early warning systems priority needs will be addressed under the following areas of a CREWS Southern Africa project: (i) Strengthening the governance of NMHS, ensuring that the necessary strategic and legal frameworks and standard operating procedures are in place for their optimal contribution to EWS; ii) Enhanced capacities for the production and delivery of tailored weather, water, climate and climate change services as well as early warning systems for sustainable development (iii) Strengthening the existing regional coordination and cooperation mechanisms for effective EWS and climate services (iv) improved in-country last-mile dissemination, preparedness and response to multi-risk information and warnings through increased coordination between NMHSs and DRM authorities, and other relevant authorities at the regional, national and provincial level. (v) Improved integration of gender and vulnerable groups across the EW-EA value chain in line with WMO and African Union gender policy.

	In addition, a CREWS Southern Africa project will deploy innovative solutions for nowcasting for EW-EA, by using the latest Meteosat Third Generation (MTG) satellite, following the launch in December 2022. This is in line with the *Abidjan Declaration on new generation of meteorological satellite products* signed in September 2018 in which the African Union Commission, the African Ministerial Conference on Meteorology (AMCOMET) and four African Regional Economic Communities (ECOWAS, IGAD, ECCAS and SADC) have acknowledged the opportunity for the new technology. On 21 October 2021, the 1st Africa Multi Stakeholder forum for Early Warnings and Early Action, held in Namibia, made several recommendations to accelerate the implementation of national lead EW4ALL, among others: promote End-to-End Early Warning Systems to ensure that EWS are comprehensive, covering the entire value chain from hazard detection to community-level communication, using an All-of-Government and All-of-Society approach, ensuring that EWS involve all sectors: and, Conduct Simulation Exercises to test the effectiveness of EWS, improve communication channels, and identify challenges in reaching the most vulnerable populations. Along this line, CREWS Southern Africa will facilitate regional collaboration for inclusive Early Warnings, use of gender and disability sensitive risk information and systematic test of the efficiency of Early Warning and Early Action Value chain through simulation exercise. As part of the EW4ALL Initiative, Southern Africa Member States have developed roadmaps that have a costed set of activities to develop a minimum standard of MHEWS. These costed plans are largely unfunded and require investment. At the same time, many of the investments in MHEWS are fragmented and characterized by intermittent funding cycles, with grants often disbursed in different years and with significant gaps between disbursements. Continuous public funding that enables the functioning of the entire MHEWS value chain is essential to enable continuity of service, maintenance and continuous improvement. CREWS Southern Africa, will support Member state to strengthen financing for EWS in accordance with the five-step approach introduced for DRR financing: 1) scoping, to understanding the financial consequences of disasters and coverage of MHEWS; 2) analyzing the current EWS financing landscape, including through budget tagging and tracking of domestic resources; 3) identifying the MHEWS needs (information gathered through pillar leads and budgeted as per EW Roadmaps) and prioritizing DRR investments (as per EW Roadmaps); 4) matching investments to financial mechanisms; and 5) developing an EWS financing strategy.
Demand	The SADC Maputo Declaration calls on governments to "support and take an active people-centered role to ensure all citizens in SADC are covered by effective Early Warning and Early Action system initiatives. ” Specifically, SADC member states observe: That governments in SADC are at varying stages of preparedness for disasters, especially when it comes to operational coordination, having the necessary legislation on, and multi-sectoral approach to, disaster risk management (DRM); Challenges of the execution of the full value chain of Early Warning to Early Action and emergency response in many SADC Members States; The absence of well-coordinated and fully functional legislation and policies on disaster preparedness including those disasters of a transboundary nature; -Early warning and the establishment of triggers, SOPs, thresholds and better collection, storing and analysis of data as well as open data policy; related to predictive capability can improve responses to the consequences of extreme weather and climate events that lead to disasters. The EU-funded Building Disaster Resilience to Natural Hazards in Sub-Saharan African Regions, Countries and Communities (REG/FED/024-496), implemented by SADC and Global Facility for Disaster Reduction and Recovery (GFDRR), published the report “A regional analysis of weather, climate, and early warning services in Southern Africa” in August 2021. The analysis proposes an action plan “to have NMHSs within the SADC region that are capable to (better) provide impact-based early warning services on climate, weather and water hazards. Based on demand from national actors in these target countries, and opportunities for collaboration, the project will support the institutionalization of the Extreme Heat Governance Framework and Toolkit, https://www.undrr.org/publication/documents-and-publications/extreme-heat-risk-governance-framework-and-toolkit, among national actors will also be advanced with local partners. This toolkit is designed to support decision makers to measure, understand, strengthen and sustain extreme heat risk governance. As a tool supporting

	integrated approaches, it is intended to be applicable at different scales and in and among multiple sectors. The toolkit includes three core tools that decision makers can apply directly: Tool 1: **Assess the Maturity of your Extreme Heat Risk Governance** enables decision makers to systematically evaluate the current state of their extreme heat risk governance systems; Tool 2: **Operationalise Extreme Heat Risk Governance** guides decision makers in fostering cross-sectoral coordination, information-sharing and institutional capacity; and Tool 3: **Plan for Heat Action** guides decision makers in identifying the core components of effective Heat Action Plans (HAPs), alongside good practices and strategies.
Leveraging Potential	A Southern Africa project will synergize directly with a number of other initiatives, including: Euro 20 million – EU-Africa Space Partnership - Space for Early Warning in Africa (SEWA) € 7 million - Focus Africa which supports some climate applications case studies in Mauritius, Malawi, Mozambique, South Africa and the United Republic of Tanzania. € 8 million - EU funded ClimSA project which supports SADC Climate Service Center in line with mandatory functions of a RCC. $ 4 million- CREWS SWIO (Southwest Indian Ocean) and CREWS Central Africa. £ 2,5 million- SADC-WISER Project focusing on nowcasting United Nations Development Programme (UNDP) is preparing Green Climate Fund (GCF) proposals for SADC NMHSs. The recently launched Ocean Decade Africa Roadmap aims to strengthen, as one of its key objectives, multi-hazard early warning systems and community resilience. Particularly with regards to extreme marine events.
Synergies with Ongoing and Pipeline Initiatives	EW4ALL countries: Madagascar, Mauritius, Mozambique

Country and Region (in alphabetical order)	**Southwest Indian Ocean phase 2 (Comoros, Madagascar, Mauritius, Mozambique, Seychelles)**
Already in Pipeline as of 20th SC meeting	Yes

Indicative Budget (in USD millions)	4
Lead Implementing Partner	WMO
Background and Rationale	The CREWS SWIO project is delivering results as planned from the WB side, whereas UNDRR and WMO have held back some activities to ensure alignment with AFD Hydromet / EU RDRM projects (see presentation). With the delays which have affected these projects, there is now a need to extend CREWS SWIO in order to align the implementation timeframe with the one of the GCF. Governments have committed to resilience related policy and investments through the RCRP and DPO programs of the WB. The SWIO CREWS project can align with and maximise the impact of technical assistance through leveraging these investments and policy to make end-to-end EW more reliable.
Needs	The CREWS SWIO phase 1 conducted a thorough analysis of country needs, in close collaboration with EW4All, SOFF and IOC (AFD/GCF/EU). The phase 1 of the project has initiated or piloted multiple solutions, some of which are being supported under WB investments. Others, however, deserve to be further evaluated or implemented under CREWS SWIO Phase 2. This includes, for example, the coastal inundation forecasting in Mauritius, warning dissemination (broadcasting) in Comoros, enhanced use of RSMC products (all countries), finalization of the emergency operations plan in Madagascar, etc. The ongoing Regional Climate Resilience Program through its first operation supports investments for climate resilience (and in particular, hydromet and EW) in Comoros, Madagascar and Mozambique (among the SWIO countries). In addition, WB is supporting policy related lending in Mauritius and potentially in Seychelles that can include Flood early warning and related policy priorities. Given the high priority investments under the RCRP and potentially under DPOs, the need for hydromet and EW related technical assistance that can enhance capacity, address gaps that make the infrastructure investments more viable and sustainable as well as improve access is essential. Further, there is opportunity to strengthen policy related to Hydromet services' cost recovery and mandates related to flood early warning in countries such as Mauritius and Seychelles. UNDRR is supporting Mauritius, Seychelles, Madagascar and Mozambique in establishing disaster loss data collection system based on Delta resilience and improving of risk assessment and mapping for impact based early warning and early action planning. CREWS SWIO will support countries to develop and endors methodologies for loss and damage, operationalize Delta, further improve risk assessment and mapping. On 21 October 2021, the 1st Africa Multi Stakeholder forum for Early Warnings and Early Action, held in Namibia, made several recommendations to accelerate the implementation of national lead EW4ALL, among others: promote End-to-End Early Warning Systems to ensure that EWS are comprehensive, covering the entire value chain from hazard detection to community-level communication, using an All-of-Government and All-of-Society approach, ensuring that EWS involve all sectors: and, Conduct Simulation Exercises to test the effectiveness of EWS, improve communication channels, and identify challenges in reaching the most vulnerable populations. Along this line, CREWS Southern Africa will facilitate regional collaboration

	for inclusive Early Warnings, use of gender and disability sensitive risk information and systematic test of the efficiency of Early Warning and Early Action Value chain through simulation exercise.
Demand	Comoros, Madagascar, Mauritius and Mozambique are developing their EW4All national action plans which clarify country priorities for EW. In addition, Seychelles has developed a strategic plan for the met service (SMA) which focuses on EW. Under Pillar 1 of Mauritius' draft EWS Roadmap, stakeholders identified the need to: i) establish a common platform for storing and sharing risk information, ii) enhance NDMA capacity in collecting, and analysing disaster impact data, and iii) build NDMA capacity to produce, disseminate and use risk information. Similarly, initial consultations with Seychelles NDMA identified their need for an integrated risk information management platform, where baseline data as well as exposure and vulnerability information could be stored and accessed by sectoral ministries and agencies for use in planning and decision-making.
Leveraging Potential	AFD/GCF/EU Hydromet (64.5 million USD, Comoros, Madagascar, Mauritius, Seychelles) EU RDRM (6.85 million EUR, 4 countries) WB DRM Program (96 million, Mozambique) WB RCRP ($158.4 million, Mozambique, Madagascar, Comoros + US$ 9 m for 2 regional entities – SADC &ENTRO); WB RCRP2 ($10m for AU) UNDP WS (5 million USD, Comoros) WB CRP (11.7 million USD, Comoros, Madagascar, Mozambique) WB Post-Kenneth (1.5 million USD, Comoros)] UNDRR Building Resilience and Improving Institutional Capacity in Indian Ocean Island States for DRR (2 million USD - EDF 11 – Specific IOC Envelope) WB Post-Kenneth (1.5 million USD,Comoros) WB Mauritius DPO (Planned) WB Seychelles DPO (Planned)
Synergies with Ongoing and Pipeline Initiatives	EW4ALL countries: Comoros Madagascar, Mauritius, Mozambique All 5 countries also are developing their SOFF readiness package with support from DGM Morocco (Comoros) and SAWS (all others).

The CREWS Initiative gratefully acknowledges the support of:

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