Inception Report for the CTCN Project:

Market Assessment of Climate Technologies for Rural Development

Country: The Kingdom of Cambodia

Reference number: CTCN 23-012

National Designated Entity: Ministry of Environment

Climate Technology Center Network (CTCN)

Sustainable Solutions for Africa (SSA)

January 2024

Contents

Acronyms and Abbreviations

AE	Accredited Entity by the Green Climate Fund
COP	Conference of the Parties
CTC	Climate Technology Centre
CTCN	Climate Technology Centre and Network
GCF	Green Climate Fund
NAMAs	Nationally Appropriate Mitigation Actions
NAPs	National Adaptation Plans
NCDD	National Committee for Sub-national Democratic Development
NDAs	National Designated Authorities
NDCs	Nationally Determined Contributions
NDE	National Designated Entity
MoE	Ministry of Environment
SDGs	Sustainable Development Goals
SSA	Sustainable Solutions for Africa
TAPs	Technology Action Plans
TNAs	Technology Needs Assessments
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change

1. Introduction

As the operational arm of the United Nations Framework Convention on Climate Change (UNFCCC)'s Technology Mechanism, the CTCN received from the UNFCCC the mandate to promote the accelerated transfer of environmentally sound technologies for low carbon and climate-resilient development at the request of developing countries (cf. COP decisions 1/CP.16, 2/CP.17, 14/CP.18, and 25/CP.19). To achieve this, the CTCN provides technology solutions, capacity building and technical advice on policy, legal and regulatory frameworks tailored to the needs of individual countries and based on specific country requests submitted by a National Designated Entity (NDE). The CTCN is, therefore, a demand-driven mechanism; as its services are offered upon request by developing countries, the volume and specific nature of activities ultimately depend on countries' requirements and needs.

The CTCN is composed of a Climate Technology Centre (CTC) and a Network (cf. COP decision 2/CP.17). The CTCN is hosted by the United Nations Environment Programme (UNEP).

The CTC Network, including the Sustainable Solutions for Africa (SSA), Togo, consists of institutions forming a Technical Resource Pool and is responsible for supporting the CTC Climate Technology Manager in the initial appraisal, refinement, and technical support of requests received through NDEs. When necessary, a small expert team from these institutions is established to support the Climate Technology Manager in responding to a request, prepare a response plan for more in-depth support, and deliver immediate technical assistance assuring a rapid and flexible response and implementation (flexibility and speed that have been one of the main selling points of the UNEP proposal to the UNFCCC). The Network partners also provide support to the CTCN's capacity-building, networking, knowledge-sharing, and awareness-raising activities.

As a CTC Network member, SSA is enhancing the CTCN capacities to foster the transfer of climate technologies in developing countries through its strong international presence as a leading technical expert in the energy sectors. SSA has solid expertise in consulting and capacity-building, assisting states and public and private institutions in mobilising resources and funding, as well as identifying technological solutions.

This project contributes to the Climate Action Sub-programme of the UNEP Results Framework for 2022-2023, including Indicators:

(i) "Number of national, subnational and private-sector actors that adopt climate change mitigation and/or adaptation and disaster risk reduction strategies and policies with UNEP support", indicator

(iv) "Positive shift in public opinion, attitudes and actions in support of climate action as a result of UNEP action", and indicator

(v) "Positive shift among private sector actors in support of climate action as a result of UNEP engagement".

1.1 Project background

Cambodia is one of agricultural countries which is 83% of rural people are involved in agriculture (NIS and MAFF, 2014). For several years, the impact of escalating flood and drought occurrence on annual crops has been noted. The impact of El Nino and La Nina always cause temporal climate effects in every aspect. Regarding these, there has been a significant loss of production due to the affected of climate

change on agricultural value chains and food security. Agriculture's value-add contribution to GDP has decreased during the 1990s from 35.7% in 2000 to 22.1% in 2019 (ADB, 2020). In 2019, according to International Labour Organization (ILO) (2019) estimated the proportion of rural population is 76.2% of national population, and 2.99 million individuals or 32% of total labour force is engaged in agriculture sector. Due to the impact of the COVID 19 pandemic and climate change, the estimation of GDP growth rate is decline significantly to 3.1% in 2020 affected both demand and supply. This is because of lack of private sector investment including agriculture, agro-industry and food processing investment.

Cambodia is fully committed to address the urgent challenges posed by climate change and is determined to accelerate its transition towards a climate-resilient and low-carbon sustainable development pathway. The country has demonstrated commendable progress in integrating climate change policies into its national and sub-national planning processes. Moreover, Cambodia has developed Cambodia's Updated National Determined Contribution 2020 to set the target and improve several important approaches to mitigating greenhouse gas emissions and adapting to climate change impacts especially in agriculture sector and energy efficiency. In pursuit of comprehensive climate action, Cambodia has identified priority areas for climate change adaptation and mitigation, emphasizing the need for innovative financing mechanisms to support the widespread adoption of environmentally sound technologies and the increased utilization of renewable energy sources.

Nevertheless, rural communities in Cambodia face multiple barriers in embracing climate-smart technologies, ranging from limited awareness about available technologies and providers to high initial costs, unfavourable credit conditions, limited access to finance and technology services, inadequate knowledge and skills in technology implementation, and insufficient support from local policies. While Cambodia boasts abundant water and renewable energy resources, a significant portion of these resources remains untapped. Unlocking access to food, water, and energy, while concurrently promoting low-carbon development through technology transfer, fiscal incentives, and policy enhancements, is vital to achieving sustainable growth in the face of climate change.

In respond to these, market assessment on climate smart agriculture implementing technology will be a great potential to improve efficiency and productivity of agriculture while ensuring environmental and economic benefits. The project will identify and suggest specific technology and smart farming methods tailored to address the impacts of climate change in the country. These methods aim to capitalize on agribusiness and value chain opportunities, minimize GHG emission from land use, improve management of ecosystem services and strengthen the resilience of productive system.

Cambodia has embarked on several initiatives (e.g., the Nationally Determined Contribution, NDCs, The National Climate Change Action Plan and the Green Economy Strategy and Implementation Plan, among others) to support climate change adaptation and mitigation within the agriculture sector.

In Cambodia's updated NDC, some mitigation projects/activities and adaptation actions aligned with the proposed project idea are as follows.

1. Mitigation projects/activities

a. Bio-digesters construction;

b. Increasing the effectiveness and sustainability of agricultural land management techniques;

c. Organic input agriculture and bio-slurry; and deep placement fertiliser technology;

d. Promote manure management through compost-making process to reduce carbon emission.

2. Adaptation actions

a. Towards an Agroecological transition in the uplands of Battambang;

b. Development of Rice crops for increase production, improved quality-safety; harvesting and post harvesting technique and agro-business enhancement;

c. Development of Horticulture and other food crops for increase production, improved quality-safety; harvesting and post harvesting technique and agro-business enhancement;

d. Development of Industry crops for increase in production, improved quality-safety; harvesting and post harvesting technique and agro-business enhancement.

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Nevertheless, rural communities in Cambodia face multiple barriers in embracing climate-smart technologies, ranging from limited awareness about available technologies and providers to high initial costs, unfavorable credit conditions, limited access to finance and technology services, inadequate knowledge and skills in technology implementation, and insufficient support from local policies.

Cambodia's robust economic growth, especially in rural areas, has intensified the challenges associated with efficient food production, water supply, irrigation, and climate change adaptation. Climate stressors, such as prolonged droughts, changing rainfall patterns, and increased storm frequency, pose significant threats to the country's water resources. As temperatures continue to rise and climate variability intensifies, surface water availability in rural Cambodia is projected to decrease further.

1.2 Problem statement

Improving production efficiency and climate resilience in the agriculture and water sectors within rural development faces several key challenges. These include limited technological capabilities, insufficient information on alternative climate-smart technologies and processes, high energy, labor, and logistics costs associated with outdated agricultural production, and inadequate knowledge of adaptation solutions in agriculture and water sectors.

To overcome barriers to adopting environmentally sound technologies in rural areas, several key issues must be addressed to ensure rural development and support the NDCs:

- A lack of sufficient information and understanding regarding climate-smart technologies, their benefits, and their potential to reduce greenhouse gas emissions. Limited knowledge of nature-based solutions and environmental management further compounds the challenge.

- Absence of supportive policies and fiscal incentives that would encourage the adoption of climate-smart technologies among the most vulnerable rural populations.

- Limited access to adequate financing options for climate-smart technologies, due to high upfront costs and the risks perceived by financial institutions.

- Absence of a comprehensive green technology database that could support the adoption of climate-smart technologies.

- A lack of effective linkages between rural populations and technology and service providers, as well as financial institutions.

Addressing these barriers is crucial to empowering rural communities to embrace environmentally sound technologies and enhance their resilience to climate change. Adopting Climate Smart Agriculture Technology is a long-term investment that require incentive from governments and supported by every stakeholder such as agricultural experts, farmers, agricultural companies to develop regulation, roadmap to increase agricultural productivity and adopt to climate change.

2. Project Overview

2.1 Objectives and targeted outcomes

The objective of the project is to implement a market assessment for the application of climate technologies in agricultural operations for rural development. This is expected to support Cambodia in implementing its Nationally Determined Contributions (NDCs). The proposed project aims to analyze the market concerning the use of climate technologies in the agricultural sector. This includes technologies in irrigation, water harvesting, and agro-food processing such as solar cooling, solar pumping, and food product preservation and packaging. It is anticipated that the project will identify **climate technologies requiring technical assistance for rural development**. This assistance is expected to enhance production efficiency and climate resilience in the agriculture and water sectors of rural areas.

This market assessment will also **identify barriers** that hinder the adoption of climate technologies and provide recommendations on how to address these challenges in support of the NDCs. Additionally, the project will **highlight key stakeholders and business models** that can catalyze the application of climate technologies in agriculture for rural development. Furthermore, the project will offer **recommendations** for creating an enabling environment through **policy-making** and the use of **innovative financial solutions** to help advance the implementation of NDCs, see the Figure 1.

The outcome of this project is expected to provide **a roadmap for a more detailed and actionable plan.** This plan will assist the government in developing funding concept ideas with climate funds, such as the Green Climate Fund (GCF) and Adaptation Fund (AF), in collaboration with other development institutions. It should also aid relevant stakeholders in understanding their roles and how they can collaborate during both the development and commercial stages in the future.

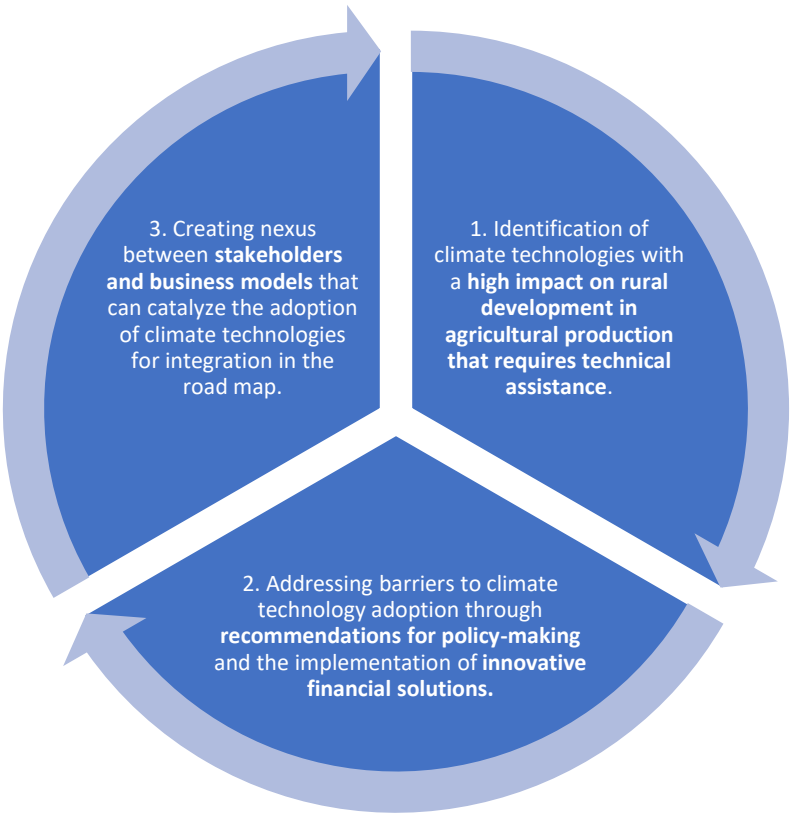


Figure 1. The overview of the project objectives

2.2 Project outputs, activities, and deliverables with the timeline

The project is built on the premises that through market assessment of the application of climate technologies in the agriculture operations for rural development, the roadmap for a further detailed and actionable plan will be provided for the government to access climate funding to support the NDCs. This will be achieved through inclusive collaboration with the sector's players from the government representatives to the private sector and CSO representatives which will lead to Synthesis report and set of tangible recommendations and set of recommendations through collaboration with stakeholders for accessing climate funding for NDCs support. This will be achieved through the following list of activities and targeted Outputs:

Output 1: Development of response plan, implementation planning and communication documents

Activity 1.1: Response Plan

Activity 1.2: Implementation Plan

Activity 1.3: Monitoring and Evaluation Plan

Activity 1.4: Impact Description (initial and final version)

Activity 1.5: Closure and Data Collection Report

Deliverables 1:

Output 1.1. Response Plan - 31 August 2023

Output 1.2. Implementation Plan - 30 September 2023

Output 1.3. Monitoring and Evaluation Plan - 30 September 2023

Output 1.4. Impact Description (initial and final version) 30 September 2023 / 30 June 2024

Output 1.5. Closure and Data Collection Report 30 June 2024

Output 2: Comprehensive knowledge of climate technologies for adaptation and mitigation, operational considerations, business models, governance, and regulatory and policy frameworks

Activity 2.1: Kick-off workshop

Activity 2.2: Estimate the potential of savings in GHG emissions and adaptation impact.

Activity 2.3: Investigate business models, governance, and regulatory and policy frameworks in Cambodia.

Activity 2.4: Conduct cost analysis.

Activity 2.5: Create an inception report for rural development, including the agriculture and water sectors and the application of climate technologies.

Deliverables 2:

Output 2.1: Workshop report – 31 December 2023

Output 2.1: Inception report – 31 January 2024

Output 3: Understanding of the capabilities and limitations of climate technologies in the water and agriculture sectors that would lead to assessing challenges associated with its implementation and finding solutions to integrate project outcomes to a GCF Concept Note

Activity 3.1: Analyse the application of climate technologies to the agriculture and water sector for rural development

Activity 3.2: Draft a synthesis report including the identification of technologies, benefits, challenges, solutions, and project pipeline.

Deliverable 3:

Output 3.1: Synthesis report – 31 March 2024

Output 4: Understanding of the financial limitations to piloting, adoption and expansion of the technologies with references to existing applications and case studies

Activity 4.1: Consolidate best practices with demonstrated examples, tools, methods, implementation challenges and costs on the application of technologies.

Activity 4.2: Provide policy and action recommendations.

Activity 4.3: Financial instruments consultation workshop.

Activity 4.4: Provide suggestions on applying the project outcomes to a GCF Concept Note.

Activity 4.5: Draft a final report.

Deliverables 4:

Output 4.1: Workshop report – 31 May 2024

Output 4.2: Final reports – 30 June 2024

2.3 Project team and pertinent stakeholders

Conducting an efficient and integrative market assessment by experts in climate change technology and technical assistance is crucial. This approach aligns with the CTCN's core mission of technology and knowledge transfer, and it ensures the direct involvement of local communities in the project's development. To achieve this, our team comprises 5 experts: 3 international experts in climate change, climate technology, capacity building, and accessing climate funding for NDCs support, along with 2 local experts experienced in initiatives supporting the NDCs and closely collaborating with the NDE, the Ministry of Environment, and relevant stakeholders. Our direct involvement in the field will enable us to effectively conduct capacity building and training workshops, ensuring the promotion of climate technology transfer.

Stakeholder engagement is a crucial outcome to be achieved by this project intervention. Consequently, a nexus will be created, enabling stakeholders to understand their roles and collaborate effectively during both the development and commercial stages of the project. In addition to the organizers, the following categories of stakeholders are planned to be engaged for the consultation process and to receive information pertinent to the project's implementation:

1) NDE, the Ministry of Environment – leading the project and intergovernmental collaboration.

2) Other Ministries, including but not limited to:

- Ministry of Agriculture, Forestry and Fisheries,
- Ministry of Water Resources and Meteorology,
- Ministry of Rural Development,
- Ministry of Land Management, Urban Planning and Construction.

3) Relevant research institutions, including but not limited to:

- Royal University of Agriculture (RUA),
- Center of Excellence on Sustainable Agricultural Intensification and Nutrition (CE SAIN),
- Institute of Technology of Cambodia (ITC),

- Cambodian Agricultural Research and Development Institute (CARDI),
- DARLM's Conservation Agriculture Service Centre (CASC).

4) Financial institutions and development institutions to be involved in the roadmap for accessing climate finance with the climate fund and other developing organizations, including, but not limited to:

- Agricultural and Rural Development Bank (ARDB),
- AMK Microfinance Institution PLC,
- Foreign Trade Bank of Cambodia (FTB),
- National Committee for Sub-national Democratic Development (NCDD), AE by the GCF.

5) International development organizations, including but not limited to:

- Food and Agriculture Organization of the United Nations (FAO),
- French Agricultural Research Centre for International Development (CIRAD),
- International Fund for Agricultural Development (IFAD),
- Swisscontact,
- United Nations Entity for Gender Equality and the Empowerment of Women (UN Women),
- United Nations Development Programme (UNDP),
- United Nations Industrial Development Organization (UNIDO),
- United Nations Office for Project Services (UNOPS).

6) Private sector representatives.

7) Civil society and NGOs, including, but not limited to:

- Cambodian Committee for Women (CAMBOW),
- Agricultural Cooperative,
- Community Forestry.

2.4 Work plan and project consultation timeline

The project work plan is delineated in the implementation plan, as outlined in Annex 1, which has been crafted to ensure the most efficient use of resources and steady progress. Following the kick-off workshop held in December 2023, the implementation plan for Output 2 has been updated to reflect the latest project advancements.

It is critical to acknowledge that, during the initial consultations and kick-off meetings, a project consultation timeline was established in concordance with the primary stakeholders. This timeline extends throughout the duration of the project, commencing with the kick-off workshop and documenting the outcomes of the data collection in December 2023. Subsequent consultation sessions will include a workshop focused on financial solutions, succeeded by a sequence of meetings with relevant stakeholders to secure support for the final roadmap design in May 2024. The project's culminating communication piece, the Final Report, will be disseminated to stakeholders in June 2024.

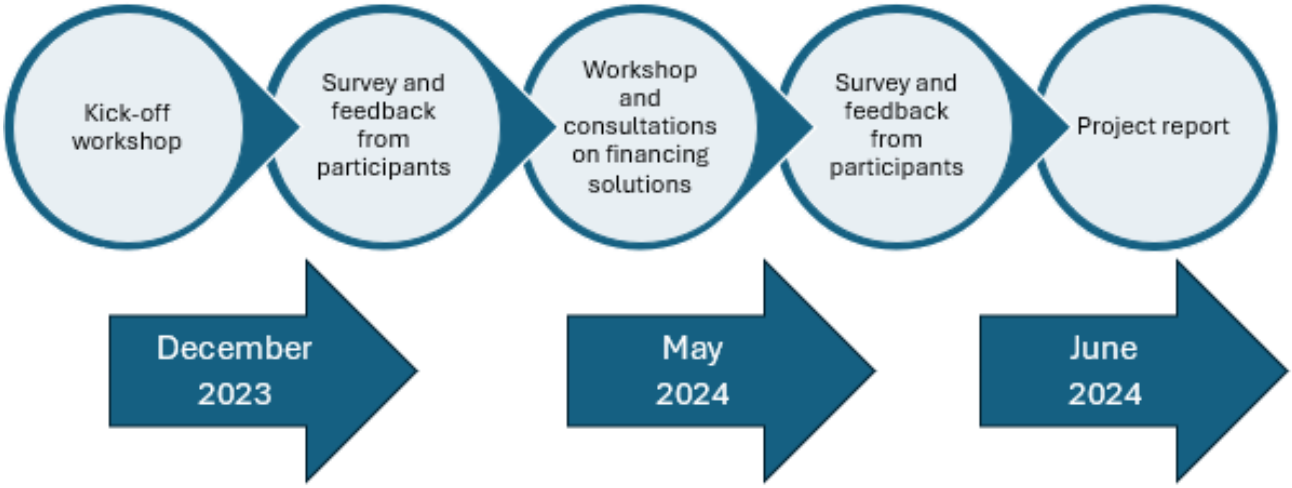


Figure 2. Project consultation timeline

2.5 Notes from the kick-off NDE meeting

Kick-off Meeting Notes: Market Assessment for Rural Development in Cambodia

Hybrid format, 18 December 2023

Background

Upon a request submitted by the National Designated Entity (NDE) in Cambodia, the Ministry of Environment, and the UN Climate Technology Centre and Network (CTCN), a demand-driven mechanism awarded the project on Market Assessment of Climate Technologies for Rural Development in Cambodia to Sustainable Solutions for Africa (SSA). The project's objective is to implement a market assessment in the application of climate technologies in the agriculture sector for rural development. This assessment is expected to support Cambodia in implementing its NDCs. The proposed project will analyze the market for the application of climate technologies in the agriculture sector, including in areas such as irrigation, water, harvesting, and agro-food processing, such as solar cooling, solar pumping, and food product saving and packaging. This is expected to improve production efficiency and climate resilience in Cambodia's rural development, particularly in agriculture and water sectors.

SSA will enhance the CTCN's capacities to foster the transfer of climate technologies in developing countries through its strong international presence as a leading technical expert in climate change solutions. SSA has solid expertise in consulting and capacity-building, assisting states, and public and private institutions in mobilizing resources and funding, as well as identifying technological solutions.

Kick-off Meeting Notes

Topic: Meeting with the National Designated Entity (NDE) in Cambodia for the official kick-off of the Project on Market Assessment of Climate Technologies for Rural Development.

Date: 18 December 2023 at 11:00 AM ICT.

Format: Hybrid using Zoom platform.

Participants:

CTCN NDE: H.E. OU Chanthearith, Director of the Department of Science and Technology, Ministry of Environment of the Kingdom of Cambodia (chanthearithccd@hotmail.com; chanthearithdst2023@gmail.com).

CTCN focal point: H.E. SUM Thy, Acting Director General of the General Directorate of Policy and Strategy, Ministry of Environment of the Kingdom of Cambodia (sum.thy@moe.gov.kh; sumthy@yahoo.com; cceap@online.com.kh).

CTCN: Rajiv GARG, Director a.i. of Climate Technology Centre and Network (gargr@un.org).

SSA: Sandra Adeyemi Freitas, CEO and co-founder, Sustainable Solutions for Africa (SSA) (sandra.freitas@ssa.tg), Anna Katsantonis, Senior Investment Officer (anna.katsantonis@ssa.tg), Marvin Mulima, Project Manager (marvin.mulima@ssa.tg).

Agenda

- Introduction of the Parties (10 mins).
- Presentation (15 mins).
- Closing (5 mins).

Summary of main points discussed:

- The parties discussed the choice of climate funds and the modality of deployment. Preference was given to developing a program with the Green Climate Fund (GCF) through a Direct Access Entity (DAE), allowing the Government to access higher concessional funding through a known pathway.

- Cambodia currently has one DAE with the GCF, The National Committee for Sub-National Democratic Development Secretariat (NCDDS), with a capacity of USD 10 million for a program. It was also highlighted that NCDDS has a few programs with the GCF already. The Government has one more National Council (NCBD) to be submitted for accreditation to the GCF. It was suggested that the current GCF accreditation process is significantly delayed for years due to a long pipeline for re-accreditation.

- The Project-specific Assessment Approach (PSAA) modality of the GCF was also considered, which will not require an accredited entity, but will require a development partner, and a local private commercial bank was given as a suggested example for this modality.

- The Adaptation Fund option was also discussed, and the Government has a potential partner yet to be submitted for accreditation.

- The Green Environmental Fund and Export Bank were also mentioned in the discussion as the partners.

Decisions:

- The NDE office will discuss the program development partner for accessing climate finance, considering all that has been discussed.
- The parties will stay in close touch regarding the program development for climate technology adoption for rural development.

2.6 Data collection and analysis

The data collection for this project will utilize a blend of primary and secondary research methods to gather comprehensive information from various sources. Our primary research will involve direct engagement with stakeholders through structured surveys, and focus groups, allowing us to capture a range of perspectives from local farmers, technology providers, and policy-makers. Additionally, site visits and direct observations will provide valuable insights into the practical application of climate technologies in agriculture.

Secondary research will involve a thorough review of existing literature, including academic papers, government reports, and industry analyses, to contextualize our findings within the broader scope of current knowledge and trends.

For data analysis, we will employ qualitative and quantitative methods. Qualitative data will be analyzed using thematic analysis to identify patterns and insights related to stakeholder perceptions, barriers to technology adoption, and the potential impact of technologies. Quantitative data will be analyzed for potential GHG emission reduction for mitigation technologies, beneficiaries for climate adaptation technologies, co-benefits impact of technology implementation.

The insights gained from this comprehensive data collection and analysis will inform the project's development by identifying key areas for intervention, potential barriers to technology adoption, and opportunities for market expansion. This evidence-based approach ensures that the project's strategies are grounded in the actual needs and conditions of the target population.

2.7. Market assessment and technology appraisal approaches

The market assessment will be conducted to evaluate the current landscape and potential for climate technology deployment in agriculture. This will involve analyzing market size, growth trends, competitive dynamics, and the regulatory environment. A SWOT analysis (Strengths, Weaknesses, Opportunities, Threats) will also be conducted to understand the internal and external factors that could impact the successful implementation of climate technologies.

For technology appraisal, we will establish criteria that focus on climate impact, effectiveness, cost, scalability, ease of use, and compatibility with local agricultural practices. The environmental benefits, such as the potential for reducing greenhouse gas emissions and enhancing climate resilience, will also be pivotal in the selection process. Life-cycle analysis and pilot testing may be used to evaluate the long-term sustainability and impact of the technologies.

Technologies that meet these criteria will then undergo a feasibility study to determine their practical application within the specific contexts of the agricultural sectors being studied. This will involve engagement with technology providers and local stakeholders to ensure the selected technologies are aligned with local needs and capabilities.

2.8 Capacity building and training strategies

The capacity building strategy will focus on identifying gaps in climate technology adoption and developing a comprehensive action plan by key proponents for rural development. This plan aims to create a roadmap to facilitate access to climate funding, which will create an enabling environment for a diverse range of stakeholders, including local authorities, policymakers, private sector players, market participants, and importantly, farmers.

The strategy will be implemented through workshops and knowledge sharing sessions to address the specific needs and gaps identified during the data collection phase. The focus will be on enhancing the understanding of the benefits of climate technologies, exploring financial literacy for accessing climate funds, and discussing strategies for creating an enabling environment for technology adoption in agricultural production.

The project is envisaged to contribute through:

i. Facilitation of learning networks: To foster a collaborative environment, we will establish learning networks and peer-to-peer support systems. These networks will enable stakeholders to exchange experiences, challenges, and best practices, thereby strengthening the collective capability to navigate the complexities of climate technology implementation.

ii. Resource distribution: We will share project materials and resources that provide comprehensive information on climate technologies, funding mechanisms, and policy frameworks. These materials will be designed to be accessible and informative for key stakeholders, ensuring they have the knowledge and tools necessary for effective decision-making.

This approach is expected to significantly contribute to enhancing the resilience and productivity of the agricultural sector under the changing climate.

3. Monitoring and evaluation plan and impact statement

The culmination of this project is set to significantly impact the Cambodian government's approach to climate change, providing a robust roadmap for future strategies, particularly in securing funding from the Green Climate Fund (GCF) and other Development Finance Institutions (DFIs). A key outcome will be enhanced collaboration and knowledge-sharing among stakeholders, creating a united front to tackle climate challenges effectively.

This initiative aims to transform Cambodia's agricultural and water sectors by systematically promoting feasible climate technologies. It's not just about introducing new tools; it's about fundamentally reshaping Cambodia's approach to sustainability and climate resilience.

A significant focus of the project is on capacity building and training for key stakeholders to support climate technologies and access climate funding, thereby facilitating a systemic change in agricultural production. Through targeted training sessions, the project aims to empower local communities, government bodies, and businesses to effectively harness these technologies. This capacity-building effort will ensure the project's benefits are long-lasting and that individuals at all levels are equipped with the skills to adapt to a rapidly changing climate.

Additionally, the project lays the foundation for a scalable blueprint for resilience. This strategy will act as a guide for climate resilience, aligning with standards required for the GCF Concept Note and enhancing Cambodia's eligibility for future green funding.

The project also emphasizes stakeholder alignment and collaboration. Its structure, including workshops and consultations, is designed to harmonize efforts, ensuring a synergy of resources, expertise, and initiatives for a more robust response to climate challenges.

Moreover, the extensive knowledge generated throughout the project's lifespan will become invaluable. This reservoir of information, best practices, and lessons learned will guide similar initiatives, both within Cambodia and in other nations facing similar climate challenges.

In essence, this project represents a multifaceted strategy to equip Cambodia with the necessary tools, knowledge, and collaborative framework to confront the challenges of climate change head-on, setting a precedent for future sustainable development initiatives.

3.1 Monitoring and evaluation plan

The Monitoring and Evaluation Plan for this project is designed to systematically track and assess the progress and effectiveness of various activities outlined in the Response Plan. This plan is structured around specific outputs and activities, each aligned with defined indicators, expected results, methods for data collection, and additional comments addressing assumptions and potential challenges.

Output 1 focuses on the Development of Implementation Planning and Communication Documents. It includes activities like formulating a detailed work plan, a monitoring and evaluation plan, CTCN Impact Description, and a Closure and Data Collection report. The key indicator here is the production of these program documents, with a target of four documents. The method for data collection is document review, conducted once, ensuring that all necessary planning and monitoring documents are in place and align with the project's objectives.

Output 2 aims to develop a comprehensive understanding of climate technologies for adaptation and mitigation, considering operational aspects, business models, governance, and policy frameworks. This output includes several activities: a kick-off workshop, estimating the potential savings in GHG emissions and adaptation impact, investigating business models and policy frameworks in Cambodia, conducting cost analysis, and creating an inception report for rural development. The indicators for these activities range from the number of beneficiaries trained and technologies analyzed to the number of inception reports produced. The methods for data collection include headcounts at workshops, surveys, and document reviews. This output addresses the project's educational and knowledge-building aspects, ensuring stakeholders are well-informed about climate technologies and their application in agriculture and water sectors.

Output 3 and 4 are focused on understanding both the capabilities and limitations of climate technologies in the water and agriculture sectors and the financial aspects related to their adoption and expansion. Activities include analyzing the application of these technologies, drafting Synthesis reports, consolidating best practices, providing policy and action recommendations, and conducting workshops on financial instruments. The indicators for these outputs are primarily the production of various documents and reports, and the methods of data collection are predominantly document reviews and headcounts at workshops. These outputs are critical in identifying challenges and solutions for integrating project outcomes into actionable plans and in understanding the financial mechanisms necessary for the successful implementation and scaling of climate technologies.

Overall, the Monitoring and Evaluation Plan is comprehensive, ensuring that all aspects of the project are rigorously monitored and evaluated for effectiveness, impact, and alignment with the project's overarching goals, please see details in Annex 2.

3.2 Gender mainstreaming and other SDGs contribution

Throughout the project, gender aspects will be an integral part, ensuring the prioritization of women's empowerment and gender equality. By embedding gender co-benefits into the Response Plan, the project aims to promote the active participation of women in decision-making processes and ensure the accessibility and benefits of climate technologies for all population segments. Activities will focus on enhancing women's capacity in climate-resilient agriculture practices, thereby improving their livelihoods and fostering sustainable development in Cambodia.

The CTCN technical assistance is expected to promote gender equality and inclusivity across the project. By integrating a gender-responsive approach, it aims to ensure equal opportunities for men and women in accessing and benefiting from climate technologies in the agriculture and water sectors.

Gender aspects will be implemented through:

I. Policymaking: Advocating for gender-responsive policies and regulatory frameworks addressing the specific needs and challenges faced by women in the agriculture and water sectors.
II. Knowledge Dissemination on Gender Equality: Ensuring the dissemination of knowledge on climate technologies, emphasizing gender-equality benefits for socio-economic development through women's empowerment. Information-sharing platforms will facilitate women's access to resources and opportunities.

III. Harnessing Gender Equality in Project Roadmaps and Stakeholder Engagement Recommendations: Mainstreaming gender aspects throughout project activities to promote equal participation and representation of men and women in workshops, consultations, decision-making forums, engaging women-owned or led businesses, and CSOs advocating for gender equality in Cambodia.

Furthermore, the project has the potential to indirectly foster other SDGs through targeted impacts:

SDG2 - End hunger, achieve food security and improved nutrition, and promote sustainable agriculture

By enhancing agricultural efficiency and resilience, technical assistance will contribute to food security and sustainable food production, vital for ensuring food security through climate technology adoption enhancing agriculture resilience to climate change, contributing to rural development in Cambodia.

SDG 1 - End poverty in all its forms everywhere

By fostering sustainable agricultural practices and promoting green technologies, the project has the potential to boost incomes in rural areas through food security achieved by higher harvest results, better preservation of yield, better market connections through climate technologies, reducing vulnerabilities, and playing a significant role in poverty eradication. Enhanced agricultural yields and agro-business opportunities can lead to improved livelihoods and economic empowerment for rural communities.

SDG 13 - Take urgent action to combat climate change and its impacts

The project will foster a comprehensive understanding of climate technologies for adaptation and mitigation, as well as operational considerations, business models, governance, and regulatory and policy frameworks, thereby facilitating informed decision-making and enabling effective climate change actions in the water and agriculture sectors, supporting the NDCs.

Figure 3. Overview of project impact on main targeted SDG areas

3.3 Impact statement

Cambodia, with its agricultural vitality, grapples with intensifying climate challenges. Committed to a low-carbon and climate-resilient future, the nation actively integrates climate policies at both national and sub-national levels. Yet, its prominent position in climate adaptation highlights the vulnerability it still faces. To address these, Cambodia prioritizes climate adaptation and mitigation, advocating for inventive financing and technology adoption to harness its vast untapped water and renewable energy resources.

Despite the nation's progress, rural Cambodian communities confront multiple challenges. From inadequate awareness of climate-smart technologies to financial constraints, high operational costs due to outdated practices, and lack of local policy support — the barriers have many folds. Climate-induced

stressors further aggravate these challenges: frequent droughts, erratic rainfall, and changing climate patterns threaten water resources, risking decreased surface water availability in rural zones.

This backdrop underscores the CTCN's technical assistance's vital role. By championing climate technologies, nurturing stakeholder alliances, and offering capacity-building avenues, it aims not merely to address immediate needs but to lay a resilient, sustainable, and inclusive foundation for Cambodia's growth. Tackling the barriers—be it technology awareness, supportive policies, financial hurdles, or effective linkages—stands central to this mission, ensuring that Cambodia's rural heartland thrives in a climate-conscious era.

The CTCN's technical assistance supports mitigation projects/activities and adaptation actions embedded in Cambodia's updated NDC, in particular:

1) Harvesting and post-harvesting techniques, agro-food processing incl. solar cooling, food product saving and packaging,

2) Bio-digester and biochar production, manure management, and compost-making,

3) Water management for improved crop production, improved quality-safety (incl. solar water pumping, hydroponics, and rainwater harvesting system).

In addition to gender mainstreaming and SDGs contribution (SDG1, SDG2, SDG5, and SDG13), the program implementation will co-tail a number of co-benefits:

- Stakeholder Alignment and Collaboration: The emphasis on stakeholder engagement, particularly through workshops, ensures that all key players – from governmental bodies to private entities – are aligned in their objectives and can collaborate more effectively. This could lead to better resource sharing, knowledge exchange, and enhanced cooperation in future projects.

- Knowledge Capital: With the creation of reports, workshops, and evaluations, there's a generation of substantial knowledge capital. This can be used as a reference for other similar projects, not just in Cambodia but potentially in other countries with similar challenges.

UNFCCC TEC knowledge products are instrumental in this program planning and implementation:

1. Technology and NDCs: Stimulating the Uptake of Technologies in Support of NDC Implementation

Relevant to Output 2 and Output 3: This publication outlines the critical interplay of technology in NDCs, spotlighting technological needs and challenges. By presenting success stories from different regions, it aids in gaining a comprehensive understanding of climate technologies for adaptation and mitigation, along with the challenges of their implementation.

2. Summary for policymakers: Good practices and lessons learned on the setup and implementation of National Systems of Innovation

Relevant to Output 1, Output 2, and Output 4: Designed for policymakers, this summary offers insights into strengthening National Systems of Innovation in climate action. Its two-step approach to analyzing NSIs and the recommendations provided can guide the development of response plans, offer insight into governance and regulatory frameworks, and help address financial constraints related to technology adoption.

These resources serve as foundational pillars for the program's outcomes, ensuring a knowledge-driven approach to achieve Cambodia's climate resilience and sustainable development goals.

4. Project Risks and Mitigation Strategies

The implementation of the project may be impeded by a variety of risks, which can be mitigated as outlined in Table 1 below. Should any additional risks arise, or if the mitigation strategies prove insufficiently effective, the project team will inform key stakeholders and propose a plan to address these issues.

Table 1. List of project risks and mitigation strategies

Risks of the project implementation	Mitigation strategies
1. Project delays due to coordination and communication issues	Establish a clear timeline and create clear communication channels and regular meetings among all stakeholders. Use project management tools to track timeline progress.
2. Inaccurate or incomplete market assessment and data collection errors	Utilize rigorous methodology and experienced professionals for market assessment. Cross-validate data sources and implement robust data collection methodologies. Conduct pilot studies to test assumptions.
3. Cultural and Language Barriers Impacting Stakeholder Engagement	Employ local experts who understand the cultural context and can communicate effectively with local stakeholders. Include cultural sensitivity training for international team members.
4. Budget Overruns or Mismanagement of Funds	Develop a detailed, realistic budget and conduct regular financial reviews. Implement strong financial controls and auditing mechanisms.
5. Resistance to Technological Change in Rural Areas	Engage community leaders and influencers early in the process to act as champions for the project. Demonstrate tangible benefits of technology adoption through pilot projects and success stories.
6. Unforeseen environmental or political Changes	Regularly review external factors that may impact the project. Develop contingency plans and maintain flexibility in project execution to adapt to changes.
7. Sustainability and long-term adoption post-project	Focus on building local capacity and ownership from the outset. Develop exit strategies that include training local stakeholders to manage and sustain project outcomes.

5. Kick-off workshop outcomes

The two-day inaugural workshop for assessing the market of climate technologies in rural Cambodia was initiated with the support of the Ministry of the Environment of the Kingdom of Cambodia. This event, a collaborative effort between the UN Climate Technology Center & Network (CTCN), Sustainable Solutions for Africa (SSA) and the Ministry of the Environment took place in Phnom Penh on 18-19 December 2023. Adopting a hybrid format, it brought together 43 participants including officials from the Ministry of Environment, representatives from other government bodies, research and development entities, NGOs, and the private sector. The workshop featured a dynamic and intensive program consisting of presentations, discussions and interactive group activities. Discussions were comprehensive, focusing on stakeholder engagement, operational approaches, and valuable insights aimed at enhancing the understanding of approach to support the adoption of climate technologies for the advancement of rural development in Cambodia, including a thought assessment of both challenges and opportunities in the field.. This gathering marked a significant step in promoting informed dialogue and action towards integrating sustainable technologies in rural environmental initiatives in the Kingdom of Cambodia.

During the workshop organized under the Ministry of Environment in Cambodia, speakers delved into the acute issue of climate change's effects on agriculture and the most vulnerable rural people in Cambodia. They stressed the importance of harnessing climate technologies in agriculture and water management, aiming to devise a concrete, actionable plan for securing climate finance and engaging various stakeholders.

The agenda included accelerating the adoption of these technologies, investigating potent technological solutions, and identifying creative financing avenues. Participants exchanged insights on both the impediments and prospects, underscoring the immediate need and the critical roles different stakeholders play in implementing sophisticated climate solutions.

According to workshop participants from both the public and private sectors, priority technical assistance is required to promote harvesting and post-harvesting techniques, agro-food processing (including solar cooling), food product preservation and packaging, and water management for enhanced crop production. This also includes improved quality and safety measures, such as solar water pumping, hydroponics, and rainwater harvesting systems, along with the development of industrial and horticultural crops. These technologies, which align with the Nationally Determined Contributions (NDCs), will be given key consideration during the project, as detailed in Table 2.

Among the barriers to the adoption of climate technologies, insufficient knowledge and a lack of incentives and policy support were highlighted by nearly three-quarters of the participants. Additionally, financial and market barriers were noted by almost two-thirds of the participants (Table 3).

Table 2 - Climate technology areas that require technical assistance and climate funding for rural development in Cambodia

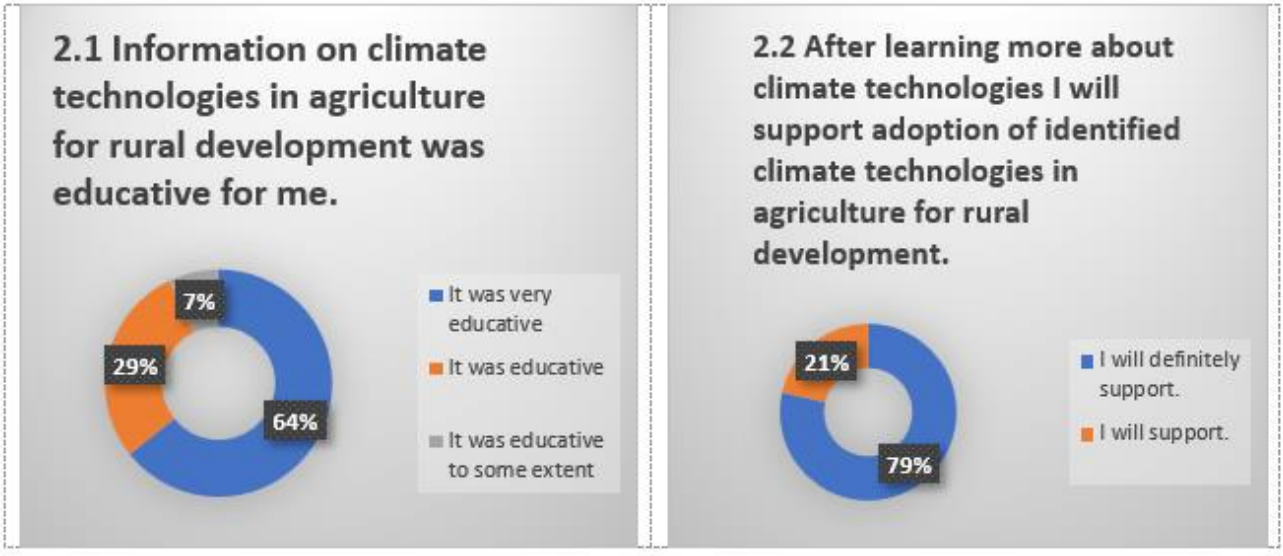
Climate technology areas supporting NDCs' goals	% of participants endorsing TA for the NDCs technology
1) Development of Rice crops for increase production, improved quality-safety	65%
2) Development of Horticulture and industrial crops, drought and pest-resistant crop varieties and crop management	82%
3) Harvesting and post-harvesting techniques, agro-food processing incl. solar cooling, food product saving and packaging	94%
4) Bio-digester and biochar production, manure management, and compost-making	53%
5) Water management for improved crop production, improved quality-safety (incl. solar water pumping, hydroponics, and rainwater harvesting system)	76%
6) Agricultural land management techniques	65%

Table 3 - The main barriers to the adoption of the identified climate technology areas for rural development

Barriers to the adoption of the identified climate technologies for rural development	% of participants acknowledging the barriers
1) Insufficient knowledge about the identified climate technologies at different levels.	76%
2) Limited incentives and policy support for adoption of the identified climate technologies.	76%
3) Underdeveloped market and poor linkage with the identified climate technology providers.	65%
4) Restricted access to finance and high cost of adoption of the identified climate technologies.	65%

93% of the participants found the workshop informative, and 100% confirmed their support for the adoption of the identified climate technologies that require technical assistance (Figure 4).

Figure 4 - Survey 2 results on supporting identified climate technology areas



Based on the recognition of the program's potential and the need to support the NDCs, the next steps will involve initiating an actionable plan to access climate finance and mobilize private sector funding for the adoption of climate technologies in rural development. This approach will ensure a sustainable and scalable impact of the intervention. Achievement of these goals will be facilitated by creating a nexus among network stakeholders, emphasizing the importance of collaboration, learning, and innovation.

The workshop underscored the value of cooperation, local insights, and shared learning. The concluding remarks focused on acknowledging the significance of the program and the workshop's role as a crucial step in the consultative journey, underlining the potential it holds for future collaborations. The workshop ended on a positive note, extending gratitude to all participants and organizers, and expressing eagerness for the next workshop, which is set to focus on financial instruments and policy-making consultation in 2024. Appreciation was specifically directed towards the NDE, Mr. OU Chanthearith, and his team for their pivotal role in spearheading and organizing the workshop, as well as to all the contributors for their dedication to fostering a sustainable future for rural Cambodia.

6. Sustainable impact of the technical assistance

Activities following the completion of this technical assistance are crucial to ensure the sustainable utilization of the outputs and contributions towards the anticipated impacts over time. The expected future use of the outputs by various stakeholders includes:

The NDE and Government Institutions: The comprehensive knowledge on climate technologies, operational considerations, business models, and regulatory frameworks (Output 2) will be instrumental in formulating climate-resilient policies and strategies. Government institutions will utilize the workshop reports (Outputs 2 and 4), the Synthesis report (Output 3), and the Financial report (Output 4) to inform their decision-making processes and enhance climate change actions across the agriculture and water sectors.

Climate Funds and Accredited Entities: Output 3, which includes the Synthesis report on the capabilities and limitations of climate technologies, will be valuable for Development Finance Institutions (DFIs) in designing financing mechanisms and assessing potential investment opportunities. Integrating project outcomes into a GCF, AF, or other Climate Fund Concept Note will enable DFIs to channel funds towards sustainable and climate-resilient projects in Cambodia.

Private Sector: The Workshop reports (Outputs 2 and 4), the Synthesis report (Output 3), and the Final report (Output 4) will be essential resources for the private sector. They will provide insights into the financial implications of piloting, adopting, and scaling up climate technologies, aiding private entities in making informed investment decisions and fostering the uptake of sustainable practices in the agriculture and water sectors.

Civil Society Organizations: Outputs from this technical assistance will empower civil society organizations to advocate for climate-friendly policies and promote the adoption of climate technologies in rural development. The knowledge generated will facilitate awareness-raising campaigns and support their engagement with local communities.

Academic and Research Institutions: The outputs, including Workshop reports and the Synthesis report, will serve as valuable references for academic and research institutions in their studies related to climate

technologies, policy analysis, and technology implementation. This will contribute to expanding knowledge on climate resilience and sustainability.

The outputs and deliveries produced through this technical assistance will be applied at both national and subnational levels. Insights from the Workshop reports, Synthesis report, and Final report will be instrumental in shaping future projects and initiatives aimed at improving production efficiency and climate resilience in Cambodia's agriculture and water sectors.

Post-completion, these outputs will be used as reference materials in future project proposals, grant applications, and policy development initiatives. Stakeholders will engage in regular consultations to further refine strategies and actions based on the results obtained.

Annexes

Annex 1 – Implementation plan with the timeline

Activities		Deliverables	
#	**Description**	**Description**	**Delivery date (DD/MM/YYYY)**
1	**Development of Response Plan, implementation planning and communication documents**		
1.1	**Response Plan**	**Response plan**	**31/8/2023**
1.1.1	Drafting response plan using the template		3/8/2023
1.1.2	Discussion of the response plan		10/8/2023
1.1.3	Refinement of the response plan as an ongoing process		25/9/2024
1.2	**Implementation Plan**	**Implementation Plan**	**30/9/2023**
1.2.1	Drafting implementation plan for Local consultants onboarding	Local consultant contracts	15/8/2023
1.2.2	Consultations on implementation plan at kick-off and coordination calls.	Summary of the meeting	20/8/2023
1.2.3	Identify key stakeholders in the agriculture and water sectors, streamlining of implementation plan		20/8/2023
1.2.4	Finalizing implementation plan		25/9/2024
1.3	**Monitoring and evaluation Plan**	**Monitoring and evaluation Plan**	**30/9/2023**
1.3.1	Drafting M&E plan		5/9/2023
1.3.2	Review indicators, the monitoring schedule, and a data		8/9/2023
1.3.3	Finalizing M&E plan		25/9/2024
1.4	**Impact Description (initial and final version)**	**Impact Description (ID)**	**30/9/2023**
1.4.1	Establish the baseline and justify goal estimations, baseline data collection		13/9/2023
1.4.2	Drafing and team review of the initial impact description	Initial version of ID	20/9/2023
1.4.3	Ongoing data collection and evaluation for the final version of impact description		ongoing
1.4.4	Finalize impact description	Final version of ID	25/6/2024
1.5	**Closure and Data Collection Report**	**Closure and Data Collection Report**	**30/6/2024**
1.5.1	Gather data for the report throughout the project		ongoing
1.5.2	Plan, collect, and report on stakeholder feedback.		ongoing
1.5.3	Evaluate the data and provide insights on project achievements, challenges, and recommendations.		20/6/2024
1.5.4	Finalize the report		25/6/2024
2	**Comprehensive knowledge of climate technologies for adaptation and mitigation, operational considerations, business models, governance, and regulatory and policy frameworks**		
2.1	**Kick-off workshop (2 days)**	**Workshop report**	**31/12/2023**
2.1.1	Make list of key stakeholders (preferably English speaking) with contact details from the agriculture and water sectors, as well as experts in climate technologies and policymakers.		5/10/2023
2.1.2	Secure the venue, interpreters, and other logistics for the workshop.		5/10/2023
2.1.3	Send out invitation for the workshop with registration for confirmation purpose.		5/10/2023

2.1.4	Design the workshop agenda, including key discussion topics, presentations, and consultation sessions in collaboration with the project team.		10/10/2023
2.1.5	Prepare data collection forms, plan data collection activities during and after the workshop		10/10/2023
2.1.6	Facilitate the workshop to ensure active participation and information exchange.		18-19/12/2023
2.1.7	Document the discussions and feedback from stakeholders.		20/12/2023
2.1.8	Draft, discuss, and finalize workshop report		30/12/2023
2.2	**Estimate the potential of savings in GHG emissions and adaptation impact.**	**Part of the synthesis report**	**31/1/2024**
2.2.1	Conduct research on the current emission levels in the agriculture and water sectors.		31/1/2024
2.2.2	Research and gather data on potential climate technologies and their emission savings.		31/1/2024
2.2.3	Identify tools, methodologies, and evaluate the adaptation impact of each solution in terms of resilience to climate change, especially in relation to Cambodia's specific challenges.		31/1/2024
2.2.4	Based on assessments, identify high impact relevant technologies for Cambodia's agriculture and water sectors.		31/1/2024
2.2.5	Design estimation calculation to project potential savings and impacts with the implementation of identified technologies.		31/1/2024
2.3	**Investigate business models, governance and regulatory and policy frameworks in Cambodia.**	**Part of the synthesis report**	**31/1/2024**
2.3.1	Review existing literature and studies on business models being used for similar climate technologies in other regions.		31/1/2024
2.3.2	Make an overview of current pertinent governance structures and regulations. Partially data can be collected during the workshop.		31/1/2024
2.3.3	Analyze the gaps and opportunities in the current regulatory and policy framework that can facilitate or hinder the adoption of climate technologies, provide solutions.		31/1/2024
2.3.4	Study and propose potential business models tailored to Cambodia’s rural development context. Suggest existing programs, pilots, and technologies, including their outcomes and impact. Evaluate how the current program can be enhanced and contribute to the agenda, providing relevant examples.		31/1/2024
2.3.5	Stakeholder Consultations: Engage with technology providers, experts, and local users to gather insights on the practicalities, capabilities, and limitations of each technology		31/1/2024
2.4	Conduct cost analysis.	**Part of the synthesis report**	**31/1/2024**
2.4.1	Identify and describe the costs associated with the adoption of each climate technology, considering the entire lifecycle of the technology.		31/1/2024
2.4.2	Evaluate financial benefits, such as savings from reduced emissions, improved resilience, or increased agricultural productivity.		31/1/2024
2.4.3	Compare the costs and benefits to provide a clear BCR (benefit-cost ratio) or ROI (Return on Investment) projection for each technology.		31/1/2024
2.4.4	Explore potential financing and funding sources, including international climate funds, national subsidies, and private sector investments.		31/1/2024
2.5	**Create an inception report for rural development, including the agriculture and water sectors and the application of climate technologies.**	**Inception report**	**31/1/2024**
2.5.1	Compile findings from Activities 2.2, 2.3, and 2.4.		31/1/2024
2.5.2	Write a detailed overview of the current status of Cambodia’s agriculture and water sectors in the context of climate change and resilience.		31/1/2024
2.5.3	Provide recommendations for the adoption of specific climate technologies, supported by the data and analysis conducted.		31/1/2024
2.5.4	Highlight potential challenges and solutions in implementing the recommended technologies.		31/1/2024
3	**Understanding of the capabilities and limitations of climate technologies in the water and agriculture sectors that would lead to assessing challenges associated with its implementation and finding solutions to integrate project outcomes to a GCF Concept Note**		**31/3/2024**
3.1	**Analyse the application of climate technologies to the agriculture and water sector for rural development.**	**Part of the synthesis report**	**15/3/2024**
3.1.1	List Case Studies: Identify a few regional or similar country case studies where specific technologies have been applied and note their outcomes, both positive and negative.		15/3/2024
3.1.2	Field Visits: Organize a few field visits to relevant pilot projects in Cambodia, if available, to understand the ground-level application and challenges faced. Provide report and pictures from the field trip to the farmers and vendors.		15/3/2024
3.1.3	Record findings and update data		15/3/2024
3.2	**Draft a synthesis report including the identification of technologies, benefits, challenges, solutions and project pipeline.**	**Synthesis report**	**31/3/2024**
3.2.1	Update list of identified technologies and cost-benefit analysis, if applies.		31/3/2024

3.2.2	Benefits elaboration: For each technology, describe the potential benefits like GHG emissions reduction, enhanced agricultural productivity, water conservation, resilience to climate variability, etc.		31/3/2024
3.2.3	Stakeholder Feedback: Before finalizing the report, get feedback from key stakeholders to ensure the report's recommendations are pragmatic and grounded.		31/3/2024
3.2.4	Provide a gender equality status quo and how the program can contribute.		31/3/2024
3.2.5	Internal review of the Synthesis Report.		31/3/2024
4	**Understanding of the financial limitations to piloting, adoption and expansion of the technologies with references to existing applications and case studies**		
4.1	**Consolidate best practices with demonstrated examples, tools, methods, implementation challenges and costs on the application of technologies.**	**Part of the final report**	**30/6/2024**
4.1.1	Gather first-hand information on their challenges, costs, and strategies.		12/4/2024
4.1.2	Source data on costs, benefits, and effectiveness of the technologies when implemented in different contexts.		12/4/2024
4.1.3	Update a set of case studies, highlighting the unique challenges and solutions of each case.		12/4/2024
4.2	**Provide policy and action recommendations.**	**Part of the final report**	**30/6/2024**
4.2.1	Current policies analysis: Analyze Cambodia's current policies related to agriculture, water, and climate technologies.		19/4/2024
4.2.2	Gap analysis: Identify policy gaps hindering the adoption of these technologies.		19/4/2024
4.2.3	Draft recommendations on policy, ensuring they align with Cambodia's broader developmental and environmental goals.		19/4/2024
4.3	**Financial instruments consultation workshop**	**Workshop report**	**31/5/2024**
4.3.1	Engage on the current financial landscape, potential financial instruments, and a profile on the Foreign Trade Bank of Cambodia (FTB).		25/4/2024
4.3.2	Identify stakeholders for the workshop (preferably English speaking) with email contacts. Invite the stakeholders, including representatives from FTB, local financial institutions, experts in climate financing, and other potential co-financing institutions. Organize invitation for the workshop.		25/4/2024
4.3.3	Secure the venue, interpreter, and other logistics for the workshop. Send out invitations.		25/4/2024
4.3.4	Design the workshop agenda, including key discussion topics, presentations, and consultation sessions in collaboration with the project team.		25/4/2024
4.3.5	Facilitate the workshop to ensure active participation and information exchange.		15/5/2024
4.3.6	Conduct data collection and feedback survey, analyze the data and include the report. Document the outcomes of the workshop with a summary of discussions, key takeaways, suggested financial instruments, and recommendations for next steps, especially the suggested financial instruments and their feasibility in the Cambodian context.		20/5/2024
4.4	**Provide suggestions on applying the project outcomes to a GCF Concept Note.**	**Recommendations**	**31/5/2024**
4.4.1	Based on the analysis, draft suggestions on how to best position the project outcomes for a GCF Concept Note.		25/5/2024
4.5	**Draft a final report**	**Final report**	**30/6/2024**
4.5.1	Compile the data for the final report, draft and review the final report		20/6/2024
4.5.2	Other project reports to finalise the assignment and use of budget.		30/6/2024

Annex 2 – Monitoring & Evaluation Plan

(A) Outputs and Activities as described in the Response Plan	(B) Indicator	(C) Expected results	(D) Method and frequency for data collection	(F) Comments
Output 1: Development of implementation planning and communication documents				
Activity 1.1: Formulation of i) Detailed work plan, ii) Monitoring and evaluation plan, iii) CTCN Impact Description, iv) Closure and Data Collection report.	Number of program documents produced	4	Document review; once	
Output 2: Comprehensive knowledge of climate technologies for adaptation and mitigation, operational considerations, business models, governance, and regulatory and policy frameworks				
Activity 2.1: Kick-off workshop	Anticipated number of beneficiaries as a result of TA (both mitigation and adaptation) – trained about climate technologies in agriculture for rural development	15	Head count at a training workshop; once	
	Number of beneficiaries supporting adoption of identified climate technologies in agriculture for rural development as a result of the TA	7	Survey; once	
Activity 2.2: Estimate the potential of savings in GHG emissions and adaptation impact.	Number of technologies with estimated climate impact	2	Document review; once	
Activity 2.3: Investigate business models, governance, and regulatory and policy frameworks in Cambodia.	Analysis of business models, governance, and regulatory and policy frameworks in Cambodia	1	Document review; once	
Activity 2.4: Conduct cost analysis.	Number of technologies analysed	2	Document review; once	
Activity 2.5: Create an inception report for rural development, including the agriculture and water sectors and the application of climate technologies.	Number of inception reports produced	1	Document review; once	
Output 3: Understanding of the capabilities and limitations of climate technologies in the water and agriculture sectors that would lead to assessing challenges associated with its implementation and finding solutions to integrate project outcomes to a GCF Concept Note				
Activity 3.1: Analyse the application of climate technologies to the agriculture and water sector for rural development	Number of Concept Notes produced	1	Document review; once	

Activity 3.2: Draft a synthesis report including the identification of technologies, benefits, challenges, solutions, and project pipeline.				
Output 4: Understanding of the financial limitations to piloting, adoption and expansion of the technologies with references to existing applications and case studies				
Activity 4.1: Consolidate best practices with demonstrated examples, tools, methods, implementation challenges and costs on the application of technologies.	Document with consolidated best practices with demonstrated examples, tools, methods, implementation challenges and costs on the application of technologies.	1	Document review; once	
Activity 4.2: Provide policy and action recommendations.	Document with policy and action recommendations	1	Document review; once	
Activity 4.3: Financial instruments consultation workshop.	Anticipated number of beneficiaries as a result of TA (both mitigation and adaptation) – workshop participants learning about suggestions on innovative financial instruments tailored to the adoption of technologies in the agriculture and water sectors in Cambodia	10	Headcount during the workshop; once	
	Number of appropriate and prioritised financial instrument supported during the workshop consultation to apply and scale up project outcomes for a GCF Concept Note.	2	Survey; once	
Activity 4.4: Provide suggestions on applying the project outcomes to a GCF Concept Note.	Document with suggestions on applying the project outcomes to a GCF Concept Note.	1	Document review; once	
Activity 4.5: Draft a final report.	Final report document	1	Document review; once	