

# Building Climate Resilience for Rural Water Supply Infrastructures in Cambodia (bcr-ws)

Implemented by Ministry of Rural Development (MRD)

CCCA3



National Council for Sustainable Development  
General Secretariat  
Department of Climate Change



Ministry of Environment

# Background

Cambodia has abundance water resources, but its quantity and quality vary in different locations and seasons. For example, the highland and coastal areas usually face low water distribution toward the dry season. The growing demands of water for different purposes in agriculture, industry, and fisheries sectors also brought pressure on water availability. According to the climate change project in Cambodia, temperature will be higher and rainfall patterns will become erratic. Droughts will reduce recharge capacity of aquifer. Flooding events will damage existing water infrastructure and cause erosion and land degradation of the riverbanks. Increasing incidences of diseases such as malaria, dengue fever, and water borne diseases (diarrhea, cholera) caused from floods and respiratory disease are associated with droughts.



The provision of water supply and sanitation services is particularly vulnerable to the projected changes in climate conditions (temperature and precipitation among others). Water supply and sanitation infrastructure may experience a greater risk of damage because of the frequent and/or more intense extreme weather events, floods, and drought. In addition, warmer temperatures may increase evaporation from surface waters and reduce water supply availability. This project was designed to support the implementation of some actions for building and upgrading the water supply infrastructure to be climate resilient through developing institutional capacity, coordination, testing, and using tools and technical guideline produced by development partners such as CCCA, UNICEF and ADB.

## Overall Objective

***The proposed project aims to increase access to safe water and sanitation for all year round of Rural communities in project target areas.***

## Specific Objectives

1. Strengthen institutional capacity on adaption and mitigation options for the rural water supply infrastructures;
2. Increase climate resilient rural water supply infrastructures in project target areas; and
3. Increase awareness of vulnerable communities in the project target areas; and climate change impacts, and the necessary adaptation and mitigation measures needed for Rural Water Supply and Sanitation.

## Approach

The main approach that will be applied in this modeling project is the synthesis of efforts, technologies, tools, and best practices to develop and test climate resilient for rural water supply infrastructures. Sustainability of the project outcomes is a common challenge in rural development in Cambodia, so the project will promote the local participation and ownership in Water Supply Management through awareness raising, capacity development in managing water supply in their community. The practices and approach of the project will be integrated in the planning system of the rural development at national and sub-national level. Climate change technical working group of MRD coordinated and supported the development of CCAP 2014-2018,

and developed and implemented projects and research studies in the climate change. In addition, the Department of Rural Water Supply (DRWS) has been developing the technical guideline for design and construction of the rural water supply infrastructures in which consideration of climate resilient design and construction were included. This project will contribute to

finalization as well as piloting the technical guideline. UNICEF Cambodia were invited to be the technical partner of this project to provide the capacity building to finalize technical guideline and use tools to conduct vulnerability assessment, design and construct the climate- proofed water sources.

## Outputs and Key Activities

Result	Key Activities
<ul style="list-style-type: none"> <li>Strengthened institutional capacity on adaption and mitigation options for the rural water supply infrastructures</li> </ul>	<ul style="list-style-type: none"> <li>Develop training courses and materials on climate change, Risk Assessments tool and technical guideline for climate resilient rural water infrastructures</li> <li>Deliver training to key concerned staff of PDRD and sub-national administration of Kampong Thom province</li> <li>After the training, support the trainees to conduct field practices (by following the technical guideline) on risks assessment, design, and technical supervision on the real sites in the target villages, both for project investments and for investments to be included in the national budget</li> <li>Conduct monitoring, documenting, and learning by comparing performance of the newly introduced climate proof water infrastructures, piloted by the project, with the traditionally designed water infrastructures</li> <li>Based on the experiences from Kampong Thom, deliver training to concerned staff of MRD and other PDRDs of other provinces that are most vulnerable to climate change</li> <li>Support learning application (field practices) on assessment and design by following the technical guideline</li> <li>Conduct consultation workshop to review the risks assessment report and the draft design of climate resilient rural water infrastructures</li> <li>Construct climate resilient water infrastructures in the project target area by following the design agreed in the workshop</li> <li>Conduct technical supervision for the construction and rehabilitation works.</li> <li>Establish and train Water User Groups (WUG) for each constructed water supply infrastructure</li> </ul>
<ul style="list-style-type: none"> <li>Increased climate resilient rural water supply infrastructures in project target areas in Kampong Thom province</li> </ul>	<ul style="list-style-type: none"> <li>Design the awareness raising campaign on climate change impacts, and the adaptation and mitigation measure necessary for rural water supply and sanitation</li> <li>Develop awareness raising materials on climate change impacts, the adaptation and mitigation measures needed for rural water supply and sanitation</li> <li>Conduct the awareness raising campaign/workshops in the project target areas</li> </ul>
<ul style="list-style-type: none"> <li>Increased awareness of vulnerable communities in the project target areas on climate change impacts, and the necessary adaptation and mitigation measures needed for Rural Water Supply and Sanitation</li> </ul>	<ul style="list-style-type: none"> <li>Design the awareness raising campaign on climate change impacts, and the adaptation and mitigation measure necessary for rural water supply and sanitation</li> <li>Develop awareness raising materials on climate change impacts, the adaptation and mitigation measures needed for rural water supply and sanitation</li> <li>Conduct the awareness raising campaign/workshops in the project target areas</li> </ul>

## Knowledge Products

• Training Modules • Practical Guideline for climate risk assessment and design, and O&M for climate resilient rural water supply infrastructure • A finding report on Cost and Benefit Analysis (CBA) • A short video on the process, methodologies and achievements of the project • A short concept note for climate-resilient water supply in Cambodia for the Green Climate Fund

<b>Timeframe</b>	October 2020 - March 2023	<b>Partners</b>	UNICEF
<b>Total Budget</b>	USD 270,000 (Total) CCCA USD 250.000	<b>Location</b>	Kampong Thom province

Contact person:

Mr. Teang Chhayheang, : 012 925 888: [info@mrd.gov.kh](mailto:info@mrd.gov.kh)

## Funded by



## General Inquiries:

Department of Climate Change  
General Secretariat of the National Council for Sustainable Development  
C/O Ministry of Environment  
No. 503, Road along Bassac River, Sangkat Tonle Bassac, Chamkarmon, Phnom Penh

+855 23 640 3833

[secretariat@camclimate.org.kh](mailto:secretariat@camclimate.org.kh)

[www.ncsd.moe.gov.kh](http://www.ncsd.moe.gov.kh)