UN environment programme | CTCN UN Climate Technology Centre & Network

CTCN Technical Assistance
Request Submission Form
Version: 05/2025

Guidelines:

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

Requesting country or countries:	Kingdome of Cambodia
Request title:	Feasibility study of improved rainwater harvesting technology for supplying sustainable agricultural water to rural communities in Cambodia
NDE	Mr. OU Chanthearith Director of the Department of Science and Technology / General Directorate of Policy and Strategy Ministry of Environment Email: chanthearithccd@hotmail.com; ou.chanthearith@moe.gov.kh Address: No. 48, Samdech Preah Sihanouk Blvd, Phnom Penh, Cambodia
Request Applicant:	The General Directorate of Policy and Strategy / Ministry of Environment Mr. OU Chanthearith, Director of the Department of Science and Technology Email: chanthearithccd@hotmail.com; ou.chanthearith@moe.gov.kh Address: No. 48, Samdech Preah Sihanouk Blvd, Phnom Penh, Cambodia

Climate objective:

- [x] Adaptation to climate change
- [ ] Mitigation of climate change
- [ ] Combination of adaptation and mitigation of climate change

Geographical scope:

- [ ] Community level

☐ Sub-national

☑ National

☐ Multi-country

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

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

Based on the Global Climate Risk Index 2020, Cambodia ranks as the 12th most vulnerable country to climate change globally[1]. By 2050, climate change could cost up to 9% of Cambodia's GDP while increasing the poverty rate up to 6 % by 2040. [2] In recent years, Cambodia has seen more frequent occurrence of localised droughts and floods. In 2015 Cambodia experienced its worst drought in half a century, with most of its 25 provinces suffered from water shortages, and around 2.5 million people severely affected. Also in 2012, drought across 11 provinces adversely affected tens of thousands of hectares of rice paddies.[3]

Forecasts vary widely depending on assumptions, but all forecasts predict a rise in temperatures[4][5], leading to longer droughts and more frequent tropical storm. Increased temperatures, drought, and changes in seasonal rainfall patterns threaten to impact food security and human health through reduced freshwater availability and, in turn, agricultural and fishery production. World Food Programme's reports in 2021 shows that climate-induced shocks are an important contributor to household food insecurity and vulnerability in Cambodia, with a significant share of households (33 percent) reporting being affected by rain and drought-induced shocks. This is significant, as a large share of households rely on rain-fed subsistence farming to meet their food needs. These shocks have severe and long-lasting impacts on household income and food production and consequently on resilience. According to WFP Report (2021), findings show that agricultural productivity dropped (by 9 percent) relative to the previous year, with some provinces being particularly affected, including Pursat (-29 percent) and Siem Reap (-16 percent). Notably, three out of four households affected by shocks (75 percent) had reportedly not yet recovered from the most recent shocks.[6]

Most of the existing irrigation facilities were built during the Pol Pot regime (1975-1978) and are not functioning adequately due to aging facilities, lack of maintenance, inadequate or faulty design and construction. As a result, irrigation water is not stably supplied, and most farmers are dependent on rainwater. Because most of Cambodia's rice fields are rain-fed, with only 20 percent irrigated, the poorest farmers (typically without irrigation) are particularly vulnerable to shifts in the timing, frequency, and/or intensity of precipitation. Although Cambodia has built several large and small

[1] Global Risk Index (2020). Retrieved from: https://www.germanwatch.org/sites/germanwatch.org/files/20-2-01e%20Global%20Climate%20Risk%20Index%202020_14.pdf

[2] World Bank. "Acting on Climate Change is Key for Cambodia to Achieve its Development Goals": https://www.worldbank.org/en/news/press-release/2023/10/31/acting-on-climate-change-is-key-for-cambodia-to-achieve-its-development-goals

[3] OCHA: Weekly Regional Humanitarian Snapshot (May 2016). Retrieved from https://reliefweb.int/report/sri-lanka/asia-and-pacific-weekly-regional-humanitarian-snapshot-24-30-may-2016

[4] Cambodia Climate Change Strategic Plan (2024-2033).https://ncsd.moe.gov.kh/sites/default/files/2025-08/Cambodia%20Climate%20Change%20Strategic%20Plan%202024-2033_EN.pdf

[5] World Bank/ Asian Development Bank (2024). Climate Risk Country Profile Cambodia. https://www.preventionweb.net/media/104816/download?startDownload=20250820

[6] WFP (2021). Food Security and Nutrition Assessment for Flood-prone Areas of Cambodia https://docs.wfp.org/api/documents/WFP-0000143100/download/?_ga=2.77818391.2063393153.1668131749-2055734941.1668131749

irrigation systems over the past ten years, Cambodia still needs more funds and resources to develop and rehabilitate their rural irrigation systems to secure sufficient water for agriculture.

Reduced agricultural production can cause hunger and malnutrition, negatively affect Cambodia's overall economic performance, and hamper progress towards the Sustainable Development Goals. Moves to diversify agriculture including expanding production of higher-value crops are also heavily constrained by water availability. Furthermore, the reduced availability of surface water has increased groundwater extraction, a potential human health risk given the prevalence of elevated arsenic levels in Cambodia. According to the study conducted by the Stockholm Environment Institute (2018), more than 100,000 individuals in Cambodia face a significant risk of prolonged exposure to groundwater containing arsenic levels above 50 µg/l.[7]

Increasing the resilience of rural infrastructure to droughts – including irrigation systems, wells, and ponds, improving human and institutional capacity, and improving meteorological and hydrological services – are identified as key priorities under Cambodia's Climate Change Strategic Plan 2024-2033.[8]

Moreover, through the Technology Needs Assessment (TNA) funded by the Global Environment Facility (GEF), the Government identified top 5 adaptation technologies in water sector in 2013 (1. rainwater harvesting from rooftops, 2. small reservoirs, small dams and micro-catchments, 3. wells for domestic water supply and 4. community irrigation system, and 5. household water treatment and safe storage all contribute to safer water supply at household and village level in rural Cambodia).

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

The National Climate Change Committee (NCCC) was established in 2006 with the mandate to coordinate and monitor the implementation of the Government's policies, strategies, regulations, plans and programs in response to climate change issues. A Climate Change Technical Working Group (CCTWG) was established as an inter-ministerial body to provide technical support to the NCCC in fulfilling its mandate. The Cambodian government has identified the improvement of agricultural productivity and diversification as an important issue for agriculture which is a key industry for Cambodia in its Rectangular Strategy Phase IV (RS-IV) as well as National Adaptation Programme of Action to Climate Change (NAPA), and focuses on the effective construction, maintenance, and management of water irrigation systems to ensure effective use of water resources. In addition, the National Strategic Development Plan 2019-2023 (NSDP) identifies the improvement of agricultural productivity as one of the main goals to achieve sustainable economic development, and the sectoral development policies include to increase the area under irrigation through the rehabilitation and construction of irrigation facilities, encouraging the maintenance and expansion of reservoirs, lakes, ponds, intake canals and drainage systems to ensure an adequate water supply for the cultivation zone. Cambodia Climate Change Strategic Plan 2024-2033 set strategic objective #1: Promote GHG Mitigation, strategic objective #2: Strengthening Adaptation Capacity to Climate Change (Tonle Sap Lake, Mekong River, coastal ecosystems, highlands, etc.), , and strategic objective #3: Promoting Good Governance and Digital Transformation.

[7] Stockholm Environment Institute (2018). "Arsenic in rice: state of knowledge and perceptions in Cambodia": 181109b-gill-may-rice-arsenic-wp-1809f.pdf

[8] Cambodia Climate Change Strategic Plan (2024-2033).https://ncsd.moe.gov.kh/sites/default/files/2025-08/Cambodia%20Climate%20Change%20Strategic%20Plan%202024-2033_EN.pdf

The Asian Development Bank (ADB), the World Bank, the French Development Agency (AFD), Japan, South Korea, China, among others are supporting the rehabilitation and improvement of irrigation facilities in various areas, especially in the region around Tonle Sap Lake. Japan International Cooperation Agency (JICA) has established the "Water Resources and Irrigation Development Management Program". The Food and Agriculture Organization of the United Nations (FAO), Australia, and other countries are also providing assistance, and the Agriculture and Water Technical Working Group is coordinating assistance in the agricultural sector.

Specific technology[9] barriers (up to one page):

In many parts of Cambodia, rainwater is not stored properly due to inadequate collection and storage facility. Many ponds or reservoirs are simple dugout or excavated and ineffective for rainwater collection and storage since the stored water seep into the ground. Also, many reservoirs are gradually getting shallower due to sedimentation caused by deforestation of surrounding forested areas, which leads to reduced capacity for water storage. Also, harvested water might get contaminated by arsenic from the ground, a potential human health risk given the prevalence of elevated arsenic levels in Cambodia. The water surface is exposed to the sun, and with high temperature, water keeps evaporating and it also generates phytoplankton.

Concrete floored reservoirs are not viable options for many rural villages since they require significant capital cost and special skills for installment. Based on the Strategy for Rural Water Supply 2011-25, communities need to share capital cost and be responsible for operation and maintenance.[10] Given the fact that there is still high poverty incidence in rural Cambodia, 18% of households below the official poverty line (World Bank)[11], ponds and reservoirs that require significant capital and operation & maintenance (O&M) costs are not viable options for many communities and cannot be implemented on a large scale.

Using impervious liners made of Ethylene Propylene Rubber (EPDM) rubber membrane sheet in rainwater harvesting ponds improves the effectiveness of rainwater collection and storage, improving availability of water for agriculture, aquaculture and livestock. EPDM rubber liners are water-proof membranes or barriers used to control fluid migration in an earthen storage structure. The liner can also be combined with floating lids to minimize water evaporation. This technology not only secures water from permeance loss and transpiration loss but also protect water from arsenic, pesticide, and other sediment contamination. Its installation and O&M are easy and much less costly compared to other conventional rainwater harvesting ponds and reservoirs. Technical feasibility study for this technology has been partially implemented in Cambodia with support from JICA.[12] It has been reported that the rubber membrane and floating lid can significantly decrease the permeance loss and transpiration loss as well as protecting water from contamination from the ground. Overall, **application of this small-scaled, decentralized, cost-effective rainwater harvesting technology could be an appropriate measure to supply sustainable agricultural water to communities in rural Cambodia**

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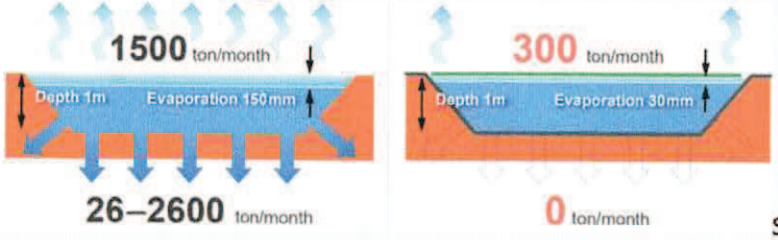
[9] ***"any equipment, techniques, practical knowledge and skills** needed for reducing greenhouse gas emissions and adapting to climate change" (Special Report on Technology Transfer, IPCC, 2000)*

[10] National Strategy for Rural Water Supply, Sanitation and Hygiene 2011-2025 http://cdc-crdb.gov.kh/en/twg-jmi/sector_strategy/mrd_b_rssw_straigy_Eng.pdf

[11] WorldBank in Cambodia Available at https://www.worldbank.org/en/country/cambodia/overview#:~:text=The%20national%20poverty%20line%20is,rates%20vary%20considerably%20by%20area.

[12] JICA Feasibility Study on Irrigation Pond Project in Cambodia (English version from Pg. 90 onward) at https://openjicareport.jica.go.jp/pdf/12308417.pdf

where water scarcity is getting serious due to climate variation and drought.



Source: JICA feasibility study [13][14]

In terms of implementation, the lack of information presents a major challenge. There is a lack of data on whereabout, how many ponds/reservoirs exist (location, storage capacity, surface areas) and their current condition (dried-up or in use). There is also no geographical market demand data (number of beneficiaries, usage patterns). Without these key data, Cambodian government is unable to make appropriate policy decisions to implement this technology nor apply for the climate finance. Therefore, the feasibility study must be conducted to collect the key data such as location, storage capacity, surface areas and conditions of existing ponds/reservoirs as well as market demand including the number of beneficiaries, usage patterns, any other alternative water supplies that people use.

Contribution to Programme of Work 2023-2027:

As per 3rd Programme of Work of the CTCN[15], please indicate the system transformation area, key enablers and cross-sectoral themes related to the request:

System transformation areas (mandatory)

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

Key enablers (optional)

- [ ] National Systems of Innovation
- [ ] Digitalization

Cross-sectoral themes (optional)

- [ ] Gender
- [ ] Youth
- [ ] Indigenous Peoples

[13] Ibid.
[14] Shibata Rubber Pond Non-Evapo System at http://www.asiapacificadapt.net/adaptationforum2020/wp-content/uploads/2021/04/non-evapo-sys-210305.pdf
[15] https://www.ctc-n.org/resources/ctcn-third-programme-work-2023-2027

Sectors:

Please indicate the main sectors related to the request:

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

Please add other relevant sectors:

Technical assistance requested (up to one page):

1. Overall objective

The feasibility study to be conducted under this TA will have the objective to collect key data and evidence regarding technical and economic feasibility of improved rainwater harvesting technology (EPDM rubber membrane ponds/reservoirs) in Cambodia, as well as relevance to the climate change adaptation.

Data to be collected are followings:

- Rainfall quantity(mm/year), pattern and regional drought data
- Ponds/reservoir location and capacity information
  - ✧ Collection surface area (m2)
  - ✧ Available storage capacity(m3)
  - ✧ Location
  - ✧ Conditions
- Local demand for the reservoir enhancement and room for improvement
- Water management strategy
- Market demand
  - ✧ Daily consumption rate (Litter/capita/day)
  - ✧ Number of users and usage patterns
  - ✧ Alternative water resources
  - ✧ Current/ existing and potential suppliers

TA will also aim to:

- Develop an implementation plan for EPDM rubber membrane ponds/reservoirs for supporting efficient water resource management in Cambodia.
- Develop a Green Climate fund (GCF) project Concept Note for EPDM rubber membrane ponds/reservoirs technology using the information and data collected from the feasibility study.

2. Anticipated groups of activities to be performed by the technical assistance

Activity 1: Desk study and inception report

This report would confirm the consultant's understanding of the assignment, his/her approach, and

methodology and some of his/her findings on the status of water resource management in rural Cambodia.

Activity 2: Technical data collection and assessment
This activity refers to conduction of data collection in relation to current rainwater harvesting ponds/reservoirs in rural communities of Cambodia, and technical analysis of potential of improved rainwater harvesting technology implementation. The data collection support from the Provincial Department (MOWRAM, MAFF, MRD) as well as Agricultural Cooperatives (AC) and Community Water Use Group are indispensable, and they will play the key role in this data collection and assessment process. Working with MOWRAM to have these activities aligned with MOWRAM's initiatives ensures the project's sustainability.

Activity 3: Market Analysis of improved rainwater harvesting technology
This activity is intended to measure potential output of harvested rainwater for local consumption for agriculture, aquaculture, and livestock, and potentially for drinking water.

Activity 4: Drafting of GCF concept note
Based on the results obtained in the technical and market analysis, a GCF concept note will be drafted in full collaboration with the GCF NDA, to request for funding assistance to perform the implementation phase.

Anticipated products to be delivered by the technical assistance

- Inception report
- Draft feasibility study
- Final feasibility study
- GCF draft concept note

Expected timeframe:

Please indicate the expected duration period for the requested technical assistance. Please note CTCN technical assistance usually has a duration of 15 months but can vary depending on the scope of activities.

Activity 1: 1st month- 3rd months
Activity 2: 3rd month – 12th months
Activity 3: 5th month – 12th months
Activity 4: 12th month – 15th month

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

Women commonly suffer from climate change and face higher risks and greater burdens within their society. Reduced agricultural production due to lack of water can cause hunger and malnutrition, and severe food shortage normally takes a heavy toll, especially on pregnant and breastfeeding women and their children.

Adaptation strategies, for example additional time in sourcing water, can particularly affect women labour allocation, in turn influencing time available for childcare and feeding. Further strain on the workload of women and climate change related stress during pregnancy could contribute to low birth weight, leading to increases in risks of undernutrition and non-communicable diseases. Women in most households in rural Cambodia bear the burden of water generation and collection. Water supply to rural communities through the improved water harvesting technology will make women and girls spend

more time to engage in other activities and education with reduced work time for collecting water.

Gender analysis will be part of the Feasibility Study (FS) report that will be completed as an outcome of this TA. The gender analysis will present:

- Technical, environmental, and socio-economic linkages between improved rainwater harvesting technology and women, children, and other marginalized citizens
- Capacity development needs relating to water resource management for women, children, and other vulnerable people in Cambodia.

The TA will address these analyses through consultation meetings, interviews, questionnaires that has balanced participation of men and women.

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

The technical assistance (TA) project focused on the feasibility study of improved rainwater harvesting technology in Cambodia is designed to create a foundation for sustainable water resource management and climate change adaptation. Below is a detailed description of the expected future use of these outputs:

1. Key Stakeholders and Their Use of Outputs
   - Government Agencies: Cambodian government entities, such as the Ministry of Water Resources and Meteorology, Ministry of Agriculture, Forestry, and Fisheries, and the National Designated Authority (NDA) for the Green Climate Fund (GCF), will be able to use the data collected during the TA and GCF concept note to guide policy and funding decisions. These outputs will inform national strategies for water resource management, drought mitigation, and climate adaptation.
   - Local Communities and NGOs: Local stakeholders, including farmers, aquaculture operators, and community-based organizations, will leverage the TA findings to advocate for the implementation of improved rainwater harvesting technologies.
2. Purpose and Scale of Application:
   - The outputs will support the design and implementation of rainwater harvesting technologies across rural Cambodia, particularly in drought-prone regions. The feasibility study will serve as a blueprint for scaling up improved rainwater harvesting systems, targeting agricultural, aquaculture, and domestic water needs.
   - The GCF concept note will aim to secure international funding, enabling large-scale implementation. The scale could encompass hundreds of villages or multiple provinces, depending on the funding secured and the implementation plan developed.

3. Next Steps After Completion

✓ Short Term (1–2 years):
   - Submission of the GCF concept note to the Green Climate Fund.
   - Engagement with donors and stakeholders to secure co-financing and technical support.
   - Pilot implementation of EPDM rubber membrane ponds in selected locations to validate the feasibility study's findings.

✓ Medium Term (3–5 years):
   - Full-scale implementation of improved rainwater harvesting technologies in targeted regions.
   - Capacity building for local stakeholders to ensure sustainable operation and maintenance of the systems.

✓ Long Term (5+ years):
   - Integration of rainwater harvesting technologies into Cambodia's broader water resource and climate adaptation strategies.
   - Monitoring and evaluation to measure impact and identify opportunities for further scaling.

4.Options for Scaling Up Results

- Regional Expansion: The model developed in Cambodia could be adapted for use in other Southeast Asian countries with similar climate and water management challenges.
- Integration with Other Programs: Rainwater harvesting systems could be integrated with renewable energy projects (e.g., solar-powered water pumps) or agricultural initiatives for enhanced impact.
- Public-Private Partnerships: Collaboration with private companies could accelerate expansion of the technology with self-sustainable financial scheme.

5. Potential Funding Sources
   - Green Climate Fund (GCF): The primary target for funding, as outlined in the GCF concept note.
   - Development Banks: Institutions like the Asian Development Bank (ADB) or the World Bank may provide co-financing or concessional loans for large-scale implementation.
   - Bilateral Donors: Governments such as Japan, South Korea, or Australia could provide grants or technical assistance.

Key stakeholders:

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

Stakeholders	Role to support the implementation of the technical assistance
National Designated Entity: Department of Science and Technology	- Overall oversight of the TA - Formulate strategies for the concept note, advisory support on local climate change adaptation and propose solution option, applicable/suitable technology - Planning process/project management and co-organize the consultation workshop and oversee activities/events among the counterparts - Monitoring and evaluation of overall reports, feasibility study result and assessment review
Request Applicant: Ministry of Agriculture, Forestry and Fisheries (MAFF)	- Day to day management and coordination of the TA: - Support for coordination of the technical assistance and communication with stakeholders - Provision of feedback (practical or technical issues) to the CTCN and the consultants during the implementation of the technical assistance - Support and guidance the Provincial Department on data collections, interview, questionnaire in rural Cambodia
Ministry of Rural Development (MRD)	- Consultation about water sources management in rural Cambodia - Support for coordination of the technical assistance and communication with stakeholders - Support and guidance the Provincial Department on data collections, interview, questionnaire in rural Cambodia

Ministry of Water Resources and Meteorology (MoWRAM)	- Consultation about water sources and rainfall situations in rural Cambodia - Support and guidance the Provincial Department on data collections, interview, questionnaire in rural Cambodia
Agricultural Cooperatives (AC)	- Support data collections in rural Cambodia

Alignment with national priorities (up to 2000 characters including spaces):

Please describe how the technical assistance is consistent with national climate priorities such as: Nationally Determined Contribution, national development plans, poverty reduction plans, technology needs assessments (incl. whether this request refers to any technologies prioritized within Technology Action Plans), Long-term Low Emission Development Strategies, National Adaptation Plans, GCF Country Programme, sectorial strategies and plans, etc.

Reference document (please include date of document)	**Extract** (please include chapter, page number, etc.).
Cambodia's Nationally Determined Contribution 3.0 (NDC3.0)	v "the entire country is at risk of agricultural losses from meteorological drought, with a median annual probability of severe drought at approximately 4%, according to the Standardized Precipitation Evapotranspiration Index (SPEI). The southern plains are particularly vulnerable, experiencing severe drought conditions roughly every five to six years." (p. 29) "40 Rehabilitate and construct the irrigation infrastructure to enhance water efficiency and manage floodwater This includes repairing canals, reinforcing embankments, and building new flood drainage channels that serve both irrigation and flood mitigation functions. Properly designed irrigation systems act as flood buffers, helping to divert or retain excess rainwater during peak monsoon periods." (p.39) "40. Rehabilitate and construct the irrigation infrastructure to enhance water efficiency and manage floodwater - 60% of targeted infrastructure rehabilitated. - At least 10 flood control structures repaired. (e.g. sluice gates, embankments, retention ponds)."(p.110)
Technology Needs Assessment and Technology Action Plans for Climate Change Adaptation (2013)	"Rainwater harvesting from rooftop", "small reservoirs, small dams and micro-catchments", "community irrigation systems" were selected as three of the top five technologies to be prioritized. "Rainwater harvesting, small reservoirs, wells and household water treatment all contribute to safer water supply at the village and household level. Community irrigation systems primarily target village crops and household agricultural plots." (Chapter 4 Technology Prioritisation for the Water Sector - 4.3 Results of Technology Prioritisation, p.22) "Promote community-based adaptation approaches and strengthen partnerships between development partners, civil society, the private

	sector and the Government" "Introduce technologies in water work development and rehabilitation in response to the negative impacts of climate change" (Chapter 5 Strategic Framework - 5.3 Strategic Objectives and Strategies - Strategic Objective 2: Reduce Sectoral, Regional, Gender Vulnerability and Health Risks to Climate Change Impacts, p.14-15)
National Adaptation Plans	"Given only 7-8 % of total production land area under full irrigation it is difficult for Cambodia to achieve the 5 % annual agricultural growth in order to meet the target of agricultural crops export by 2030 under climate change impacts (e.g. drought), especially for some cash crops such as rice, without further investment in the expansion of irrigation schemes." (p9) "5.3. Strategic Objectives and Strategies Strategic Objective 1: Promote climate resilience through improving food, water and energy security Strategies: h. Rehabilitate and build water infrastructures including small, medium, and large scale irrigation schemes;" (p13-14) "Establish a data management system for collecting and sharing data and information on water resources-related climate change issues and adaptation/mitigation capacity to related stakeholders." (p38) (Cambodia Climate Change Strategic Plan 2014 – 2023)
GCF Country Programme	"Water resources: rural communities are highly dependent on water resources for agricultural production. Therefore, these communities are equally vulnerable to climate impacts. Sustainable irrigation systems and sound freshwater management are critical to build the resilience of the country;" "Cambodia is still highly underdeveloped in the process of industrialisation. It requires technology initiatives, innovations and training of experts. In adaptation technology, especially, water resources need much more attention (GSSD, 2015)." (Cambodia Country Programme, P14 and P64)
Long-term Low Emission Development Strategies	"Alternate wetting and drying" "Enable more consistent stream flows that can deliver irrigation water" and can have "Potential for scaled-up climate-resilient agricultural production through increased access to solar irrigation systems and other climate resilient practices." (Cambodia's Long-Term Strategy for Carbon Neutrality, p.38-39)
Add others here as relevant	

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

The request has been developed based on meetings and consultations with line ministries. The project Applicant being Department of Climate Change, the NDE being Ministry of Agriculture, Forestry and

Fisheries (MAFF) and other stakeholders including Ministry of Rural Development (MRD) are well informed on the project and have pledged their full support accordingly.

Background documents and other information relevant for the request:

1. Government plan & strategy for climate change response
   - Nationally Determined Contribution (NDC 3.0) (2025) https://unfccc.int/sites/default/files/2025-08/Cambodia-NDC%203.0_0.pdf
   - MoE (2013) Technology Needs Assessment and Technology Action Plans for Climate Change Adaptation. Ministry of Environment, Kingdom of Cambodia. https://unfccc.int/ttclear/misc_/StaticFiles/gnwoerk_static/TNR_CRE/e9067c6e3b97459989b2196f12155ad5/add86d65dbba444ba28fee2a3882b21b.pdf
   - Cambodia Climate Change Strategic Plan 2024 –2033(CCCSP).
   - MoE (2006) National Adaptation Programme of Action to Climate Change (NAPA). Ministry of Environment, Kingdom of Cambodia. https://unfccc.int/resource/docs/napa/khm01.pdf
   - MoE (2019) Water Resources Adaptation Guide - Working paper. Ministry of Environment, Kingdom of Cambodia. https://ncsd.moe.gov.kh/sites/default/files/2019-10/Water%20Resources%20Adaptation%20Guide_March%202019_En.pdf
   - Rectangular Strategy Phase III (2013), The Royal Government of Cambodia http://cdc-crdb.gov.kh/en/strategy/documents/Rectangular_Strategy_Phase_III.pdf
   - National Strategic Development Plan (NSDP) 2019-2023, The Royal Government of Cambodia https://data.opendevelopmentcambodia.net/laws_record/national-strategic-development-plan-nsdp-2019-2023
   - National Strategy for Rural Water Supply, Sanitation and Hygiene 2011-2025, The Royal Government of Cambodia http://cdc-crdb.gov.kh/en/twg-imi/sector_strategy/mrd_b_rssw_straigy_Eng.pdf
   - Long-term Low Emission Development Strategies https://ncsd.moe.gov.kh/sites/default/files/2023-08/NDC_LTS4CN_2022_summary%20report_Final.pdf

2. Other reports
   - GCF Country Programme https://www.greenclimate.fund/document/cambodia-country-programme
   - World Bank & Asian Development Bank (2021) Climate Risk Country Profile Cambodia https://climateknowledgeportal.worldbank.org/sites/default/files/2021-08/15849-WB_Cambodia%20Country%20Profile-WEB.pdf
   - World Food Programme (2021). Food Security and Nutrition Assessment for Flood-prone Areas of Cambodia https://docs.wfp.org/api/documents/WFP-0000143100/download/?_ga=2.77818391.2063393153.1668131749-2055734941.1668131749
   - Japan International Cooperation Agency (JICA) Feasibility Study on Irrigation Pond Project in Cambodia (2018) https://openjicareport.jica.go.jp/pdf/12308417.pdf
   - Global Risk Index (2020). https://www.germanwatch.org/sites/germanwatch.org/files/20-2-01e%20Global%20Climate%20Risk%20Index%202020_14.pdf
   - OCHA: Weekly Regional Humanitarian Snapshot (May 2016). https://reliefweb.int/report/sri-lanka/asia-and-pacific-weekly-regional-humanitarian-snapshot-24-30-may-2016

OPTIONAL: Linkages to Green Climate Fund Readiness and Preparatory Support

The CTCN is collaborating with the GCF in order to facilitate access to environmentally sound technologies that address climate change and its effects, including through the provision of readiness and preparatory support delivered directly to countries through their GCF NDA. These actions are in line with the guidance of the GCF Board (Decision B.14/02) and the UNFCCC, particularly paragraphs 4 and 7 of 14/CP.22 and paragraph 4, 7 and 8 of 14/CP.24 that addresses Linkages between the Technology and the Financial Mechanisms[16].

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

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

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

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

NDA name: Eang Sophalleth

Date: 28.10.2025

Signature:

Monitoring and impact of the assistance:

By signing this request, I affirm that processes are in place in the country to monitor and evaluate the technical assistance provided by the CTCN. I understand that these processes will be explicitly identified in the CTCN Response Plan and that they will be used in the country to monitor the implementation of the technical assistance following standard CTCN procedures. This includes the active engagement as NDE together with the key project proponent / beneficiary in regular project steering meetings.

I understand that, after the completion of the requested assistance, I shall support CTCN efforts to measure the success and effects of the support provided, including its short, medium and long-term impacts in the country. This includes the completion of NDE feedback and post-implementation forms.

[16] Please see:
https://unfccc.int/files/meetings/marrakech_nov_2016/application/pdf/auv_cop22_i8b_tm_fm.pdf

UN environment programme | CTCN UN Climate Technology Centre & Network

CTCN Technical Assistance
Request Submission Form
Version: 05/2025

Signature:

NDE name: Ou Chanthearith

Date: 24.10.2025

Signature:

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

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