


Guidelines:

- This Request Submission Form should be completed by the organisation requesting technical assistance from the Climate Technology Centre & Network (CTCN) in collaboration with the National Designated Entity (NDE) of the country in question
- The Form must be signed by the NDE. Please see updated contact list of NDEs here: <http://unfccc.int/ttclear/support/national-designated-entity.html>
- The Form can be submitted as a Word file containing a digital signature or as a signed and scanned PDF file in combination with an un-signed Word file
- For requests submitted by multiple countries, all the NDEs of the respective countries shall sign identical Forms before official submission to the CTCN
- NDEs have the opportunity to submit CTCN requests in collaboration with National Designated Authorities (NDAs) for the Green Climate Fund (GCF) if targeting the GCF Readiness Programme.

Requesting country or countries:	Lao PDR
Request title:	Implementing Lao PDR's EW4ALL Roadmap 2024-2027
NDE	Ministry of Agriculture and Environment, Department of Environment Amphayvanh Oudomdeth (Mr.) Deputy Director-General, Department of Environment, Ministry of Agriculture and Environment amphayvanh.oudomdeth@gmail.com
Request Applicant:	Ministry of Agriculture and Environment Deputy Director General of Department of Meteorology and Hydrology. National Focal Point for Early Warning for All Initiative in Lao PDR Bounteum SISOUPHANTHAVONG, Bounteum Sisouphanthavong s.bounteum@hotmail.com 

Climate objective:

- Adaptation to climate change
 Mitigation of climate change
 Combination of adaptation and mitigation of climate change

Geographical scope:

- Community level
 Sub-national
 National
 Multi-country

If the request is at a sub-national or multi-country level, please describe specific geographical areas (provinces, states, countries, regions, etc.).

Problem statement related to climate change (up to one page):

This section should answer the question "what is the problem?" Please summarise the problem related to

climate change and/or the negative impacts of climate change in the country that the request aims to address.

Lao People's Democratic Republic (Lao PDR) is an LDC and LLDC in the Asia-Pacific region. With a projected population of 7.5 million in 2024, Lao PDR faces increasing occurrences of extreme weather events, including storms, tropical cyclones, floods, and landslides (particularly in the Mekong River Basin) as well as droughts, heatwaves and earthquakes.¹⁴⁷ In 2018, large-scale floods affected over 2,300 villages and 616,000 people, highlighting the need for improved EWS.

The development of an MHEWS in Lao PDR aims to reduce the country's vulnerability to climate-induced disasters by leveraging advanced scientific and technological capabilities. This system prioritizes a people-centred approach, emphasizing inclusiveness, collaboration and sustainability to ensure that warnings reach the most vulnerable groups such as women, children, older persons, ethnic groups and persons with disabilities. It does this by ensuring their participation in the design and implementation of EWS.

Lao PDR faces significant challenges in developing effective MHEWS due to the absence of legislative tools to mobilize private-sector resources, high staff turnover and a lack of skilled forecasters. The hydrometeorological infrastructure is inadequate, with limited capacities in MHEWS, especially in hazard monitoring, impact-based forecasting and last-mile communications, although on other measures, the maturity scores for Lao PDR exceed both the regional and global average (of the assessed countries featured within the dashboard; see Figure 4.4)

Coordinated dissemination of early warning messages requires adoption of the CAP and regular updates to the National Emergency Telecom Plan, led by the Ministry of Technology and Communications.

Another challenge is the reliance on external funding, which hinders long-term sustainability of national MHEWS. While it is recognized that hydropower companies could help improve EWS by providing their data, there are no mechanisms to do this.

Gaps also exist in disaster loss and damage tracking, comprehensive hazard and risk assessment methodologies and pre-assessments of vulnerable persons and infrastructure. Climate predictions lack socioeconomic and environmental impact evaluations, while innovation to improve risk understanding is minimal. The country also struggles with hazard identification and forecasting due to weak infrastructure, a scarcity of stations and insufficient maintenance. Where they exist, warning systems fail due to a lack of impact-based forecasting, poor coordination and limited automated public warning systems. Inconsistent emergency plans and inadequate disaster response protocols at the village level further weaken preparedness and response capabilities. There is also limited consideration of gender equality, disability or social inclusion in climate and hydromet products, exacerbated by inadequate disaster resilience awareness of and among vulnerable groups.

Past and on-going efforts to address the problem (up to half a page):

This section should answer the question "what has been done or is currently being done to address the problem?" Please describe past and on-going processes, projects or initiatives implemented in the country or region to tackle the climate problem as described above.

The Lao People's Democratic Republic (Lao PDR) is classified as both a Least Developed Country (LDC) and a Landlocked Developing Country (LLDC) in the Asia-Pacific region. Lao PDR experiences frequent extreme weather events, such as storms, tropical cyclones, floods, and landslides, particularly in the Mekong River Basin, as well as droughts, heatwaves, and earthquakes. It is essential to implement a multi-channel early warning system to protect lives and livelihoods in Lao.

Lao PDR has already adhere to the EWS4ALL and achieved the following steps:

- EW4All First National Consultative Workshop has been organized with participation from diverse stakeholders in DRR.

- A national focal point from the Department of Meteorology and Hydrology under the Ministry of Agriculture and Environment has been appointed by the government to implement the EW4All initiative.
- A stakeholder mapping exercise has been conducted to identify key actors and ongoing activities relevant to early warning system.
- Lao PDR's EW4All Road Map 2024-2027 was developed and endorsed following a country-led, multisector process. The roadmap estimates a budget of 3.9 million USD for Pillar 3.
- A preliminary gap analysis on warning pillar 3 warning dissemination and communication has been completed.
- The Ministry of Labour and Social Welfare (MoLSW) and the Ministry of Agriculture and Environment, MAF (Former Minister of Natural Resources and Environment) have implemented community-based early warning systems using loudspeakers and SMS alerts. Additionally, a Mobile Alert Messaging Pilot Project provides SMS warnings via partnerships with telecom companies such as Lao Telecom and UNITEL¹.
- The Ministry of Internal Affairs and Communications (MIC) Japan and the Department of Infrastructure, Transport, Regional Development and Communications (DITRDCA) Australia has been working on the resilience of ICT infrastructure and dissemination of early warning information.

Specific technology² barriers (up to one page):

Over the past decade, DMH has upgraded its observation networks and forecasting systems, enhancing weather forecasts and early warnings. The Upgrading Meteorological and Hydrological Stations project, supported by the World Bank and WMO, the Korean International Cooperation Agency and ChinaAid continues to improve weather and water monitoring facilities at the DMH and is establishing the National Water Resources Information Centre.

The Mekong Integrated Water Resource Management (MIWRM) Project focuses on mitigating flood and drought risks through better data collection and dissemination.

MAF, in collaboration with key ministries and research institutions, has developed flood and drought risk profiles, paving the way for the implementation of impact-based forecasting in the Xe Kong, Xe Done and Namhoung basins. The impact-based forecasting is calibrated and ready for operation during the 2024 monsoon period.

MoLSW and MAF have implemented community-based EWS using loudspeakers and SMS alerts, while a Mobile Alert Messaging Pilot Project provides SMS warnings via partnerships with telecom companies such as Lao Telecom and UNITEL.

With support from the WFP and FAO under the leadership of MoLSW, national and regional anticipatory action dialogues have been held and a National Anticipatory Action Technical Working Group has been established. There has also been a test of whether the Social Protection Emergency Rice Reserve Standard Operating Procedure might be an entry point for forecast-triggered anticipatory action for drought or floods (WFP, 2024)

Under EWS4all a roadmap has been defined. This Technical assistance will provide support for the implementation of this roadmap.

¹ See Case Study: Multi-hazard early warning systems in Lao PDR, UNDRR, <https://www.undrr.org/resource/case-study/multi-hazard-early-warning-systems-lao-pdr>

² "any equipment, techniques, practical knowledge and skills needed for reducing greenhouse gas emissions and adapting to climate change" (Special Report on Technology Transfer, IPCC, 2000)

Contribution to Programme of Work 2023-2027:

As per 3rd Programme of Work of the CTCN³, please indicate the system transformation area, key enablers and cross-sectoral themes related to the request:

System transformation areas (mandatory)

- Water-Energy-Food Nexus
 Sustainable Mobility
 Energy Systems
 Buildings and Infrastructure
 Business and Industry

Key enablers (optional)

- National Systems of Innovation
 Digitalization

Cross-sectoral themes (optional)

- Gender
 Youth
 Indigenous Peoples

Sectors:

Please indicate the main sectors related to the request:

- Coastal zones
 Early Warning and Environmental Assessment
 Human Health
 Infrastructure and Urban planning
 Marine and Fisheries
 Water
 Agriculture
 Carbon fixation
 Energy Efficiency
 Forestry
 Industry
 Renewable energy
 Transport
 Waste management

Please add other relevant sectors:

Technical assistance requested (up to one page):

Lao PDR is requesting support to the CTCN to implement Lao PDR's EW4All Road Map 2024-2027

³ <https://www.ctc-n.org/resources/ctcn-third-programme-work-2023-2027>

EWS4all is managed by a consortium of 4 institutions : UN Office for Disaster Risk Reduction, World Meteorological Organization (WMO) , the International Telecommunication Union (ITU) and the world's largest humanitarian network (IFRC).

The Ministry of Environment is already working closely with the Department of Meteorology and Hydrology (DMH) under MAF, as designated by the Prime Minister's Office, that leads and coordinates the EW4All initiative in Laos. The Ministry of Agriculture and Environment (MAF) and the Ministry of Labour and Social Welfare (MOLSW) acts as the central ministries for coordination efforts. The national focal point from DMH, MAF, manages daily cooperation, coordination, and operational activities. Ministry of Post and Telecommunications, as the telecom regulator of Laos, is also a key stakeholder. Also involved in this initiative are Mobile Network Operators (MNOs) and GSMA as well as Media and broadcasters, Red Cross Red Crescent, Lao Disabled People's Association, the Lao Women Union, and the Youth Union.

This Technical Assistance will focus mainly on the Pillar 3 of the initiative. The pillar 3 implementation will help countries be better prepared for natural hazards, save lives and reduce the impact of natural hazards by strengthening the 'Warning Dissemination and Communication' part (Pillar 3) – a critical component of early warning systems that ensures alerts reach the people at risk in time to take action. The countries supported will be able to take advantage of established, as well as new and innovative communication channels.

Specifically for Lao PDR, the main gaps and priorities under Pillar 3 are the need to :

- Develop National Emergency Telecommunication Plan (NETP) through national multi-stakeholder workshop involving the broadcasting sector, social media and telco regulators, service providers and operators.
- Coordinated dissemination of early warning messages requires adoption of the CAP and regular updates to the NETP, led by the Ministry of Technology and Communications.
- Conduct national mapping of telecoms and digital coverage for early warning purposes and last mile connectivity, including the connectivity to different vulnerable people who may not be covered by digital devices.
- Establish framework agreements with private sector partners.
- Analysis on the technologies for warning dissemination including Cell broadcast and SMS

CTCN support should include:

- **Development of a NETP framework** to guide national coordination and ensure resilient, inclusive emergency telecommunications before, during and after disasters.
- **Develop preliminary assessments on mobile EWS and Cell Broadcast** to evaluate where the country stands on using mobile networks and CB for alert dissemination, specifically in relation to technical, economic, regulatory and general aspects.
- **Conduct Early Warning Connectivity Map for Risk Assessment** to identify populations lacking access to early warning notifications because they are beyond the reach of mobile networks.
- **Develop a feasibility study for the implementation of a National Public Warning System** in the country, to identify the most suitable technical and economic solution and estimating the costs for its implementation
- **Develop a technical specifications document and bidding/tender process for Cell Broadcast implementation** to guide the procurement and deployment of a robust, standards-compliant

public warning system.

- **Organize the national workshops on Pillar 3** to bring together all stakeholders involved in DRM and emergency telecommunications and identify the main gaps and way forward for the achievement of an effective, people-centered early warning system in the country.

Expected timeframe:

This project is expected to be implemented in 24 months.

Anticipated gender and other co-benefits from the technical assistance:

The "Early Warnings for All" (EW4All) initiative recognizes the importance of gender-responsive and inclusive early warning systems (EWS). It aims to ensure that EWS are accessible to everyone, including marginalized groups, women, and those with disabilities, by addressing their unique needs and vulnerabilities. This means considering how gender shapes vulnerability to hazards and how warnings can be made more effective and equitable.

Key aspects of gender-responsive EWS within the EW4All initiative:

- **Addressing gender inequalities:**

EWS should not perpetuate existing inequalities or marginalization, but rather strive to address them.

- **Tailoring messaging and communication:**

Warnings should be designed to reach diverse audiences, including those with different literacy levels and access to technology.

- **Involving women in EWS development:**

Women's leadership and expertise are crucial in designing and implementing effective EWS, as they often have a deeper understanding of local contexts and needs.

- **Intersectional approach:**

Recognizing that gender interacts with other factors like disability, socio-economic status, and ethnicity, and addressing these intersections in EWS.

- **Monitoring and evaluation:**

EWS should be regularly evaluated to ensure they are effectively meeting the needs of all users, including women and marginalized groups.

Examples of how gender is integrated into EWS:

- **Communication:**

Using culturally relevant language, accessible formats (like voice recordings), and local media to ensure that warnings reach women in diverse communities.

- **Preparedness:**

Ensuring that women and girls have access to information about preparedness activities and safety plans.

- **Disaster response:**

Integrating gender considerations into relief efforts and recovery plans to ensure that women's specific needs are met.

- **Data collection:**

Collecting data on gender-specific risks and vulnerabilities to inform EWS development and improve their effectiveness.

By prioritizing gender-responsive approaches, the EW4All initiative aims to build more resilient and equitable communities that can better withstand the impacts of climate change and other hazards.

Anticipated follow-up activities after this technical assistance are completed:

The country is expected to initiate the development and implementation of Cell Broadcast system, including supplier selection, procurement, infrastructure deployment, regulatory adjustments, and maintenance of the system. Coordination mechanisms will be strengthened during the project to ensure sustainability and integration into national disaster risk management structures.

In parallel to this CTCN TA, the country will initiate the process of leveraging additional funding with the support of the IP with the objective to deploy fully the initiative.

Key stakeholders:

Please list the stakeholders who will be involved in the implementation of the requested CTCN technical assistance and describe their role during the implementation (for example, government agencies and ministries, academic institutions and universities, private sector, community organizations, civil society, etc.).

Stakeholders	Role to support the implementation of the technical assistance
National Designated Entity	Member of the Steering Committee Manage daily cooperation, coordination, and operational activities
Ministry of Agriculture and Environment, MAF (Former Minister of Natural Resources and Environment)	Member of the Steering Committee Department of Meteorology and Hydrology (DMH) under MAE, as designated by the Prime Minister's Office, will lead and coordinate the EW4All initiative in Laos.
Ministry of Post and Telecommunications	Member of the Steering Committee Telecom regulator of Laos
Ministry of Labour and Social Welfare (MOLSW)	Member of the Steering Committee : central ministries for coordination efforts
United Nations' Resident Coordinator's Office (UNRCO)	Member of the Steering Committee Coordinating with the United Nation Agencies
Mobile Network Operators (MNOs)	Main stakeholders
GSMA	Main stakeholders

GCF, LDCF	Potential Donors
Media and broadcasters	
Associations and Union	Red Cross Red Crescent, Lao Disabled People's Association, the Lao Women Union, and the Youth Union.

Alignment with national priorities (up to 2000 characters including spaces):	
Please describe how the technical assistance is consistent with national climate priorities such as: Nationally Determined Contribution, national development plans, poverty reduction plans, technology needs assessments (incl. whether this request refers to any technologies prioritized within Technology Action Plans), Long-term Low Emission Development Strategies, National Adaptation Plans, GCF Country Programme, sectorial strategies and plans, etc.	
Reference document (please include date of document)	Extract (please include chapter, page number, etc.).
Nationally Determined Contribution (NDC)	<p>Direct alignment and contribution to NDC implementation is required for all CTCN technical assistances. Please include a direct reference to the INDC/NDC document (chapter, page number, etc.).</p> <p>Nationally Determined Contributions (NDC) 2021 highlights the need to strengthen early warning systems in a timely manner. The NDC recognizes the importance of having effective early warning systems in place to alert and prepare for climate change-related hazards and associated risks. This includes investing in the development and improvement of systems and tools to support monitoring, forecasting, analysis, and preparedness for natural hazards. By enhancing early warning systems, the aim is to increase the resilience of communities and infrastructure to climate change and improve the response to potential impacts.</p>
Technology Needs Assessment and Technology Action Plan	In Lao TNA, EWS is listed as n°1 priority for the adaptation.
National Adaptation Plans	
GCF Country Programme	EWS for All has recently approved a full proposal to further support the adhesion of countries to EWS for all initiatives. Lao PDR being a LDC other source of funding are also available.
National Policies	<p>Disaster Management Law, 2019</p> <p>The 9th National Socio-Economic Development Plan (NSEDP)</p> <p>Pillar 5 of the Lao PDR Resilience Framework, 2022-2025</p> <p>Decree on Climate Change 2019</p> <p>National Strategy on Disaster Risk Reduction 2021-2030, and the Early Warning Standard Operating Procedures (SOPs) developed in 2017.</p>

Development of the request (up to 2000 characters including spaces):

Please describe how the request was developed at the national level and the process used by the NDE to approve the request before submitting it (who initiated the process, who were the stakeholders involved and what were their roles?) and describe any consultations or other meetings that took place to develop and select this request, etc.

The request was initiated in Jan 2025 in closed cooperation with the NDE of Lao PRD, and the Department of Meteorology and Hydrology (DMH) under MAF, designated by the Prime Minister's Office, to lead and coordinate the EW4All initiative in Laos. The NDE of Lao was informed of the AFCIA2 opportunity. The NDE informed the stakeholders involved of the EWS4All initiatives which led to the signature of a No objection letter signed by the National Focal point for the EWS4All initiative under MAF, as Deputy Director, Department of Meteorology and Hydrology.

Background documents and other information relevant for the request:

- Please list all relevant documents that will help the CTCN analyse the context of the request and national priorities. Please note that all documents listed/provided should be mentioned in this request in the relevant section(s), and that their linkages with the request should be clearly indicated. For each document, please provide web-links (if available) or attach to the submission form. Please add any other relevant information as required.
- Please indicate if this request has been developed with the support of the CTCN Request Incubator.
- EWS4All roadmap : https://laopdr.un.org/sites/default/files/2024-11/EW4All%20Road%20Map_2024-2027_Lao%20PDR.pdf
- TNA: <https://tech-action.unepccc.org/wp-content/uploads/sites/2/2017/11/tna-baef-adaptation-lao-pdr-final.pdf>
- UNDRR: <https://www.undrr.org/resource/case-study/multi-hazard-early-warning-systems-lao-pdr>

OPTIONAL: Linkages to Green Climate Fund Readiness and Preparatory Support

The CTCN is collaborating with the GCF in order to facilitate access to environmentally sound technologies that address climate change and its effects, including through the provision of readiness and preparatory support delivered directly to countries through their GCF NDA. These actions are in line with the guidance of the GCF Board (Decision B.14/02) and the UNFCCC, particularly paragraphs 4 and 7 of 14/CP.22 and paragraph 4, 7 and 8 of 14/CP.24 that addresses Linkages between the Technology and the Financial Mechanisms⁴.

The CTCN is therefore implementing some of its technical assistance using GCF readiness funds accessed via the country's NDA. Any application for GCF support, including the amount of support provided, is subject to the terms and conditions of the GCF and should be developed in conjunction with the NDA.

⁴ Please see:

https://unfccc.int/files/meetings/marrakech_nov_2016/application/pdf/auv_cop22_i8b_tm_fm.pdf

Please indicate whether this request has been identified as preliminarily eligible by the NDA to be considered for readiness support from the GCF.

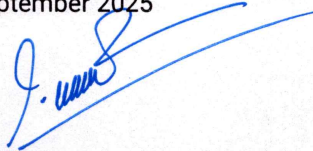
Initial engagement: The GCF NDA of the requesting country has been engaged in the design of this request and the NDA will be involved in the further process leading to an official agreement for accessing GCF readiness support.

Advanced engagement (preferred): The GCF NDA of the requesting country has been directly involved in the design of this request and is a co-signer of this request, the signature indicating provisional agreement to use readiness national funds to support the implementation of the technical assistance.

NDA name: Mr. Amphayvanh OUDOMDETH, Deputy Director-General, Department of Environment,
Ministry of Agriculture and Environment

Date: 9 September 2025

Signature:



National Focal Point for Early Warning for All Initiative in Lao PDR
Mr. Bounteum SISOUPHANTHAVONG, Deputy Director-General, Department of Meteorology and
Hydrology, Ministry of Agriculture and Environment.

National Designated Entity of CTCN

Mr. Amphayvanh OUDOMDETH, Deputy Director-General, Department of Environment,
Ministry of Agriculture and Environment

Monitoring and impact of the assistance:

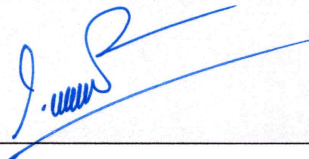
By signing this request, I affirm that processes are in place in the country to monitor and evaluate the technical assistance provided by the CTCN. I understand that these processes will be explicitly identified in the CTCN Response Plan and that they will be used in the country to monitor the implementation of the technical assistance following standard CTCN procedures. This includes the active engagement as NDE together with the key project proponent / beneficiary in regular project steering meetings. I understand that, after the completion of the requested assistance, I shall support CTCN efforts to measure the success and effects of the support provided, including its short, medium and long-term impacts in the country. This includes the completion of NDE feedback and post-implementation forms.

Signature:

NDE name: Mr. Amphayvanh OUDOMDETH, Deputy Director-General, Department of
Environment, Ministry of Agriculture and Environment.

Date: 9 September 2025

Signature:



THE COMPLETED FORM SHALL BE SENT TO THE CTCN@UNEP.ORG

The CTCN is available to answer all questions and provide guidance on the application process.