



Ministry of Environment



**ENHANCING INTEGRATED WATER MANAGEMENT AND CLIMATE RESILIENCE IN VULNERBLE URBAN
AREAS OF THE MEKONG RIVER BASIN**

ANNUAL PROGRESS REPORT (1 JANUARY-31 DECEMBER 2023)



PROJECT INFORMATION

Project ID: 00126694; 00131992

Duration: 24 September 2021 to 24 September 2025

CPD/CPAP Outcome:

Cambodia

By 2023, women and men in Cambodia, in particular those marginalized and vulnerable, live in a safe, healthy, secure and ecologically balanced environment with improved livelihoods, and are resilient to natural, socio-economic and climate change related trends and shocks.

Lao PDR

By 2026, people, especially the most vulnerable and marginalized, and institutions will be better able to sustainably access, manage, preserve and benefit from natural resources and promote green growth that is risk informed and disaster and climate-resilient

Contributing Outcome (UNDAF/CPD, RPD or GPD):

RPD Outcome 1: Advance poverty eradication in all its forms and dimensions

RPD Outcome 2: Accelerate structural transformations for sustainable development

Total Project Budget: US\$ 4,286,730.85 (5,000,000,000 KRW)

Implementing Partners:

Cambodia

Ministry of Water Resource and Meteorology (MoWRAM)

National Committee of Disaster Risk Management (NCDM)

Lao PDR

Ministry of Natural Resources and Environment (MONRE)

Ministry of Labour and Social Welfare (MOLSW)

Responsible Agency: United Nations Development Programme (UNDP)

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ACRONYMS

3Ss	Sesan, Sekong and Sre Pok river basin
4Ps	Prek Preah, Prek Krieng, Prek Kampi and Prek Te river basin
CBO	Community- based Organizations
CO	Country Office
CSO	Civil Society Organizations
DRM	Disaster Risk Management
DWR	Department of Water Resources, Lao PDR
EWS	Early Warning System
HRDD	Human Right Due Diligence
IFAD	International Funding for Agricultural Development
IP	Implementing Partner
ITB	Invitation to Bid
LoA	Letter of Agreement
LVGs	Low Value Grants
MOE	Ministry of Environment of the Republic of Korea
MOLSW	Ministry of Labour and Social Welfare, Lao PDR
MONRE	Ministry of Natural Resources and Environment, Lao PDR
MoWRAM	Ministry of Water Resource and Meteorology, Cambodia
MPI	Ministry of Planning and Investment (MPI), Lao PDR
NCDDS	National Committee for Sub-National Democratic Development Secretariat, Cambodia
NCDM	National Committee for Disaster Risk Management, Cambodia
NCMC	Cambodia National Mekong Committee
NGOs	Non-profit Governmental Organizations
ToR	Term of Reference
UNCT	United Nations Country Team
UNDP	United Nations Development Programme
USD	United States Dollars

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I. BRIEF DESCRIPTION

The project “Enhancing Integrated Water Management and Climate Resilience in Vulnerable Urban Areas of the Mekong River Basin” is funded by the Ministry of Environment (MOE) of the Republic of Korea (ROK). MOE generously contributed approximately USD 4,286,730.851 for this project to be implemented for 48 months from 24 September 2021 to 24 September 2025. The main objective of the project is to strengthen the climate and disaster resilience of people and communities in vulnerable regions of Lao PDR and Cambodia through improved risk and vulnerability assessment and advancing an integrated approach to water resources management. The project comprises of a set of measures that span three key outputs:

- 1) Inclusive assessment of water-related climate risks completed in the priority river basins;
- 2) Enabling environment for gender-responsive climate risk-informed integrated water resources management developed; and
- 3) Funding proposal for priority risk reduction measures developed.

Each country presents its own set of activities under these shared thematic outputs that are suitable and tailored to their specific contexts, needs and barriers.

This project seeks to address the critical need for risk data to inform integrated water resources management and, in so doing, enable increased investment in risk reduction measures. Both Cambodia and Lao PDR face similar challenges and contextual conditions in addressing climate risks associated with water. There is a strong connection between the upstream and downstream impacts associated with floods and water availability in the transboundary region. As such, the project seeks to address these similar problems faced by both countries while acknowledging the transboundary nature of the challenge and adjusting as necessary to tailor for the variances of each country. Taking a barrier-removal approach, the project will address gaps in data collection, management and analysis, enhance institutional and technical capacity at the subnational level for integrated climate and flood risk management, enhance availability of resources for investment in water-related risk reduction, and aid the flow of risk knowledge and coordination across borders.

II. IMPLEMENTATION PROGRESS

OVERALL IMPLEMENTATION PROGRESS

Cambodia

In 2023, the project achieved significant progress and gained valuable learnings. Despite challenges in accessing hydrometeorology data, most activities under Output 1 were completed. The flood modeling and impact-based forecasting, currently being finalized by AWC, will provide crucial information for the implementation of activities under Outputs 2 and 3. The project conducted an assessment of climate change impacts on water-related hazards and crop production in the targeted river basins, which will inform the identification of suitable adaptation options.

¹ The total approved amount is 5,000,000,000 Korean Won, equivalent to approximately USD 4,286,730.85 at 1,166.39 Korean Won/USD derived from UN Operational Rates of Exchange (UNORE) as of 1 September 2021.

Output 2 was the focus in 2023. A capacity assessment was conducted to guide the development of a capacity-building plan. Training programs were provided to the local committee for disaster management, covering topics such as gender in DRM, plan development, GIS, and climate risk data management. The project also offered technical support to the national committee for disaster management (NCDM) in reviewing the current national action plan for disaster risk reduction (NAP-DRR) and developing the next 5-year plan, strengthening disaster risk reduction planning. Emphasizing the role of sub-national government institutions in climate action within the decentralization process, the project focused on enhancing their capacities to build community resilience. As a result, 4 communes in disaster prone areas now have gender-responsive and risk-informed contingency plans developed through data driven processes (e.g., using and building capacities on GIS-based integrated hydrological models and impact-based flood forecasting).

Lao PDR

2023 was the first year that the project had a full 12 months to carry out the planned activities compared to year 2022, which was initiated in middle of July 2022. Based on the increased capacity of the project team and stronger partnership with the relevant stakeholders, the project in Lao PDR demonstrated a substantial progress in 2023, providing valuable contributions to the government partner and communities in needs. The progress of activities implemented under AWP 2023 is summarized as follows:

Activity #	Activity Name	Progress and Achievements by Q4 2023	Percent of completion against the AWP 2023
Activity L1.2.3:	Inclusive community-based problem analysis and mapping exercise completed for the two priority urban areas.	- Reached out to total of 297 (of which 120 were women) community members in the two provinces. - Identified CCA/DRR action plans in DRR preparedness and recovery and women leadership in DRR. - Identified community's needs for emergency preparedness goods and items.	100%
Activity L1.2.5	Develop a guideline for Water and Water Resources Protection Zones (WPZ) to support flood and drought management and pilot one Zone within the two river basins.	- Reached out to a total of 122 (of which 35 were women) from 42 different stakeholder groups to develop the water protection zone. - Organized three consultation meetings to identify the hazard risks (flood) and quantify the existing sources of water supply. - Drafted WPZ guideline and will be presented in 2024.	80%
Activity L2.3.1	Capacity assessment conducted to determine short-term capacity needs regarding use of disaster and climate risk data	- Reached out to total of 37 stakeholders (of which 11 were women) in the two provinces. - Identified short-, medium- and long-term capacity needs of DRR preparedness, response, and recovery in particular for provincial and district officers.	100%

		Delivered 1-day DRR training to 46 national and sub-national officials (of which 18 were women).	
Activity L2.3.2	Implementation of a provincial training program on implementation of GIS-based integrated hydrological models and use of risk data in decision-making.	- Reached out to a total of 136 participants (of which 36 were women) to strengthen GIS technical skills for provincial and district officers and a series of trainings was provided. Three segmented the training modules, which were intro, intermediate and advanced GIS courses were successfully delivered. - The courses particularly helped the subnational officials to conduct the creation of maps, catchment calculation, and spatial analysis.	100%
Activity L2.3.4	Facilitate regional training with provincial leadership/ focal points and representatives of national ministries on use of LaoDi and LaoWIS databases to expand capacity to utilize in catchment-wide disaster management in the transboundary region.	- Improved usability of LaoWIS and LaoDi - information systems and added data inputs forms to upload new information. - Reached out to a total of 76 (of which 17 were women) to take part in 5-day training on LaoWIS and LaoDi, including instruction on how to upload data and information.	100%
Activity L2.3.5	Facilitate community mobilization of relief funds (such as pilot revolving funds and seed funds) in the target communities through the Disaster Management Committees.	- Reached out to total of 297 (of which 120 were women) community members in the two provinces to learn about their needs in DRR. - Itemized goods and items to build DRR resilience capacity at the community level and completed the procurement process (equivalent to USD 79,000). Delivery of the items to the communities are planned in 2024. - Assessed and identified potential locations for building evacuation centres.	100%

OUTPUT 1: INCLUSIVE ASSESSMENT OF WATER-RELATED CLIMATE RISKS COMPLETED IN THE PRIORITY RIVER BASINS

CAMBODIA:

Output C1.1: Climate risk and water resources management baseline examined

All activities under this output have been completed in 2022.

Output C1.2: Detailed climate and disaster risk assessments completed for the Xe Bang Fai and Xe Don river basins with a focus on two priority urban areas.

Activity C1.2.1: Flood propagation model developed for the two priority urban cities

This activity is performed by AWC/K-Water. Data collection was conducted in the first part of the year, including data sharing from MoWRAM as well as cross-section surveying of the river bathymetry at Kratie and Stung Treng. Progress in model development and early/intermediate results were presented in bi-monthly meetings with AWC/K-Water, and specific technical issues were discussed in a few ad-hoc technical meetings. The model was finished by the end of 2023. Handover and training to stakeholders in Cambodia is planned in early 2024.

Activity C1.2.2: Two city, impact-based forecasting models completed illustrating the projected level of impact and likelihood of occurrence for hydro-meteorological disasters in targeted areas

This activity is performed by AWC/K-Water and relies on Activity C1.2.1. Progress in model development and early / intermediate results were presented in bi-monthly meetings with AWC/K-Water, and specific technical issues were discussed in a few ad-hoc technical meetings. The impact-based forecasting model is scheduled to be completed by the end of January 2024. Handover and training to stakeholders in Cambodia is planned in early 2024.

Activity C1.2.3: Inclusive community-based problem analysis and mapping exercise completed for the two priority urban areas.

This activity has been completed.

Activity C1.2.4: Market-based assessment of supply chains related to food, water, and other goods for risks and barriers related to climate change completed

This activity was split in two parts. The first part, assessing the climate-related risks associated with production of key crops in the 3S and 4P Basins was conducted in the first half of 2023. The assessment yielded important insights in the most important cash crops from a socio-economic perspective, the major climate hazards threatening production of these crops, and the extent to which the corresponding risks may increase in the future due to climate change. Results were disaggregated at the district level and discussed and validated in stakeholder workshops in Kratie and Stung Treng. The final report presents the methodology and results, but also drafts initial recommendations on how these findings can be used in identifying effective climate adaptation measures, with a focus on the cultivation of the selected crops: cashew nuts, cassava, banana, and mango. The full report can be found in annex 1.

The second part of the activity looks at climate risks associated with other parts of the agricultural supply chain; i.e. supply of agricultural inputs as well as post-harvest practices, such as storage, logistics, and market access. In 2023, this work was advertised and in December a national consultant was selected for performing this work.

Figure 1: Provincial consultation workshop, Kratie and Stung Treng Province



LAO PDR:

Output L1.1: Climate risk and water resources management baseline examined

All activities under this output have been completed in 2022.

Output L1.2: Detailed climate and disaster risk assessments completed for the Xe Bang Fai and Xe Don river basins with a focus on two priority urban areas.

Activity L1.2.1: Flood propagation model developed for the two priority urban cities

This activity is implemented by AWC (see below for the progress done by AWC).

UNDP supported the AWC mission in Laos from 16th – 24th March. A direct link between AWC and the data holder (Department of Meteorology and Hydrology) has now been established in a view to facilitate the data acquisition.

In Q4 2024, SAMAN, AWC's consortium partner, conducted a field survey between 15 and 19 November 2024 to both Khammouan and Champasak Provinces to collect information on existing early warning systems (EWS) and hydrometeorological monitoring networks of the target river basins of Xe Don and Xe Bang Fai, namely Khongxedon station, Pakse station, Xe Bang Fai station, and Mahaxai Station. In parallel, SAMAN experts also carried out rapid appraisals on institutional capacity of provincial/district government on integrated water resources management (IWRM) and climate change adaptation (CCA) based on the semi-structured interview forms. Upon completion of field mission, SAMAN organized a national technical workshop on institutional capacity assessment on 21st November 2023 in order to obtain information on IWRM and CCA at the national level while presenting the initial findings from the province/district.

Activity L1.2.2: Two city, impact-based forecasting models completed illustrating the projected level of impact and likelihood of occurrence for hydro-meteorological disasters in targeted areas

Same with above (L 1.2.1).

Activity L1.2.3: Inclusive community-based problem analysis and mapping exercise completed for the two priority urban areas.

A national consultant was hired in May 2023 to perform this activity. A kick-off meeting was held on June 8 in Vientiane to introduce an approach and methodology to conduct the community problem analysis and develop climate change action plans (CCAPs). The task also included the itemization of the relief goods and services as part of the field mission, which took place in July. During the field survey, immediate needs of goods and services were identified at the village level and list of the procurement items were drafted by October 2023. Community based Problem Analysis completed roughly 80% of the tasks in the Q3. Xiengvaen in Thakhek District, Kili, and Solonoy in Sanasomboun District were identified as more vulnerable villages than other villages, as they experienced more severe flood events in the past, while those villages lack proper shelter facilities to accommodate potential evacuees during the event of natural hazards. The underlying risks were identified as: 1) the preparedness measures are not in place, and 2) lacking emergency items such as rescue boats, life vests, and emergency water supply, etc. Draft climate change action plans (CCAPs) were proposed (e.g., emergency preparedness procedure, local DRR planning, institutional capacity building at local level, designing capital flood protection projects for long-term river stream resilience).

By Q4, community-based problem analysis was completed successfully, identifying the villages more prone to flooding compared to others and they are Xiengvaen, Namphou, Photak, and Solo-Noy, which experienced inundation during the floods. This activity reached out to 297 people (out of which 120 were women) to understand the technical, institutional and financial gaps and prioritize needs in case of inundation by floods. The study confirmed lack of clear demarcation of the roles and responsibilities of the provincial and district governments, inadequate local disaster preparedness and recovery plans, insufficient coverage of the meteorological forecasting capacity to facilitate evacuation procedure in a timely manner. Although the government set up a few emergency fund modalities, the study found that none of existing financial schemes are functional at this moment, especially at the village level. To leverage the current gaps, villages requested preparedness items to strengthen disaster resilience capacity. The procurement of the most needed items were completed and will be delivered in late February 2024 for local storage, including 15 rescue boats, 1800 lifejackets, 15 sets of water tanks and pumps, and 4 drinking water filters.

Activity L1.2.4: Market-based assessment of supply chains related to food, water, and other goods for risks and barriers related to climate change completed

This activity will be initiated in 2024.

Activity L1.2.5: Development a guideline for Water and Water Resources Protection Zones to support flood and drought management and pilot one Zone within the two river basins.

This activity was implemented by DWR (through an advance of funds) with support from the project team, as agreed between DWR and UNDP. Several meetings were held in from March to June 2023 to identify what guideline DWR wishes to develop. Between 14 and 15 June 2023, CTA delivered the training on the potential ideas of formulating Water and Water Resources Protection Zone (WPZ) to key DWR and relevant staff in Vang Vieng, introducing international practices on WPZ. With improved capacity and knowledge on principles of the WPZ, DWR confirmed that they need to develop the specific measures on drinking water and consumption as one of the thematic areas defined in the draft decree of WPZ. CTA proposed an approach and methodology to develop the guideline, taking four consultation steps to identify the priority protection zones potentially vulnerable to flood and meteorological events that impact the lives of the people in the target basins. Three consultation

meetings were organized in August, September, and November 2023 to develop the full guideline. The guideline development for Water Protection Zone (WPZ) led by the DWR made progress slower than expected, but it picked up in Q3 and Q4. The consultation meetings were held in Champasack province to (1) introduce the purpose of the guideline development, identification of the existing water source points within Khili and Solo-noy villages, and (2) identify potential sites (water supply systems) with critical needs to maintain the sources of water during the emergency situation. During the Q3, the Project team and the DWR outlined a draft table of contents for the WPZ guideline, which were presented at the second consultation meeting. The guideline includes the zoning definition, criteria for the zone protection, roles and responsibilities of respective government institutions (e.g., central, provincial and district) and monitoring and report mechanism to improve track records of information such as type of use of the water well, yield capacity of the water system, zoning classifications and maintenance of the proposed protection measures.

By Q4, zero draft of WPZ guideline has been drafted by DWR and National consultant with the technical support from UNDP CTA. During the period, ideas and inputs were solicited from three stakeholder consultations with a total of 122 people (35 women) from 42 different stakeholder groups (national and subnational governments, community leaders, representatives of women and youth groups, and development partners) taking part in the process of developing WPZ guideline, including defining terminologies, methodologies, zone of protection, the government roles and responsibilities and reporting and monitoring mechanism. Field survey and data collection were done at Sanasomboun district, Champasack Province, established the zone criteria for water supply and consumption. The finalization of the WPZ guideline development was delayed due to the prolonged consultation with the government partners to agree on which areas should be covered. A pilot WPZ implementation according to this draft guideline is planned in February 2024, followed by the national dissemination workshop with the aim of scaling up this practice nationwide.



Water and Water Resources Protection Zone consultation workshop in Sanasomboun District, Champasak Province, 11 August 2023



WPZ field visit to target village of Khili on 12 August 2023

OUTPUT 2: ENABLING ENVIRONMENT FOR GENDER-RESPONSIVE CLIMATE RISK-INFORMED INTEGRATED WATER RESOURCES MANAGEMENT DEVELOPED

CAMBODIA:

Output C2.1: Institutional and technical capacity for long-term climate resilience and integrated water resource management assessed for two priority urban areas

This activity is performed by AWC. In 2023, the AWC completed data collection for two purposes: assessing institutional capacity and evaluating the effectiveness of the climate monitoring system. The data collection process involved conducting field surveys to assess the functionality of hydrometeorological monitoring stations along the 3S and 4P basins. Additionally, the capacity of local authorities in managing these systems was also evaluated. This assessment aimed to understand how well the monitoring stations were functioning and how capable the local authorities were in handling them.

Furthermore, a technical workshop took place, which included participation from relevant government partners from the target provinces, MoWRAM and NCDM. This workshop served as a platform for in dept discussing technical aspects related to the climate monitoring system and its management capacity of concerning government partner. As a result of these activities, the AWC is expected to share draft assessment reports in early 2024.

Output C2.2: Identify and prioritize adaptation and DRR actions to build preparedness and reduce long-term water-related climate risks.

Activity C2.2.1: Integrated water resources management feasibility studies developed for each catchment that identify risk mitigation options, with a focus on the priority urban areas and vulnerable communities.

This activity will be initiated in 2024 built on the results from flood modeling and impact-based forecasting.

Activity C2.2.2: Consultations with stakeholders to identify gender-responsive adaptation and DRR actions and develop prioritization criteria, include identification of policy measures and barrier removal strategies for supply chain risks

NATIONAL ACTION PLAN FOR DISASTER RISK REDUCTION (NAP-DRR) REVIEW AND DEVELOPMENT

The UNDP is providing technical assistance to the National Committee for Disaster Management (NCDM) in the review and update of the current National Action Plan for Disaster Risk Reduction (NAP-DRR). This includes examining relevant documents, conducting Key Informant Interviews (KIIs) and Focus Group Discussions (FDGs) to gather insights from various stakeholders involved in the implementation of the national action plan. These stakeholders include key ministries, selected provincial committees for disaster management, development partners (DPs), and civil society organizations (CSOs). Additionally, a national consultation workshop was held to gather feedback on the draft review report and action plan. The final versions of both documents are currently being developed and are expected to be finalized in early 2024.



Figure 2: National consultation workshop on NAP review and development

GENDER-RESPONSIVE COMMUNE CONTINGENCY PLAN DEVELOPMENT

In collaboration with the NCDM, the project has provided support to four communes in the development and implementation of gender-responsive community Disaster Risk Reduction (DRR) plans. This support has involved piloting a gender guideline, creating a DRR plan, conducting drill exercises, and executing the plan. To facilitate the process of plan development, multiple training sessions were conducted for commune authorities, equipping them with the essential skills to utilize data for informed planning.

A two-day training session took place in Kratie and Stung Treng provinces, focusing on raising awareness about the diverse impacts of gender-based disasters. The training also provided guidance on integrating gender mainstreaming and social considerations into disaster management plans and programs, aligning with established gender mainstreaming guidelines. A total of 29 participants attended the training, including seven women representatives. The training was successful in equipping participants with the knowledge and skills necessary to effectively manage disaster risks using a gender-sensitive approach. It emphasized the significance of gender-sensitive disaster risk management and underscored the importance of women's active involvement in disaster risk reduction initiatives. The training empowered participants with the essential skills to develop action plans that address the needs of the most vulnerable families.

Furthermore, a training program on Disaster Risk Management and Hazard Vulnerability and Capacity Assessment (HVCA) was conducted, with 25 participants in attendance (including three women). The primary objective of the training was to enhance the knowledge and skills of the commune committee for disaster management in Sekong and Samtepheap Communes of Stung Treng. The training covered fundamental concepts of disaster risk management, encompassing the identification, assessment, and management of risks. It also included the development of contingency plans and response strategies. The participants were introduced to the HVCA approach, which assists in identifying and evaluating potential hazards' impact on communities and their ability to cope. Importantly, the training provided a platform for participants to share their experiences and discuss the challenges they face in disaster management.

NCDM has also successfully conducted training and developed commune contingency plans for two provinces in Kratie province. Recognizing the importance of enhancing the capacity of communes to

operate disaster risk management and emergency management, NCDM also conducted training and assessments in Stung Treng for two communes in Stung Treng Province



Figure 3: Commune contingency plan training and development

COMMUNE SIMULATION AND DRILL EXERCISE

To assess the effectiveness of the commune contingency plan, the project organized commune simulation and drill exercises in Kratie province and Stung Treng province. The primary objective of these exercises was to simulate the roles and responsibilities of the commune disaster management committee (CDMC) and replicate the implementation of the standard operating procedures (SOPs) outlined in the plan. The focus of the exercises was on effectively managing the evacuation of disaster-affected individuals to higher ground. Two exercises were conducted with total 147 (55% women).

Following the completion of the exercises, the CDMC and the community demonstrated an improved understanding of their respective roles and were able to effectively implement emergency management procedures as outlined in the developed plan. The exercises served as a valuable opportunity for the participants to gain practical experience and enhance their preparedness in responding to disaster events.



Figure 4: Commune simulation and drill exercises in Kratie province and Stung Treng province

IMPLEMENTED SMALL INITIATIVE ON GENDER INCLUSIVE DISASTER RISK REDUCTION

Following the training sessions, the project team facilitated the prioritization of micro-project proposals. The aim was to select projects that effectively address the disaster risks faced by poor households in the target commune. Two separate outputs were identified:

Public Awareness and Training on Gender and DRR led by the Commune Council: This output focuses on raising public awareness and enhancing the capacity of the target project communes in disaster risk reduction. It involves conducting public awareness campaigns and training sessions in all four target communes, led by the commune council. The objective is to empower community members with knowledge and skills to effectively respond to disasters and reduce their vulnerability. The commune council plans to conduct four community awareness and training sessions, which are scheduled to be completed by the end of December 2023.

Financial Support for the Most Vulnerable Households: This output aims to provide financial support to the most vulnerable households in the target communes. A total of 20 households, with 5 households per commune, have been selected to receive this support. The financial assistance will be used to implement measures that mitigate vulnerability conditions, thereby reducing their exposure to disaster risks. The project team has already completed the selection of beneficiaries and provided the financial support to households, enabling them to implement activities to address their vulnerabilities. The team is currently monitoring and following up on the progress and results of these activities.



The project team is actively engaged in monitoring the activities in the four target communes. Regular visits and interactions with commune officials and communities are conducted to ensure the smooth implementation of the micro-projects and the achievement of the proposed outputs. Any challenges encountered are promptly addressed to ensure the success of the project. Additionally, the project team is preparing to compile lessons learned from the pilot project. The lessons learned report will highlight the

positive aspects and successes observed during the implementation of the micro-projects. It will also identify areas that require improvement or adjustments for future implementations. The insights gained from this report will contribute to refining and strengthening future disaster risk reduction initiatives.

Activity C2.2.3: Develop prioritized list of gender-responsive adaptation and DRR options for the priority catchments.

This activity will be initiated in 2024.

Output 2.3: Carry out capacity building to enhance risk-informed, gender-responsive integrated water resources management and strengthen community disaster preparedness and EWS systems.

Activity C2.3.1: Capacity assessment conducted to determine short-term capacity needs regarding use of disaster and climate risk data

CAPACITY ASSESSMENT

In early 2023, the project has conducted a comprehensive capacity assessment in the two target provinces (Kratie and Stung Teng) to identify existing mechanisms for integrated water resources management, risk information dissemination, and the use of climate risk data on flooding. Focus group discussions and key informant interviews were held with representatives of development partners, the Ministry of Water Resources and Meteorology (MoWRAM) and its subnational departments, the National Committee for Disaster Management (NCDM) and its subnational committees and community people. In total 119 participants (26 women and 93 men) took part in the assessment.

Six thematic areas are covered in the assessment including governance, transboundary cooperation,



Figure 5: Focus Group Discussion (FGD) with local disaster management committee, Kratie

activities. A factsheet in Khmer and English has been produced to facilitate dissemination of the key information gathered by the study. The full report can be found in annex 2.

risk information monitoring, analysis & dissemination, planning, resources, and capacity to implementation. The key findings and recommendations have been incorporated into the planning of ongoing activities, such as the capacity building programme to village disaster management group (VDMG) and GIS trainings. They will also be used to inform the flood mitigation report and other project

TECHNICAL ASSESSMENT OF MRC FORECASTING TOOLS

The project is also conducting a technical assessment of the Mekong River Commission (MRC) forecasting tools in the lower Mekong basin, with a focus on the 2 targeted provinces. The assessment aims to identify existing flood monitoring and forecasting tools and their coverage/performance, as well as channels for sharing and disseminating risk information in the two target provinces. 119 participants were engaged in site visits and Key Informant Interviews during the data collection process. The methodology addressed questions regarding flood monitoring tools, basin coverage, Tepmacha station setup, and possibilities for integration with EWS1294. Preliminary results were gathered, revealing the existence of 46 flood forecasting and river monitoring stations in the 3Ss and 4Ps river basins. Challenges included insufficient coverage for flood hazard monitoring and the need for more sensors in flood-prone areas. Recommendations included optimizing the distribution of alerts via EWS1294, increasing sensor deployment, and synchronizing access to monitoring services. Despite the EWS1294 network's coverage of flood-prone areas, it was deemed insufficient for the expansive risk areas in the 3Ss and 4Ps river basins. The report recommended additional sensor

installations at 10 identified potential sites. While the stations were generally well set up, suggestions were made to align thresholds and integrate Mean Sea Level (MSL). Possibilities for integrating EWS1294 with MRC tools required agreement between parties. An information sheet was created for result dissemination. The full report has been shared to AWC team to support their led activity. The full report can be found in annex 3.

Activity C2.3.2: Implementation of a provincial training program on implementation of GIS-based integrated hydrological models and use of risk data in decision-making.

CAPACITY BUILDING TO PCDMS ON RISK INFORMATION MANAGEMENT

The second training took place from April 25 to 28, 2023, involving 18 provincial and sub-provincial disaster management authorities, including 4 women, from Kratie and Stung Treng provinces. The 4-day session, designed based on a Training Needs Assessment, focused on the medium level of GIS and remote sensing. The external GIS trainer, supported by the PIN EWS project team, emphasized practical applications, resources for obtaining raster and shapefiles, flood hazard map creation, and flood-affected area analysis. Post-test results revealed significant improvement, with 89% of participants passing, compared to 21% before the training. Participants enhanced their knowledge and skills in QGIS concepts and principles, spatial data management, and analysis, contributing to effective risk-information management.



Figure 6: Local Disaster Management Committees attended GIS and risk information management training

CAPACITY BUILDING TO VILLAGE DISASTER MANAGEMENT GROUPS (VDMGS)

In collaboration with PIN, NCDM and PCDMs, the project successfully conducted disaster risk management training with 5 VDMGs in Stung Treng and Kratie provinces, focusing on areas prone to annual flooding along the Mekong River. The 3-day community-based training involved local DM authorities and community representatives, including vulnerable groups. The content covered various aspects including (1) concepts of disaster risk management, (2) climate change, early warning system 1294, (3) community flood risk mapping, preparedness, (4) contingency plan, simulation drill, (5) water resources management, and planning. 86 participants, including 36 women, attended. Participants expressed satisfaction, with positive feedback from the village leaders, highlighting the value of the training and his intent to promote EWS1294 subscription to villagers. Pre- and post-tests indicated a 73% knowledge increase, and the training positively impacted EWS1294 awareness, resulting in 139 new subscriptions. Each VDMG developed an action plan, anticipating strengthened impacts from the training's outcomes.



Figure 7: Village Disaster Management Groups (VDMGs) trainings

PROMOTE LEADERSHIP AND TECHNICAL CAPACITY OF FEMALE OFFICERS

The project has collaborated with a gender expert to implement a training program aimed at enhancing the leadership and technical capacity of both female and male officers in the local disaster risk management committee. The training program focuses on addressing specific gaps identified in the gender analysis report. There are two key areas of emphasis in the training program. Firstly, training is provided to both male and female officials on gender mainstreaming and the collection and utilization of gender statistics in the disaster risk management cycle. This training equips participants with the knowledge and skills to integrate gender considerations effectively into their disaster management work. Secondly, women's leadership training is specifically designed for female officials, promoting their leadership skills and empowering them to take on leadership roles within the committee.

This training recognizes the importance of promoting gender equality and female representation in disaster risk management. In total, three training sessions have been conducted, with 87 participants, including 41 females, from provincial and district committees for disaster risk management. These sessions provide a platform for participants to share their experiences and challenges in integrating gender perspectives into their community-level disaster management work. The training introduces concepts and tools for gender mainstreaming in climate change and disaster risk management, ensuring that participants can effectively apply this knowledge and these skills in their professional roles. As a practical outcome of the training, participants are tasked with developing concepts or plans for small initiatives at the community level to address gender issues in climate risks. To support the implementation of these initiatives, the project has partnered with the NCDM and will provide a small grant to the participants. This grant will enable them to implement the proposed initiatives and make

tangible progress in addressing gender concerns within the context of climate risks and disaster management.



Figure 8: Local Disaster Management Committees attended Gender, Climate change and Disaster Management training management training.

Activity C2.3.3: Implementation of 6 community-level DRR and CCA actions, including gender aspects, children-focused risk reduction and CC education.

This activity will be initiated in 2024.

Activity C2.3.4: Facilitate community mobilization of relief funds (such as pilot revolving funds and seed funds) in the target communities through the Disaster Management Committees.

This activity will be initiated in 2024.

Output 2.4: transboundary EWS system strengthened in the border region between Cambodia and Lao PDR

Activity C2.4.1: Hold annual meeting/knowledge exchange of transboundary EWS

The learning event has been re-scheduled to early 2024.

Activity C2.4.2: Conduct joint capacity building training to enhance preparedness for recovery for officials of Provincial Disaster Management Committee in both Lao PDR and Cambodia

This activity will be initiated in 2024.

Activity C2.4.3: Conduct community-based awareness EWS

Through partnership with PIN, the project is rolling-out the community-level awareness raising campaigns in Kratie and Stung Treng flood-prone areas. The campaign aims to raise awareness on risk education, climate change, disaster risk reduction, early action, and EWS¹²⁹⁴. Objectives included involving VDMG focal points in the campaign design, leading six different types of actions with local stakeholders, and targeting vulnerable groups. The planned actions encompassed mobile workshops, storybook development, flood risk campaigns in schools, awareness materials creation and dissemination, boat campaigns, and community reflection events.

The following 6 actions will be facilitated by partner's EWS team along with the VDMGs trained under the project:

- A. Mobile workshop campaign on climate change and early action targeting HHs living in the flood-prone areas and people with physical disabilities;
- B. Development of a storybook for children and youth to introduce them to climate change and flood prevention and response, highlighting gender aspects;
- C. Flood risk awareness and early action campaigns in primary and middle school students;
- D. Development of awareness raising materials on EWS1294 and early action and dissemination in public spaces (e.g. markets, religious space, schools etc.);
- E. Boat awareness raising campaigns disseminating messages on EWS1294 and emergency preparedness; and
- F. Community reflection and exhibition events on the achievements of awareness-raising actions in each urban area

During reporting period, a mobile workshop campaign on climate change and early action was conducted, targeting households in flood-prone areas and people with physical disabilities. Moreover, the team has developed awareness-raising materials on EWS1294 and early action, disseminating them in public spaces.

LAO:

Output L2.1: Institutional and technical capacity for long-term climate resilience and integrated water resource management assessed for two priority urban areas

Activities under this output are implemented by AWC (see below for the progress done by AWC). UNDP supported the AWC mission in Laos from 16th – 24th March 2023.

The second mission for institutional capacity assessment was conducted by SAMAN (AWC consortium partner) between 15 and 21 November 2023. Details are mentioned above under activity L 1.2.1 since it was conducted during the same mission.

Output L2.2: Identify and prioritize adaptation and DRR actions to build preparedness and reduce long-term water-related climate risks.

Activities under this output will be initiated in 2024.

Output 2.3 : Carry out capacity building to enhance risk-informed, gender-responsive integrated water resources management and strengthen community disaster preparedness and EWS systems.

Activity L2.3.1: Capacity assessment conducted to determine short-term capacity needs.

In line with Activity L.1.1.1, this activity assessed in-depth the understanding of water governance and human resources capacity related to water management and disaster management at provincial, district and village levels in the Q2. In the Q3, National Consultant carried out one-day training in Champasack province with 46 participants (out of which 18 were women) on (1) Climate Science,

Impacts, and Adaptation, (2) Disaster Risk Management and Reduction and (3) Disaster Risk Management and Reduction, which were recommended in the Capacity Development Plans submitted in the Q2.

One of the main objectives of this training is to enhance the capacity of the subnational government officials and help them understand the legal requirements of the government in accordance with the Laws on Disaster Risk Management. The training also introduced Community Disaster Management Plan (CDMP), including hazard analysis and mapping, as well as development of coping capacities within a community. Although these are very basic knowledge, for some participants it was their first time to learn about the legal requirements and concept of community-based disaster management. Pre and post quizzes confirmed that participants gained the level of understanding of the community DRR and 87% of the participants agreed that the delivery of the training was satisfactory. By the end of Q3, this activity has been successfully completed.



Capacity development training in Pakse District, Champasak Province

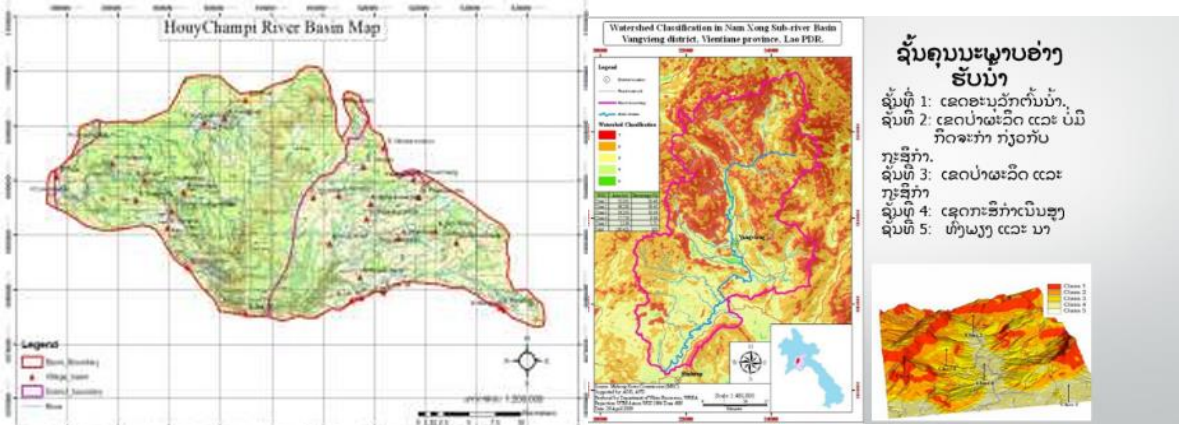


Capacity assessment interview with provincial government

Activity L2.3.2: Implementation of a provincial training program on implementation of GIS based integrated hydrological models and use of risk data in decision-making.

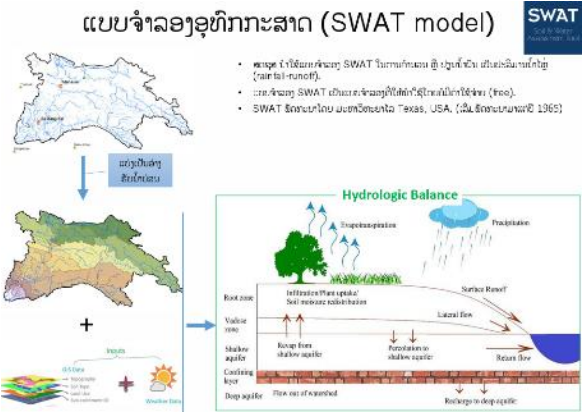
In Q1, consultations with DWR initiated to discuss the training materials tailored for the provincial and district staff. The training aims to familiarize the local authorities with the basics of GIS, for them to eventually collect and input data into the existing databases. This activity has been implemented by the DWR, which delivered three trainings covering beginner, intermediate and advanced courses. Each training course comprises 5 days (15 days in total) in Lao language. Agenda and materials to be used for the GIS training was developed in June 2023. The training was delivered by a team of trainers from the Department of Water Resources, the Natural Resources and Environment Research Institute and the Lao National Mekong Committee. The beginner GIS training included the installation guidance on the GIS software, the types of data inputs through explaining the interface, menu, tools, data storage system (Arc Catalog), the use of GPS (Map60Csx) to set up the data entry linking to the Google Earth Map, create data layers and database by using Arc Catalog and retrieval of data and information collected from the field. Output of the training showed steady progress on understanding of the GIS, and the participants were able to create the boundaries of the river basins and evaluate the conditions and created a map incorporating the elements of the required information. During introductory and intermediate training, pre and post quizzes confirmed that participants gained the understanding of the GIS and 95% of the participants agreed that the training delivery was satisfactory.

In Q4, advanced training was provided to those who understand the principles of GIS and exercise of hydrological modeling and via ArcSWAT Model was delivered. The participants of the beginner course reported increased confidence in GIS from only 8% pre-training to 53% post-training. 50% of the intermediate course trainee reported their knowledge on ArcGIS software as “relatively high (4 out of 5 levels)” compared to 0% before the training. Throughout the year 2023, a total number of 136 (36 women) national and sub-national government officials enhanced their capacity on introductory, intermediate and advanced GIS and its application to the hydrological modeling exercise.



An example of beginner GIS output map produced by training participant

An excerpt presentation slide of intermediate GIS-based hydrological modelling training



An excerpt presentation slide of the advanced GIS-based hydrological modelling training



Participants had their practical sessions on how to collect field data using GPS

Activity L2.3.3: Implementation of 6 community-level DRR and CCA actions, including gender aspects, children-focused risk reduction and CC education

This activity will be initiated in 2024.

Activity L2.3.4: Facilitate regional training with provincial leadership/focal points and representatives of national ministries on use of LaoDi and LaoWIS databases to expand capacity to utilize in catchment-wide disaster management in the transboundary region.

This activity was initiated in 2022 and continued until 2023. A National Consultant has been contracted and organized a series of consultation meetings with the Department of Water Resources (DWR) and the Department of Labour and Social Welfare (DLSW) in Q1 of 2023. The aim of these meetings was to identify and understand the current gaps between two database systems, LaoWIS and LaoDi. The

consultant concluded that the two databases needed system update and fixes in several areas, including server maintenance, software update and the data input format. The query-result functions on both LaoWIS and LaoDi were not displayed adequately, as the original configurations of the query functions were not properly programmed. These findings were shared with the government in March 2023. A series of training module was developed by April and was first delivered in Vientiane to the staff members of the central authorities and provincial authorities of Khammouan and Champassak. The purpose of this training was to provide practical training to technical officers on Database System Administration and Data Inputs for LaoWIS and LaoDI. The module was specifically designed for the database administrators, system admin, and IT staff.

In Q3, national consultant and DWR implemented the actions to upgrade the databases as outlined in the previous assessment and delivered another training on the use of LaoWIS and LaoDI in Champasak and Khamouane in late September 2023.

Details of the system updates implemented are summarized as follows;

LaoWIS: The website has been updated to improve information usability and create a new information upload forms to enrich the database. Updates include:

- Development of some new pages containing the river basin information and pilot study (e.g., Nam Ngum Pilot Basin), incorporating the hydrological data into the basin maps;
- Addition of the relevant legislation, including laws, strategies, decrees, agreements, guidelines and mandates;
- Linkage to other ministries' water related pages (e.g., Ministry of Energy and Mines for daily dam reservoir status, Ministry of Labor and Social Welfare for incorporating the flood statistics);
- Creation of an online data list and data form that allows PONRE to login to the forms which they can upload onto LaoWIS, including the development of standard codes of water related data.
- Fix system errors and bugs and create an enabling environment for connecting with other platforms including LaoDi.

LaoDI: In consultation with UNDP regional office in charge of Sendai framework and MLSW, the consultant conducted troubleshooting the DesInventar system in LaoDI to fix a display issue and improve the functionalities of the LaoDI. Updates include:

- Redefined the database system to support UTF8 (Lao language support), enabling to present both English and Lao languages;
- Refined map positioning of the LaoDi and fixed 176 datasets of the flood events for Khammouane and 139 datasets for Champasak to properly reflect on the LaoDI;
- Installed SSL certificate to enhance server security;
- Linked LaoWIS and LaoDI through API that allows direct link to other ministries' water related information.

LaoWIS and LaoDI training: in Q3, 3-day training for LaoWIS and 2-day training for LaoDi (total of 5-day training) were delivered by the consultant along with DWR and MLSW to support the understanding of the two systems for the provincial and district staffs. Two separate trainings were held in Khamouane and Champassak respectively and a total of 76 participants attended the trainings,

which aim to enhance knowledge of key government officials on LaoWIS and LaoDi database information systems. The agenda of the training included;

- LaoWIS and LaoDi system structure and their functionalities;
- Use of LaoWIS online water station data collection form, provided with data input;
- Form and document download system in LaoDi.

By Q4, the data management and utilization capacities on water and disaster management of Lao PDR were enhanced through 1) the improved usability (user experience) of access to river basin information and disaster incident records on the two national databases (LaoWIS for DWR and LaoDi for MoSLW), 2) improved data input functionality that allows the provincial and district officers in charge to upload the new information on the two databases, and 3) database management and usage training. In 2023, 76 national and sub-national government officials (17 women/64 men) received training related to the two databases. The pre- and post-training assessment tests results showed 22% increase of their knowledge in the databases management and usage. Challenges remain in the gender balance of participants in this activity, as the great majority of the government officials in charge of databases with some IT background are men. The improvement of the database's functionalities and training helped DWR and MoLSW enrich the qualitative and quantitative datasets via newly created data upload function. The replication of the training across the nation will substantially improve the quantitative datasets enabling them to forecast river basin planning.



An excerpt presentation slide of the advanced GIS-based hydrological modelling training



Participants had their practical sessions on how to collect field data using GPS

Activity L2.3.5: Facilitate community mobilization of relief funds the target communities through the Disaster Management Committees.

This activity depended on the results of Activity L1.2.3 (community-level problems analysis and needs survey and itemization of goods and services for emergency situations). Consultations with the target communities concluded the prioritized needs for goods and items to enhance resilience capacities. As part of this activity, the Project team also prioritized the list of the emergency preparedness goods and services (rescue boats (15 units), life vests (1,800 units), water storage tanks (15 units), pump and pipe system for water borehole (15 sets) and drinking water filters (4 units). Procurement procedures of these goods and equipment were completed in Q4 2023, and they are expected to be delivered and handed over to the communities by in February 2024, in time

before the rainy season of 2024. Based on the needs assessment, the following goods and items



were procured.

OUTPUT 3: FUNDING PROPOSAL FOR PRIORITY RISK REDUCTION MEASURES DEVELOPED

REGIONAL:

Activity Result 3.1 : Identify bankable, integrated climate adaptation and disaster risk reduction programming options for a regional, multi-city approach to increasing resilience in the urban areas of the transboundary region.

This activity will start in Q1 2024.

Activity Result 3.2 : Develop and submit project proposal(s) for submission to Green Climate Fund or similar, including development of necessary feasibility assessments.

This activity will start in Q4 2024.

III. PROJECT FINANCIAL DATA

In 2023 project has utilized 95% of the resources allocated to the project to implement the activities as approved by the project board. For output 2, Lao PDR has received approval from the project board to access the additional \$79,0017 to address community’s need for flood preparedness goods. As a result, expenditures under output 2 exceeded the original approved 2023 work plan. The project total expenditure is however still within the approved 2023 budget.

Outputs	Total Budget (USD)	Total Expenditures & Commitments (USD)	Delivery (%)	Remarks
Output 1: Inclusive assessment of Water-related climate risks completed in the priority river basins.	246,738	239,440	97%	
Output 2: Enabling environment for gender-responsive climate-risk informed integrated water resources management developed.	578,632	642,565	111%	\$79,017 was approved in October 2023 by the project board in addition to the approved 2023 budget.
Output 3: Funding proposal for priority risk reduction measures developed	28,080	-	0%	As per project board's endorsement, the work under output will start in Q1/2024.
Project Management	240,956	161,396	67%	
Grand Total	1,094,406	1,043,401	95%	

IV. PROJECT RISKS

PROJECT RISK 1: INSUFFICIENT COORDINATION OF IMPLEMENTED ACTIVITIES AMONG KEY IMPLEMENTING AGENCIES.

The project consists of multiple activities that are conducted in parallel by several partners and consultant teams, and which are partly interdependent on each other. This calls for thorough coordination to ensure effective and swift implementation of activities to achieve the project goals. There is a risk of insufficient coordination of these activities, which is potentially increased by the fact that the partners form a multi-national and -cultural team located in different countries, time zones, and speak different languages.

Risk mitigation was conducted among others by discussing the 2023 workplan with all partners (including ROK MOE and AWC) to ensure it is realistic and achievable, and to support the main implementing partners in understanding the broader picture of the project and interdependencies between activities. Adaptive management techniques are employed along the way, aided by regular communication between the project partners. This includes discussions moderated and supported by UNDP staff, as well as direct communication between the implementing partners. Over the course of 2023, the frequency of technical progress meetings between AWC/K-Water and UNDP teams was increased from bi-monthly to monthly, to facilitate more frequent exchanges on knowledge and process. Several occasions were organized for in-person meetings between UNDP teams, different implementation partners and provincial / national stakeholders to further enhance a common understanding of the project objectives, scope, and progress. A central focal point was assigned by AWC in an attempt to further streamline the communication between the different teams.

PROJECT RISK 2: LIMITED UPTAKE, INSTITUTIONALIZATION, AND IMPACT OF PROJECT OUTPUTS BEYOND THE PROJECT DURATION

A key aspect of project success is its sustainability beyond the project duration, which should for example lead to sustainable uptake of the flood forecasting and impact-based forecasting models by a (provincial) government stakeholder.

One way in which sustainability risks are minimized is by implementing capacity assessments at different governmental levels. This year, capacity assessments were implemented both in a broader sense as well as specifically focused on technical capacity and needs regarding the modeling system. Another way was the implementation of capacity building activities with different topics (such as DRR and geographical information systems). The definition of the modeling activities 1.2.1 and 1.2.2 is focused on delivery of the models themselves. To mitigate the risk that this affects the sustainability of model uptake, it was agreed that the AWC/K-Water modeling team will perform a training of key government counterparts upon completion of the models in early 2024.

V. ISSUES AND CHALLENGES

Cambodia:

- **CHALLENGES IN DATA AVAILABILITY AND COLLECTION** The 3S and 4P Basins are known for data scarcity in terms of field data of biophysical, social, and economic parameters. This is an issue for various studies and activities under the project, as it limits the understanding of the broader context of the activities and the potential effectiveness of interventions to be proposed or implemented by the project. Multiple actions were taken to address this issue. Spatial studies conducted under the project, such as the climate risk assessment of agricultural production, where necessary have attempted to make optimal use of data sources such as satellite data and global geographic datasets. Primary data collection was performed in several surveys implemented in the project, both qualitative and quantitative. Regarding the latter, bathymetric surveys were executed, which were challenging and delayed multiple times, with planning affected by coordination issues between AWC and the local contractor, as well as weather patterns. Actions to facilitate primary data collection were taken by UNDP in the form of coordinating with relevant government agencies such as NCDM and MoWRAM.
- **IDENTIFICATION OF PROFICIENT NATIONAL CONSULTANTS** The procurement process of national consultancy positions in 2023 showed that consultants meeting the required expertise and standards are scarce in Cambodia. Actions taken in this regard include publication of advertisements through multiple channels, contacting people directly from the networks of project partners, and readvertising when necessary. Although solutions were found over time, a few project activities were delayed due to this issue.

Lao PDR:

- This project relies on consultants to provide technical assistance and implement its activities. Hiring national consultants with the right qualifications has proven challenging, especially those with relevant degrees and experience in water management/science. In addition to the challenges in sourcing of consultants, the levels of expertise of the contracted national consultants have been limited, requiring extensive support and efforts by the Chief Technical Advisor (CTA) and Project Coordinator to ensure the quality of their output. However, DWR has a strong preference for hiring national consultants due to the language barriers and background knowledge on the local contexts from international consultants.
- As the budget for hiring the CTA was limited, CTA was hired as a part-time individual consultant, who worked intermittently and remotely for the project. Due to the limited budget and conflict of schedule, the CTA was able to visit the country only 3 times during 2023. It was

particularly difficult for the project team especially when the project needed close technical guidance and oversight support to national consultants and the Department of Water Resources (DWR). Consequently, based on above challenges, a decision was made to change the contract modality of the CTA to International Personnel Service Agreement with 50%. To be based in Vientiane, Lao PDR, The intention is for the CTA to be base half of his/her time with the project providing both technical and related management support. However, as the recruitment process has not been successful in identifying a qualified candidate, therefore the position is going to be readvertised in early 2024.

- The main government partner of this project is DWR, however, the nature of the project requires coordination with many other departments, such as Department of Climate Change and Department of Meteorology and Hydrology of MONRE and Department of Social Welfare of MLSW, as well as provincial and district authorities. Cross-department and cross-ministerial coordination has been challenging due to the siloed operational culture and procedures of the government. Although challenges in daily coordination has persisted, these stakeholders have been participating in the board meetings and other coordination meetings, showing significant engagement improvements since 2022.

VI. LESSONS LEARNED

Regular progress meetings between all implementation partners, including AWC/K-Water and UNDP teams, are crucial. In addition, due to the broad scope of issues to be discussed (management, financial, technical), there has been also a lot of added value this year in ad-hoc meetings organized around particular topics, e.g. technical questions on model development.

The broad nature of the project leaves room for differing interpretations and priorities from project partners. It is therefore essential to frequently exchange outputs and insights, even if these are still in intermediate or draft formats. This insight should also support the pathway towards Output 3, which will likely require different iterations between the various partners e.g. on intervention measures to be included in a financing proposal.

VII. NEXT STEPS

Cambodia

The progress made in 2023 demonstrates the project's commitment to achieving its objectives and adapting to challenges. The knowledge gained and lessons learned will contribute to informed decision-making and the development of effective strategies for climate resilience and disaster risk reduction. In 2024, the project will continue its efforts to strengthen the capacity of local disaster risk committees through a program focused on developing skills and knowledge. It will also provide assistance in creating data-driven plans and implementing disaster risk reduction (DRR) measures at the community level. The outcomes of relevant assessments, flood modeling, and impact-based forecasting will be used to identify both short-term and long-term climate change adaptation (CCA) actions, which will directly contribute to resilient building in the targeted province. Additionally, this year, the project will offer support to communes through small grants to implement priority actions.

Lao PDR

OUTPUT 1: Inclusive Assessment of Water-Related Climate Risks Completed in The Priority River Basins

- Market analysis of supply chains (activity 1.2.4); and water and water resources protection zone (activity 1.2.5) are the two activities planned for 2024 under Output 1.
- Market assessment, potentially combined with L 2.2.1 integrated water resources management (IWRM) feasibility study, will be led by a firm to conduct study on supply chains related to food, water, and other goods to assess risks and barriers related to climate change and disasters.
- Building on the achievements of 2023, water and water resources protection zone (WPZ) – activity L1.2.5 will continue in 2024. The drafted guideline will be finalized and used to pilot one WPZ zone in Sanasomboun District, Champasak Province.

OUTPUT 2: Carry out capacity building to enhance risk-informed, gender-responsive integrated water resources management and strengthen community disaster preparedness and EWS systems

- There will be five activities under output-2 for Lao PDR. Integrated Water Resources Management (IWRM) feasibility study (L 2.2.1) will take place in both priority river basins to develop risk mitigation options, with a focus on the priority vulnerable communities. Findings of the impact-based and hydrological models shall inform the direction of this feasibility study, deepening the research on related aspects. Initial ideas for the project could be flood protection, green infrastructure, habitat conservation and restoration, and a type of disaster prevention measures. This activity shall be coordinated at the regional level as the results would contribute to the output-3 – funding proposals development for future water project.
- Two sets of trainings in each province are planned to be delivered to key provincial/district officers on developing community-based disaster preparedness and response plans and disaster risk reduction (DRR) leadership with a focus on gender in the DRR context (activities 2.2.2 and 2.2.3). Expected outcome of these activities is that district officers would be capable of developing community disaster preparedness and response plans and gender action plans in their target villages. In addition, fund training and entrepreneurship will also be provided to women’s groups and village fund management committee (activity 2.3.3).
- The relief fund (activity 2.3.5) of 2024 will consist of a construction of an evacuation center (EC) in Solo-noy Village, Sanasomboun District as well as providing solar-powered water pump systems for the EC. This activity also includes trial fund transfer to two target villages via village development fund (VDF) worth a total of \$6,000, which will be used to contribute to enhance community disaster preparedness and response. However, actual disbursement to two target village is subject to fund management capability of the village committee which will be further determined through applicable assessments.

ANNEX I: RISK LOG

#	Event	Cause	Impact(s)	Risk Category and Sub-category	Impact, Likelihood & Risk Level	Risk Valid From/To	Risk Owner	Risk Treatment and Treatment Owner
Cambodia								
1	Project activities could be carried out in a way that does not include or represent the needs and voices of Marginalized and vulnerable populations, including women.	Marginalized and vulnerable population are often not residing in the urban center which is the focus of the project.	The project fails to benefit to the groups who are most vulnerable to climate change.	1. SOCIAL AND ENVIRONMENTAL (1.9. Indigenous peoples) - UNDP Risk Appetite: CAUTIOUS	Likelihood: 2 - Low likelihood Impact: 4 - Extensive Risk level: MODERATE (equates to a risk appetite of EXPLORATORY)	From: 01-Dec-21 To: 31-Aug-25	UNDP senior manager	Risk Treatment: Activities have been designed to be inclusive and participatory. During the inception phase of the project a Stakeholder Engagement Plan and a Gender Action Plan will be developed to detail ways in which the project will mainstream participation of vulnerable communities. The need for a full Indigenous Peoples Plan (IPP) and the application of an FPIC process will be further explored at that stage and carried out if required by the SES. Further to this, an Indigenous Peoples Planning Framework is planned under Activity 1.1.2 that will guide the project's implementation. Risk Treatment Owner: project manager
2	Climate change is expected to increase the frequency and severity of floods in the project area, potentially impacting the studies and	The increase of climate disaster events in the target areas due to climate change	The project may potentially get delayed as the priorities of government partners in the target area are shifted to disaster risk response.	1. SOCIAL AND ENVIRONMENTAL (1.5. Climate change and disaster risks) - UNDP Risk Appetite: CAUTIOUS	Likelihood: 1 - Not likely Impact: 3 - Intermediate Risk level: LOW (equates to a risk appetite of CAUTIOUS)	From: 01-Dec-21 To: 31-Aug-25	UNDP senior manager	Risk Treatment: During project inception, the workplan and sequencing of activities will be designed to schedule potentially flood-sensitive activities during the dry season where possible. Care will be taken to plan consultations and workshops in areas that are not at particular risk from flooding (i.e. not in identified flood plain). During the design of the subsequent project (under Outcome 3), the potential ongoing impacts of floods,

#	Event	Cause	Impact(s)	Risk Category and Sub-category	Impact, Likelihood & Risk Level	Risk Valid From/To	Risk Owner	Risk Treatment and Treatment Owner
	capacity building activities planned and delaying or inhibiting project progress.							droughts, and other climate-related risks to any construction or activities will be assessed and accounted for in the risk mitigation plan. Risk Treatment Owner: project manager
3	Data collected during the project that details at risk areas and populations may be misused in the future to target or exclude vulnerable populations.	The risk and vulnerability data being collected at the inception stage may not be relevant for future use.	The project fails to benefit to the groups who are most vulnerable to climate change	3. OPERATIONAL (3.4. Reporting and communication) - UNDP Risk Appetite: EXPLORATORY TO OPEN	Likelihood: 1 - Not likely Impact: 3 - Intermediate Risk level: LOW (equates to a risk appetite of CAUTIOUS)	From: 01-Dec-21 To: 31-Aug-25	UNDP senior manager	Risk Treatment: During project inception there will be further consideration for the collection and storage of the risk and vulnerability data collected. During the procurement processes for consultants/firms involved in data collection and dissemination, this will be a consideration. Risk Treatment Owner: project manager
4	Duty bearers (local, provincial, and national government stakeholders and partners) may not have the capacity to meet their obligations to the project – potentially resulting in delays and/or	Limited capacity of national and local government partners.	Potentially resulting in delays and/or missed project targets.	3. OPERATIONAL (3.8. Capacities of the partners) - UNDP Risk Appetite: EXPLORATORY TO OPEN	Likelihood: 2 - Low likelihood Impact: 2 - Minor Risk level: LOW (equates to a risk appetite of MINIMAL)	From: 01-Dec-21 To: 31-Aug-25	UNDP senior manager	Risk Treatment: Project has been designed in consultation with government partners. During project inception processes in each country, representatives from the provincial and municipal governments in the priority catchment areas will also be engaged to ensure ownership over project activities and workplan. Risk Treatment Owner: project manager

#	Event	Cause	Impact(s)	Risk Category and Sub-category	Impact, Likelihood & Risk Level	Risk Valid From/To	Risk Owner	Risk Treatment and Treatment Owner
	missed project targets.							
5	The local, provincial, and national government partners in the project may not remain committed or have appropriate ownership over project processes.	Limited commitment of national and local government partners	Lack of ownership and sustainability of the project	3. OPERATIONAL (3.5. Partners' engagement) - UNDP Risk Appetite: EXPLORATORY TO OPEN	Likelihood: 2 - Low likelihood Impact: 2 - Minor Risk level: LOW (equates to a risk appetite of MINIMAL)	From: 01-Dec-21 To: 31-Aug-25	UNDP senior manager	Risk Treatment: Project has been designed with national government stakeholder input and further collaboration will be sought during the project implementation. In addition, a stakeholder engagement plan will be developed as part of the project inception process that will outline how government stakeholders can be engaged at every step of the project implementation. Risk Treatment Owner: project manager
6	Project implementation is dependent on variety of partners. The project may experience delayed implementation in subsequent stages of the work plan if	The implementation plan is not well-coordinated among key implementing agencies.	The project may experience delayed implementation in subsequent stages of the work plan if early activities are not conducted on time.	3. OPERATIONAL (3.5. Partners' engagement) - UNDP Risk Appetite: EXPLORATORY TO OPEN	Likelihood: 2 - Low likelihood Impact: 3 - Intermediate Risk level: MODERATE (equates to a risk appetite of EXPLORATORY)	From: 01-Dec-21 To: 31-Aug-25	UNDP senior manager	Risk Treatment: During project inception the workplan will be discussed with all partners (including ROK MOE and AWC) to ensure it is realistic and achievable. Adaptive management techniques will be employed along the way aided by regular communication between the project partners. Risk Treatment Owner: project manager

#	Event	Cause	Impact(s)	Risk Category and Sub-category	Impact, Likelihood & Risk Level	Risk Valid From/To	Risk Owner	Risk Treatment and Treatment Owner
	early activities are not conducted on time.							
7	The ongoing COVID-19 pandemic may result in delays to project delivery given travel restrictions in both countries.	Covid-19 outbreak	The project cannot complete its intended workplan.	1. SOCIAL AND ENVIRONMENTAL (1.6. Community health, safety and security) - UNDP Risk Appetite: CAUTIOUS	Likelihood: 3 - Moderately likely Impact: 3 - Intermediate Risk level: MODERATE (equates to a risk appetite of EXPLORATORY)	From: 01-Dec-21 To: 31-Aug-25	UNDP senior manager	Risk Treatment: During project inception the project activities will be assessed to determine feasibility of delivery in the first year of the project and some delivery timelines may be readjusted accordingly. This will be repeated throughout the project process. Risk Treatment Owner: project manager
Lao PDR								
1	Partnership fails to deliver due to the lack of clarity on responsible parties' role within the project or duplication of efforts and missed opportunities for synergy	Frequent changes of the proposed activities or areas of interventions, lack of regular communication with partner	Impact on sustainability of the project implementation	4. ORGANIZATIONAL (4.3. Implementation arrangements) - UNDP Risk Appetite: EXPLORATORY TO OPEN	Likelihood: 3 - Moderately likely Impact: 3 - Intermediate Risk level: MODERATE (equates to a risk appetite of EXPLORATORY)	From: 01-Dec-21 To: 31-Dec-24	UNDP Manager/Coordinator And government partners	Risk Treatment: Annual Work Plan and Quarterly Work Plans to be developed on a timely manner and revised when necessary. • Project Manager to ensure proper monitoring of activities and budget • Quarterly meetings of project steering committee to re-affirm commitment of partners UNDP will coordinate very closely with actors at 5 levels. • Community/village level through local authorities

#	Event	Cause	Impact(s)	Risk Category and Sub-category	Impact, Likelihood & Risk Level	Risk Valid From/To	Risk Owner	Risk Treatment and Treatment Owner
								• District and provincial authorities • National Government level ministries • National inter-agency bodies • Regional bodies Risk Treatment Owner: UNDP Project Manager/Coordinator
2	The local, provincial, and national government partners in the project may not remain committed or have appropriate ownership over project processes.	Lack of specialized capacity particular in areas of integrated water resources and disaster reduction measures	Capacity is not institutionalized as planned to implement disaster risk reduction measures	3. OPERATIONAL (3.5. Partners' engagement) - UNDP Risk Appetite: EXPLORATORY TO OPEN	Likelihood: 2 - Low likelihood Impact: 2 - Minor Risk level: LOW (equates to a risk appetite of MINIMAL)	From: 01-Dec-21 To: 31-Dec-24	UNDP Project Manager/Coordinator and Government partners	Risk Treatment: Project has been designed with national government stakeholder input and further collaboration will be sought during the project implementation. In addition, a stakeholder engagement plan will be developed as part of the project inception process that will outline how government stakeholders can be engaged at every step of the project implementation. Risk Treatment Owner: UNDP Project Manager/Coordinator
3	Climate change is expected to increase the frequency and severity of floods in the project area, potentially impacting the studies and	Severe weather conditions, road disruption and damaged infrastructure prevent mobilization of experts, governmental	If not planned well, disruption or delay in the project activities and potentially risk of injuries or severe health impact	1. SOCIAL AND ENVIRONMENTAL (1.5. Climate change and disaster risks) - UNDP Risk Appetite: CAUTIOUS	Likelihood: 3 - Moderately likely Impact: 2 - Minor Risk level: LOW (equates to a risk appetite of CAUTIOUS)	From: 01-Dec-21 To: 31-Dec-24	UNDP Project Manager/Coordinator and Government Partners	Risk Treatment: During project inception, the workplan and sequencing of activities will be designed to schedule potentially flood-sensitive activities during the dry season where possible. Care will be taken to plan consultations and workshops in areas that are not at particular risk from flooding (i.e. not in identified flood plain). During the design of the subsequent project (under Outcome 3), the potential ongoing impacts of floods,

#	Event	Cause	Impact(s)	Risk Category and Sub-category	Impact, Likelihood & Risk Level	Risk Valid From/To	Risk Owner	Risk Treatment and Treatment Owner
	capacity building activities planned and delaying or inhibiting project progress.	officials and individuals						droughts, and other climate-related risks to any construction or activities will be assessed and accounted for in the risk mitigation plan. Risk Treatment Owner: UNDP Project Manager/Coordinator
4	The project may experience delayed implementation in subsequent stages of the work plan if early activities are not conducted on time.	Lack of adequate, timely and detailed planning and coordination with the government counterparts	Overall progress may not be in line with the work plan	4. ORGANIZATIONAL (4.3. Implementation arrangements) - UNDP Risk Appetite: EXPLORATORY TO OPEN	Likelihood: 3 - Moderately likely Impact: 4 - Extensive Risk level: SUBSTANTIAL (equates to a risk appetite of OPEN)	From: 01-Dec-21 To: 31-Dec-24	UNDP Project Manager/Coordinator and Government Partners	Risk Treatment: During project inception the workplan will be discussed with all partners (including ROK MOE and AWC) to ensure it is realistic and achievable. Adaptive management techniques will be employed along the way aided by regular communication between the project partners. As of October 2022, the project has been implemented in accordance with the work plan and implementation status is on track, except some items extended to implement in FY23. Risk Treatment Owner: UNDP Project Manager/Coordinator
5	Duty bearers (local, provincial, and national government stakeholders and partners) may not have the capacity to meet their obligations to the project – potentially	Lack of knowledge and experience in areas of disaster risk reduction, due to vague mandates of the division of the Ministry	The target date of particular activities may not be met in lines with the work plan	3. OPERATIONAL (3.8. Capacities of the partners) - UNDP Risk Appetite: EXPLORATORY TO OPEN	Likelihood: 2 - Low likelihood Impact: 2 - Minor Risk level: LOW (equates to a risk appetite of MINIMAL)	From: 01-Dec-21 To: 31-Dec-24	UNDP Project Manager/Coordinator and Government Partners	Risk Treatment: Project has been designed in consultation with government partners. During project inception processes in each country, representatives from the provincial and municipal governments in the priority catchment areas will also be engaged to ensure ownership over project activities and workplan. Since its Inception, the Government has started owing the project by demonstrating the facilitation of various meetings and workshops.

#	Event	Cause	Impact(s)	Risk Category and Sub-category	Impact, Likelihood & Risk Level	Risk Valid From/To	Risk Owner	Risk Treatment and Treatment Owner
	resulting in delays and/or missed project targets.							Risk Treatment Owner: UNDP Project Manager/Coordinator
6	Staff turn-over in project or partner agency prevents delays delivery of the project.	Poor working relationships in the workplace and inefficient and long working hours are normalized	Loss of resources and disruption of the project implementation	4. ORGANIZATIONAL (4.3. Implementation arrangements) - UNDP Risk Appetite: EXPLORATORY TO OPEN	Likelihood: 3 - Moderately likely Impact: 3 - Intermediate Risk level: MODERATE (equates to a risk appetite of EXPLORATORY)	From: 01-Dec-21 To: 31-Dec-24	UNDP Project Manager/Coordinator and Government Partners	Risk Treatment: Disruptions within the PMU and project staff can result in a lag in execution as new individuals are brought in. In the event of loss of PMU staff, the UNDP CO will take on direct management of the project allowing continuity in project actions. Partner agency will be asked to have alternates briefed in the project allowing for smooth transition in the event of staff changes of key participating personnel. The Project coordinator is on board, starting in November 2022 to carry out the facilitation with the government counterparts and affected stakeholders and support the Project Manager, aiming to bridge smooth transition to meet the work plan. Risk Treatment Owner: UNDP Project Manager/Coordinator
7	Sensitive data collected during the project implementation such as disaster risk areas, marginalized people and vulnerable populations may	Lack of information management on data of financial needs, complaints and grievances and unintendedly divulging	The anonymity of the participants to the data collection survey or people who submitted grievances is compromised, which may result in backlash and reputational risks	3. OPERATIONAL (3.4. Reporting and communication) - UNDP Risk Appetite: EXPLORATORY TO OPEN	Likelihood: 1 - Not likely Impact: 3 - Intermediate Risk level: LOW (equates to a risk appetite of CAUTIOUS)	From: 01-Dec-21 To: 31-Dec-24	UNDP Project Manager/Coordinator and Government Partners	Risk Treatment: When the project deals with the sensitive information, risk treatment owner takes extra caution on use of data release, provided with confirmation by the counterparts responsible for the data management. Risk Treatment Owner: UNDP Project Manager/Coordinator

#	Event	Cause	Impact(s)	Risk Category and Sub-category	Impact, Likelihood & Risk Level	Risk Valid From/To	Risk Owner	Risk Treatment and Treatment Owner
	be interpreted and used differently	information to public						
8	Community groups not receptive to proposed interventions.	Lack of consultation with community groups results in wider gaps between their needs and support the project provides	Opposition of the proposed intervention	1. SOCIAL AND ENVIRONMENTAL (1.12. Stakeholder engagement) - UNDP Risk Appetite: CAUTIOUS	Likelihood: 2 - Low likelihood Impact: 3 - Intermediate Risk level: MODERATE (equates to a risk appetite of EXPLORATORY)	From: 01-Dec-21 To: 31-Dec-24	UNDP Project Manager/Coordinator and Government partners	Risk Treatment: The project suggests a participatory approach aimed at building capacities of communities allowing their full engagement in project delivery. It is expected that facilitating active participation of the communities will improve their willingness to engage in suggested interventions. Risk Treatment Owner: UNDP Project Manager/Coordinator
9	Project activities could be carried out in a way that does not include or represent the needs and voices of marginalized and vulnerable populations, including women.	Identification of the stakeholders affected by the project is not adequate due to lack of a wider consultation with the government counterparts, including marginalized and vulnerable populations and women.	Marginalized and vulnerable populations including women are not included in the project implementation.	1. SOCIAL AND ENVIRONMENTAL (1.9. Indigenous peoples) - UNDP Risk Appetite: CAUTIOUS	Likelihood: 2 - Low likelihood Impact: 4 - Extensive Risk level: MODERATE (equates to a risk appetite of EXPLORATORY)	From: 01-Dec-21 To: 31-Dec-24	UNDP Project Manager/Coordinator and Government partners	Risk Treatment: Activities have been designed to be inclusive and participatory. During the inception phase of the project, a Stakeholder Engagement Plan and a Gender Action Plan will be developed to detail ways in which the project will mainstream participation of vulnerable communities. The need for a full Indigenous Peoples Plan (IPP) and the application of an FPIC process will be further explored at that stage, and carried out if required by the SES. Further to this, an Indigenous Peoples Planning Framework is planned under Activity 1.1.2 that will guide the project's implementation. Risk Treatment Owner: UNDP Project Manager/Coordinator

#	Event	Cause	Impact(s)	Risk Category and Sub-category	Impact, Likelihood & Risk Level	Risk Valid From/To	Risk Owner	Risk Treatment and Treatment Owner
10	Part of relief funds (L.2.3.5) is not directly utilized as planned	Lack of fund management procedure, capacity and transparency at relevant government entities at the national and sub-national levels	Hindering the opportunity to effectively use this fund to benefit the community needs	3. OPERATIONAL (3.3. Flexibility and opportunity management) - UNDP Risk Appetite: EXPLORATORY TO OPEN	Likelihood: 3 - Moderately likely Impact: 3 - Intermediate Risk level: MODERATE (equates to a risk appetite of EXPLORATORY)	From: 01-Dec-21 To: 31-Dec-24	UNDP Project Manager/Coordinator and Government partners	Risk Treatment: Only one activity, which is L.2.3.5 facilitate community mobilization of relief fund, is directly impacted by this risk. The Project proposes to change the implementation approach to this activity by introducing direct procurement of disaster preparedness goods to provide to the affected communities, while will also be exploring a possibility to conduct capacity building to the communities on setting up and operationalize seed funds/ grants to address their need on disaster preparedness.g Risk Treatment Owner: UNDP Project Manager/Coordinator

ANNEX II: PROGRESS TOWARD PROJECT RESULTS FRAMEWORK

EXPECTED OUTPUTS	OUTPUT INDICATORS[1]	DATA SOURCE	BASELINE		TARGETS																DATA COLLECTION METHODS & RISKS	
					2021	2022				2023				2024				2025			Actual as of December 2023	
			Value	Year	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3		
					Year 1				Year 2				Year 3				Year 4					
Output 1: Water-related climate risks assessed in the priority river basins.	% of target municipalities having enhanced data illustrating water-related climate risks and vulnerabilities .	Monitoring data	0	2022									50	50	70	70	80	80	100	100		Monitoring data
	% of women, elderlies, youths, people with disabilities, and ethnic minorities included in community-based mapping exercises (presented as W, E, Y, D, M in the targets)	Monitoring data	0	2022			W50 E5 Y20 D10 M10	W50 E5 Y20 D10 M10	W50 E5 Y20 D10 M10												W403 E89 Y118 PWD22 M160	Survey Number of people were consulted for gender and baseline, and IPP studies

EXPECTED OUTPUTS	OUTPUT INDICATORS[1]	DATA SOURCE	BASELINE		TARGETS																		DATA COLLECTION METHODS & RISKS	
					2021	2022				2023				2024				2025			Actual as of December 2023			
			Value	Year	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3				
					Year 1				Year 2				Year 3				Year 4							
				2022			W50 E10 Y15 D10 M10	W50 E10 Y15 D10 M10	W50 E10 Y15 D10 M10		W50 E10 Y15 D10 M10										297	297 villagers of diverse background (women, elderlies, youths, people with disabilities, and ethnic minorities) from 8 village (4 target municipalities) took part in the community problem analysis and mapping exercise carried out . Approximately 60% are representatives of W, E, Y, D, and M demographics. Field assessment of the activity is completed, pending final report revision and validation of findings and results.		

EXPECTED OUTPUTS	OUTPUT INDICATORS[1]	DATA SOURCE	BASELINE		TARGETS																	DATA COLLECTION METHODS & RISKS	
					2021	2022				2023				2024				2025			Actual as of December 2023		
			Value	Year	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3			
					Year 1				Year 2				Year 3				Year 4						
	# of impact-based forecasting models and flood propagation models developed in the Xe Bang Fai and Xe Don river catchment areas (Lao PDR) and 4Ps and 3Ss river catchment areas (Cambodia).	Monitoring data	0	2022								1	2	2	3	3	4					Monitoring data	
	# of market-based assessment of supply chains at risks and barriers related to climate change risk completed focused on the target municipalities in the Xe Bang Fai and Xe Don river catchment areas (Lao PDR) and 4Ps and 3Ss river catchment areas (Cambodia).	Monitoring data	0	2022	0	0	0	1	2												1	Monitoring data Completed the assessment of the impact of climate change on water-related climate hazards affecting crop production in the 3S and 4P River Basins, Cambodia	
Output 2: Enabling environment for climate-risk informed integrated water	% of women, elderlies, youths, people with disabilities, and ethnic minorities (presented as W, E, Y, D, M in the targets) included in integrated water resources management	Pre- and post-training/ workshop surveys	TBD	2022	0				W50 E5 Y20 D10 M10	W50 E5 Y20 D10 M10	W50 E5 Y20 D10 M10	W50 E5 Y20 D10 M10									45 (7 women)	Survey Participants engaged in gender-based commune contingency plan development	

EXPECTED OUTPUTS	OUTPUT INDICATORS[1]	DATA SOURCE	BASELINE		TARGETS																DATA COLLECTION METHODS & RISKS	
					2021	2022				2023				2024				2025			Actual as of December 2023	
			Value	Year	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3		
					Year 1				Year 2				Year 3				Year 4					
resources management developed.	planning and implementation								W50 E10 Y15 D10 M10	W50 E10 Y15 D10 M10	W50 E10 Y15 D10 M10	W50 E10 Y15 D10 M10									449 (158 women)	Number of participants engaged in community- based problem analysis and water resources protection zone planning and management.
	% of trainees reporting increased capacity on GIS-based integrated hydrological models and use of risk data in decision-making	Pre- and post- training/ workshop surveys	0	2022						10	20	20	30								50 (9 women)	Participants from GIS training reported they have increased GIS capacity in the post-test evaluation (partner progress report)
										20	20	30	30								91 (20 women)	Participants attended GIS- based hydrological trainings; beginner and intermediate courses. One more (advanced course) is to be held in Q4 2023

EXPECTED OUTPUTS	OUTPUT INDICATORS[1]	DATA SOURCE	BASELINE		TARGETS																		DATA COLLECTION METHODS & RISKS	
					2021	2022				2023				2024				2025			Actual as of December 2023			
			Value	Year	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3				
					Year 1				Year 2				Year 3				Year 4							
	% increase in knowledge of DRR and CCA actions at 6 community level	Pre- and post implementation	0	2022					10	10	20	20	30	30	40	40	50	50	60	60	173 (77 women)	Participants from VDGM, DRR and CCA &gender trainings (partner progress report)		
									5	5	10	10	10	10	20	20	20	30	30	30		This activity is planned in 2024		
	# of newly mobilized relief funds in target communities in the Xe Bang Fai and Xe Don river catchment areas (Lao PDR) and 4Ps and	Monitoring data	0	2022					1	1	1	1	2	2	2	2	3	3	3	3		Monitoring Data Not yet started. There is no progress to report.		

EXPECTED OUTPUTS	OUTPUT INDICATORS[1]	DATA SOURCE	BASELINE		TARGETS																DATA COLLECTION METHODS & RISKS		
					2021	2022				2023				2024				2025					Actual as of December 2023
						Value	Year	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
					Year 1				Year 2				Year 3				Year 4						
	3Ss river catchment areas (Cambodia).																						• No relief funds to be mobilised in 2023. Disaster preparedness goods will be provided to all eight target communities in Q4 2023 in response to the identified community needs. • Trial small-grant will be transferred to 1-2 selected communities with demonstrated capacity in managing funds via village development fund (VDF), remaining balance will be used to strengthen community resilience through procurement of goods, infrastructure

EXPECTED OUTPUTS	OUTPUT INDICATORS[1]	DATA SOURCE	BASELINE		TARGETS																	DATA COLLECTION METHODS & RISKS	
					2021	2022				2023				2024				2025			Actual as of December 2023		
			Value	Year	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3			
					Year 1				Year 2				Year 3				Year 4						
																						improvement or cash-based intervention. #newly mobilized relief funds for 2024 will be reported in Q3 or Q4 2024	
	% increase in monthly users of LaoDi (Lao PDR only) (disaggregated by sex)	System generated data	0	2022				10	10	10	10	15	15	15	15	15	20	20	20	20		As of October 2023, LaoDI is still in its final stage of system improvement, and the roll out is still limited. Upon completion of systems roll out, records of increased users per month will be reported. Baseline of LaoDi Users	

EXPECTED OUTPUTS	OUTPUT INDICATORS[1]	DATA SOURCE	BASELINE		TARGETS																	DATA COLLECTION METHODS & RISKS	
					2021	2022				2023				2024				2025			Actual as of December 2023		
			Value	Year	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3			
					Year 1				Year 2				Year 3				Year 4						
Output 3: Funding proposal for priority risk reduction measures developed																						will be reported in next quarterly report (Annual Progress Report 2023)	
	% of Provincial Disaster Management Committee members reporting increased capacity and understanding of preparedness protocols	Pre- and post- training/ workshop surveys	0	2022					10	10	20	20	30	30	40	40	50	50	60	60	46 (15 women)	Participants from provincial level training on CCA, DRR,	
									10	10	20	20	20	20	30	30	30	40	40	40	46 (18 women)	Participants attended capacity development training, focusing on climate change adaptation and community- based disaster risk reduction	
Output 3: Funding proposal for priority risk reduction measures developed	# of project funding proposal developed and submitted to GCF or similar	Monitoring data	0	2022									1	1	1	1	1	1	1	1		Monitoring Data	

All

EXPECTED OUTPUTS	OUTPUT INDICATORS[1]	DATA SOURCE	BASELINE		TARGETS																	DATA COLLECTION METHODS & RISKS			
					2021	2022					2023				2024				2025			Actual as of December 2023			
						Value	Year	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3		
								Year 1					Year 2				Year 3				Year 4				

Cambodia

Lao PDR