CREWS Project Presentation Note to the Steering Committee		
Project Title	**EW4All multi-stakeholder accelerator in LDCs and SIDS**	
Document Reference	CREWS/GlobalProj/17/EW4ALL	
Geographic coverage	Madagascar, Mauritius, Comoros, Nepal, Kiribati, Solomon Islands, Tonga	
Timeframe	18 months	
Total CREWS Contribution	USD 5.458,639	
Lead Implementing Partner	UN Office for Disaster Risk Reduction (UNDRR)	
	a. Execution	US$ 1,830,300
	b. Fees	US$ 237,939
	c. Total	US$ 2,068,239
Additional Implementing Partners	World Meteorological Organization (WMO)	
	a. Execution	US$ 1,318,938
	b. Fees	US$ 171,462
	c. Total	US$1,490,400
	International Telecommunication Union (ITU) (funding channelled to ITU through UNDRR)	
	a. Execution	US$ 796,460
	b. Fees	US$ 103,540
	c. Total	US$ 900,000
	International Federation of Red Cross and Red Crescent Societies (IFRC) (funding channelled to IFRC through UNDRR)	
	d. Execution	US$ 884,956
	e. Fees	US$ 115,044
	f. Total	US$ 1,000,000
Main objective(s)	The project's primary objectives are to scale up and strengthen national Multi-Hazard Early Warning Systems (MHEWS) efforts in the above-mentioned countries through the implementation of the Early Warnings for All Initiative. Specifically, it aims to: - strengthen the availability, access and use of accurate, timely and disaggregated climate and risk information for MHEWS; - enhance the accuracy and timeliness of weather and climate-related forecasts and warnings;	

	- improve the quality and coverage of multi-hazard early warning communication and dissemination; - promote early and anticipatory action for various weather and climate-related disasters and ensure preparedness to respond capabilities are in place; - strengthen coordination of investments in MHEWS. The project intends to address gaps along the MHEWS value chain, identifying existing capacities and needs, mapping key stakeholders, and leveraging existing initiatives. It spans all four EW4All pillars (risk knowledge; observation, monitoring and forecasting; warning dissemination and communication; and preparedness to respond). The project also aims to monitor and evaluate progress, both within countries and across regions, to enhance governance, accountability, and transparency in the efforts to strengthen MHEWS. The project will adopt a people-centered and inclusive approach, with a focus on engaging specific at-risk communities, such as persons with disabilities and children in the planning and implementation of accessible multi-hazard early warning systems. It will also have a strong gender focus. The project will provide guidance and e-learning modules to ensure the active participation of most at risk groups, including ensuring local and indigenous knowledge provides a foundation for multi-hazard early warning system programming. Additionally, multi-stakeholder fora will facilitate peer-to-peer learning, knowledge sharing, and the building of partnerships.
Project Recipient/ Beneficiary ***(people and organisations at risk who are the intended beneficiaries of the project at impact level)***	The project will directly and indirectly impact over 61 million inhabitants across the seven countries and especially targets the most at-risk communities. The beneficiaries are therefore the populations in the seven countries: Comoros, Kiribati, Madagascar, Mauritius, Nepal, Solomon Islands, and Tonga. These countries were selected based on various criteria, including their exposure to climate-related hazards and the associated disaster risk, the low penetration of information and communication technology (ICT), the high demand for multi-hazard early warning systems, and their potential for leveraging the project's deliverables. The project aims to enhance the capacity and effectiveness of multi-hazard early warning systems in these countries to reduce the risks and impacts of climate-related hazards. The direct beneficiaries include government agencies responsible for disaster management, meteorological and hydrological services, and related line ministries as well as Red Cross / Red Crescent Societies. Furthermore, the project emphasizes inclusivity, with a specific focus on engaging persons with disabilities and women's groups in planning and implementing accessible multi-hazard early warning systems. Additionally, the project seeks to engage various stakeholders, including regional and international organizations, to facilitate peer-to-peer learning, share best practices, and build partnerships. The overall goal is to ensure that every person in these countries, particularly those most at risk, is protected by life-saving early warning systems.
Additional Operational Partners ***(intended direct beneficiaries of the project in the form of increased capacity, products and services the project will deliver)***	UNDRR and WMO as the global leads of Pillar 1 and 2 will work with national disaster management authorities and the National Meteorological and Hydrological Services (NMHSs) in each country. This project will elevate the already-existing work mechanism established by UNDRR and WMO with those two institutions. For the NMHSs, strengthened capacity to monitor and predict weather and climate-related events will lead to improved forecasting models, improved early warning capability, increased public trust, and better-informed decision-making for MHEWS and DRR and the population in their respective countries.

	The project will further enhance capacity of the national disaster management authorities to proactively prepare for and respond to potential disasters, minimizing their impact on communities and infrastructure. By receiving advance notice of impending natural hazards and/or extreme events, they can implement evacuation plans, deploy resources, and coordinate emergency services more effectively. As pillar leads 3 and 4 of the EW4All, the **International Federation of Red Cross and Red Crescent Societies (IFRC)** and the **International Telecommunication Union (ITU)** will support the implementation of the project in line with the EW4All Executive Action Plan 2023-2027 and the provision of National coordination mechanisms in the beneficiary countries. The project will also work closely with public and private Telecommunication regulators and companies and the humanitarian communities. The two are key players in the implementation of the EW4All initiative. They are also to a greater extent potential end-users of the products and services to be delivered by the project	
Initial state of play	a. Vulnerability, exposure to risks, disasters impacts (on people and economy)	Economic and social life in the seven countries under the Early Warnings for All (EW4All) initiative is intricately linked to climate and the natural environment, making them more vulnerable to climate variations and change. While the scale of disaster and climate impacts vary from country to country, the vulnerabilities in these countries stem from common factors: **Topography and Complex Geographies**: Several of these countries possess small land sizes and complex topographies, which often limit where population centers and economic activities can be located. The varied terrain, from low-lying coastal areas to rugged mountainous regions, contributes to natural hazard risks such as droughts, landslides, coastal erosion, and flooding. **Reliance on Climate-Sensitive Economic Activities**: These countries often depend heavily on climate-sensitive sectors like agriculture, fisheries, and tourism, which can be greatly impacted by climatic variations. **Water Dependency**: There is an overwhelming reliance on rainfall for water resources in these countries. Irregular precipitation patterns, exacerbated by climate change, pose significant challenges to water availability. **High Debt Burdens**: Several of these nations carry high public debt burdens, which can limit their capacity to respond effectively to climate-induced disasters. **Limited Hazard Forecasting Capabilities**: In many LDCs and SIDS, the capacity for hazard forecasting and early warnings is limited, which can impede preparedness efforts. **Climate Variability and Emerging Risks**:

		While variations in climate from the norm are expected, recent regional studies warn of emerging climatic conditions that are unfamiliar and unprecedented. Rising sea levels, prolonged droughts, increased heavy rainfall and flooding events, and more frequent extreme events are now becoming the norm, often impacting regions still recovering from prior disasters. Specific risks are associated with hurricanes and tropical storms, intense rainfall events causing flooding, landslides in hilly regions, prolonged droughts affecting agriculture and water availability, coastal erosion, and sea-level rise threatening coastal communities and small island nations. These hazards, when coupled with socioeconomic vulnerabilities and limited capacities to respond, pose a substantial risk to large segments of the population. In the coming decades, climate variability will continue to exert pressure and create impacts that affect key sectors and vulnerable groups and communities. Specific exposure and vulnerabilities vary across different areas within these countries, driven by socioeconomic conditions, infrastructure development, ecosystem health, and access to resources and climate risk information. Disproportionate impacts are experienced by the most at-risk groups, particularly children, women in female-headed households, rural communities, the older persons, persons with disabilities, internally displaced people, migrants, and refugees, etc. Modernized Early Warning Systems are critical in protecting lives, assets, and livelihoods, especially as climate change is expected to heighten hazard levels. Effective anticipatory actions, prevention, disaster management, and community resilience-building efforts are pivotal components of climate change adaptation strategies. These measures are crucial in reducing risks and safeguarding the well-being of both people and ecosystems across these countries. **Average annual loss to disasters:** Madagascar: USD 100+ MLN Mauritius: USD 110 MLN Comoros: USD 5.7 MLN Nepal: USD 21 MLN Kiribati: USD 7.5 MLN (4% of GDP) Solomon Islands: USD 79 MLN (8.7 % of GDP) Tonga: USD 76.8 MLN (18 % of GDP) **Madagascar:**

		Madagascar faces substantial vulnerability due to its high exposure to cyclones, heavy rainfall, and floods. These events lead to loss of life and substantial economic loss. **Mauritius:** Mauritius is vulnerable to cyclones and heavy rainfall, resulting in damage to the economy and infrastructure. **Comoros**: Comoros is prone to cyclones, heavy rainfall, and floods, with an associated risk to people and the economy. **Nepal**: Nepal's vulnerability is mainly due to flash floods. Vulnerable populations, particularly in remote areas, are at risk, affecting the economy and human lives. **Kiribati, Solomon Islands, Tonga:** Coastal inundation poses a severe threat to these island nations, impacting people and economies. Vulnerability is exacerbated by the proximity to the sea.
	b. Status of the MHEWS, DRM institutions and NHMSs, actors / players present	The global landscape of Early Warning Systems (EWS) exhibits both notable progress as well as continuous challenges, as revealed by the latest United Nations Office for Disaster Risk Reduction (UNDRR) report. Approximately 52% of the world, comprising 101 countries, is now covered by EWS, marking a doubling since 2015. However, only 46% of the Least Developed Countries (LDCs) and 39% of Small Island Developing States (SIDS) report the existence of Multi-Hazard Early Warning Systems (MHEWS). Despite the positive trajectory, nearly half of all countries still lack comprehensive EWS coverage. While global average MHEWS scores have improved from 0.33 to 0.47, regional disparities persist, with Africa exhibiting lower scores (0.37). The lowest regional score is reported in the Arab States (0.35). Pillar 1, focusing on risk knowledge, lags behind other pillars, with only 22% of countries globally reporting accessible, understandable, and relevant risk information. However, the interconnected nature of the four pillars of MHEWS—disaster risk knowledge, observations and forecasting, dissemination and communication, and preparedness to respond – implies that early warning systems are only as good as their weakest link. Overall, the global data emphasizes the need for sustained efforts to scale up global implementation of inclusive end-to-end MHEWS and bridge existing gaps along its four thematic pillars.

		Madagascar Due to its extreme exposure to climatic hazards and high vulnerability to the effects of climate change, Madagascar regularly suffers from disasters caused by natural hazards, notably cyclones, floods, extreme temperatures and prolonged droughts, which affect its agricultural resources, infrastructure and the food/nutritional security of its population and livelihoods. In recent years, Madagascar has implemented several MHEWS projects in different parts of the country, saving lives in the process. To illustrate, during the 2022-2023 cyclone season, Madagascar recorded the lowest numbers of deaths and damage among the countries crossed by tropical cyclone Freddy. This clearly shows how vital warning systems are for the country's population and economy, and this initiative comes at just 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 Bureau National de Gestion des Risques et des Catastrophes (BNGRC). On a global level, the World Meteorological Organization (WMO) and the United Nations Office for Disaster Reduction (UNDDR) are working together to develop a disaster risk reduction plan. Despite the above progress, Madagascar still faces challenges in its early warning infrastructure, particularly in remote areas. The National Disaster Risk Management institution is working to improve coordination and communication channels, while the Hydro-Meteorological agency is upgrading its monitoring capabilities to enhance the lead time for warnings. **Mauritius** Mauritius has a strong foundation for early warning systems, supported by a proactive National Disaster Risk Management institution and a robust National Hydro-Meteorological agency. The country has invested in modern technologies and international collaborations to strengthen its capacity to detect and respond to disasters effectively. The country has an early warning system which covers multiple hazards. However, significant effort is required to improve several aspects of the system, including the identification of risk, information management, and investment in equipment. The Republic of Mauritius is the first Small Island Developing State (SIDS) in the Indian Ocean with its own tide and storm surge Early-Warning System for improving preparedness and resilience to events like cyclones. A partnership with Deltares helped the country to develop a storm surge model together with the Ministry of Environment, Sustainable Development, Disaster and

		Beach Management. It predicts where and when a storm surge is to be expected. A fully automated Early-Warning System for incoming storm surge and tide for the Republic of Mauritius is in place, providing enough lead-time to coastal communities in Mauritius, Rodrigues and Agalega Islands to evacuate in case of predicted extreme water levels. **Comoros** Comoros has taken significant steps in strengthening its Multi Hazard Early Warning System (MHEWS), Disaster Risk Management (DRM) institutions, and the National Hydro-Meteorological Service (NHMS). The country has implemented legislative acts related to meteorology and disaster risk reduction, demonstrating a commitment to building resilience against climatic hazards. In terms of observational capacity, Comoros has made progress, although challenges persist, especially in remote areas. The observational network has seen improvements, but certain islands and regions may still lack adequate coverage. Efforts are underway to enhance the delivery of near-real-time observations to the Comoros Meteorological Service. Comoros has identified the need for improved access to impact-based forecasts and a robust system for issuing multi-amplitude warnings. The country is working towards developing suitable tools for producing impact-based forecasts and addressing the current gaps in observational capabilities. The Comoros Meteorological Service operates within the constraints of a limited schedule due to staffing shortages, with a need for additional forecasters. While there are some existing service quality management systems, there is acknowledgment of the need for further effectiveness in achieving the major goals of the Multi-Hazard Early Warning System (MHEWS), focusing on saving lives and minimizing material loss. The delivery of services faces challenges related to internet stability, impacting the reliable provision of information. Services are primarily shared through email, social media, and radio, with considerations for improving the dissemination channels. Despite the progress made, Comoros recognizes the importance of continued efforts to enhance coordination and communication channels, especially in addressing the unique geographical and logistical challenges faced by the country. The collaboration with regional partners and international organizations remains crucial

		for Comoros to strengthen its MHEWS and DRM capabilities further. **Nepal** Nepal has a strong institutional architecture for disaster risk reduction and management, including a 2017 law and establishment of a National Disaster Risk Reduction and Management Agency. The agency also leads a 14-ministry task force on MHEWS, which developed a concept note for the country establishing and implementing an end-to-end, inclusive, and multi-hazard early warning system. The concept note 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. In addition to further support to these gaps, the national consultation for EW4All 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. In light of the many challenges identified, NDRRMA and the accompanying agencies have developed an implementation plan to realize the goals of the EW4All initiative and protect and save lives across Nepal. **Kiribati** Kiribati has implemented legislative acts on meteorology and disaster risk reduction, including a meteorological act and a climate change and disaster act. In its EW4All Rapid Assessment, Kiribati identified its observational capacity as limited, with some atolls lacking coverage. It is crucial to ensure that observations are delivered to the Kiribati Meteorological Service (KMS) in near-real-time, and there are opportunities for improving the frequency of surface and upper air observations. Currently, Kiribati does not receive or utilize observational data from other sources. Furthermore, there is no provision for impact-based forecasts, and access to impact information is practically non-existent, except for drought-related information. The country reports a lack of suitable tools to produce impact-based forecasts and a lack of capabilities to issue multi-amplitude warnings. The KMS operates on a limited schedule due to a

		shortage of staff, primarily forecasters. Additionally, internet stability is low, which hampers the reliable provision of services. Currently, services are mainly shared via email, social media, and radio. Despite having some service quality management systems in place, the KMS considers itself ineffective in achieving the major goals of the Multi-Hazard Early Warning System (MHEWS), which are to save lives and minimize material loss. **Solomon Islands** The Solomon Islands has a legislative act on meteorology, but it needs to be updated. The country's observational capacity is at an intermediate level, but certain islands and remote regions lack coverage. Around 75% of the observing network has been automated, and surface observations are conducted on a 3-hour basis, while upper-air observations are done daily. However, there is limited or no observation capacity for the country's main identified natural hazards. The Solomon Islands does not receive or utilize observational data from other sources, but it does receive guidance products from Regional Specialised Meteorological Centre (RSMC) Madi regarding tropical cyclones and tsunamis. Some capacity for impact-based forecasting exists to provide advice to authorities on disaster risk reduction, but the development of further impact-based forecasts is hindered by limited hardware, software, capacity, and studies. The Solomon Islands Meteorological Service (SIMS) operates on a limited schedule due to a lack of trained staff and is not operational 24/7. The Common Alerting Protocol functions in the delivery of warnings to the public in the Solomon Islands. Internet access is limited and unstable, which poses challenges to the provision of services that are primarily shared through a designated app, email, social media, and radio. Despite having some service quality management systems in place, SIMS considers itself modestly effective in achieving the major goals of the Multi-Hazard Early Warning System (MHEWS), which are to save lives and minimize material loss. **Tonga** Tonga has a legislative act on meteorology that is currently undergoing amendment and updating. The country's observational capacity is at an intermediate level, but certain islands and remote regions lack coverage. The entire observing network has been automated, and surface observations are conducted every 3 to 6 hours, depending on the station. However, Tonga does not conduct upper-air observations, and there is no observation capacity for its main identified natural hazards. The country does not receive or utilize observational data from other sources but relies on forecast products from global and regional centers, including RSMC. There is currently no capacity for impact-based forecasting within the country. The Tonga Meteorology

		Service (TMS) operates 24/7 and is responsible for forecasting, monitoring, and issuing warnings for various hazards, including tsunamis, storm surges, heatwaves, fog, drought, strong winds, tropical cyclones, thunderstorms, rogue waves, rain, lightning, flash floods, and cold waves. Internet access is limited and unstable, which poses challenges to the provision of services that are primarily shared through a designated app, email, social media, TV, and radio. Despite having some service quality management systems in place, the TMS considers itself moderately effective in achieving the major goals of the Multi-Hazard Early Warning System (MHEWS), which are to save lives and minimize material loss.
	c. Projects and programs dealing with MHEWS and hydromet under implementation or preparation	The project will develop synergies with a number of initiatives: • The Agence française de développement (French Development Agency (AFD)) is funding a 74 million USD project titled Building Regional Resilience through Strengthened Meteorological, Hydrological and Climate Services in the Indian Ocean Commission Member Countries (Hydromet Project) with financing from the Green Climate Fund (GCF), EU Intra-ACP program and AFD, to provide investment resources for the IOC Member States. Comoros, Madagascar and Mauritius are all three beneficiaries of this project. • Under the EU-funded Intra-ACP Climate Services Programme (ClimSA), the WMO grant supports provision of advisory services to set up a coordination framework to support operational functions of Regional Climate Centres for ACP Countries (among which Comoros, Madagascar and Mauritius) to deliver climate services to end beneficiaries (private sector, policy makers, farmer associations, universities, etc.) through National Meteorological and Hydrological Services (NMHSs). The expected results are: (i) interaction between the users, researchers and climate services providers through User Interface Platforms; (ii) access to climate services at regional and national level; (iii) capacity to generate and apply climate information and products is enhanced; KNMI is partnering with WMO to implement a climate data management and data sharing tool (ICA&D) in the subregion. • The United Nations Development Program (UNDP) is currently preparing a concept note for the Green Climate Fund (GCF) to provide investment resources to the national meteorological service in Madagascar. • The Southern African Development Community (SADC), with the Development Bank of Southern Africa (DBSA) and the

		Global Water Partnership (GWP), is putting together a project proposal to the GCF for the SADC region, aiming at developing water information systems with DRR as a particular target. This system will upgrade the existing SADC Groundwater and Drought Management Portal, SADC Water Sector International Cooperating Partner Collaboration Portal and SADC Geo Network Portal - Water Datasets. • The World Bank is implementing the Madagascar Disaster Risk Management Development Policy Financing with a Catastrophe Deferred Drawdown Option (Cat DDO), under the Bureau National de Gestion des Risques et des Catastrophes (BNGRC) and the Cellule de Prévention et d'appui à la Gestion des Urgences (CPGU). The project aims at strengthening the government of Madagascar's institutional, technical and financial capacity to manage disaster and climate-related risks. The program is structured around three pillars as follows: Pillar 1 supports the strengthening of the national system for disaster risk management; Pillar 2 supports the strengthening of financial resilience to disasters; and Pillar 3 is supporting the mainstreaming of the disaster and climate resilience into territorial and urban planning. More specifically to MHEWS, the project is supporting the sovereign catastrophe insurance against tropical cyclone risk, as part of its Cyclone MHEWS. The project is also the Government's Social Protection System for disaster response through. The proposed DPF with CAT DDO is expected to help Madagascar meet its immediate need for liquidity in the aftermath of a natural catastrophe. • Nepal: Over the past 20 years, several projects with components related to Flood Early Warning Systems (FEWS), Glacial Lake Outburst Floods (GLOF), and EWS for other hazards have been implemented on an experimental basis. Significant funding has been provided by the GoN, EU, UKAid, USAID, Danida, ADB, and The World Bank. Funding is secured for MHEWS projects through various government ministries, including NDRRMA, MoHA, DHM, and Ministry of Health, among others; As funding is being provided by many donors, multilateral institutions, and partners and channelled through several implementing partners, there is a need for a coordinated approach among partners to avoid overlapping and ensuring identified gaps are filled. • The WMO Severe Weather Forecasting programme (SWFP – ongoing but underfunded) has been operating since 2006 with no external funding in Comoros, Mauritius, Seychelles and Madagascar. The programme will benefit from an update to the technical requirements from NMHSs and civil protection institutions, as well as from enhanced interfaces to

		enable easier use of SWFP products as input for national extreme weather forecast bulletins; • The IOC Hydrological Cycle Observing System (HYCOS) project, which will be implemented as part of the AFD project. Detailed needs for investments and technical assistance for improving water monitoring and data management systems have been agreed upon Nov. 2019 by IOC Member States; - The Africa (RA I) Tropical Cyclone Committee for the South West Indian Ocean developed some specific recommendations to improve the lead time, accuracy and reliability of tropical cyclone forecasting, and to better anticipate storm surge impacts in the region. • The Southwest Indian Ocean Risk Assessment and Financing Initiative (SWIO-RAFI - closed), financed by GFDRR, developed country risk profiles to improve the understanding of disaster risks for Comoros, Madagascar, Mauritius and Seychelles; - The EU 11th EDF Resilience building and Disaster Response Management in the Indian Ocean is currently under preparation, and will be managed by the Indian Ocean Regional Intervention Platform (PIROI), with involvement of UNDRR and the IOC, for an amount of EUR 6.65 million. • USAID Global Project: Hydrometeorological Early Warning and Disaster Risk Reduction • CREWS SWIO: Supporting regional cooperation to strengthen seamless operational forecasting and multi hazard early warning systems at national level in the South-West Indian Ocean (US$ 4 million). Five countries (Comoros - Madagascar - Mauritius - Mozambique – Seychelles) and seven regional centers will work together with a multi-hazard approach to improve warnings and responses to climate, weather, and hydrological events, including tropical cyclones, storm surges, flooding and drought as well as other climate extremes. Local populations at-risk will benefit through enhanced dissemination of warnings, emergency planning, and response capacities. The lead-time, reliability and accuracy of forecasts and warnings will be improved along with enhanced dissemination of warnings. Capacity development in the region will involve WMO Regional Centers, including of the Regional Meteorological Specialized Center (RSMC) La Réunion, specifically accredited for tropical cyclone and related hazards such as wind, precipitation, and storm surge. • CREWS Pacific SIDS 2.0 Project: The ongoing CREWS Pacific SIDS 2.0 Project is focused on strengthening regional and national early warning systems. Activities cover 14 SIDS in the region (Cook Islands, Federated States of Micronesia, Fiji,

		Kiribati, Republic of the Marshall Islands, Nauru, Niue, Palau, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, and Vanuatu). The project is funded by the CREWS Initiative and is contributing to five outcomes: (i) improved governance, (ii) enhanced product development and accessibility, (iii) enhanced service delivery; (iv) enhanced communication awareness; and (v) improved integration of gender across the EWS value chain. The project is implemented by WMO, UNDRR and the WB with the support of SPREP, SPC and the Bureau of Meteorology (BoM). Additional funding, including a project extension have been approved in 2024. **Ongoing Regional Initiatives Complementing the Project:** **Madagascar**: In Madagascar, regional institutions contribute significantly to Early Warning Systems (EWS). The Indian Ocean Commission (IOC), a regional intergovernmental organization, plays a crucial role. The IOC, through its Hydrological Cycle Observing System (HYCOS) project, supports improving water monitoring and data management systems. Moreover, regional collaborations facilitated by the IOC contribute to the overall strengthening of meteorological, hydrological, and climate services in Indian Ocean Commission Member Countries. **Mauritius**: In Mauritius, regional cooperation is evident through the Indian Ocean Commission (IOC), which fosters collaborative initiatives in meteorology and climate services. Additionally, the Southern African Development Community (SADC), while not exclusive to Mauritius, supports projects with a focus on water information systems and disaster risk reduction. The coordination efforts by regional organizations play a vital role in enhancing the effectiveness of Mauritius's Early Warning Systems. **Comoros**: Comoros benefits from regional initiatives led by the Indian Ocean Commission (IOC), particularly the Hydrological Cycle Observing System (HYCOS) project. This collaborative effort addresses Comoros' needs for improved water monitoring and data management systems. The IOC serves as a platform for regional cooperation, contributing to the resilience of Comoros and other member states against climate-related challenges. **Nepal**: Nepal engages in regional partnerships through organizations like the South Asian Association for Regional Cooperation

		(SAARC). SAARC's initiatives related to meteorology and disaster risk reduction contribute to Nepal's efforts in strengthening its Early Warning Systems. Additionally, the regional collaboration emphasizes coordinated approaches among South Asian countries to address common challenges. • In the **Pacific**, the Weather Ready Pacific (WRP) Program aims to reduce the human and economic cost of severe weather events across the Pacific – protecting communities and livelihoods and making a strong positive contribution to the economy of the Region.
	d. Describe the multiplier /leveraging potential of the CREWS investments	The CREWS investments exhibit a substantial multiplier effect by strategically aligning with, and leveraging resources from various ongoing and planned initiatives across the targeted regions, many of which are mentioned under section C. Through collaboration with the Agence française de développement (AFD), the CREWS project taps into a $74 million project focused on enhancing meteorological, hydrological, and climate services in Indian Ocean Commission Member Countries. This synergistic approach ensures that the CREWS project benefits from a larger financial pool, expanding its reach and impact. Additionally, the partnership with the ClimSA Programme reinforces the CREWS initiative's efforts to establish a Regional Climate Centre for Indian Ocean Countries. This collaboration facilitates the delivery of climate services to end beneficiaries through NMHS, contributing to the comprehensive strengthening of Early Warning Systems (EWS) in the region. This CREWS project aligns with initiatives by the United Nations Development Program (UNDP) in Madagascar, where a concept note for the Green Climate Fund (GCF) is under preparation to support the national meteorological service. In Southern Africa, collaboration with the Southern African Development Community (SADC) focuses on a GCF project proposal for developing water information systems with a specific emphasis on Disaster Risk Reduction (DRR). Furthermore, this CREWS project strategically engages with the World Bank's Disaster Risk Management Development Policy Financing in Madagascar, supporting sovereign catastrophe insurance against tropical cyclone risk and contributing to the government's Social Protection System for disaster response. This interconnected approach ensures that the CREWS investments amplify their impact by synchronizing efforts with ongoing initiatives, optimizing the use of available resources, and fostering a collective approach towards building resilience in the targeted regions.

	e. Describe measures to ensure coherence with existing initiatives	The CREWS project employs several measures to ensure coherence with existing initiatives, fostering collaboration and avoiding duplication. A coordinated approach is adopted in the regions, as exemplified in Nepal, where multiple donors, multilateral institutions, and partners fund projects related to Flood Early Warning Systems (FEWS) and other hazards. Recognizing the need for coherence, the CREWS project advocates for a coordinated strategy among partners to identify and fill gaps, ensuring a streamlined and complementary implementation of projects. Regular consultations are conducted with relevant stakeholders, including government ministries, implementing partners, and donors, to align efforts, prevent overlapping, and address identified needs effectively. The WMO component of this project will be implemented in close coordination with the ongoing CREWS Pacific and CREWS SWIO projects, which will ensure the regional coherence of the project, as well as the coordination with other relevant WMO led initiatives and activities, such as the USAID funded Flash Flood Guidance System and Early Warnings for Flood and in alignment with relevant WMO guidelines. In the Indian Ocean region, the CREWS project collaborates with ongoing initiatives such as the WMO Severe Weather Forecasting Programme (SWFP) and the IOC Hydrological Cycle Observing System (HYCOS). By engaging with these initiatives, the CREWS project leverages technical expertise and interfaces, aligning its activities with the technical requirements and advancements proposed by NMHSs and civil protection institutions. The CREWS project also actively participates in regional platforms, such as the Southwest Indian Ocean Risk Assessment and Financing Initiative (SWIO-RAFI), ensuring its activities complement existing efforts in improving disaster risk understanding and resilience. Furthermore, the CREWS project is attuned to the forthcoming initiatives, such as the EU 11th EDF Resilience building and Disaster Response Management in the Indian Ocean and ensures a proactive role in contributing to a common understanding of early warnings investments. Through financial tracking systems and a global observatory, the project aligns with the EW4All Executive Action Plan, promoting coherence and alignment of investments from various sources. The project will also link with the WMO-GCF initiative on Climate Science Information for Climate Action (CSICA). The initiative is aimed at providing SIDS and LDCs with access to new climate information, tools, and guidance to facilitate the generation and use of climate information in support of climate action decisions, recognizing the contribution and value of science-based decision-making in responding to climate change. Technical resources (methodologies, training materials, datasets, etc.) developed

		under the initiative are particularly useful for providing climate risk information for climate relevant EWS strengthening, adaptation planning as well as climate investments and will be made available to the EW4All project. In the Pacific, EW4All will be rolled out in coordination with the regionally led WRP, that was endorsed by Pacific leaders in 2021. Ensuring that EW4All utilizes/builds on existing regional action plans instead of seeking to duplicate, recreate or compete against them is a key priority for all the EW4All partners. Thus, the focus for the remainder of 2023 is to align efforts, and to work with CROP and other relevant partners in the national roll-out of WRP/EW4All from 2024 onwards. These measures collectively underscore the CREWS project's commitment to harmonizing its activities with existing initiatives, creating a synergistic and impactful approach towards building resilient Early Warning Systems.
Project Rationale	a. Who, where and in what ways and to what hazards people and ecosystems are exposed and vulnerable	To effectively scale up and implement the early warning systems in the seven target countries (Mauritius, Madagascar, Comoros, Nepal, Kiribati, Solomon Islands, and Tonga), it is essential to understand the extent and way in which people and ecosystems are exposed and vulnerable to various hazards. This assessment is critical for developing tailored early warning systems and strategies to reduce vulnerability. **Mauritius** Mauritius is susceptible to a range of hazards, including cyclones, floods, and coastal erosion. Approximately 40% of its population resides in coastal areas, making them vulnerable to sea-level rise and storm surges. **Madagascar** Madagascar faces threats such as cyclones, droughts, and locust infestations. Most at risk groups include those residing in drought-prone regions, which can affect the livelihoods of a substantial portion of the population. **Comoros** Comoros is prone to cyclones, volcanic eruptions, and coastal erosion. Most at risk populations are often concentrated in coastal regions, and about 60% of the population lives in areas vulnerable to disasters. **Nepal** Nepal is susceptible to earthquakes, landslides, and flooding, with mountainous regions being particularly vulnerable. Approximately 80% of the population lives in rural areas, and remote mountain villages are at risk due to limited access to resources and support.

		Kiribati Kiribati faces the existential threat of sea-level rise, making its entire population at risk. The nation's 33 atolls and reef islands are all low-lying, putting the country's 120,000 inhabitants at risk. **Solomon Islands** The Solomon Islands are prone to earthquakes, tsunamis, and cyclones. Coastal communities are particularly vulnerable, and an estimated 80% of the population lives in rural areas with limited access to infrastructure and resources. **Tonga** Tonga experiences cyclones, tsunamis, and coastal erosion. Over 70% of Tonga's population lives on the main island, Tongatapu, and is exposed to coastal hazards. In each of these countries, the exposure and vulnerability assessment will consider demographic factors, infrastructure, local economies, and ecosystems. Most at risk groups, such as women, children, older persons, and persons with disabilities, will be given special consideration.
	b. Describe proposed partnerships and approach for stakeholder engagement in design and in implementation	The project adopts a comprehensive approach to partnerships and stakeholder engagement, recognizing the multi-dimensional nature of effective early warning systems. The collaboration spans across the four pillar agencies—UNDRR, WMO, ITU, and IFRC—and involves strategic partnerships with various implementing partners, private sector entities, and national stakeholders. **Partnerships Across Pillar Agencies UNDRR, WMO, ITU, and IFRC**: These key pillar agencies bring distinct expertise to the initiative. UNDRR and WMO contribute to disaster risk reduction and meteorological expertise, ITU brings telecommunications and technology insights, while IFRC contributes its experience in humanitarian response and community engagement. Collaborative decision-making and joint programming ensure a unified approach across all pillars. **Partnerships across implementing partners:** Engaging with a diverse set of implementing partners, including UN agencies such as UNEP, UNDP, FAO, and WFP, as well as industry associations like GSMA, enhances the initiative's reach and impact. These partners bring specific domain knowledge, resources, and networks that complement the expertise of the pillar agencies. **Private Sector Engagement:**

		Inclusion of the private sector, exemplified by Microsoft and potentially others, underscores the importance of technology and innovation in modern early warning systems. Leveraging private sector expertise ensures access to cutting-edge technologies, data analytics, and resources that can enhance the effectiveness of the EW4All initiative. **Country-Level Approach through National Leadership and Coordination Mechanisms:** The project emphasizes the establishment of national stakeholder coordination mechanisms, bringing together relevant agencies at the country level. Encouraging national leadership ensures that decisions are collectively made, fostering a sense of ownership and sustainability. This approach recognizes the importance of local context and tailoring early warning systems to specific national needs. **UN Country Team Support:** The project acknowledges the significance of UN country teams in facilitating the implementation of EW4All at the national level. Collaboration with UN country teams ensures alignment with broader national development priorities and enhances the project's integration into existing frameworks. **Linkage to Existing EWS Projects:** The initiative takes a holistic approach by linking and considering existing EWS projects at the national level. This ensures that the EW4All initiative complements and builds upon ongoing efforts, avoiding duplication and maximizing the impact of collective resources. The approach fosters synergy among various projects, creating a more cohesive and resilient early warning ecosystem. For example, in the Pacific the EW4All country level initiatives will be implemented in alignment with the implementation plan for Weather Ready Pacific. Overall, the proposed partnerships and stakeholder engagement approach reflect a commitment to a collaborative, inclusive, and context-specific strategy, acknowledging the diversity of expertise required for comprehensive EWS in the seven countries.
Project design	a. Project components and activities, including describing what and how people centered, risk informed and gender sensitive approaches	Through the project, effective MHEWS in the seven countries will be strengthened through the implementation of the EW4All Initiative and focusing on improving disaster risk knowledge capabilities, enhancing monitoring and observation, improving warning and dissemination approaches and strengthening preparedness to respond with a special focus on reaching the last mile and including the most at-risk communities. **<u>Project Components</u>**

	will be applied and how people most-at-risk, local actors and organizations will be engaged	**Component 1: Enhanced country capacities to build effective early warning systems** The project will target urgent technical needs identified through national consultative processes. It will support the seven countries (listed above) to take stock of existing capacities and gaps along the EWS value chain, as well as map out key stakeholders and existing initiatives that can be leveraged. The project will then provide technical support, implement existing normative guidelines tailored to country needs, and strengthen national capacities to achieve end-to-end early warning systems that reach the last mile. Country-level work will be conducted on the foundation of specialized normative guidance – tapping into existing resources and sectoral and thematic materials produced by key partners – that will be adapted to national contexts, needs and priorities. All activities will be done as part of an integrated, cross-pillar approach, with a focus on people-centered approaches that reach the local level. Activities will identify best practices for scale-up; assess institutional and operational capacity needs and strengthen identified capacity gaps; strengthen existing governance mechanisms for preparedness to respond across key national and local actors. All project activities will be planned, designed, and implemented through the established joint programming approach between all four pillars. In particular, the pillar leads convene regular (weekly) technical programming and working sessions to coordinate workplans, approaches and activities and to-develop toolkits, modules, and materials. Each of the four pillars will focus on key areas of work, while maintaining a degree of flexibility to adapt to particular country contexts: **Output 1.1: Enhanced Risk Knowledge Capabilities** This output comprises the implementation of Pillar 1 of the EW4All initiative. It will focus on providing technical support to achieve standardized minimum core capability of countries to collect, analyse, produce, and use quality, timely and targeted risk information; helping countries have open access to risk information; Technical and in-service capacity building to ensure relevant actors are able to generate, interpret and use climate and risk information to inform decision-making for early warning. In addition, it will support countries to strengthen monitoring and reporting to Target G as well as develop or strengthen tracking systems for disaster losses and damages. This work will align with and support existing efforts by the national authorities to strengthen DRR, including national DRR/DRM coordination

		mechanisms and national and local strategies for DRR (Target E of the Sendai Framework). The Rollout of Pilar 1 would be structured in the following steps: **1. Convene Pillar 1 Scoping Workshop**: conducting in-depth gap analysis, using Pillar 1 Minimum Core Capability Checklist, to identify key needs and priorities for scaling up national risk knowledge for EWS; to the extent possible, this workshop will draw upon findings of prior EWS engagements in the countries, i.e., the Weather Ready Pacific programme for Tonga, Kiribati, and Solomon Islands. **2. Draft National Risk Knowledge Action Plan**, as part of national EW4All Roadmap and in complementarity with existing national plans (i.e., the Implementation Plan for Weather Ready Pacific). This will serve as a basis to scale-up risk knowledge production, analysis and use for EWS; templates have already been developed as part of EW4All Interpillar Toolkit that can be used where relevant. **3. Provide technical support with national risk information management platform**: one-stop-shop for access to geo-referenced national risk information, including hazard profiles, risk, vulnerability and exposure data, historical disaster loss data, hazard maps, etc. and building on existing platforms wherever possible. **4. Provide technical support with national disaster loss databases & SFM monitoring and reporting (Target G):** provide capacity building on the new generation disaster loss databases and on SFM monitoring and reporting, using existing tools **5. Provide technical support with establishment and operationalization of a situation room** to support the application of risk information to warning processing and dissemination in real time; tool: EW4All Pillar 1 Handbook on Use of Risk Knowledge; action: workshop-based training and provision of direct technical support **6. Incorporating ILK into risk knowledge**: provide workshop-based trainings or other context-specific forms of support towards strengthening the use of indigenous and local knowledge in combination with standard risk assessments in EWS processes. This activity will be supported by specific guidance materials developed by Pillar 1 partners such as GEO Indigenous Alliance. **7. Integration of technology and innovation**: provide workshop-based trainings and direct technical support on the use of

		innovation products (ref. Microsoft AI for Good tool on exposure mapping, etc.) **Output 1.2: Strengthened detection, observation, monitoring, analysis, and forecasting of hazards** This output is focusing on implementation of Pillar 2 of the EW4All initiative, which aims to empower countries to monitor and forecast priority hazards as well as generate and disseminate impact-based, actionable early warnings to save lives, protect property and livelihoods. As WMO is currently implementing CREWS activities in all but one project countries, this investment will leverage and build on activities that are implemented in the SWIO and Pacific region. This will be done through the coordination with the CREWS SWIO and CREWS Pacific Projects as well as the Global USAID MHEWS project, with Flash Flood Guidance System (FFGS) and Early Warning Services for Flood (EWS-F) and HydroSOS in Bangladesh-Nepal (under development). . Activities will also take into consideration investments made under SOFF and leverage existing surveys and questionnaires, in coordination with the SOFF peer advisors. The investments under output 1.2 will also leverage the activities under the WMO Regional Centres including Regional WIGOS Centre, Regional Training Centre, and Regional Specialized Meteorological Centres. With the limited project investments in Nepal, specific activities are planned for this country. Activities across the seven countries will include the following: Increase the availability of quality observation data to assess and monitor priority hazards as demonstrated through enhanced data exchange. Increase capabilities to utilize regional and global forecast products to better forecast and issue warnings for priority hydromet hazards through attachment and in-country training Increase capacity for issuing Impact-based forecasts and warnings produced for all priority hazards (including trigger development with different stakeholder groups) Additional activities, specifically tailored to the needs of Nepal will include the following: **Supplemental gap analysis for priority hazards:** Covering GLOF, flash and riverine floods, landslides/mudslides; and avalanche **Capacity building:** Translation of the “COPE Disaster Champions” books for children in the local language *Nepali* to strengthen preparedness and response capability to warnings of children and youth. **CAP Mainstreaming**: Mainstreaming of Common Alerting Protocol (CAP) into the Standard Operation Procedures

		Output 1.3: Improved Warning dissemination and Communication This output comprises the implementation of Pillar 3 of the EW4All initiative. This project will support the provision of the necessary technical inputs towards strengthened EW and risk communication and dissemination channels to effectively alert the populations at risk. An assessment of available communication channels will be carried out, with the involvement of all relevant stakeholders (including the mobile network operators, broadcasters, local community and civil society organisations, NGOs, etc.). This assessment should consider all existing assessments and available information, as well as available locally-led feedback mechanisms to improve the warning and dissemination systems. An expert will deliver a report to highlight last mile communication opportunities, including the opportunities of implementing a mobile early warning system, and define other key channels such as sirens, radio broadcasting, and community-based early warning systems (and others) in areas not covered by mobile services. Technical expertise will be delivered to outline the most trusted and efficient technologies and channels, and intermediaries (journalists, etc.) to reach the entire population. This will include a cost-estimate on setting up the mobile early warning system, support on developing bidding documents, and deliver advice on a possible regulatory approach that could help these countries make progress. Support to these countries will also promote the use and implementation of Common Alerting Protocol (CAP) across warning systems to ensure the consistency of alerts across channels. The following activities will be conducted under pillar 3: 1. Country level assessment on the availability, efficiency, and coverage of mobile networks to identify gaps and priorities. • Civil society and media and community level partners will be consulted to identify existing communication channels and gaps. 2. technical and regulatory assistance on the implementation of cell-broadcast (CB): • Raising awareness about how CB works and what is needed to implement. • Bringing together stakeholders (e.g. disaster management agency, mobile network operators,

		telecom regulator etc) to assess the existing system and identify gaps and priorities to set up CB. • Support with the development of the bidding/tender document, which will include an economic scope/financial assessment of the cost of this implementation. • Conduct legal analysis of the regulations in place, and if appropriate and necessary, propose modifications to the regulatory framework to implement an EWS based on CB and other means of alert diffusion. 3. Training on the use of the Common Alerting Protocol (CAP) to ensure consistency between alerting messaging. **Outcome 1.4: Enhanced preparedness to respond** This output comprises the implementation of Pillar 4 of the EW4All initiative. The project focuses on translating early warnings of climate hazards into actions that save lives and livelihoods. This pillar focuses on scaling-up and replicating best practices in preparedness and early/anticipatory action, to enable aligned early actions in most at-risk communities. This includes ensuring that disaster risk management systems and plans include provisions for early/anticipatory action, including thresholds, lead times, triggers, roles and responsibilities of institutions and actors at all levels to enable taking actions such as evacuation, strengthening of infrastructure, pre-positioning of essential stocks and supplies based on early warnings before disasters hit. The pillar seeks to strengthen preparedness capacities, systems and procedures of local governments, responders and vulnerable communities through training and equipping them to respond based on integrated community and national EWS and communications developed under the other pillars 1, 2 and 3. The following activities are envisaged under Pillar 4: 1. **Complete Pillar 4 analysis on gaps and priorities**: where needed, conduct more in-depth gap analysis for Pillar 4 to identify key needs and priorities for scaling up preparedness and early/anticipatory action, including based on (1) consultation(s)/workshop(s), (2) a review of existing national disaster / emergency preparedness and response plans (to ensure an adequate reflection of early/anticipatory action elements, and identify any early/anticipatory action planning gaps and needs) and (3) a review of the coordination mechanisms/ systems in place at all levels to ensure that roles and responsibilities for preparedness and response to warnings are clear and actionable 2. **Finalize Pillar 4 elements of National EW4All Roadmap**, including budgeting of activities, as the national action

		plan to strengthen preparedness and early/anticipatory action capabilities and to feed into a national financing strategy and project proposals 3. **Provide training and capacity strengthening** on preparedness and early/anticipatory action to relevant stakeholders, with a focus on local governments, responders and vulnerable communities 4. **Organize test(s) and simulation(s)** to test effectiveness of existing relevant contingency/preparedness/anticipatory action plans, including testing how early/anticipatory action is taken based on triggering of early warning 5. **Resource mobilization** to fund Pillar 4 activities, leveraging this grant, e.g. development of Pillar 4 elements of inter-pillar / joint proposals and Pillar 4 specific proposals, based on national financing strategy 6. **Implementation of a limited set of priority activities identified in the Pillar 4 component of the National EW4All Roadmap,** based on a prioritization by Pillar 4 coordination group in each country of which activities could already be advanced using the CREWS grant (priority activities that fall within the budget available for this) 7. **Technical support for development and implementation of above activities**: Support to the 7 National Societies to lead and coordinate the above activities and to IFRC to provide technical support to the 7 National Societies **Component 2: Enhanced capacities to monitor and evaluate Multi-Hazard Early Warnings Systems progress and impacts at the global and country level** Monitoring, evaluation, and learning are critical for understanding the effectiveness of the initiative. This project will contribute to the joint comprehensive monitoring and evaluation strategy for the Early Warning for All initiative that allows for tracking interpillar progress and results in a timely and transparent manner. A Working Group on Monitoring and Evaluation (WG-M&E), co-led by UNDRR and WMO and comprised of Pillar leads and implementing partners is coordinating the monitoring and reporting of the Initiative, thereby contributing to its transparency and accountability. This project will help provide technical oversight to the work associated with this working group, including the further elaboration of the EW4All monitoring framework, expanded tracking of indicators and enhanced analysis. A key aspect will be to ensure alignment of CREWS monitoring efforts to EW4All work, thereby streamlining data collection and facilitation of overall reporting.

		Results of the monitoring and evaluation process will be shared publicly through the EW4All Dashboard that provides regular information on the progress in the initiative based on the agreed monitoring framework, and annual progress reports on early warning advances. National capacities to monitor their progress, and contribute to global progress assessments, including through Sendai Framework Monitor, will be enhanced. Methodological advances will be made to develop a maturity index to track progress of countries from minimum to advanced MHEWS capability for all four pillars. In addition, this project will support UNDRR and WMO to establish a common understanding of what early warnings investments are (taxonomy), track and tag the current and future investment paradigm vis-à-vis early warnings through a global observatory, and to identify who are investing in early warnings, where these investments are going and towards what actions. This financial tracking system responds to the EW4All Executive Action Plan call for increased coherence and alignment of existing and planned investments from international financing institutions, capital markets and the public sector. The tracking system will help ensure investors/donors are fully aware of ongoing and future investments and avoid duplication and build complementarity. The information gathered about EWS investments will be visualized through a public observatory and will be publicly available to support all partners working in EWS financing, development, and use. Furthermore, it will allow for better understanding of the early warnings value chain financing gap, thereby allowing for prioritization of funding for the most at need components of early warning within and across countries. To support alignment of funding in the seven target countries, UNDRR and WMO will produce analysis of the funding available and will contribute to efforts to align existing and pipeline funding to gaps identified through the project. Additionally, a more detailed taxonomy will be developed for pillar 2 to analyse the WMO portfolio and investments in Pillar 2 at regional level in further details. The taxonomy will be also applied to the regional platforms such as the Africa Partners Coordination of WMO. **Component 3: Ensured inclusive national early warning systems and an inclusive and participatory global engagement to catalyze action**

		Outcome 3.1 Ensured inclusive national early warning systems and an inclusive and participatory global engagement to catalyze action. Persons at risk, notably persons with disabilities and women's groups are key critically important stakeholders in successful MHEWS. Targeted efforts will be undertaken to engage these stakeholder groups in planning, design and implementation of the EW4All initiative to ensure it is inclusive and accessible to all. Concrete activities will include: 1) undertaking consultations at global and regional platforms on what constitutes an accessible early warning system. This activity involves conducting consultations to determine the characteristics of an accessible early warning system. These consultations will occur at both regional and global levels and will include additional discussions focused on the needs of specific groups, including women with disabilities, youth with disabilities, persons with intellectual disabilities, persons with psychosocial disabilities, and deaf individuals. The four pillar leads, namely UNDRR, WMO, ITU, and IFRC, will actively participate in the design of these consultations. As part of this effort, three regional consultations will be conducted as side events during the Regional Platforms for Disaster Risk Reduction (DRR) in the Asia-Pacific, Arab States, and Africa regions in 2023. These consultations will inform the development of an accessible early warning system. 2) Endorse and implement guide for Gender and Disability Inclusive Warnings building on the example of the Gender and Disability guidelines developed through the CREWS Pacific Project. The ultimate objective is to launch these guidelines at the Global Platform in May 2025, held in Geneva. As part of this effort, the guidelines will be translated into French, Spanish, and Arabic languages, and an easy-to-read version will be prepared to ensure broader accessibility. The guidelines will be implemented in the CREWS EW4ALL identified countries. **Outcome 3.2 Ensured inclusive national early warning systems and an inclusive and participatory global engagement to catalyze action** To ensure periodic stock taking, inclusive participation and active engagement of governments and a wide range of stakeholders, UNDRR and WMO, will co-convene *EW4All Multi-Stakeholder Fora*. As such, MSFs will aim at ensuring ownership of the initiative, valuing previous investments and established capacities, enhancing the related coordination mechanisms and its sustainability beyond the duration of the initiative. The fora will take place in the context of the regional and global platforms for disaster risk reduction. These fora will provide multiple opportunities for peer-to-peer and cross-regional learning, sharing of good practices and experiences, renewing existing and building new partnerships and identifying ways to close remaining gaps. UNDRR and WMO will build on existing platforms, mechanisms, and partnerships to organize the fora. The regional

		ones are expected to take place during in 2024 and the global in June 2025.
	b. Work plan	Provided in attachment

Organization and operating procedures	a. Institutional framework (Describe the planned project management set up and how all the organisations involved in implementing the project will work together. Give a brief description of each partner/actors key roles by component)	The EW4All Initiative is based on a strong connection between the four components of MHEWS, ensuring that the full cycle works together towards effective EWS. To this end, the initiative incorporates multiple levels of partnerships and a coordinated institutional framework that spans the global, regional and country level. The project will therefore be implemented through the existing coordination structures of EW4All, as described below. Project implementation will further adhere to the CREWS Operational Procedures, and the Monitoring, Evaluation, Accountability and Learning (MEAL) Framework ensuring consistency and alignment with established best practices. The governance & coordination structure for this project will be as follows: At the global programming level, the EW4All initiative operates through an Interpillar Technical Working Group (ITCG), a mechanism that convenes weekly to ensure seamless collaboration between the four pillars – UNDRR, WMO, ITU, and IFRC. This mechanism will be used to directly coordinate and monitor project implementation. In addition, each pillar lead agency conducts bi-weekly meetings with their respective implementing partners to plan and develop intra-pillar activities. These meetings will be used to secure wider participation and stakeholder engagement into the project implementation. Furthermore, Pillar leads conduct regular meetings with their respective regional offices, which will also serve to coordinate project implementation. Finally, national-level activities will be jointly implemented by all four pillars, emphasizing close coordination with implementing partners and key stakeholders at regional and national levels. • Pillar 1 is led by UNDRR and comprises: FAO, GEO Secretariat, IOM, Microsoft, REAP, IFRC, UNEP, UNICEF, UNFCCC and WMO as implementing partners. • Pillar 2 is led by WMO and comprises: IMO, UNDP, UNESCO and UNEP as implementing partners. • Pillar 3 is led by ITU and comprises: IFRC, IOM, UNDP and WMO as implementing partners.

		• Pillar 4 is led by IFRC and comprises REAP, OCHA, FAO, WFP and UNICEF, UNDP and IOM as implementing partners. At the national level, the government is nominating an official EW4All focal point who will facilitate implementation. The latter will be supported by a national UN focal point, nominated by the UN Resident Coordinator's Office. Key stakeholders are: National Disaster Management Agencies, National Hydro-Meteorological Services, National Statistical Offices, Ministries of Information and Communication, Information and Communication Technologies (ICT) Regulators, Ministries of Agriculture, Infrastructure, Health, Education, Environment, etc., as well as the regulatory telecommunication authority, civil society organizations and non-governmental organizations active in EWS, private sector, including the mobile network operators (MNOs) and GSMA. At the regional level, key partners include: Regional Economic Commissions, IGAD, ICPAC, African Union Commission, CDEMA and others. These will play an important advocacy and awareness role as well as ensure country commitment, regional alignment and support country-level implementation. An efficient mode of communication has been established which channels information between the global programming level and the national and regional level of project implementation, based on country progress pages, update spreadsheets, clear reporting roles and responsibilities and regular update meetings. As per standard practice and in line with CREWS Operating Procedures, the CREWS Steering Committee will nominate experts which will provide oversight in the project implementation with the support of the CREWS Secretariat.
	b. Monitoring and evaluation system	Monitoring and Evaluation in this project will take place on two levels: Firstly, this project will contribute to the joint comprehensive Monitoring and Evaluation framework for all EW4All pillars that allows for tracking interpillar progress and results appropriately. This will also enhance and improve the overall EW4All governance and communicate with the global community, national governments, and partners in a transparent and effective manner, while contributing to global reporting. Further, UNDRR and WMO are tracking and tagging current and future EWS investments to establish a taxonomy to develop a common understanding of who is investing in early warning, where are these investments going and for what actions. This will complement progress assessed through Target F (inflow of

		MHEWS financing) and Target G (progress in MHEWS) of the Sendai Framework. Secondly, on the project level with the multi-country approach, the implementing partners will ensure regular reviews of the progress achieved in each of the seven countries. There will be continuous monitoring, and recording of lessons learnt that will be reported back to the CREWS Steering Committee. At the end of the 2 years, there will be an evaluation of the approach and the results obtained. The tracking and monitoring of progress will be in line with the CREWS Monitoring and Evaluation procedures and aligned with the CREWS MEAL framework.
Project viability and sustainability	a. Main identified risks	**Strategic Risks** In the context of the seven countries under consideration, strategic risks are a significant concern, particularly the persistent threat of natural hazards, including hurricanes, heavy rainfall, and flooding. These risks are most pronounced during the specific regional seasons prone to these hazards. The potential consequences encompass delays in project implementation and disruptions, which could also affect the project's scope (risk level: low to medium). To address these risks, the project has adopted various mitigation measures, such as maintaining regular communication and collaboration with regional implementing partners, ensuring flexibility in project execution, avoiding in-person meetings during high-risk seasons, and prioritizing expedited implementation during periods of lower hazard risk. **Operational Risks** Operational risks stem from factors like the level of commitment to coordination and collaboration at both the national and regional levels, which might influence project implementation speed (risk level: medium). A primary mitigation measure involves implementing a highly participatory approach to secure buy-in and ownership from the involved countries. Furthermore, concerns revolve around inadequate resources or low commitment to project implementation by participating National Meteorological and Hydrological Services (NMHS) and National Disaster Risk Management Organizations (NDMOs). This could potentially lead to slower implementation, unsustainable use of project funds, and unsatisfactory project outputs. To mitigate these issues, a key strategy is to ensure country ownership of project activities and to include precautionary measures in agreements with partners. **Financial Risks** Financial risks are associated with the possibility of insufficient funding for project activities. This could particularly impact in-country follow-up and technical support activities (risk level:

		medium). In response to this, the project has adopted a collaborative approach involving key stakeholders, including the WMO, UNDRR, and other partners. A strategy employed is the consolidation of coordination of activities and timeframe under the Interpillar Technical Coordination Group to ensure efficient planning and fund utilization. **Opportunities** Within the context of the seven countries, this project offers an excellent opportunity for continuous learning, particularly in response to scaling up end-to-end EWS. It presents an avenue to address existing gaps and provide relevant support to the countries according to national needs and priorities.
	b. Critical assumptions	In order to achieve the project objectives, the following assumptions are made, which are critical for project success: • Strong interest and engagement from NMHSs and NDRMO's and other relevant stakeholders in the countries. • Openness and willingness to collaborate internationally, regionally, and nationally. • Readiness of all partners to work in a coordinated, cooperative and solution-oriented way • Strong and collaborative working relationships between all implementing partners – WMO, UNDRR and also IFRC and ITU, as well as the wider pillar partners.
	c. Judgment on the project sustainability	Sustainability of the project in the seven countries will be cultivated through various channels and approaches: • **Building Upon Previous Success**: The project aims to leverage the outcomes of previous and other ongoing work on EWS in the countries, including on prior CREWS initiatives by synchronizing and harmonizing efforts to address persistent gaps and challenges, with a heightened focus on a people-centered approach. • **Ownership and Engagement**: Ensuring ownership of the project by national actors such as NMHSs, and NDMOs during the project's development and implementation phases is a cornerstone of sustainability. Stakeholder participation and engagement at all project stages are regarded as vital factors for success and the longevity of investments. • **Alignment with Regional Initiatives**: To prevent fragmentation of efforts and ensure mid-term sustainability, the project will align with ongoing and planned regional initiatives. Collaboration with regional bodies such as the African Union, the Regional Economic Commissions, and others will be pursued to foster a cohesive approach. • **National Strategic Plans and Policy Development**: Support will be provided for the development of national strategic

		plans and frameworks related to weather, water, and climate services, as well as meteorological and disaster risk legislation and policy. These initiatives will bolster the roles and mandates of NMHSs and NDRMOs in the long run • **Mobilizing Domestic Resources**: During project implementation, efforts will be made to mobilize domestic resources to sustain initiatives beyond the project's conclusion. Advocacy at high levels of national governments will be carried out to secure regional and national support, ensuring the continued sustainability of investments. • **Recognizing the Return on Investment**: Given the significant economic impact of disasters, investing in MHEWS is considered highly cost-effective. By enhancing Early Warning Systems (EWS), the project contributes to building measurable value, aligning with findings that highlight the advantageous benefit-cost ratio of strengthening EWS. Further studies have indicated substantial regional economic benefits, with an average return on investment ranging from 3 to 15 times per dollar invested. • **Alignment with National and Regional Strategies**: To further sustainability, the governance mechanisms established will align with national and regional strategies, including National Development Plans, National Adaptation Plans, National Strategies for Disaster Risk Reduction, and Comprehensive Disaster Management Strategies of relevant regional organizations and bodies.

Attachment 1: Budget Breakdown (USD)

Component 1 - Direct Country Support							
Output		**Activities**[1]	**Budget per Implementing Partner (USD)**				**Lead Agency**
			UNDRR	WMO	ITU	IFRC	
1.1 Enhanced National Risk Knowledge Capacities: countries equipped with the essential core capabilities for the systematic collection, analysis, production, and utilization of quality, timely, disaggregated and tailored risk information to support effective early warning systems.	1.1.1	Conduct Pillar 1 Workshop: Organize foundational Pillar 1 workshop to take stock of the current status of risk knowledge, institutional arrangements, paired with a rigorous gap analysis to review the current practices of producing and managing risk information in support of early warning systems.	104 000				UNDRR
	1.1.2	Compile national risk knowledge enhancement plans (within context of national EWS roadmaps), based on capability gap analysis	51 800				UNDRR
	1.1.3	Conduct capacity development on risk assessment and impact-based forecasting: Provide stakeholders with tools, trainings and capacity development for multi-hazard risk assessments to fill information gaps and to conduct impact-based assessment	78 000				UNDRR
	1.1.4	Risk information platforms & open-source software: Provide assistance, as required, to national entities to reinforce standardized georeferenced risk information platforms and promote the adoption of open-source software for a broader reach and efficacy, including for impact-based forecasting.	156 000				UNDRR
	1.1.5	Conduct capacity building on use of risk information: in the context of a Pillar 1 workshop, provide training to EW stakeholders on the use of risk knowledge along the early-warning value chain	104 000				UNDRR

[1] The specified activities are intended to be implemented in all five countries and remain to be adapted and tailored in accordance to changing country needs and priorities.

	1.1.6	Strengthen disaster loss databases: Strengthen national capacities to collect, manage and analyse granular disaster impact data, ensuring alignment with the Sendai Framework and applying data standards - through the rollout of the new generation of DLD	182 000				UNDRR
	1.1.7	Strengthening Indigenous and Local Knowledge integration into broader risk information through dedicated workshop, foster partnerships with ILK stakeholders, and advocate for their inclusion in all aspects of risk reduction and preparedness efforts.	78 000				UNDRR
1.2 Strengthened detection, observation, monitoring, analysis, and forecasting of hazards	1.2.1	Increase the availability of quality observation data to assess and monitor priority hazards as demonstrated through enhanced data exchange		245 000			WMO
	1.2.2	Increase capabilities to utilize regional and global forecast products to better forecast and issue warnings for priority hydromet hazards through attachment and in-country training		312 979			WMO
	1.2.3	Increase capacity for issuing Impact-based forecasts and warnings produced for priority hazards (including trigger development with different stakeholder groups)		345 000			WMO
	1.2.4	Nepal: Gap Analysis; and supplemental gap analysis for priority hazards (GLOF, flash and riverine floods, landslides/mudslides; avalanche)		40 000			WMO

	1.2.6	Nepal: Translation of “COPE Disaster Champions” in local language		20 959			WMO
1.3 Warning dissemination and Communication	1.3.1	Country level assessment on the availability, efficiency, and coverage of mobile networks to identify gaps and priorities.			166 460		ITU
	1.3.2	Support with the development of the bidding/tender document, which will include an economic scope/financial assessment of the cost of this implementation.			210 000		ITU
	1.3.3	Training on the use of the Common Alerting Protocol (CAP) to ensure consistency between alerting messaging.			70 000		ITU-WMO-IFRC
	1.3.4	Technical assistance for countries to set up cell broadcast			210 000		ITU
1.4 Preparedness to respond	1.4.1	Complete Pillar 4 analysis on gaps, needs and priorities				150 000	IFRC
	1.4.2	Finalize Pillar 4 scale-up plan (within context of National EW4All Roadmap), including funding requirements, based on gap analysis				41 160	IFRC
	1.4.3	Training and capacity strengthening on Pillar 4				144 160	IFRC
	1.4.4	National and local level simulations				130 160	IFRC
	1.4.5	Resource mobilization to fund Pillar 4 activities set out in National Roadmap/Pillar 4 scale-up plans				89 360	IFRC

	1.4.6	Implementation of selected priority activities in National Pillar 4 roadmap				64 676	IFRC
Component 2 -Monitoring & Evaluation and financial tracking							
Output		**Activities**	**Budget per Implementing Partner (USD)**				**Lead Agency**
			UNDRR	WMO	ITU	IFRC	
2.1 M&E of EW4ALL	2.1.1	Establish EW4ALL dashboard	20 000	70 000			UNDRR-WMO
	2.1.2	Conduct analysis for global status reports on EW4ALL	45 000	10 000			UNDRR-WMO
	2.1.3	Develop a maturity index for EW4ALL	20 000	70 000			UNDRR-WMO
	2.1.4	Enhance capacities on M&E for EW	25 000	5 000			UNDRR-WMO
2.2 Financial Tracking & Alignment	2.2.1	Global observatory development	60 000	120 000			UNDRR-WMO
Component 3 - Ensuring inclusive national early warning systems and an inclusive global engagement							
Output		**Activities**	**Budget per Implementing Partner (USD)**				**Lead Agency**
			UNDRR	WMO	ITU	IFRC	
3.1 establish inclusive early warning systems, engaging persons with disabilities and women's groups in planning, designing, and implementing initiatives	3.1.1	Consultations on Accessible Early Warning Systems	76 000				UNDRR
	3.1.2	Global endorsement and Implementation of Gender and Disability Inclusive Warnings Guide	92 000				UNDRR

3.2 Catalysing Action through Multi-stakeholder Fora	2.2.1	Organize one-day multistakeholder forum at regional level	325 000	80 000			UNDRR-WMO
Project Management							

		Costs	**Budget per Implementing Partner (USD)**				
			UNDRR	WMO	ITU	IFRC	Total
		Project Management	413 500		140 000	265 440	818 940
		Total Components	1 416 800	1 318 938	656 460	619 516	4 011 714
		sub-total	1 830 300	1 318 938	796 460	884 956	4 830 654
		Fee	237 939	171 462	103 540	115 044	627 985
		Total	2 068 239	1 490 400	900 000	1 000 000	5 458 639

Attachment 2: Timeline for implementation

Component 1 - Direct Country Support											
Output		**Activities**	**2024**				**2025**				
			Q 1	**Q 2**	**Q 3**	**Q 4**	**Q 1**	**Q 2**	**Q 3**	**Q 4**
1.1 Enhanced National Risk Knowledge Capacities: countries equipped with the essential core capabilities for the systematic collection, analysis, production, and utilization of quality, timely, disaggregated and tailored risk information to support effective early warning systems.	1.1.1	Conduct Pillar 1 Workshop: Organize foundational Pillar 1 workshop to take stock of the current status of risk knowledge, institutional arrangements, paired with a rigorous gap analysis to review the current practices of producing and managing risk information in support of early warning systems.								
	1.1.2	Compile national risk knowledge enhancement plans (within context of national EWS roadmaps), based on capability gap analysis								
	1.1.3	Conduct capacity development on risk assessment and impact-based forecasting: Provide stakeholders with tools, trainings and capacity development for multi-hazard risk assessments to fill information gaps and to conduct impact-based assessment								
	1.1.4	Risk information platforms & open-source software: Provide assistance, as required, to national entities to reinforce standardized georeferenced risk information platforms and promote the adoption of open-source software for a broader reach and efficacy, including for impact based forecasting.								
	1.1.5	Conduct capacity building on use of risk information: in the context of a Pillar 1 workshop, provide training to EW stakeholders on the use of risk knowledge along the early-warning value								

		chain (tool: CIMA Handbook & associated modules)								
	1.1.6	Strengthen disaster loss databases: Strengthen national capacities to collect, manage and analyse granular disaster impact data, ensuring alignment with the Sendai Framework and applying data standards - through the rollout of the new generation of DLD								
	1.1.7	Strengthening Indigenous and Local Knowledge integration into broader risk information through dedicated workshop, foster partnerships with ILK stakeholders, and advocate for their inclusion in all aspects of risk reduction and preparedness efforts.								
1.2 Strengthened detection, observation, monitoring, analysis, and forecasting of hazards	1.2.1	All target countries: Increase the availability of quality observation data to assess and monitor priority hazards as demonstrated through enhanced data exchange								
	1.2.2	All target countries: Increase capabilities to utilize regional and global forecast products to better forecast and issue warnings for priority hydromet hazards through attachment and in-country training								
	1.2.3	All target countries: Increase capacity for issuing Impact-based forecasts and warnings produced for all priority hazards (including trigger development with different stakeholder groups)								
	1.2.4	Nepal: Finalize and validate observation assessment: Gap Analysis; and supplemental gap analysis for priority hazards (GLOF, flash and riverine floods, landslides/mudslides; avalanche)								
1.3 Warning dissemination and Communication	1.3.1	Country level assessment on the availability, efficiency, and coverage of mobile networks to identify gaps and priorities.								

	1.3.2	Support with the development of the bidding/tender document, which will include an economic scope/financial assessment of the cost of this implementation.								
	1.3.3	Training on the use of the Common Alerting Protocol (CAP) to ensure consistency between alerting messaging.								
	1.3.4	Technical assistance for countries to set up cell broadcast								
1.4 Preparedness to respond	1.4.1	Complete Pillar 4 analysis on gaps, needs and priorities								
	1.4.2	Finalize Pillar 4 scale-up plan (within context of National EW4All Roadmap), including funding requirements, based on gap analysis								
	1.4.3	Training and capacity strengthening on Pillar 4								
	1.4.4	National and local level simulations								
	1.4.5	Resource mobilization to fund Pillar 4 activities set out in National Roadmap/Pillar 4 scale-up plans								
	1.4.6	Implementation of selected priority activities in National Pillar 4 roadmap								

Component 2 -Monitoring & Evaluation and financial tracking

Output		Activities	2024				2025			
			Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
2.1 M&E of EW4ALL	2.1.1	Enhance and maintainEW4ALL dashboard								
	2.1.2	Conduct analysis for global status reports on EW4ALL								
	2.1.3	Develop a maturity index for EW4ALL								
	2.1.4	Enhance capacities on M&E for EW								
2.2 Financial Tracking & Alignment	2.2.1	Global observatory development								

	2.2.2	National Support								
Component 3 - Ensuring inclusive national early warning systems and an inclusive global engagement										
Output		**Activities**	**2024**				**2025**			
			Q 1	**Q 2**	**Q 3**	**Q 4**	**Q 1**	**Q 2**	**Q 3**	**Q 4**
3.1 establish **inclusive** early warning systems, engaging persons with disabilities and women's groups in planning, designing, and implementing initiatives	3.1.1	Consultations on Accessible Early Warning Systems								
	3.1.2	Global endorsement and Implementation of Gender and Disability Inclusive Warnings Guide								
3.2 Catalysing Action through Multi-stakeholder Fora	3.2.1	Organize one-day multistakeholder forum at regional level								

Attachment 3: Logical framework (see separate word document)

Attachment 4: References

Acronyms

ACP : Africa, Caribbean and Pacific Group of States
AFD : French Development Agency (*Agence Française de Développement*)
BNGRC: Bureau National de Gestion des Risques et des Catastrophes
CAP : Common Alerting Protocol
CAT DDO: Catastrophe Deferred Drawdown Option
CB: cell-broadcast
CDEMA: Caribbean Disaster Emergency Management Agency
CPGU: Cellule de Prévention et d'appui à la Gestion des Urgences
CSICA: Climate Science Information for Climate Action
CREWS : Climate Risks & Early Warning Systems
DBSA : Development Bank of Southern Africa
DRM : Disaster Risk Management
DRR: Disaster Risk Reduction

EU : European Union
EWS : Early Warning System
EWS4All: Early Warning for All
FAO: Food and Agriculture Organization of the United Nations
FEWS: Flood Early Warning Systems
GCF: Green Climate Fund
GDP: Gross Domestic Product
GFDRR: Global Facility for Disaster Reduction and Recovery
GSMA: Global System for Mobile Association
GWP : Global Water Partnership
HYCOS: Hydrological Cycle Observing System
ICPAC: IGAD Climate Prediction and Applications Centre
ICT: information and communication technology
IFRC: International Federation of Red Cross and Red Crescent Societies
IGAD: Intergovernmental Authority on Development
ITU: International Telecommunication Union
IMO: International Maritime Organization
IOC : Indian Ocean Commission
IOM: International Organization for Migration
KMS: Kiribati Meteorological Service
LDC : Least Developed Country
NDMOs: National Disaster Risk Management Organizations
MEAL: Monitoring, Evaluation, Accountability and Learning
MHEWS: Multi-Hazard Early Warning Systems
MLN: Million
MNOs: mobile network operators
NMHSs : National Meteorological and Hydrological Services
NGOs: Non-Governmental Organizations
OCHA: United Nations Office for the Coordination of Humanitarian Affairs
PIROI: Indian Ocean Regional Intervention Platform
REAP: Risk-informed Early Action Partnership
RSMC : Regional Specialized Meteorological Centers
SADC : Southern African Development Community
SIDS : Small Island Developing State
SIMS: Solomon Islands Meteorological Service
SWFP : Severe Weather Forecasting programme

SWIO-RAFI: Southwest Indian Ocean Risk Assessment and Financing Initiative
TMS: Tonga Meteorology Service
UNDP : United Nations Development Programme
UNDRR : United Nations Office for Disaster Risk Reduction
UNEP: United Nations Environment Programme
UNESCO: United Nations Educational, Scientific and Cultural Organization.
UNICEF: United Nations Children's Fund
WFP: World Food Programme
WMO : World Meteorological Organization
WRB: Weather Ready Pacific