



ADAPTATION FUND

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Adaptation Fund Board
Project and Programme Review Committee
Thirty-fourth Meeting
Bonn, Germany, 8-9 October 2024

PROPOSAL FOR CAMBODIA, LAO PDR, VIET NAM, THAILAND



ADAPTATION FUND

ADAPTATION FUND BOARD SECRETARIAT TECHNICAL REVIEW OF PROJECT/PROGRAMME PROPOSAL

PROJECT/PROGRAMME CATEGORY: Pre-Concept for a Regional Project

Countries/Region: Cambodia, Lao People’s Democratic Republic, Thailand, Viet Nam.
Project Title: Enhancing Climate Adaptation and Resilience of Mekong Communities through Strengthening of Weather, Water and Climate Services (ECR-MEKONG)
Thematic focal area: Disaster risk reduction and early warning systems
Implementing Entity: World Meteorological Organization (WMO)
Executing Entities: Mekong river commission (MRC); Cambodia: Department of Meteorology (DOM), Department of Hydrology and River Works (DHRW), Ministry of Water Resources and Meteorology (MOWRAM); Lao PDR: Department of Meteorology and Hydrology (DMH), Ministry of Natural Resources and Environment (MoNRE); Thailand: Thai Meteorological Department (TMD), Ministry of Digital Economy and Society (MDES); Viet Nam: Viet Nam Meteorological and Hydrological Administration (VNMHA), Ministry of Environment (MONRE).
AF Project ID: AF00000268
IE Project ID: **Requested Financing from Adaptation Fund (US Dollars):** 12,466,575
Reviewer and contact person: Dirk Lamberts **Co-reviewer(s):**
IE Contact Person(s): Ben Churchil

<p>Technical Summary</p>	<p>The project “Enhancing Climate Adaptation and Resilience of Mekong Communities through Strengthening of Weather, Water and Climate Services (ECR-MEKONG)” aims to reduce vulnerability and exposure from climate hydro-meteorological hazards, therefore, strengthening the adaptation and resilience of communities in the Participating Countries to climate variability and change. This will be done through the three components below:</p> <p><u>Component 1:</u> Preparedness and adaptation through user-centred and integrated national early warning systems (EWS) for drought and floods (USD 5,850,000);</p> <p><u>Component 2:</u> Established Locally led adaptation and disaster risk reduction strategies to counter the adverse impact of drought and floods (USD 2,700,000);</p> <p><u>Component 3:</u> Water, Weather and Climate resilient regional and national cooperation arrangements together with stakeholders including community involvement (USD 1,800,000).</p>
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	<p>Requested financing overview: Project/Programme Execution Cost: USD 983,250 Total Project/Programme Cost: USD 11,333,250 Implementing Fee: USD 1,133,325 Financing Requested: USD 12,466,575</p> <p>The proposal includes a request for a project formulation grant of USD 20,000.</p> <p>The initial technical review raised several issues, such as lack of focused objectives, realistic goals and the lack of support to concrete adaptation actions, as was discussed in the number of Clarification Requests (CRs) and Corrective Action Requests (CARs) raised in the review.</p> <p>The second technical review found that the proposal has not addressed most of the CR and CAR requests. Namely, the lack of focused objectives, realistic goals and the lack of support to concrete adaptation actions remains.</p> <p>The third technical review finds that the proposal has made no progress with respect to the lack of focused objectives, realistic goals and the lack of support to concrete adaptation actions.</p>
Date	23 July 2024

Review Criteria	Questions	Comments First Technical Review (Sep. 2023)	Comments Second Technical Review (Feb. 2024)	Comments Third Technical Review (Jul. 2024)
Country Eligibility	1. Are all of the participating countries party to the Kyoto Protocol, or the Paris Agreement?	Yes.	-	-
	2. Are all of the participating countries developing countries particularly vulnerable to the adverse effects of climate change?	Yes. Participating countries are particularly vulnerable to climate change-exacerbated floods and droughts, with increasing frequency and severity.	-	-

Project Eligibility	<p>1. Have the designated government authorities for the Adaptation Fund from each of the participating countries endorsed the project/programme?</p>	<p>Yes. As per the Endorsement letters dated 22 June 2023 (Cambodia), 23 December 2022 (Lao PDR), 19 July 2023 (Thailand) and 17 March 2023 (Viet Nam).</p>	<p>No. The DA who signed for Cambodia is not the DA currently on record.</p>	<p>No. The letter for Viet Nam is unsigned and the DA mentioned is not the DA currently on record.</p>
	<p>2. Has the pre-concept provided necessary information on the problem the proposed project/programme is aiming to solve, including both the regional and the country perspective?</p>	<p>No. Essential information needed to justify the funding request, is lacking. The scope of the project is so broad that the diversity and complexity of the problems the proposal aims to address is not presented or reflected in the proposed approach.</p> <p>CR 1: Please provide the necessary information on the problem as well as the proposed remedy, as required, at the different levels.</p>	<p>CR 1: Not cleared. There is no doubt that an effective EWS would be a valuable adaptation asset for communities and households in the Mekong river basin. However, the nature of the challenges in developing a suitable EWS for the Mekong basin has not been addressed. The level of the proposed interventions is disconnected from the actual decision making processes in the countries and there is a lack of decision making abilities at the regional level. The link between data collection and analysis and decision making is absent. There is no pathway for such data to progress and relevant policy and political frameworks determining decision making are</p>	<p>No. CR 1: Not cleared. The earlier findings have not, or not adequately, been addressed and the issues identified remain.</p>

			<p>ignored. The diversity and complexity of the problems the proposal aims to address are not adequately presented or reflected in the proposed approach.</p> <p>The executing entities are also the main direct beneficiaries of the project. In addition, the EEs have also been the main source of information on the problem, mostly related to their own capacity. There is a need for independent identification of the most effective and indicated approaches.</p>	
	<p>3. Have the project/programme objectives, components and financing been clearly explained?</p>	<p>No. The pre-concept note is a broad mix of issues and topics, some with a clear climate change link, others with only a marginal or no connection at all.</p> <p>1. The target area of the proposal is not clearly defined and misaligned with the envisaged objective. The absence from the proposal of PR China (and, to a lesser extent, Myanmar) as a</p>	<p>CR 2: Not cleared. None of the seven points made have been adequately addressed.</p> <p>CR 3: Not cleared.</p>	<p>No. CR 2: Not cleared. 1. The disconnect between the Mekong river basin focus and the necessary national approach for parts of the project remains. The lack of involvement of PR China and Myanmar is unlikely to be resolved, and the proposed remote-sensing alternative is unrealistic.</p>

		<p>participating country is a major gap as a key source of flood-determining flow and flow control through hydropower management is thereby not included. Furthermore, apart from Cambodia and Lao PDR, only relatively small parts of the territories of Thailand and Viet Nam are located in the Mekong river basin. It is unclear to what extent and how these two countries will use and develop national and nation-wide structures based on these limited requirements.</p> <p>2. The target communities are poorly identified. The project title refers to “Mekong river communities”, while elsewhere they are referred to as “riparian communities” or yet as “vulnerable communities in the Participating Countries”. The flood and drought risks directly related to Mekong river flows and rainfall extend far beyond its direct riparian area.</p>		<p>Points 2-7 have not, or not adequately, been addressed.</p> <p>CR 3: Not cleared.</p>
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		<p>3. The main objective of the project is described as being achieved “by implementing climate-smart decision-making networks”. The proposal does not explain how these decision-making networks will be relevant in decision making across all the sectors involved in the management of drought and flood disaster risks.</p> <p>4. There seems to be a major disconnect between the information that is needed and relevant for flood and drought disaster risk management (i.e. mostly <i>weather</i> forecasts) and the envisaged “climate services production and delivery”. At the community level, for the mentioned sector of agriculture, weather forecasts are relevant, as decisions at a temporal scale where ‘climate services’ are relevant are typically not taken at the level of those communities.</p>		
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		<p>5. There is a conceptual bias in the term 'flood' as used in the proposal. It is only used in the sense of being a catastrophic or disastrous event, one that should be avoided or minimised through a disaster preparedness approach. The recurrent flooding associated with the natural hydrological cycle of the Mekong river and its vital importance to globally unique biodiversity, ecosystem processes, ecosystem services and livelihoods, while documented and demonstrated ad nauseam, is entirely absent from the proposal. The proposal makes some references to hydropower development as a factor affecting flooding but ignores the impact of e.g. irrigation development and loss of wetlands and floodplain vegetation, dynamics and other features such as connectivity.</p> <p>6. Similarly, the proposal ignores the livelihoods and ways of life of millions of</p>		
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		<p>households in the Mekong river basin who have adapted to naturally occurring floods and droughts and, in a number of cases, have developed over several thousands of years ways to cope, exploit and often prosper with these natural hydrological cycles.</p> <p>7. The project objective includes “better (...) water resources management encompassing hydropower generation.” The development of both mainstream and tributaries hydropower infrastructure in the Mekong river basin of the past three decades has clearly shown the inability of the countries and companies involved to take into consideration factors in their hydropower operations that are not directly in support of their own profitability. Clearly, considering their impact on river flows, they are of vital importance in flood and drought disaster risks management. However, the proposal does not</p>		
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		<p>demonstrate how it will achieve such engagement with the hydropower sector. Attempts at their engagement have consistently failed, despite the existence of bespoke international agreements and institutions established for that exact purpose (e.g. the Mekong River Commission).</p> <p>CR 2: Please clarify the link between the project objectives, the project components and the proposed allocation of financing, taking into consideration the above remarks.</p> <p>CR 3: Please clarify the components to demonstrate how they will realistically result in outcomes that contribute to achieving the project objectives.</p>		
	<p>4. Has the project/programme been justified in terms of how: - it supports concrete adaptation actions?</p>	<p>No. Despite its very broad scope, it can be concluded that the proposal would contribute primarily to</p>	<p>CAR 1: Not cleared. None of the considerations raised in the initial review have been adequately addressed.</p>	<p>No. CAR 1: Not cleared. None of the considerations raised in the initial and</p>

	<ul style="list-style-type: none"> - it builds added value through the regional approach? - it promotes new and innovative solutions to climate change adaptation? - it is cost-effective? - it is consistent with applicable strategies and plans? - it incorporates learning and knowledge management? - it will be developed through a consultative process with particular reference to vulnerable groups, including gender considerations, in compliance with the Environmental and Social Policy of the Adaptation Fund? - it will take into account sustainability? 	<p>disaster risk reduction and early warning systems.</p> <p>The potential for the project to support concrete adaptation actions is low, as the allocation of funding to activities that could be considered concrete adaptation, or that are likely imminently leading to such adaptation, is very limited, involving only an unspecified number of pilot cases and sites.</p> <p>The added value of the regional approach is not demonstrated (please also see comment 1 under point 3 above). For rainfall forecasting, regional impacts in terms of flood and drought risk materialise in a lagged manner through the hydrology of the river, which is extensively monitored and for which robust flood forecasting has already existed for several years (please see e.g. https://portal.mrcmekong.org/monitoring/flood-forecasting).</p>	<p>In addition, it is now more clear how the project justifications were established. The diagnostic assessment of capacity gaps and capacity building needs is the same of what MRC and the national institutions have been claiming for decades, and which has never been effectively addressed. The source of the justification grounds for the project are 'preliminary consultations'. In these, potential direct project beneficiaries were asked to identify financing needs to address self-determined capacity gaps. The 'needs' established in this manner are not further corroborated or queried but presented as established facts. All these identified 'needs' have already been addressed and funded several times over, as is illustrated in part by the list of ongoing similar initiatives in the region presented in the response sheet. There is no information to suggest that the requested funding would be more effective than all the previous</p>	<p>second reviews have been addressed.</p>
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		<p>The description of how the project would provide new and innovative solutions for climate change adaptation is vague and contains very few new and no innovative elements. Numerous attempts to “solve potential conflicts in water use between agriculture, energy, and water management using multipurpose infrastructures” have been made in the past, many through MRC, and have mostly failed.</p> <p>The section on cost-effectiveness provides no information on how the proposed project would be a cost-effective way to achieving the project objectives.</p> <p>The proposal contains no gender considerations.</p> <p>Sustainability of the project is said to be “guaranteed” by the national meteorological institutions “in their roles of government agencies</p>	<p>projects. A central flood forecasting system for the lower Mekong basin was already set up at the beginning of the 1970s.</p> <p>In addition, capacity building at MRC has proven to have very low levels of sustainability. At one point, the MRC and the counterpart agencies in the four countries had one of the most performant state of the art bespoke hydrodynamic modelling capacity in the world for the Mekong, thanks to long-term support from bilateral donors and the WB. None of that capacity is still available or has been institutionalised following the conclusion of the external support.</p> <p>Apart from new output 1.2.2 - EWSs and concrete adaptation measures are tested in selected vulnerable communities – there are few concrete adaptation actions involved.</p>	

		<p>supported by public funding with officially mandated duties.” The proposal contains no relevant information in support of the claim of sustainability of the project outcomes.</p> <p>CAR 1: Please provide the required information justifying the proposed project.</p>		
	<p>5. Does the pre-concept briefly explain which organizations would be involved in the proposed regional project/programme at the regional and national/sub-national level, and how coordination would be arranged? Does it explain how national institutions, and when possible, national implementing entities (NIEs) would be involved as partners in the project?</p>	<p>Unclear. The proposal includes eight organisations as named Executing Entities, four in each participating country, and four located outside the project region. In addition, unspecified “relevant national institutions” will execute activities at community level in each country. The role of MRC as regional partner is unclear.</p> <p>CR 4: Please clarify (i) the role of each executing entity in executing the proposed components/outputs, as well as (ii) the process through which a smooth coordination among the</p>	<p>CR 4: Partially cleared. The identity and role of the now six executing entities has been clarified. However, the process of coordination among the EEs has not been clarified.</p> <p>CAR 2: Cleared for this stage. The response sheet states that the IE “will apply 1.5% of the execution fee in order to provide support in the execution of activities under various components of the proposed project”, which is unclear. Further, the response sheet states that the IE will not directly implement any activities in the countries “but mainly provide guidance and</p>	<p>Unclear.</p> <p>CR 4: Not cleared. The additional information provided includes the establishment of National Working Groups in each country. Otherwise, there is no further clarification of the process of coordination among the EEs.</p>

		<p>myriad of EEs will be ensured.</p> <p>None of the participating countries has an accredited NIE.</p> <p>The IE will be involved in the execution of some activities. The proposal should comply with relevant AF guidelines related to implementing entities providing execution services.</p> <p>CAR 2: Please clarify the role of the IE in the execution of the project, and correct the administrative costs accordingly as needed, in line with relevant AF guidelines.</p>	<p>support through the WMO technical partners (especially from WMO Associated Programme on Flood Management (APFM) and Integrated Drought Management Programme (IDMP))". A concept note will need to see a clear description of the relation between these programmes and the IE, as well as their specific roles in the implementation and execution of the project.</p>	
Resource Availability	6. Is the requested project / programme funding within the funding windows of the programme for regional projects/programmes?	Yes.	CR 5: The previous submission of the proposal included a request for a project formulation grant that is not included in this submission. Please clarify if the project still requests a PFG at this stage and include such request with the resubmission.	No. CR 5: Partially cleared. The response sheet clarifies that the IE is still requesting a PFG. However, the request contains errors. The IE is further suggested to consider AFB Decision B.42/37 related to PFGs.

				The updated template is available at https://www.adaptation-fund.org/readiness/readiness-grants/project-formulation-grants/
	7. Are the administrative costs (Implementing Entity Management Fee and Project/ Programme Execution Costs) at or below 10 per cent of the project/programme for implementing entity (IE) fees and at or below 10 per cent of the project/programme cost for the execution costs?	<p>Unclear. The total funding requested does not correspond to the sum of the project activities and the administrative costs.</p> <p>CAR 3: Please correct the amounts of funding requested.</p> <p>At 8.5 per cent, the Implementing Entity Management Fee is at or below 10% of the project/programme cost, as are at 8.7 per cent the Project Execution Costs.</p>	CAR 3: Cleared.	-
Eligibility of IE	8. Is the project/programme submitted through an eligible Implementing Entity that has been accredited by the Board?	Yes.	-	-



ADAPTATION FUND

PRE-CONCEPT FOR A REGIONAL PROJECT/PROGRAMME

Title of Project/Programme: Enhancing Climate Adaptation and Resilience of Mekong River Communities through Strengthening of Weather, Water and Climate Services (ECR-MEKONG)

Countries: Cambodia, Lao People's Democratic Republic (PDR), Viet Nam, and Thailand

Thematic Focal Area¹: Disaster risk reduction and early warning systems

Type of Implementing Entity: Multilateral Implementing Entity

Implementing Entity: World Meteorological Organization

Executing Entities: Mekong River Commission (MRC) and in Cambodia: Department of Meteorology (DOM) and Department of Hydrology and River Works (DHRW) under the Ministry of Water Resources and Meteorology (MOWRAM) and Ministry of Environment

In Lao PDR: Department of Meteorology and Hydrology (DMH), Ministry of Natural Resources and Environment (MoNRE).

In Thailand: Thai Meteorological Department (TMD), Ministry of Digital Economy and Society (MDES).

In Viet Nam: Viet Nam Meteorological and Hydrological Administration (VNMHA), Ministry of Environment (MONRE).

Amount of Financing Requested: 12,466,575 (in U.S Dollars Equivalent)

Project Formulation Grant Request: Yes No

Amount of Requested financing for PFG: 20,000 (in U.S Dollars Equivalent)

Letters of Endorsement (LOE) signed for all countries: Yes No

NOTE: LOEs should be signed by the Designated Authority (DA). The signatory DA must be on file with the Adaptation Fund. To find the DA currently on file check this page: <https://www.adaptation-fund.org/apply-funding/designated-authorities>

Stage of Submission:

This pre-concept note has been submitted before

This is the first submission ever of the concept note

In case of a resubmission, please indicate the last submission date: 21 December 2023

¹ Thematic areas are: Food security; Disaster risk reduction and early warning systems; Transboundary water management; and Innovation in adaptation finance.



PRE-CONCEPT FOR A REGIONAL PROJECT/PROGRAMME

PART I: PROJECT/PROGRAMME INFORMATION

Title of Project/Programme:	Enhancing Climate Adaptation and Resilience of Mekong River Communities through Strengthening of Weather, Water and Climate Services (ECR-MEKONG)
Countries:	Cambodia, Lao People's Democratic Republic (PDR), Viet Nam, and Thailand
Thematic Focal Area ² :	Disaster risk reduction and early warning systems
Type of Implementing Entity:	Multilateral Implementing Entity (MIE)
Implementing Entity:	World Meteorological Organization (WMO)
Executing Entities:	Mekong River Commission (MRC) and In Cambodia: Department of Meteorology (DOM) and Department of Hydrology and River Works (DHRW) under the Ministry of Water Resources and Meteorology (MOWRAM) and Ministry of Environment. In Lao PDR: Department of Meteorology and Hydrology (DMH), Ministry of Natural Resources and Environment (MoNRE). In Thailand: Thai Meteorological Department (TMD), Ministry of Digital Economy and Society (MDES). In Viet Nam: Viet Nam Meteorological and Hydrological Administration (VNMHA), Ministry of Environment (MONRE).
Amount of Financing Requested:	12,466,575 (in U.S Dollars Equivalent)

Project / Programme Background and Context:

The frequency and severity of drought and floods in Southeast Asia are increasing and are expected to continue to increase over the next decades (IPCC Sixth Assessment Report). Based on WMO assessments conducted during 2019-2022, the least developed and developing countries in the region, such as Cambodia, Lao PDR, Thailand, and Viet Nam (hereinafter referred to as the Participating Countries) are particularly vulnerable to the adverse effects of climate change especially through more severe and frequent droughts and floods. Moreover, in the past three decades, droughts and floods have affected more than 100 million people in these countries (Asian Development Bank; WMO 2021). The report published by the Mekong River Commission (MRC)³ suggest that the Lower Mekong Basin has been experiencing severe drought hazards, especially through the reduction in rice yields and other lifeline crops plummeting due to water shortages and saltwater intrusion in the Mekong Delta. The low flow observed in the Mekong River during the 2019–2020 drought was estimated to have a return period of 50–100 years. In the recently concluded rapid assessment study of the UN Early Warning for All (UNEWA4All), it is found that both Cambodia and Lao PDR (two of the priority Global countries for UNEWA4All) require support for developing Hydro-Meteo impact-based forecasting systems and capacity for warning services. Also in Vietnam, reports highlight the need for effective, innovative approaches for flood and drought monitoring, preparedness and management measures are important for growing populations and economies. In addition, the Nationally Determined Contributions (NDCs) submitted to the United Nations Framework Convention on Climate Change (UNFCCC) by the Participating Countries indicate the need to strengthen drought and flood early warning systems (EWSs), especially improving warning services, and risk-informed decision making for the agriculture, energy and water sectors.

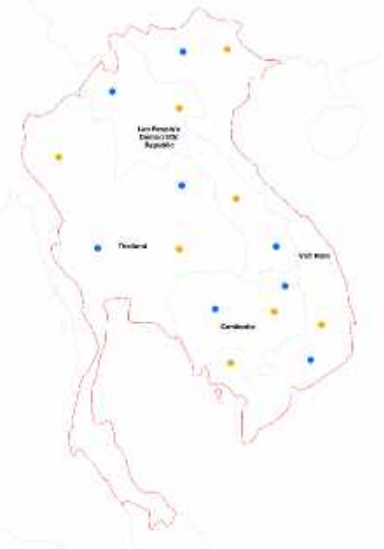


Figure 1: Targeted Participating Countries of the Mekong Basin where EWS and risk profiles will be developed, including tentative vulnerable pilot locations where locally led adaptation and risk reduction measures will be implemented.

The Mekong is a transboundary river that runs through the Participating Countries. The river flow is fundamental for the communities residing near the Mekong River and its tributaries as their livelihood mostly depends on agriculture (including crops, livestock, and inland fisheries). Agriculture is the primary source of employment in Lao PDR (61%), Cambodia (27%), Thailand (32%) and 29% in Vietnam. As such, timely warning and risk-informed weather, water and climate-smart decision-making (supported by the local community experience and traditional knowledge) on agriculture and water management will offer major opportunities to improve proactive climate change adaptation and disaster risk management strategies and increase economic productivity. In the last ten years, the lower Mekong River countries faced around 100 reported meteorological and hydrological hazardous events leading to the deaths of more than 1000 people and affecting socio-economic activities of more than 24 million (EM-DAT/CRED). In Lao PDR, during 2018, there was a dam outbreak leading to loss of lives, property and infrastructure damage, and population displacement⁴. The impact of drought on vulnerable communities in the Participating Countries has been demonstrated using the disastrous consequences of the El Niño phenomenon 2015-2016 and the latest of 2023⁵. Based on a desk review, the impacts in Participating Countries were: Cambodia – an estimated 2.5 million people were affected by drought; Thailand – the total rice production fell to 27 million tonnes, the lowest since 2000-2001; Viet Nam – it was the worst drought in the past 90 years, affecting 52 out of 63 provinces, with 1.1 million people experiencing food insecurity and more than 2 million facing damaged or lost their livelihoods.

Presently, each National Meteorological and Hydrological Services (NMHSs) and other competent authorities of the Mekong River basin are managing water related hazards and issues in silos and there is no mutual cooperation, tools, and technical support shared by each other. The NMHSs have the responsibility in each country to install, maintain and collect information related to the Hydro-meteorological situation, carry out modelling and forecasting and issue alerts and advisories to various stakeholders. Disaster Management and other agencies (Agriculture, Irrigation, Water Resources, Environment, Power, Energy, hydro power etc.) are the users of the warning or advisory services provided by the NMHSs and support them in making decisions related to informing population, advisories for supporting livelihoods, operations of infrastructure

² Thematic areas are: Food security; Disaster risk reduction and Early Warning Systems (EWS); Transboundary water management; Innovation in adaptation finance.

³ <https://www.mrcmekong.org/our-work/topics/flood-and-drought/#:~:text=The%20LMB%20has%20been%20experiencing,intrusion%20in%20the%20Mekong%20Delta>

⁴ <https://www.ohchr.org/en/press-releases/2022/07/lao-dam-disaster-un-experts-decry-lack-progress-survivors-four-years#:~:text=A%20torrent%20of%20water%2C%20mud,left%20homeless%20by%20the%20disaster.>

⁵ <https://bkktribune.com/el-nino-likely-increasing-later-this-year-wmo/> and <https://community.wmo.int/en/activity-areas/climate/wmo-el-ninola-nina-updates>

and services such as power, telecommunication, transports etc. Presently, in each country of the Mekong River basin, there is a lack of operational hydrological monitoring and observation networks, insufficient weather, water and climate databases, and unavailability of models and forecasting tools, leading to limited data and information for impact-based forecasting and advisories for weather, water, and climate-related status and outlook. Apart from the unavailability of technical instruments or tools, lack of or inadequate/outdated climate change (adaptation) and disaster risk management plans and policies, and lack of technical capacity to generate climate and weather information tailored to specific needs of key economic sectors and communities have been identified as the priorities to improve climate (change) adaptation. Therefore, this project will examine (enhance) data collection, monitoring and forecasting; co-production of affordable, sustainable, and tailored warning services and advisories; their dissemination through effective communication channels (technological and traditional mode of communication); and participatory engagement of stakeholders to increase uptake of climate change variabilities advisories and associated actions. The project will allow a platform for co-designing tools, sharing experiences and build an environment of trust, following the already defined procedure for data sharing, monitoring of water resources to support the implementation of the 1995 Mekong Agreement on water cooperation. As a result, all of these improvements will provide stakeholders in the agriculture, irrigation, energy, and water sectors, in cross-sectoral disaster risk management and in local communities with weather-, water- and climate-related information for saving lives and livelihoods, adapting to climate change, and creating social, economic and environmental benefits. While the impact of climate change is difficult to forecast, below are climate change projections for the Mekong River Basin for the next 20 to 30 years⁶, based on a downscaled global climate model:

- Basin-wide temperature increase of 0.79°C leading to annual rainfall increase of 200 mm (13.5% increase).
- Increase in dry-season rainfall in northern catchments and decrease in southern catchments.
- Total annual runoff increase of 21% with an increase in flooding in all parts of the basin, with the greatest impact on downstream catchments of the Mekong River.

Climate change is expected to affect natural ecosystems and agriculture throughout the Mekong Basin countries. This will make it increasingly difficult to meet the demand for natural resources from the growing population. Implementing climate change adaptation and related strategies and improving the management of water resources are recognized by the lower Mekong River Basin countries as major challenges. This project proposal responds to addressing these needs through WMO-led coordination of partnership and cooperation between the MRC and NMHSs in the Participating Countries, and through jointly providing technical support to strengthen their day-to-day work and services. MRC is an inter-governmental organization established in 1995 that serves as a regional platform for water diplomacy and a knowledge hub of water resources management for the sustainable development of the region. It is committed to successfully implement the Basin Development Strategy for the Mekong River Basin 2021–2030 & MRC Strategic Plan 2021–2025 through an integrated basin-wide forecasting and warning system, management of water resource, transboundary cooperation for sharing of climate, weather and water information, etc., thus ensuring social, economic and environmental improvements that will lead to better living standards for all the Mekong Basin countries population. The proposed project will involve other national agencies (such as those responsible for disaster management, environmental protection, water resources, irrigation, agriculture, private dam operating companies, local authorities etc.), academia, international and national non-governmental organizations (NGOs), etc. to provide support in identifying issues, needs and then co-design and development of outcomes related to EWS, risk mapping, community-based flood and drought management including locally led adaptation and disaster risk reduction strategies. It will be developing synergies and complementarities with other on-going and completed projects to efficiently strengthen EWS and integrated water resources management, leading to increased preparedness and resilience to climate- and climate change-related hazard events.

Project / Programme Objectives:

The ECR-Mekong project is aligned with the Adaptation Fund objective to “reduce vulnerability and increase adaptive capacity of communities to respond to the impacts of climate change at the local, national and regional level”. The overall objective of the project is to reduce vulnerability and exposure from the climate hydro-meteorological hazards, therefore, strengthening the adaptation and resilience of communities in the Participating Countries (with capacity development of the NMHSs and other national agencies) to climate variability and change. Furthermore, the project will develop local, national and regional adaptation strategies, plans and implementation mechanisms based on integrated monitoring and management of water resources for supporting socio-economic developments. It will also support the United Nations (UN) Early Warnings for All initiative (EW4All), which is co-led by the World Meteorological Organization (WMO) and other international partners to cover everyone on the planet with EWS by the end of 2027. Cambodia and Lao PDR are two of the initial 30 priority countries receiving targeted support under the EW4All initiative. In this regard, Cambodia and Lao PDR are currently being supported through the Systematic Observation Financing Facility (SOFF) initiative (a UN Multi-Partner Trust Fund co-created by UNDP, UNEP and WMO) and the Climate Risk and Early Warning Systems (CREWS) initiative (a multi-donor Financial Intermediary Fund hosted by the World Bank). The Adaptation Fund is a member of the SOFF Advisory Board. SOFF’s goal is to support countries to improve their meteorological observations in compliance with the internationally agreed WMO Global Basic Observation Network (GBON), and which in turn will support Global Producing Centres for Long-Range Forecasts (GPC-LRFs, such as the European Centre for Medium-Range Weather Forecasts (ECMWF) in developing high-quality meteorological and hydrological monitoring and forecasting products. Even though support has been provided for strengthening the monitoring aspects, there is a need to develop capacities and capabilities to improve impact-based forecasting, warning, and advisory services to various stakeholders of Mekong Basin countries. The project will support in monitoring of water resources and hydro-power infrastructures which are critical for socio-economic wellbeing of the population as well as building biological diversity. Through the proposed project, national (NMHSs, Disaster Management, Agriculture, water resources etc.) and regional (MRC, South-East Asia Regional Climate Centre (SEA-RCC)) agencies tools and products will be developed for forecasting of weather, and water events, enhancing sector-specific (energy, irrigation, water resources, agriculture etc.) advisories for risks informed decision making, increasing collaboration among agencies in disseminating advisories/warnings and emergency response, developing self-help capabilities of the communities prone to hydro-meteorological hazards to better adapt, respond and develop resilience.

Project/ Programme Components	Expected Outcomes	Expected Outputs	Countries	Amount (US\$)
1. Risk Preparedness and adaptation through user-	Outcome 1.1 Risk informed decision making at regional, national and local levels for disaster risk reduction and	Output 1.1.1 Strengthen observation networks and social-structural databases, drought and flood risk maps for current and future predicted climate are developed/updated for decision making and specific advisories for stakeholders including communities	Cambodia Lao PDR Thailand Viet Nam	3,150,000

⁶ <https://www.mrcmekong.org/about/mekong-basin/climate/>

Project/ Programme Components	Expected Outcomes	Expected Outputs	Countries	Amount (US\$)
centred and integrated national early warning systems (EWS) for drought and floods	climate change adaptation measures improving socio-economic and environmental stats	Output 1.1.2 Develop capacity and established frameworks at the local, national, and regional levels to ensure risk informed decision-making to various stakeholders	Cambodia Lao PDR Thailand Viet Nam	2,700,000
		Output 1.1.3 Long-term risk management strategies are identified and integrated into development plans (economic, social, environmental aspects)		
	Outcome 1.2: Operational web-based multi-hazard EWSs are established/strengthened to support warning and advisory services at (regional) national, provincial, and local levels.	Output 1.2.1 Hydrological and meteorological status and outlook products within the EWSs are developed and operationally used by the NMHSs		
		Output 1.2.2 EWSs and concrete adaptation measures are tested in selected vulnerable communities during the monsoon and dry seasons.		
2. Established Locally led adaptation and disaster risk reduction strategies to counter the adverse impact of drought and floods	Outcome 2.1 Preparedness and resilience to climate change is increased/promoted through innovative and community-based initiatives.	Output 2.1.1 Implementation of community-based floods and drought management strategies and plans (including adaptation measures such as raising of house levels, changing agriculture and cropping patterns, water resources management, green infrastructures, etc.) in the vulnerable sites and different ecosystems	Cambodia Lao PDR Thailand Viet Nam	2,700,000
		Output 2.1.2 Enhanced local stakeholder's and communities capacities to adapt to climate change by understanding and proactively applying warning information or advisories tailored to their needs for strengthening livelihoods and risk management and adaptation policies and plans, including national Adaptation Plans (NAPs), NAPA, and Nationally Determined Contributions (NDCs).		
	Outcome 2.2: Strengthened awareness of vulnerable communities and agencies on hydro-meteorological risks through education programmes.	Output 2.2.1 Enhanced knowledge and awareness of stakeholders on nature-based solutions and mainstreaming gender for managing climate-related hazard events.	Cambodia Lao PDR Thailand Viet Nam	
		Output 2.2.2: Strengthened capacity of stakeholders to improve management of climate change adaptation and disaster risk reduction measures including innovative learnings and experience sharing		
3. Water, Weather and Climate resilient regional and national cooperation arrangements together with stakeholders including community involvement	Outcome 3.1 regional cooperation mechanisms (Regional Hydrological and Climate Outlook Forums (RHCOFs,)) among the NMHSs and stakeholders are strengthened and have updated policies, plans and guidelines	Output 3.1.1 Updated regional and national plans/policies on climate change adaptation and disaster risk reduction/management and sustained capacity building through regional transboundary strategic alliances and partnerships coordinated by the Mekong River Commission (MRC)	Cambodia Lao PDR Thailand Viet Nam	1,800,000
		Output 3.1.2 Established regional technical working groups with the NMHSs, agriculture, energy, water sectors and disaster management agencies including the South-East Asia RCC Network and other partners to analyse and develop regional and national water and climate change adaptation and disaster risk reduction policies, plans and actions.		
	Outcome 3.2 Strengthened governance strategies on water resources management and services at transboundary, national and local levels	Output 3.2.1 Governance strategies are reviewed and improved for water resources management and services including linkages between transboundary, national and local levels		
5. Project/Programme Execution cost (9.5% of total components cost)				983,250
6. Total Project/Programme Cost				11,333,250
7. Project/Programme Cycle Management Fee charged by the Implementing Entity (if applicable) (10% of the Total Project/Programme Cost)				1,133,325
Amount of Financing Requested				12,466,575

Project Duration: 5 years (2024 – 2028)

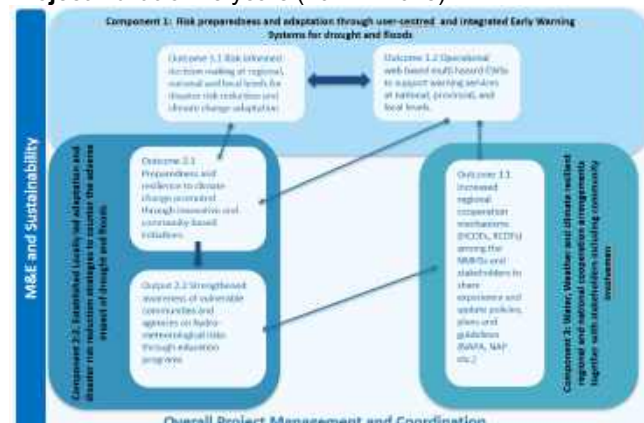


Figure 2: Linkages between components, outcomes and outputs of the project

Interconnections between the three project components are shown in Figure 2. At this pre-concept stage, the proposed activities in the Participating Countries are indicative and broadly described. A detailed list of activities will be provided after planned consultations with additional stakeholders (including other national actors and beneficiaries) and aligning with the roadmap/action plan developed for the Early Warning for All (EW4All).

The proposed project through Components 1 and 2 will implement activities to address the climate change-influenced climate variabilities and events mainly through the risk maps, impact based EWS and warning/advisory production and delivery to various stakeholders including locally led adaptation and disaster risk reduction strategies.

Component 3 will be on strengthening governance/cooperation to ensure the experience and good practices gained from the proposed project leads to review and update of national policies and plans (NAPs, NAPA, NDCs and disaster risk reduction strategies) eventually leading to long-term investments for strengthening climate change adaptation at regional, national and local levels.

PART II: PROJECT / PROGRAMME JUSTIFICATION

Project Justification for regional approach, cost effectiveness, innovative, sustainability, socio-economic benefits etc.

The project is advancing a multi-sectoral (hydro-meteo, agriculture, irrigation, energy, and water utility) approach to support their day-to-day operational activities and minimize the vulnerability and exposure of the Participating Countries communities and to increase their adaptive capacity to climate change, variability and extremes.

A central output of the project is the development of an innovative, tailored and integrated transboundary multi-hazard [End-to-End Early Warning System](#) covering the various areas at risks (generally in one part of the region, there is flooding and other part there is a drought issues) of floods and droughts (including flash floods and landslides) of the Participating countries as presented under the Figure 1. The system will allow to produce and disseminate warnings according to pre-defined levels of risks, using colour coding and icons for the different types of hazards, building upon the EWS largely established in a large number of countries and transboundary watersheds. The existing EWSs (including <https://portal.mrcmekong.org/monitoring/flood-forecasting>) are mainly providing [monitoring](#), [forecasts](#) and warnings for riverine flood, and [flash flood](#) events within the next days (usually for 0-5 days) and [agrometeorological droughts](#). However, the ECR-Mekong project is proposing a system (integrating information and products from other completed and on-going projects or initiatives) which will provide hydro-meteorological information for various stakeholders such as hydropower dam operators, river basin authorities, MRC, irrigation, etc. for timely decision-making on water availability in river stream mainly it's status (current flow whether it is a normal situation, above normal (high flow) or low (below normal)), forecasts (0-7 days for floods and hydro-meteorological drought events), and sub-seasonal to seasonal outlooks (how the situation is going to change in coming months accessing also the meteorological and climatological parameters) which will improve the efficient use or release of water to communities for irrigation, agriculture, aquatic biodiversity, etc.. The project partners will ensure collaboration with government or private dam authorities in each targeted countries to identify cooperation needs, design tailored solutions to monitor and release of stored water from dams preventing the situation of flooding or providing water during dry season. The basin-scale approach is a suitable way to identify and implement cost-effective measures, as Mekong countries have similar challenges related to climate-related events (floods and droughts) that will be addressed by this project. There is a need for better, i.e. more effective and coherent regional, national and local strategies and decision-making frameworks to address water-related adaptation, resilience challenges in the Mekong Basin countries. These challenges are being exacerbated by a changing climate, deterioration in socio-economic and environmental conditions and unplanned development. It is thus vital that the Mekong Basin is better understood through a regional project which provides opportunities to share experiences, good practices and address knowledge gaps in a coordinated approach rather than in silos. Such a project will be useful to manage water resources, extreme events linked to climate change in a transboundary management framework and in an environment of mutual trust and confidence. A regional approach also provides scope for data sharing on a real time basis and facilitating disaster preparedness and response and execution of risk reduction measures at national and regional levels. By involving the four countries, previous knowledge and funding, as well as current projects, can be considered to ensure minimum overlap and transfer of methodologies from one area to the other. EWS can provide more than a tenfold return on investment. Just 24 hours' notice of an impending hazardous event can cut the ensuing damage by 30 per cent. The Global Commission on Adaptation (GCA) found that spending just US\$800 million on such systems in developing countries would avoid losses of US\$3 to 16 billion per year⁷. In consultation with the national and local stakeholders, it was agreed that the climate change adaptation non-structural measures (through EWS, community-based activities, risk maps for understanding potential impacts) to flood and drought hazards is more cost-effective than the baseline of disaster response and rehabilitation and implementation of structural measures such as the construction of reservoirs, dams, etc.

WMO surveys its Member countries via the Country Profile Database (CPDB), and results from the most recent baseline survey indicated that Mekong countries provide flood and drought warning services mainly based on global or regional products, having limited accuracy and precision. Only Thailand has a national drought monitoring system and policy. An important part of flood and drought risk management plans are to link the hazard monitoring and risk knowledge to community-led preparedness and response actions on the ground. Local communities will be consulted and engaged in the co-production of the early warnings of droughts and floods with adaptation measures, which will improve their preparedness, response capability and resilience. It is well-known that the Participating Countries share common climate drivers (IPCC AR6 WG1) and it is important to ensure consistency in the way the regional information is optimised (national data/information and knowledge from each country are shared) and integrated (at regional levels integrated to develop regional products) and shared with national and sub-national stakeholders for weather, water and climate services. The IE has initially supported to have the People's Republic of China (PRC) join as the project beneficiary country but there have not been any positive responses from the project partners while submitting this pre-concept. Also in Myanmar, the issue of political instability is not allowing for consultation with agencies and communities leading to a lack of participation in the project (hoping the situation will improve and there will be collaboration for the ECR-Mekong project). Further information on the involvement of the PRC (as Participating country or as a technical partner) will be presented during the concept note submission.

Expected innovative deliverables through this project include: : An integrated and state-of-the-art floods and drought risk maps and warning system, integrating environmental indicators to the impact on human and properties damage, will be open-source and thus facilitate mainstreaming of results into other initiatives relating to floods and drought management or generally supporting the development processes (raising of houses, cropping patterns, water resources management etc.) in the target countries. An integrated approach to floods and drought monitoring and early warning systems will support regional and national forecasters cooperating together to observe and generate useful early warning or advisory services to the stakeholders including agriculture, water management, and energy sectors. The project will promote nature-based solutions for adaptation and help maintain an ecological balance for the entire basin by ensuring systematic measures to improve restoration of wetlands or flood plains, mitigate land degradation and soil desertification are implemented. The project will bring together policymakers and decision makers to review, develop and refine existing policies on water management and disaster risk management following experiences and lessons learned from the outcomes under components 1 and 2. This will allow developing or updating regional/transboundary water management, disaster risk reduction, and climate change adaptation strategies, plans and guidelines instead of country-specific ones. This will be particularly important to solve on-going or potential conflicts in water use between agriculture, energy, and water management using multipurpose infrastructures. The successful implementation of the proposed ECR-Mekong project's planned outcome will support in receiving regular investments and increased budgets from the respective Ministries to maintain, sustain (increasing human resources), and improve their day-to-day operations and activities, which is currently a challenge and issue that requires immediate attention.

The cost-effectiveness analysis includes various short-term benefits such as prevention and minimisation of losses from hydro-

⁷<https://www.un.org/africarenewal/magazine/april-2023/fast-tracking-global-early-warnings-systems#:~:text=Early%20Warning%20Systems%20provide%20more,damage%20by%2030%20per%20cent.>

meteorological hazards, availability and access to impact-based EWSs. In the medium-term, climate change adaptation and disaster risk management planning will be augmented through development of risk maps, sub-seasonal to season water resources information for irrigation facilities, climate-resilient cropping, renewable energy generation and development of local economy etc and through local initiatives, creation of new social institutions, tailored system for adaptation to climate change events. In the long-term perspective, there will be optimal use of water resources leading to prevention and mitigation of flood and droughts, ecological restoration, and formulation and implementation of policies for making communities adapt to climate change and natural hazards. Alternatives to the proposed measures, such as resettlement of vulnerable communities, involve much higher costs (costing 100-150 times more than the proposed project approach), but with limited benefits and detrimental environmental consequences. Other Alternative solutions are often to construct dams and reservoirs or reconstruct or retrofit the vulnerable community which will approximately cost US\$150-300 million. Given the relative costs and benefits of possible climate change adaptation and disaster risk reduction measures, the project has selected the three least-expensive interventions through EWSs, risk maps and knowledge/capacity building measures at all levels, to generate significant benefits in the form of increased safety and economic activities as opposed to significant investment in structural measures and degradation of the environment and associated ecosystem. During the concept note preparation, the project partners will present a detailed and quantitative analysis of cost effectiveness of the selected measures as compared to alternative options.

The Project will be consistent with international, national and regional sustainable development, climate change adaptation and disaster risk management strategies, among them: *Cambodia*: Cambodia Climate Change Strategic Plan (2014-2023), the Agricultural Development Plan, the Climate Change Strategic Plan for Water Resources and Meteorology, NDC. *Lao PDR*: The National Strategy on Climate Change, NAPA. *Thailand*: Thailand Climate Change Master Plan 2015-2050, 13th National Economic and Social Development Plan (NESDP) 2023-2027, NDC. *Viet Nam*: The Climate Change Action Plan for Agriculture and Rural Development, the National Adaptation Programme for Climate Change, the National Climate Change Strategy. *Regional*: Mekong River Commission Basin Development Strategy (2021-2030) and Mekong River Commission Strategic Plan 2021-2025, MRC Drought Management Strategy for the Lower Mekong Basin 2020-2025, MRC Strategy on Flood Management and Mitigation and the Lancang-Mekong Environmental Cooperation Strategic Framework (2019-2023), ASEAN Regional Plan of Action for Adaptation to Drought (ARPA-AD), and others. Also, the proposed project will contribute to the UN Sustainable Development Goal (SDG) 6, namely its target 6.5 to implement integrated water resources management at all levels, including through transboundary cooperation. It also contributes to SDG 1, namely its target 1.5 in building resilience through reduction in exposure and vulnerability for climate related extreme events; SDG 2, namely its target 2.4 to ensure sustainable food production through climate adaptation to drought, flooding, and other disasters; and SDG 11, namely its target 11.5 making human settlements inclusive, safe, resilient and sustainable; as well as the Sendai Framework for Disaster Risk Reduction 2015-2030.

A learning and knowledge management component to capture and disseminate lessons learned will be provided by WMO Regional and National Climate (Outlook) Forums (RCOFs/NCOFs) which are a platform for regular interactions between climate specialists and users in a regional/national context. Lessons learnt from knowledge management in this project will facilitate the dissemination of best practices among Participating countries. This learning and knowledge management component will target three different levels: 1) learning among the NMHSs and other competent authorities (specialist level); 2) learning among local governments and communities (local level), and 3) learning and collaboration over shared resources (the Mekong River, as being the major and significant river in the region that would be affected by climate change) mainly among specialists from all Participating Countries and regional/international organisations and development partners. Knowledge management tools and platforms will be developed for sharing experience and storing project documents, reports, voices from the field etc. and also a dedicated website for the project with a community of practice (online forum, in a different language if possible) will be designed for sharing experience and supporting stakeholders with information during and beyond the duration of the project.

This pre-concept note was developed based on the needs highlighted by existing activities and projects implemented by the national institutions, and inputs from WMO, Global Water Partnership (GWP), Food and Agricultural Organisation of the UN (FAO), RMIT University SPACE Centre, and Australian Bureau of Meteorology (BoM), including several consultations with the NMHSs, disaster management, environment agencies of Cambodia, Lao PDR, Thailand, and Viet Nam during WMO regular constituent or expert group meetings organised in WMO Region II (Asia). The first national consultations were undertaken in November 2019 at the ASEAN Regional Climate Outlook Forum (ASEANCOF) and then virtually during the COVID-19 pandemic. Other organisations such as the UN Development Programme (UNDP), World Food Programme WFP, Asian Disaster Preparedness Center (ADPC), and the World Bank (WB) were consulted during the implementation of the WMO CREWS project in Cambodia and Lao PDR. MRC was consulted as one of the main stakeholders of the project to understand the issues in managing floods and drought, transboundary cooperation, and challenges on the sustainability of developed solutions and tools. In addition, the discussions among five countries (China, Lao PDR, Cambodia, Thailand, and Viet Nam) facilitated by the Lancang-Mekong Water Resources Cooperation Centre (LMWRCC) in 2018 and 2019 have shown that climate variability and change make the urgency of climate information services over the upper and lower Mekong River basin even more prominent, thus requiring transboundary cooperation of all Mekong countries starting by data and information exchange on water, weather and climate information as the basis of integrated river basin planning in the region. Recent community consultations were carried out in Cambodia during August 2022 (check Annex 3 below) where issues and needs were provided (such as riverine floods in the downstream agriculture areas are generating negative impacts). There is a need to develop local capacities to manage the agricultural production between the floods to ensure food security and adequate income. A new mode of early warning communication is required for increasing self-help capabilities and for taking preparedness and response measures. Internet connectivity is available with mobile phones and similarly local radio network can be useful for communication and dissemination. Activities related to water and soil conservation are required to improve agricultural production and improve food security. In the next project preparation phase (concept note stage), the IE and EEs have planned to carry out consultations workshop (concept note available [here](#)) with other agencies in the countries such as Agriculture, Irrigation, dam authorities, water resources, municipality chiefs etc. to identify their needs, gaps, capacities and gather support (including finalise the list of activities and pilot sites for testing the current and future EWSs, prepare for the EIA and SIA studies, determine the roles and responsibilities of the national and regional agencies, etc) for collaboration in the development and later implementation.

The participating government agencies are sustainable institutions within their national governments that have mandates for monitoring, forecasting and delivering advisory and warning services to stakeholders which have been a challenge until now or carried out with limitations. The project sustainability will be guaranteed by Cambodia's Ministry of Environment and DOM and DHRW, Lao PDR's DMH, Thailand's TMD, and Viet Nam's VNMHA in their roles as government agencies supported by public funding who will ensure adequate both financial and human resources (including staffs, infrastructure, capacities) are available not only during but also after the project period. The national agencies and regional entity (MRC) will ensure the availability of standardized interoperable hydro-meteorological data, especially on real-time basis, coordination of information channels and procedures for end-to-end EWSs, and increase in knowledge availability with community members on social-economic and environmental risks and their participation in decision making and the development of climate change

adaptation and disaster risk management strategies and will lead to the long-term sustainability of developed products, services and knowledge, which will be shared continuously between technical professionals of different agencies and at the local level among population groups. The official support and commitment letter from MRC (available [here](#)) and the national agencies has been secured, reflected from their participation in the project as the executing partners.

The project will indirectly benefit hundreds of thousands of people living in the targeted Mekong countries through the proposed strategy of community-based flood and drought management and by enabling local-level climate change adaptation and disaster risk reduction measures. The implementation of the project activities will support cohesion and experience sharing among communities to save lives, improve livelihoods, environment sustainability. A comprehensive description of social and environmental benefits will be provided in the concept note and final proposal after due assessments (EIA and SIA including screening of the 15 environmental, social, and gender principles of the Adaptation Fund) and consultations are carried out with the respective authorities and communities. Additional consultations will be undertaken on aiding vulnerable and marginalized populations (will engage them in understanding existing adaptation and risk management strategies, priority needs, and co-design solutions (improving livelihoods through agriculture productivity, fishing, restoration of wetlands or flood plains etc.)) and with regards to gender (women, youth, elderly, internally displaced populations, etc.) consideration will be provided in the consultation planned during the project concept and proposal preparation phase. In addition, private sectors such as those in agriculture, aquaculture, hydropower will be one of the important stakeholders and benefit from the project outcomes. From an environmental viewpoint, the International Union for the Conservation of Nature (IUCN) Red List of Ecosystems Categories and Criteria will be studied to better understand the status of ecosystems, applicable at local, national and global levels. A balanced ecosystem services approach will be promoted through natural and nature-based solutions linking ecosystem management with livelihoods. With the information available at this stage, the project is expected to fall into medium risk category B because interventions such as information through risk maps and EWSs could lead to movement of communities to a safer zone where they might need to identify new resources (livelihoods, house, adoption to new culture etc.) for survival.

The project will not duplicate the efforts of other initiatives or funding sources. Instead, the proposed project will identify synergies and complementarities with ongoing and planned initiatives (check Annex 1 on the AF project in Lao PDR, CREWS projects in South-East Asia, and De-Risk Southeast Asia, FAO's GCF PEARL and SAMIS, UN Environment Programme (UNEP)/Mekong Ecosystem-based Adaptation (EbA) South, UN-Habitat projects in Viet Nam and Cambodia to ensure coherence with the proposed regional programs and ensure use of existing resources (human, tools, infrastructures etc.) available to build upon it. Thus, the project will seek engagement with the regional and national institutions in the region to identify good practices, gaps and needs so that common efforts could be delivered jointly with the stakeholders. Presently, there are no regional projects that bring Mekong River countries together to address the common climate-induced events and their impacts and that apply integrated approaches for drought and flood EWSs and for locally-led adaptation and disaster risk reduction.

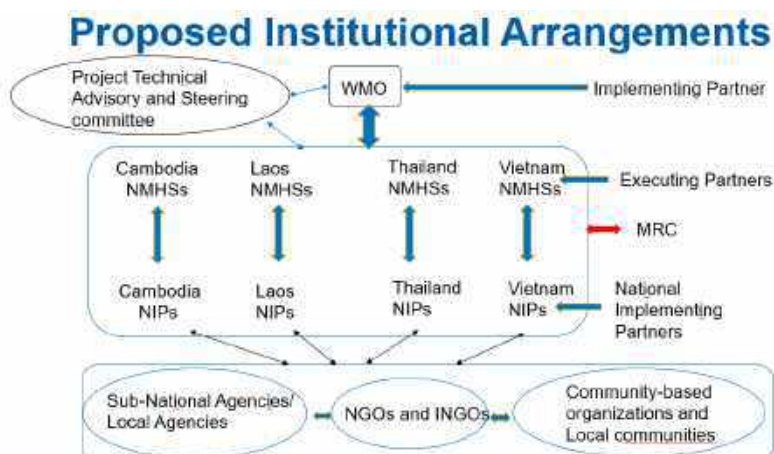
PART III: IMPLEMENTATION ARRANGEMENTS

WMO will be the implementing entity for this project. WMO will indirectly implement this project through the NMHSs as national executing partners, regional executing partners (mainly MRC), and other technical organizations (e.g. partners of the WMO/GWP Associated Programme on Flood Management (APFM) and Integrated Flood and Drought Management (IDMP)) to execute project activities delivering affordable, sustainable, tailored water, weather and climate monitoring, forecasting and warning related products and services. The NMHSs of the Participating Countries will play the key role in developing partnerships for the project's implementation by taking the lead on national consultations and co-production of various products or services related to the management of climate change events. The WMO GPC-LRF hosted by the Australian BoM and other WMO GPC-LRFs will be requested to provide global, regional, and national climate information (high-quality data and products for drought and flood monitoring and prediction) and support the NMHSs and other stakeholders mainly assisting them with advisory and decision-making tools for food production, hydro-power generation, irrigation, agriculture, and water management. . Considering lack of information available on water levels, flow measurements, etc from upstream Countries of the Mekong (In case of the non-participation of PDR China, WMO and EEs will identify and use satellite-based information to determine hydro-meteorological conditions upstream (including the impacts due to the hydro-power dams) and possible exposure and impacts in the downstream area. This approach will be taken into consideration until there is a possible involvement of China.). APFM and IDMP partners together with Global Service providers such as NASA, NOAA, and RMIT University SPACE Centre, drawing on its expertise in space-based observations and application of geographic information systems (GIS), will identify and develop tailored methodologies for risk assessments and produce web-based information tools for multi-layered GIS mapping of drought and flood risk combined with relevant exposure and vulnerability information at regional, national, sub-national and community level. FAO, GWP, ADPC, the Regional Integrated Multi-Hazard Early Warning System for Africa and Asia (RIMES), NMHSs and other relevant national institutions (Ministries of Climate Change, Agriculture, Irrigation, Environment and Water Management) would be appointed for implementing specific activities at the national and local/community level, based on their extensive experience in (i) assisting communities to make agriculture more productive and sustainable, (ii) enabling inclusive and efficient agricultural, irrigation and food systems, and (iii) increasing the preparedness and resilience of populations, and livelihoods to threats and emergencies.

A project steering committee and/or an advisory committee/group will be established with membership of national designated authority/agencies specialised in hydrology, meteorology, climatology, water resources, agriculture, irrigation, disaster management as well as relevant regional entities. An initial institutional /implementing arrangement can be found in Annex 2, with a description of the roles and responsibilities (organization chart showing how they report to each other) of the implementing and executing entities and stakeholders involved in the project. For coordination at all levels, a regional working strategy group (RWSG) (mainly to check the implementation progress of the activities, engage in policy dialogues and knowledge exchange, facilitate cooperation, and develop advocacy and joint strategies for dissemination at global platforms) and National Working Group (NWG) (supported by the appointed National Project coordinator of the Executing Entities) will be established in each country and will be responsible for the overall execution of the project and facilitating coordination with various stakeholders including IE and EEs of the project. The IE and EEs will provide overall guidance, assessing implementation progress with the intended objective and technical support during the implementation of the project activities. During the next phase of the project development, implementation cooperation and arrangements will be refined with additional stakeholders from global, regional, national and local levels. A Project Management Unit (PMU) will be established with the WMO, regional and national executing entities staff working directly with the National Working groups (formed with the representatives of various agencies) to ensure the planning and timely execution of the project activities.

Annex 1: List of projects or initiatives for developing synergies or complementarities with the proposed ECR Mekong project.

Annex 2: Proposed Institutional Arrangements of the ECR-Mekong which will be updated in the next preparation phase with the national and regional entities and detailed role and responsibilities will be provided.



Annex 3: Community consultation report provided with some initial needs or justifications for the proposed project.

[Community consultation report - Cambodia- 19 August 2022 KM.pdf](#)

PART IV: ENDORSEMENT BY GOVERNMENTS AND CERTIFICATION BY THE IMPLEMENTING ENTITY

A. Record of endorsement on behalf of the government Provide the name and position of the government official and indicate date of endorsement for each country participating in the proposed project/programme. Add more lines as necessary. The endorsement letters should be attached as annexes to the project/programme proposal.

CHOUP Paris Secretary of State Ministry of Environment Cambodia	Date: 11 June 2024
Syamphone Sengchandala Director General Department of Climate Change Ministry of Natural Resources and Environment Lao PDR	Date: 23 December 2022
Jatuporn Buruspat Permanent Secretary, Ministry of Natural Resources and Environment Thailand	Date: 11 August 2022
Dr Tran Hong Ha Minister of Natural Resources and Environment Viet Nam	Date: 30 July 2022

B. Implementing Entity certification Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans (<i>Cambodia</i> : National Climate Change Adaptation Plan; <i>Laos</i> : The National Strategy on Climate Change, the National Adaptation Program of Action; <i>Thailand</i> : Thailand Climate Change Master Plan 2015-2050; <i>Viet Nam</i> : The Climate Change Action Plan for Agriculture and Rural Development, the National Adaptation Programme for Climate Change, the National Climate Change Strategy), and subject to the approval by the Adaptation Fund Board, <u>commit to implementing the project/programme in compliance with the Environmental and Social Policy of the Adaptation Fund</u> and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.	
Moyenda Chaponda <i>Moyenda Chaponda</i> Implementing Entity Coordinator Development Partnerships Office	
Date: 01 July 2024	Tel. and email: +41 22 730 8646, mchaponda@wmo.int
Project Contact Person: Ben Churchill	Tel. and email: bchurchill@wmo.int



KINGDOM OF CAMBODIA
Nation Religion King

Ministry of Environment

N^o : 3240 / 0524 MoE

Phnom Penh, 11 June 2024.

To: The Adaptation Fund Board Secretariat
c/o Global Environment Facility Secretariat
1818G Street, NW, MSN P-4-400
Washington DC, United States of America
Email: secretariat@adaptation-fund.org
Fax: +1 202 522 3240/5

Subject: Endorsement for "Enhancing Climate (Change) Adaptation and Resilience of Mekong River Communities through Strengthening of Weather, Water and Climate Services (ECR-Mekong)"

Dear Sir/Madam,

In my capacity, as designed authority for the Adaptation Fund in Cambodia, I confirm that the above regional project proposal is in accordance with my government's national and regional priorities, especially with the specific commitment to the Pentagonal Strategy Phase I, the Mekong Climate Change Adaptation Strategy and Action Plan (MASAP), Cambodia's Updated Nationally Determined Contribution (Updated NDC) in implementing adaptation activities to reduce adverse impact of, and risks, posed by climate change in the Mekong River Basin and the Circular Strategy on Environment 2023-2028 to ensure environmental sustainability and climate change preparedness, as well as promoting a green economy.

Accordingly, I am pleased to endorse the preparation of the above project proposal with the support from the Adaptation Fund. If approved, the project will be implemented by World Meteorological Organization (WMO) and executed by the National Meteorological and Hydrological Services of the Ministry of Water Resource and Meteorological (MoRAM), Cambodia.

I sincerely hope that this proposal will be considered favorably by the Adaptation Fund. *st*

Sincerely yours,
For Minister



CHUOP Paris
Secretary of State



Lao People's Democratic Republic
Peace Independence Democracy Unity Prosperity

Ministry of Natural Resources and Environment
Department of Climate Change

1065-1004
No:...../DCC

Vientiane Capital, Date: 23. December 2022

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptaion-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for "Enhancing Climate Resilience of Mekong River Communities Through Strengthening Climate Services"

In my capacity as the designated authority for the Adaptation Fund in Lao PDR, I confirm that the above regional project proposal is in accordance with the government's national and regional priorities in implementing adaptation activities to reduce the adverse impact of, and risk, posed by climate change in the Mekong River basin.

Accordingly, I am pleased to endorse the above project/programme proposal with support from the Adaptation Fund. If approved, the project will be implemented by WMO and executed by the National Meteorological Service in Lao PDR.

Sincerely,

Syamphone Sengchandala
Director General,
Department of Climate Change,
Ministry of Natural Resources and Environment.
Designated Authority for Lao PDR



SOCIALIST REPUBLIC OF VIET NAM
MINISTRY OF NATURAL RESOURCES AND ENVIRONMENT

Ha Noi, 17 March 2023
Ref. No: /MONRE-2023

The Adaptation Fund Board

c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Endorsement for the revised Pre-Concept Proposal of "Enhancing Climate Resilience of Mekong River Communities through Strengthening Climate Services" project

After addressing all comments based on the Adaptation Fund's review of the Pre-Concept Proposal of "Enhancing Climate Resilience of Mekong River Communities through Strengthening Climate Services" project submitted in 2022, the World Meteorological Organization (WMO) and the Ministry of Natural Resources and Environment of Viet Nam are ready to submit the revised Pre-Concept Proposal.

In my capacity as designated authority for the Adaptation Fund in the Socialist Republic of Viet Nam, I confirm that the above regional project proposal is in accordance with the government's national and regional priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in the Mekong River basin, Viet Nam.

Accordingly, I am pleased to endorse the above-mentioned project proposal with support from the Adaptation Fund. If approved, the project will be implemented by the World Meteorological Organization (WMO) and executed by Viet Nam Meteorological and Hydrological Administration, Ministry of Natural Resources and Environment of Viet Nam and national partners.

Yours Sincerely,

Tran Hong Ha
Minister of Natural Resources and Environment
Socialist Republic of Viet Nam.

No 1006.4/ 1893



Ministry of Natural Resources
and Environment
92 Soi Phahol Yothin 7,
Phahol Yothin Road, Phaya Thai,
Bangkok 10400 Thailand
Tel./Fax +66 2 265 6692

19 July B.E. 2566 (2023)

Sir/Madam,

Subject: Endorsement for Enhancing Climate Resilience of Mekong River Communities through Strengthening Climate Services (ECR-MEKONG)

In my capacity, as designated authority for the Adaptation Fund in the Kingdom of Thailand, I confirm that the above regional pre-concept note is in accordance with the government's national and sub-regional priorities in implementing adaptation activities to strengthen the capacity on climate information and services for relevant agencies, increase collaboration network within Thailand and among Mekong river countries, and support Thailand's National Adaptation Plan implementation on water management sector, and agriculture and food security sector.

Accordingly, I am pleased to endorse the above pre-concept note dated 26 May 2023 for your consideration. If approved, the project will be implemented by World Meteorological Organization and executed by Thai Meteorological Department.

Yours sincerely,

(Mr. Jatuporn Buruspat)

Permanent Secretary

Ministry Natural Resources and Environment

Adaptation Fund Board Secretariat
c/o Global Environment Facility
1818 H Street NW, Washington DC 20433, USA
Email: secretariat@adaptation-fund.org