



CREWS PROJECT STATUS REPORT

(January – December 2024)

Section 1. General Project Information

1. Project title	Reinforcing the capacities of meteorological and hydrological services and enhancing the early warning systems in Cambodia and Lao People’s Democratic Republic (PDR) (CREWS Cambodia and Lao PDR)	2. Project reference	CREWS/RProj/08/South-East Asia
3. Lead Implementing Partner	World Meteorological Organization (WMO)	4. Other Implementing Partners involved in the project	WFP, RIMES, ADPC, KICT, UniSQ, CIMA, GWP, PIN, PADEK, HRC, BMKG
5. Operational Partners involved in the project	World Bank (WB) United Nations Office for Disaster Risk Reduction (UNDRR)	6. Project Duration/Timeframe (from year – to year)	2021-2025
7. Current year of implementation	Year 3/4	8. Total Funding Approved by Steering Committee (in US dollars), including fees	5,540,000



9. Reporting focal point(s) from Implementing Partners	<p>WMO: Jason Watkins jtwatkins@wmo.int, Nakul Prasad nprasad@wmo.int, Sophea Tim sophea.tim@wfp.org</p> <p>WB: Vica Rosario Bogaerts vbogaerts@worldbank.org and Veronique Morin vmorin@worldbank.org</p> <p>UNDRR: Chinatsu Endo chinatsu.endo@un.org, Sanjay Pariyar Sanjay.Pariyar@un.org and Stefanie Dannenmann-Di Palma dannenmann@un.org</p>
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Section 2. Overall rating

Interpretation of color coding		
High		The project is having good implementation progress. End-of project targets achievement or cumulative financial delivery are fully on track.
Medium		The project is having moderate progress. Implementation is facing issues. End-of project targets achievement or cumulative financial delivery are off track. Adaptive management should be undertaken immediately.
Low		The project is having less than moderate or poor progress. Implementation is not proceeding as planned facing major issues. End-of project targets achievement or cumulative financial delivery are severely off track. Requires remedial attention where restructuring may be necessary.

	Rating	Comments on delays
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Rate of delivery	●	The project remains on track and is aligned with the logframe and workplan.
Rate of expenditure	●	Funding use aligns well with the planned budget.

Ref.: 01091/2025-1.0 MS/DP

Section 3. Project Performance Progress

<p>10. Progress summary</p>	<p>What has been achieved <u>during this reporting period</u>? – Please <u>list by project outcome in bullet points</u>: progress and main achievements</p> <p><i>Outcome 1: Strengthened governance mechanism (policies, strategic frameworks, institutional mechanism and capacities) and enabling environment created for national and regional stakeholders.</i></p> <p><i>EW4All roadmaps developed.</i></p> <p>Lao PDR: The CREWS Initiative-funded project in Cambodia and Lao PDR has driven transformative progress in Early Warning Systems, with significant impacts in Lao PDR through its support for the Early Warnings for All (EW4All) initiative roll out. The project effectively mobilized resources and harnessed global technical expertise from pillar lead agencies. Within 16 months, and with the support of the CREWS Initiative, the formulation and endorsement of the EW4All National Roadmap 2024–2027 were successfully achieved.</p> <p>The support provided by the CREWS Initiative fostered strong leadership and coordination among key government agencies, including the Department of Meteorology and Hydrology under the Ministry of Natural Resources and Environment (MoNRE) and the Department of Social Welfare under the Ministry of Labor and Social Welfare (MoLSW). Enhanced awareness and ownership among government ministries, development partners, and other stakeholders have ensured that the roadmap’s priorities are integrated into sectoral plans and aligned with national development objectives. Furthermore, Lao PDR has emerged</p>
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as a regional leader in effectively rolling out early warnings for all initiatives, sharing its experiences at UNFCCC COP29, COP30, and the Asia-Pacific Ministerial Conference on Disaster Risk Reduction 2024. The lessons from Lao PDR’s EW4All road map process were shared with Cambodia, Bhutan, Mongolia, and Bangladesh, while multi-country forums have extended Lao PDR’s experience sharing to representatives from over 30 nations. Through strengthened disaster risk knowledge, innovative resource mobilization, and enhanced coordination, the CREWS Initiative has laid the foundation for effectively implementing the EW4All roadmap over the next three years, positioning Lao PDR as a strong advocate for the global rollout of the Early Warnings for All initiative.

Cambodia: The CREWS Initiative has significantly advanced early warning systems in Cambodia, driving the rollout of the EW4All initiative. Through effective resource mobilization and collaboration with global pillar leads and in-country experts, Cambodia successfully formulated and validated the EW4All National Roadmap 2025–2028, with government endorsement expected by early 2025.

The initiative has strengthened leadership and coordination among key government agencies, including NCDM and MoWRAM, while fostering greater stakeholder awareness and ownership. This has ensured the roadmap’s integration into national disaster risk management and climate resilience frameworks. Cambodia’s progress has positioned it as a regional leader in multi-hazard early warning systems (MHEWS), with its experiences shared at major international forums such as UNFCCC COP29, COP30, and the Asia-Pacific Ministerial Conference on Disaster Risk Reduction 2024.

Lessons from Cambodia’s EW4All roadmap have informed neighboring countries and global stakeholders, contributing to broader early warning efforts. With a focus on risk-informed decision-making, improved coordination, and sustainable financing, the CREWS Initiative has established a strong foundation for implementing Cambodia’s EW4All roadmap, reinforcing the country's commitment to disaster preparedness and resilience.

Outcome 2: Enhanced capacity of NMHSs to provide forecasts and warnings

Activity: Impact-based flood forecasting system made operational in September 2024 in both Cambodia and Laos, covering the Pursat, Prek Thnot and Sen basins in Cambodia, Xekong and Xe Don in Laos

- Floods are among the most destructive natural hazards globally, with Southeast Asia being particularly vulnerable due to socioeconomic and geographical factors. Climate change exacerbates this vulnerability, increasing the frequency and intensity of flooding events and heightening the risks to millions of people and critical infrastructures. To address these challenges, disaster risk management is transitioning from traditional hazard-based to impact-based forecasting (IBF), which focuses on predicting the consequences of flood events. IBF emphasizes actionable insights, such as the number of people affected or disruptions to essential services, enabling more targeted early actions and decision-making.
- This work shows the development and implementation of an operational impact-based flood forecasting and early warning system for five pilot river basins in Cambodia and Lao People's Democratic Republic (PDR). The system integrates the use of the Continuum distributed hydrological model (see Alfieri et al., 2024) calibrated with dedicated discharge measurements, 30m resolution inundation maps generated for seven constant probabilities of occurrence with the REFLEX model (Arcorace et al., 2024), and a risk assessment model implemented for seven asset categories including direct economic damage on built-up, population affected, crop land affected, grazing land affected, roads affected, education facilities and health facilities affected. The system is updated twice daily with four different global and limited area numerical weather predictions (NWP), enabling forecasting of flood impacts up to five days ahead of their occurrence and thus assisting hydro-meteorological forecasters and disaster managers in their daily monitoring.
- A key feature of this system is a co-production platform for generating standardized warning bulletins, allowing rapid dissemination of actionable information. This automation significantly reduces the time required for decision-making and prioritization during emergencies, enhancing disaster response capabilities. By aligning with international initiatives like the Sendai Framework and Early Warnings for All, this system represents a critical advancement in flood risk management, promoting resilience and minimizing disaster impacts in Southeast Asia.

(Outcome 2 continued)

Risk information to guide early warning systems developed and accessible

Lao PDR has made significant strides in enhancing its disaster response and preparedness capabilities, particularly in post-disaster impact assessment and disaster loss data management. Key achievements include the deployment of critical tools and the revival of vital data systems to support decision-making and response actions.

- Following Typhoon Yagi in 2024, the **72-hour rapid assessment form** and the **common early recovery emergency assessment form** were successfully utilized. These tools streamlined the assessment of immediate and medium-term needs, enabling efficient resource allocation and a smooth transition from emergency relief to early recovery.
- The **LaoDi database**, which hosts historical disaster impact records, was restored and made fully operational. With data spanning from 1990 to 2023, the platform is now publicly accessible via [LaoDi's website](#), offering a valuable resource for disaster risk and vulnerability assessments.
- The **LaoDi platform** proved instrumental in reporting the impacts of multiple tropical cyclones, including Prapiroon, Yagi, and Soulik. This capacity to track and report disaster impacts has strengthened evidence-based planning and enhanced the country's readiness for future hazards.

Outcome 4: Enhanced preparedness and response capability to act upon warning and risk information to minimize impact of disasters on lives, livelihoods and socio-economic systems

In Cambodia

- **Subnational Preparedness and Response Planning:** Six provinces along the Mekong River and Tonle Sap Lake updated their emergency preparedness and response plans through participatory workshops organized by NCDM. National simulation exercises were also conducted to test contingency plans, roles, and the use of systems like PRISM and EWS1294.
- **Anticipatory Action Protocols for Flood Hazards:** An Anticipatory Action Plan (AAP) for floods was developed in collaboration with Cambodian government institutions. This included field consultations, defining flood triggers and thresholds, and stakeholder validation workshops. The

plan, set for pilot implementation in 2025, aims to integrate anticipatory actions into national disaster preparedness mechanisms.

- **Scalability Framework for Shock-Responsive Social Protection:** The General Secretary for the National Social Protection Council (GS-NSPC) led the development of an operational plan for scaling shock-responsive social protection (SRSP), including an emergency protocol and flood scalability framework. The draft has been shared for stakeholder feedback, aiming to enhance intersectoral coordination and reduce the adverse impacts of floods on food security and livelihoods.

Outcome 5: Early warning programmes are driven by people-centered and gender-responsive principles and promote private sector engagement

- Lao PDR conducted its first national perception survey on weather forecasts and early warning systems, covering 9 provinces and 1,741 households. The survey explored how diverse groups, including persons with disabilities, women, older persons, and children, receive and respond to warnings. The draft report is complete and will be validated in 2025, aiming to enhance the inclusivity and effectiveness of early warning systems and reduce disaster impacts on communities.

Output 5.1: Gender-sensitive and vulnerable people inclusive (incl. those with disabilities, children, migrants, marginalized minorities, etc.) guidance and capacity building programmes provided

- In Cambodia, an inclusive early warning system was promoted through training for trainers on gender-responsive and sensitive early warning systems, and the development of a national guiding document on mainstreaming gender and most at risk groups in EWS.
- In Lao PDR, a guiding tool for mainstreaming gender and disability in multi-hazard, people-centered early warnings and early actions was drafted.

11. Rating of progress towards achieving CREWS Indicators

Complete the following for the selected CREWS indicators in the project logical framework, at both outcome and output level. Use the unit of measure and disaggregation level defined for each indicator¹ and provide a progress summary justification of the indicator. This

¹ CREWS Results Framework.





summary should state the evidence on the indicator’s progress and describe in detail what has been achieved and performed focusing on results.

Ref.: 01091/2025-1.0 MS/DP


CREWS Outcome 1: National and local multi-hazard early warning systems prioritized and funded						
Indicator	Baseline level	End-of project target level	Target for reporting period	Progress by 31 Dec (Set as a percentage)	Progress summary justification as of 31 Dec	Progress rating ²
# of LDCs and SIDS with national investment plans and budgets prioritizing multi-hazard early warning programmes	0	2	4 (2 EW4All roadmaps & 2 hydromet investment plans)	80%	<p>The EW4All roadmap for Lao PDR was endorsed in August 2024.</p> <p>The EW4All roadmap for Cambodia is in the endorsement stage, following the successful national validation workshop held in September 2024. The translated version in the national language (Khmer) is undergoing its final review, with government endorsement anticipated before the end of the project.</p> <p>This activity was not planned at the start of the project but given the importance of the EW4All initiative for Early Warning CREWS was able to support and lead the process in both countries.</p> <p>Hyrdomet investment plans were also developed, with close involvement with the counterparts, providing the basis for a</p>	


² Use scale system provided in Annex X of this document.


					<p>strategy in investing and maintaining the observation networks in both countries. These are critically important as there are a significant number of development agencies (such as JICA, KOICA, WFP, FAO etc) and funding opportunities (such as SOFF) that are willing to provide capital investment to support the hydromet agencies in Lao and Cambodia, but it is clearly important for these investments to be made in a coordinated fashion if an overall integrated weather and hydro observing system is to be achieved. The Investment Plans also highlighted the ongoing costs required to sustain the different elements of the observing system as many previous capital investment projects have failed to deliver sustainable systems.</p>	
<p>Output 1.1 A country and/or region has developed or strengthened legislative and/or institutional frameworks to support and sustain multi-hazard early warning systems</p>						
<p># of national plans, strategies, and legislations on early warnings approved and/or implemented</p>	<p>2 - Lao PDR - DMH law existing but requested English version, SOP with Typhoon committee</p>	<p>6 updated legislation</p>	<p>2</p>	<p>33%</p>	<p>There was a change in government in Cambodia on 22 August 2023, which put the activity on hold in Cambodia. Following this, after discussions held with both NMHSs it was decided that efforts and resources reserved for updating legislation and developing the 5-year strategic plan should be instead used to support the EW4All process, which should</p>	

	<p>needs reviewing and updating</p> <p>2 - In Cambodia - Water law and Disaster Management law exist</p>				<p>be the foundational underpinning of all future national plans and strategies relating to hydromet and early warnings.</p> <p>Supported development of national DRR action plan 2025-2030 to implement national strategy on DRR 2021-2030.</p> <p>Supported the development of the DRR action plan of MoNRE to integrate DRR into a five year sectoral development plan.</p>	
<p># of coordination mechanisms strengthened or established to enhance collaboration on early warning among national or regional institutions</p>	0	3	3	100%	<p>The project supported the following coordination mechanisms:</p> <ul style="list-style-type: none"> - ASEAN Climate Outlook Forum (ASEANCOF) brought together climate experts from the 10 ASEAN countries along with participants from agriculture sector to produce consensus based forecasts for (i) June-July-August period for the region - wet season (during ASEANCOF-22 in May 2024) (ii) December-January-February (DJF) period for the region - dry season (during ASEANCOF-23 in Nov. 2024). Lao PDR acted as the host for the 	


					<p>ASEANCOF-22 and 23, while ASEANCOF-22 was held in person, ASEANCOF-23 was held virtually.</p> <ul style="list-style-type: none"> - National Monsoon Fora (bringing together stakeholders to develop tailored climate services) in both Cambodia and Lao PDR, for the wet and dry seasons - Development of Integrated Water Resources Management (IWRM) and Drought Action Plans for both countries. As part of the process, national level technical working groups consisting of the relevant line ministries in each country were formed. <p>The EW4All initiative is an additional mechanism in both countries which was established through CREWS.</p>
<p>Output 1.2 Multi-hazard needs, gaps and priority assessments, analyses and related investment plans for early warning systems in a country or region are driven by CREWS financing</p>					

<p># of multi-hazard assessments, analyses, and other mapping of needs, gaps priorities that inform investment requirements on early warning</p>	<p>0</p>	<p>4</p>	<p>2</p>	<p>100%</p>	<p>As part of the EW4All process a rapid assessment on Early Warning roadmap was developed using the EW4All rapid assessment tool.</p> <p>Furthermore, in collaboration with MoWRAM and MoNRE and with the support of the Regional Integrated Multi-Hazard Early Warning System (RIMES) two assessments were completed outlining the capacity needs and recommendations for detection, monitoring and forecasting in both Cambodia and Lao PDR.</p> <p>Hyrdomet investment plans were also developed providing the basis for a strategy in investing and maintaining the observation networks in both countries.</p> <p>These are critically important as there are a significant number of development agencies (such as JICA, KOICA, WFP, FAO etc) and funding opportunities (such as SOFF) that are willing to provide capital investment to support the hydromet agencies in Lao and Cambodia, but it is clearly important for these investments to be made in a coordinated fashion if an overall integrated weather and hydro observing system is to be achieved. The Investment Plans also highlighted the ongoing costs required to sustain the different elements of the observing</p>	
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					system as many previous capital investment projects have failed to deliver sustainable systems.	
Output 1.3. Partnerships and cooperation frameworks developed for financing and scaling up support to multi-hazard early warning systems						
Total volume of funds leveraged by national institutions and development partners (in USD) through CREWS investments	0	0	0	100%	<ul style="list-style-type: none"> • GCF, UNDP EW4All Cambodia Project • GCF project proposal being led by Ministry of Natural Resources and Environment (MONRE) of Lao PDR could leverage the CREWS-GCF Scalability Framework - proposed 	



					<p>budget of 25 mil USD through the Simplified Approval Process (SAP)</p> <ul style="list-style-type: none"> ● SOFF Cambodia (approx USD 7.4m) ● SOFF Laos (approx USD 7.2m) ● Adaptation Fund ECR-MEKONG project (amount tbd), WMO led 	
# of LDCs and SIDS benefiting from GCF resources through the GCF-SAP CREWS Scaling Up Framework	0	0	0	N/A	<p>This was not planned in the project although both Cambodia and Laos are seeking GCF financing:</p> <p>The CREWS 2.0 Cambodia writeshop took place in Phnom Penh between 28 – 29 November 2024. A session was dedicated to the WFP GCF-SAP CREWS Scaling up project. The WFP lead consultant is now drafting the proposal and will build upon the current CREWS Cambodia and Lao project as well as complement the second phase. Thus, these initiatives are being planned in coordination.</p> <p>GCF project proposal being led by Ministry of Natural Resources and Environment (MONRE) of Lao PDR could leverage the CREWS-GCF Scalability Framework - proposed budget of 25 mil USD through the Simplified Approval Process (SAP).</p>	

CREWS Outcome 2: Improved early warning service delivery and accessibility by national and regional institutions

Indicator	Baseline level	End-of project target level	Target for reporting period	Progress by 31 Dec (Set as a percentage)	Progress summary justification as of 31 Dec	Progress rating
EW Maturity Index	N/A	N/A	N/A	N/A	This was not planned in the project.	N/A
# of hazards which pose a risk of life and economic loss for which forecasting and warning services are in place in LDCs and SIDS through CREWS support	3 (Severe Weather, Floods and Drought)	4 (include landslides)	0	4	<p>The project has achieved:</p> <ul style="list-style-type: none"> - The development of an impact-based flood forecasting system in both Cambodia and Laos (The basins in Cambodia are the Pursat, Prek Thnout and Sen, whilst the basins in Laos are, Xekong and Xe Don). Unfortunately, there was not enough data in order to calibrate the model in the Nam Houg basin of Laos. - Landslide module added to Southeast Asia FFGS system. Lao PDR and Cambodia had issued multiple flash flood warnings during the rainy season of 2024 	


					<p>by making use of the Southeast Asia Flash Flood Guidance System.</p> <ul style="list-style-type: none"> - Strengthened capacities on severe weather forecasting through WMO's SWFP programme with support from the WMO Regional Specialized Meteorological Centre (RSMC) experts. Last year both DOM and DHRW issued multiple severe weather warnings. 	
Output 2.1 Risk information and tools generated by countries to enable the delivery of impact-based early warnings						

<p># of risk data tools developed or strengthened to generate early warning products and/or support impact-based warnings.</p>	<p>1 Cambodia - WFP PRISM Platforms for Real-time Information Systems not linked with NMHS monitoring information</p>	<p>2</p>	<p>2</p>	<p>100%</p>	<p>The Visualisation platform for flood and drought monitoring and warning (incorporating existing information, products and tools) is operational in the MoNRE, MoWRAM, MoLSW and NCDM.</p> <p>Training courses in Impact-Based Forecast and Warning Systems were held in Cambodia (Oct 2023) and Lao (November 2024). These workshop-format training events engaged staff from the Hydromet agencies together with representatives from the users and stakeholders, including the media. Pilot projects in IBFWS are planned as the next step (under a planned Phase 2 of the CREWS-funded project) leading, in time, to a nationally-based IBFWS approach to the issue of Early Warnings.</p>	
<p>Output 2.2. Monitoring, analysis, and forecasting of hazards that threaten the country/region are improved and sustained by the countries</p>						
<p># of functioning monitoring and observation systems established or strengthened per hazard</p>	<p>N/A</p>	<p>0</p>	<p>0</p>	<p>0</p>	<p>Not planned.</p>	<p>N/A</p>


<p># of hazards monitoring, analysis, and forecasting processes developed or improved</p>	<p>Current utilization of forecasting processes</p>	<p>4</p>	<p>0</p>	<p>4</p>	<p>Same as activity indicator above on # of hazards which pose a risk of life and economic loss for which forecasting and warning services are in place in LDCs and SIDS through CREWS support</p>	
<p># of forecasting and prediction products developed and/or accessed from WMO Global Prediction Centers (GPCs), Regional Specialized Meteorological Centers (RSMCs), and NMHSs.</p>	<p>Current utilisation of forecasting tools and products</p>	<p>6</p>	<p>0</p>	<p>100%</p>	<p>(1) RSMC Hong Kong - for Severe Weather Forecast products</p> <p>(2) RFSC Ha Noi - NWP products</p> <p>(3) SeAFFGS - Access to SCAMPR (global satellite precipitation estimates from NOAA/NESDIS) and also flash flood threat products that are being run through Viet Nam and Thailand (need to verify this with FFGS team to be sure)</p> <p>(4) ECMWF EcChart</p> <p>(5) Singapore - long range forecasts (to develop seasonal outlooks)</p> <p>(6) De-Risk products - from 7 different GPCs (ECMWF, CMCC, NCEP, UKMO, DWD, JMA, MF)</p>	
<p>Output 2.3 Warnings are communicated by the countries based on common alerting protocols under agreed standard operational procedures (SOPs)</p>						

# of warnings issued in CAP format	0	0	0	0	MOWRAM Cambodia and MoNRE Lao have received training on CAP although as of yet there have been no warnings issued in CAP format.	●
# of updated LDCs and SIDS entries in the WMO register of alerting authorities	0	2	0	100%	Completed.	●
# of communication channels through which warnings are disseminated in the area covered by a prediction service for a given hazard(s)	7 Telephone, fax, email, mobile phone, radio, television, online	0	0	100%	Communication channels and quality of information provided is supported and strengthened through the project in various ways, such as new and improved forecast products and warning information. Media representatives were included in IBFWS training events in both countries.	●
Output 2.4 Warnings are received, understood, and acted upon based on co-produced preparedness and response plans by the countries						
# of preparedness and anticipatory action plans or Standard Operating Procedures (SOPs) that are operational and linked to	N/A	2	0	80%	The Community-Based Flood Management Manual for Cambodia is currently being developed by NCDM and ADPC. This is being translated into English from Khmer and will be available in Q1 2025.	●


<p>prediction and warning services</p>					<p>Additionally, NCDM are reviewing an existing SOP for flood which was drafted in 2019 by UNDP Cambodia. This will be updated and used for testing the new impact-based flood forecasting system.</p> <p>MoLSW in Lao PDR has developed disaster data sharing SOP which defines the role for stakeholders in disaster losses and damages data tracking value chain.</p> <p>Community-Based Disaster Risk Management (CBDRM) capacity buildings are being implemented by the Department of Social Welfare (DSW) under MoLSW, and the Department of Meteorology and Hydrology (DMH) under MoNRE and ADPC. Trainings on CBDRM with focus on flood early warning systems were provided to the Department of Social Welfare as trainers and to Village District Management Committees at 2 pilot villages in Oudomxay where hydromet monitoring networks were upgraded by various development partners. Community-Based Disaster Risk Management Plans, simulation exercises and lessons learned on CBDRM will be produced by May 2025.</p>	
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<p># of risk maps, advisory, and other warning products that are available and adapted to the user group/development sector needs</p>	0	2	2	100%	<p>National flood and drought risk profiles were developed for both Cambodia and Laos.</p> <p>In Cambodia, vulnerability index maps for floods and droughts were updated with the partnership with NCDM/WFP.</p> <p>In Lao PDR, vulnerability analysis and maps for flood and drought were developed with the partnership with WFP/ADPC.</p>	
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CREWS Outcome 3: Early warning programmes are driven by people-centered and gender-responsive principles and promote private sector engagement



Indicator	Baseline level	End-of project target level	Target for reporting period	Progress by 31 Dec (Set as a percentage)	Progress summary justification as of 31 Dec	Progress rating
<p>Level of integration of people-centered and gender-responsive approaches³</p>	0	1	1	HIGH	<p>In Lao PDR, a national perception survey on weather forecasts and EWS engaged the group of women and persons with disabilities in the survey question design, and as the interviewees of the survey, to ensure their unique</p>	



³ Please grade your project based on the following criteria: **Low**- The project did not perform consultations, activities to promote gender quality, and activities /developed products with a people-centered approach. **Medium**- There is evidence of the project performing at least one consultation, one activity to promote gender

					<p>perspectives are well reflected in the survey results.</p> <p>In Cambodia, gender vulnerability analysis of EWS was undertaken to understand the perspectives of vulnerable population recipients of warning messages. A national-level guideline document on mainstreaming gender and most at risk groups in EWS was developed and ready for validation in 2025.</p>	
<p>Level of users' engagement satisfaction in the people-centered and gender-responsive approaches/activities⁴</p>	0	1	1	MEDIUM	<p>The first-ever national perception survey on weather forecasts and EWS was conducted in Lao PDR to understand how people from different target groups—such as persons with disabilities, women, older persons, individuals, and children—receive, perceive, and respond to weather forecasts and early warning messages. The initial draft report has been completed which will be validated in 2025.</p>	
<p>Output 3.1 People of different backgrounds, gender, youth, older persons, people with disability, poor, marginalized, displaced, and non-native, as well as related institutions have co-produced climate and weather information products tailored to their needs</p>						

equality, and one activity/product developed with a people-centered approach. **High**- There is evidence the project performed more than one consultation, activities to promote gender equality, and activities/products developed with a people-centered approach.

⁴ This indicator will only be completed when the survey is performed. Please provide the overall result of your survey result based on the following criteria: **Low**- Users do not feel the project considered their opinion, context and experience when developing or strengthening EWS. **Medium**- Users feel the project somewhat considered their opinion, context and experience when developing or strengthening early warning systems. **High**- Users feel the project considerably considered their opinion, context and experience when developing or strengthening early warning systems.

<p># of climate and weather information co-designed to users' needs by group representing vulnerable segments of exposed populations</p>	<p>0</p>	<p>6</p>	<p>3</p>	<p>HIGH</p>	<p>Training workshops in Impact-Based Forecast and Warning Services were held in both Cambodia (Oct 2023) and Lao (Nov 2024). These were both introductory workshops which engaged staff from the Hydromet agencies together with representatives of the principal stakeholders and users, including media.</p> <p>The project supported the Monsoon fora for the wet and dry seasons in which the regional climate outlook was produced and tailored to key socio-economic sector needs.</p> <p>The development of the impact-based flood forecasting system was also co-developed with input from Disaster Management and other key socio-economic sectors such as agriculture, planning etc.</p>	
<p># of women and men trained through X # of capacity building programmes provided by CREWS</p>	<p>0</p>	<p>20</p>	<p>20</p>	<p>30%</p>	<p>In Cambodia, a 2-day training of trainers was provided to six NCDM staff (3 men and 3 women) on the aspects of gender-responsive and sensitive analysis, planning, budgeting, programming, monitoring and evaluation for inclusive EWS.</p> <p>A national training Workshop on <i>Gender Mainstreaming in End-to-End Early Warning System for Flood Forecasting and Integrated Flood Risk Management</i> is planned to take place in both Cambodia and Lao PDR.</p>	

<p># of CREWS projects that have included gender equality in early warning as an objective or outcome</p>	1	1	1	100%	<p>The project has an Outcome, <i>Outcome 5: Improved integration of gender and disability across the EW-EA value chain.</i></p>	
<p># of targeted outputs and activities towards gender implemented</p>	0	2	2	100%	<p>The project has an Output, <i>Output 5.1: Gender-sensitive and most at risk people inclusive (incl. persons with disabilities, children, migrants, marginalized minorities, etc.) guidance and capacity building programmes provided</i> and a number of activities supporting this including:</p> <ul style="list-style-type: none"> ● Risk communication plans, early action protocols and response plans developed that are gender-responsive and include recommendations on anticipatory actions and risk communication tailored to marginalized groups. ● Guidance document on mainstreaming gender and disability in MHEWS developed and tested for gender-transformative EW-EA developed. <p>In Lao PDR, the Gender, Disability, and Social Inclusion (GEDSI) integration tool and GEDSI scorecard on Disaster Risk Reduction (DRR) have been developed in consultation with the MoLSW and the MoNRE. These tools have supported the Government of Lao PDR in</p>	

					<p>integrating gender and disability considerations into the early warning and early action value chain.</p> <p>In Cambodia , a gender vulnerability analysis of EWS was undertaken to understand the perspectives of most at risk population recipients of warning messages. A national-level guideline document on mainstreaming gender and vulnerable groups in EWS was developed and ready for validation in 2025.</p>	
Output 3.2 Private sector is engaged to foster innovation and sustainability in delivery of early warning services						
# of agreements with the private sector to co-finance or co-implement EWS initiatives	N/A	N/A	N/A	N/A	This was not planned in the project.	N/A

1 Risk Status

Insert ALL the risks identified at project proposal, those from previous/current project status reports, and the new risk identified for the current reporting period. If a risk has been mitigated or is no longer a risk, please specify it in the “current situation” column.

<p>Description of risk</p> <p><i>What is the cumulative risk status of the project in comparison to what was identified in the project proposal?</i></p>	<p>Risk management actions</p> <p><i>What mitigation measures have been developed to address the risk status? <u>In bullet points</u></i></p>	<p>Current situation</p> <p><i>If mitigation measures have been undertaken, what is the current status of the risk? If a risk has been mitigated or is no longer a risk, please specify it here.</i></p>
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The prevalent situation on account of the Covid-19 pandemic may compromise the timelines and project inception and implementation, especially where travel (local and international) is required	N/A	This status of this risk is considered “low” as the current situation is stable.
Commitment from participating countries (including national government agencies and targeted communities) for the project	Risk has been mitigated considering strong working relationships have been established with national agencies and high-level political buy-in / support has been achieved throughout project implementation.	This status of this risk is considered “low” as the current situation is stable.
Human resources / capacity risks	The project implementing partners have sought not to exacerbate the challenges the national partners have in human resource and capacity risks through careful planning. Furthermore, some equipment has been provided to the NMHSs in order to support their operational capacity.	The risk status remains “medium”, considering the national agencies have limited human resource capacity
Natural hazards such as severe weather, floods, droughts and landslides have the potential to cause delays in project implementation	N/A	The risk status remains “medium” considering the occurrence of natural hazards in the region. Flooding affected some villages in Lao that are the subject of the CBFRM project in September 2024 as a consequence of the rainfall produced by Typhoon Yagi, but the progress of the project was not seriously affected.
Financial sustainability of investments following completion of the project	The Implementing Partners were working towards developing a Project sustainability and exit strategy, although given the decision of the CREWS Steering Committee to develop a second phase of	The risk status remains “low” considering the second phase of the project.

the project this must be revised. Therefore, the second project will be planned carefully to build upon the outcomes of the current project and EW4All roadmaps.

2 Knowledge management and social media

Provide a list of knowledge activities / products (when applicable) produced during this reporting period only. Include any links to press releases, videos or communication items and/or social media. Please attach with this report any supporting files, including photos, videos, stories, and other documents.

Strengthening Impact-based forecasting in Lao PDR - <https://community.wmo.int/en/meetings/impact-based-forecast-and-warning-services-ibfws-training-workshop-luang-prabang-lao-pdr>

CREWS Cambodia and Lao PDR 2.0 writeshop “New project will enhance Multi-Hazard EWS in Cambodia and Lao People's Democratic Republic” - <https://wmo.int/media/project-update/new-project-will-enhance-multi-hazard-early-warning-systems-cambodia-and-lao-peoples-democratic>

WMO supports Cambodia and Lao PDR to strengthen early warnings - <https://wmo.int/media/news/wmo-supports-cambodia-and-lao-pdr-strengthen-early-warnings#:~:text=WMO%20supports%20Cambodia%20and%20Lao%20PDR%20to%20strengthen%20early%20warnings,-News&text=Backed%20by%20funding%20from%20the,especially%20against%20floods%20and%20droughts>

CBDRM trainings for Village Disaster Management Committees in Houn and Xay districts in Oudomxay province in Lao PDR

<https://docs.google.com/document/d/1UFTjtb7XaQbnO4Us0jWfk5-TW8uiSLXm/edit?usp=sharing&oid=101896277569276963995&rtpof=true&sd=true>

Community-led disaster management: Soulinh’s path to resilience

<https://www.undrr.org/news/community-led-disaster-management-soulinhs-path-resilience>

3 Partnerships & stakeholder engagement

Ref.: 01091/2025-1.0 MS/DP

Optional: If the project worked with any of the following partners in this reporting period, please provide a summary of the partnership activities.

<p>Civil Society Organisations and/or NGOs</p>	<p><u>People In Need (PIN) in Cambodia and Laos:</u></p> <ul style="list-style-type: none"> • UNDRR continues to partner with PIN in Cambodia to support the development of two-way communication channel for the existing EWS1294, and to promote an inclusive EWS through the training of trainers and the development of a national guidance document on mainstreaming gender and vulnerable groups on EWS. • WMO and WB have been working with PIN Laos in order to develop and pilot the EW1294 system in Southern Laos, specifically the Attapeu, Champasak, and Saravane provinces. The system is now operational and can be viewed at https://laos-ews.com/. <p><u>Partnership for Development in Kampuchea (PADEK), Cambodia</u></p> <ul style="list-style-type: none"> • PADEK has become a key partner for WMO in Cambodia. PADEK supported the organization of the CREWS Steering Committee field visit in Cambodia in January 2024, and have been instrumental in supporting WMO with activities under Outcome 2 and 4. Furthermore, working closely with NCDM, PADEK has been leading the Community-based Flood Management Activities in Cambodia with support from ADPC.
<p>Academic Institutions</p>	
<p>Private Sector</p>	

4 Impact stories

Provide a brief summary of any especially interesting and impactful project result that is considered to be worth sharing in the annual report to the Steering Committee, with concrete examples of the contributions to CREWS value propositions (gender-responsive, multiplier, people-centered, promote coherence, solution-oriented, unique) (max 500 words).

Impact Story 1: Reviving LaoDi to Strengthen Disaster Resilience in Lao PDR

For years, the Lao Disaster Information (LaoDi) system served as a vital platform for tracking disaster data in Lao PDR. However, as disaster risks grew and demands for timely data increased, LaoDi's functionality fell short of meeting the needs of its users. The system required significant improvements to ensure it could support effective disaster response and planning. Determined to rebuild, the Department of Social Welfare (DSW) partnered with the United Nations Office for Disaster Risk Reduction (UNDRR) and the Climate Risk and EWS (CREWS) initiative. Through a structured four-phase approach—Revival, Recovery, Upgrade, and Rollout—LaoDi underwent a remarkable transformation. Key efforts included restoring lost data, upgrading functionalities, and integrating new tools for disaster needs assessments (for which the data collection form was designed with WFP with the support of CREWS). By September 2024, LaoDi became increasingly instrumental in assessing recovery needs during floods in Luang Namtha Province, showcasing its enhanced capabilities. Today, LaoDi supports the government in mapping disasters, preparing reports, and providing actionable insights for stakeholders. With ongoing upgrades, DSW plans to make LaoDi more interactive with the capability to record the estimated losses and damages for key economic assets in the future.

Impact Story 2: Accelerating Early Warnings for All in Lao PDR

Lao PDR has made remarkable progress in disaster resilience through the Early Warnings for All (EW4All) initiative. Launched in 2022, this global effort aims to protect everyone with robust EWS by 2027. With support from the Climate Risk and EWS (CREWS) initiative, Lao PDR developed the EW4All National Roadmap, endorsed in August 2024, to establish inclusive, people-centered EWS. Key milestones include mobilizing nearly 20% of the \$27.7 million budget estimated in the roadmap, creating a dashboard for progress tracking, and fostering government ownership. Lao PDR has shared its experiences internationally, showcasing leadership in disaster resilience. Through collaboration, Lao PDR is building a safer future, ensuring no one is left behind.

Impact Story 3: Strengthening Lao PDR's Disaster Response After Typhoon Yagi



In 2024, Typhoon Yagi brought widespread devastation to Lao PDR, testing the nation’s disaster response systems. Thanks to recent advancements in early warning and disaster management, Lao PDR demonstrated remarkable resilience. Central to the response was the deployment of the 72-hour rapid assessment form and the common early recovery emergency assessment form, both of which were pivotal in streamlining the collection and analysis of critical disaster data, and developed with the support from CREWS.

The 72-hour rapid assessment form enabled authorities and responders to quickly evaluate the immediate impact of the typhoon, identifying key areas of concern such as the extent of damages, displaced populations, and urgent needs for food, water, and shelter. This rapid data collection facilitated prompt decision-making, ensuring that life-saving resources were deployed where they were needed most.

Meanwhile, the common early recovery emergency assessment form provided a framework for evaluating medium-term needs, such as rebuilding infrastructure, restoring livelihoods, and addressing the residual humanitarian needs of most at risk groups. Together, these tools ensured a seamless transition from immediate relief to early recovery, highlighting the importance of structured, data-driven responses. The deployment of these tools after Typhoon Yagi underscores Lao PDR's growing capacity for disaster management.

Sources:

<https://drive.google.com/drive/folders/16NcBzC9TNXIXcArKYfgdkDbESLawUkjq?usp=sharing>

1. REVIVING LAODI: Strengthening Lao PDR’s Disaster Loss and Damage Tracking System
2. CREWS SUPPORT ACCELERATES EW4ALL ROLLOUT IN LAO PDR

5 Financial management

Total financing approved (in approved project proposal):	USD 5,540,000
Cumulative amount for the reporting period (<i>how much has been used, actual expenditure</i>):	WMO: 2,914,697.36 (82%) WB: 869,738.62 (77.7%) UNDRR: 791,799 (94%)



Percentage used as of <i>(state end date of reporting period)</i> :	<p>WMO: 81.1% as of 31 December 2024</p> <p>WB: 88% as of 31 December 2024</p> <p>UNDRR: 94% as of 31 December 2024</p>
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6 Supporting documents

List and annex to the report any documents providing details on project activities conducted during the reporting period such as reports of training sessions, assessment reports, online solutions and tools, manuals, summaries of high-level discussions etc.

Please include objectives, key project deliverables, leveraging, contextual information/statistics, significant events during the reporting period in bullet points. (max 250 words)

Key events during reporting period

CREWS Members Field Visit, CREWS Steering Committee Meeting and Project Steering Committee Meeting

A week-long event to Cambodia and Lao PDR was organized from 22 – 26 January 2024, as part of the ongoing CREWS Cambodia and Lao PDR project. The purpose of the event was for the CREWS Steering Committee Members to have an on-site field visit to visit one of the project sites and for the 18th CREWS Steering Committee meeting to be held in a location where CREWS is supporting EWS, which was Cambodia. The Third Project Steering Committee Meeting was also hosted in Laos, as well as a field trip in both Cambodia and Lao PDR to review work being completed in the project as well as visits to relevant ministries included in the project.

The project steering committee meeting report can be found [here](#).

Technical training workshop on, Flood and Drought Risk Mapping and Hydrological Modelling and IBF Report, Laos (31 January - 02 February 2024)

The workshop report can be found [here](#).



Technical training workshop on, Flood and Drought Risk Mapping and Hydrological Modelling and IBF Report, Cambodia (05 & 06 February 2024)

The workshop report can be found [here](#).

National Consultation Workshop on Gap Analysis Results – 17 May 2024

In May 2024, a national consultation workshop on the gap analysis of Cambodia’s EWS (EWS) was held in Phnom Penh, co-organized by WFP, UNDP, and NCDM. The workshop brought together 61 participants from over 28 institutions, marking a significant milestone in developing Cambodia’s EW4All National Roadmap (2024-2028). Participants reviewed a comprehensive gap analysis, identified strategic objectives across the four foundational pillars of multi-hazard EWS, and aligned these priorities with Cambodia’s national strategies. This collaborative effort underscored the critical role of disaster preparedness in building climate resilience.

The workshop report can be obtained [here](#).

EW4All Cambodia Roadmap Validation Workshop – 27 September 2024

WFP, as the penholder, led the drafting process of the EW4All National Implementation Roadmap (2024-2028) in close collaboration with government ministries, global pillar leads, and stakeholders. On September 27, 2024, the National Validation Workshop for the roadmap took place in Phnom Penh. Co-organized by NCDM and WFP, the workshop brought together 73 participants from 44 institutions, including government agencies, UN organizations, and development partners, to review, refine, and finalize the roadmap.

The workshop report can be found [here](#).

Training Workshop on Impact-Based Forecast and Warning Services, Luang Prabang, Lao PDR November 11th - 14th.

Workshop mini-site and report can be found [here](#)

CBDRM Trainings for Trainers for Department of Social Welfare (DSW) to strengthen DSW capacity on CBDRM (22-25 Oct 2024)

Report can be obtained [here](#).

CBDRM trainings for Village Disaster Management Committees (VDMC) at Houn and Xay districts in Oudomxay (11-19 Dec 2024)

Report can be obtained [here](#).



Training workshop in Cambodia on IBF flood forecasting system, workshop report (18 – 20 November 2024): <https://docs.google.com/document/d/1dlhnDmzS1aWJmf8Rs7-E6N3LADOCnraC/edit?tab=t.0>

Fourth Project Steering Committee Meeting and Write-shop for the second phase of the project (25 – 26 November 2024), Laos: [Report](#)

Fourth Project Steering Committee Meeting and Write-shop for the second phase of the project, Cambodia (27 – 28 November 2024): [Report](#)

EW4All roadmap Lao PDR

<https://laopdr.un.org/en/282223-early-warning-all-ew4all-roadmap-2024-2027>


EW4All roadmap Cambodia

https://drive.google.com/file/d/1Us44DumYDdf3LJFJEwxVfnROUq2C0U2B/view?usp=drive_link



7 Certification on Use of Resources

Each Implementing Partner to provide a certification of the use of resources signed by their authorized representative.

8 Annex. Progress rating

Interpretation of color coding		
Achieved		The indicator has achieved its end-of-project target.



Partially achieved		The indicator is on track to achieve its end-of-project target.
Not achieved		The indicator has not had any advancement towards achieving its end-of-project target.