

CAMBODIA CLIMATE CHANGE ALLIANCE

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CAMBODIA CLIMATE CHANGE ALLIANCE

PROGRAMME REPORT
2019-2024

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Table of Contents

<i>Acronyms and Abbreviations</i>	4
<i>List of figures</i>	6
<i>List of tables</i>	6
<i>1.Executive Summary</i>	7
<i>2.Programme Achievements</i>	9
Outcome 1: Relevant climate information is generated in a reliable and timely manner, suitable to sectors and targeting specific needs.....	10
Outcome 2: Tools are developed and implemented for the effective mainstreaming of climate change into policies, regulatory frameworks, programmes and budgets of priority sectors. ..	28
Outcome 3: National capacities for the mobilization, coordination, and tracking of public and private climate change resources are strengthened.	41
<i>3. Logical Framework Analysis</i>	52
<i>4. Lessons learned</i>	70
<i>5. Financial status and utilization</i>	75
5.1. Contribution Overview	75
5.2. Expenditure by activity [1 Jan – 31 Dec 2024]	76
5.3. Cumulative Expenditure by Results as of 31 December 2024.....	77
<i>Annexes</i>	78
Annex 1: Summary of grants: key outputs	78
Annex 2: Response to Terminal Evaluation	117
Annex 3: Risk log.....	120

Acronyms and Abbreviations

AIT	Asian Institute of Technology
AMS	Apsara Media Service
B2B	Business to Business
BCR- WS	Building Climate Resilience for Water Supply Infrastructures
BTR1	First Biennial Transparency Report
CARDI	Cambodian Agriculture and Research Development Institute
CCAP	Climate Change Action Plans
CCCA3	Cambodia Climate Change Alliance Phase 3
CCCSP	Cambodia Climate Change Strategic Plan
CCTWG	Climate Change Technical Working Group
CDB	Commune Data Base
CDMC	Coastal Development Management Committee
CER	Certified Emission Reductions
CF	Community Forest
CIRAD	French Agricultural Research Centre for International Development
CLID	Climate-Resilient Low Impact Development
COP	Conference of the Parties
CPER	Climate Public Expenditure Review
CSOs	Civil Society Organizations
DALRM	Department of Agricultural Land Resources Management
DCC	Department of Climate Change
EMs	Electric Motorbikes
GDA	General Directorate of Agriculture
GDPS	General Directorate of Policy and Strategy
GHG	Greenhouse Gas
GIG	Grant Implementation Guidelines
GIS	Geographic Information System
HAP	Hazardous Air Pollutants
INGOs	International Non Governmental Organizations
IPCC	Intergovernmental Panel on Climate Change
IRD	Institute of Research for Development
ITC	Institute of Technology of Cambodia
KAP	Knowledge, Attitude, and Practices
KU	Kyoto University
LID	Low Impact Development
LoA	Letter of Agreement
LTS4CN	Long-term Strategy for Carbon Neutrality
MAFF	Ministry of Agriculture, Forestry and Fisheries
MCC	Master of Science in Climate Change
MEF	Ministry of Economy and Finance
MFMA	Marine Fishery Management Area
MME	Ministry of Mines and Energy
MoE	Ministry of Environment
MoEYS	Ministry of Education, Youth and Sport
MPWT	Ministry of Public Works and Transport

MRD	Ministry of Rural Development
NCDDS	National Committee for Subnational Democratic Development Secretariat
NCSD	National Council for Sustainable Development
NDC	Nationally Determined Contribution
NGOs	Non Governmental Organizations
NIA	National Institute of Agriculture
NIM	National Implementing Modality
ODA	Official Development Assistance
pID	Project Implementation Database
RGC	Royal Government of Cambodia
RUA	Royal University of Agriculture
RUPP	Royal University of Phnom Penh
SACPMC	Strengthening Air and Climate Pollution Management in Cambodia
SNA	Subnational Administration
sPD	Subnational Project Database
ToT	Training of Teachers
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
VRA	Vulnerability Risk Assessments

List of figures

Figure 1: Cambodia's vulnerability Index at the national and commune level in 2022	11
Figure 2: Climate change bulletin and case studies of the CCCA3 project implementation	12
Figure 3: CCCA3's calendar developed in 2022	13
Figure 4: KAP3 study, 2020, Cambodian have heard of the phrase "Climate Change"	15
Figure 5: KAP3 study, 2020, how Cambodian respond to climate change.....	16
Figure 6: KAP4 study, 2024, Cambodian have heard of the phrase "Climate Change"	17
Figure 7: Cambodians' Perceived changes in the environment and community response to climate change in subsequent KAPs	17
Figure 8: 2023 Knowledge sharing event.....	22
Figure 9: Final PEB event, December 2024.....	23
Figure 10: Training for sub-national officials, 2022	24
Figure 11: Drawing and Photo Competition on Climate Change for Children and Youths	25
Figure 12: Final CCCA3 event, 11 December 2024	27
Figure 13: MPWT project	37
Figure 14: MME project	37
Figure 15: MoEYS project.....	38
Figure 16: MRD project.....	38
Figure 17: HEKS project.....	48
Figure 18: TeukSaat1001 project	48
Figure 19: Master plan of the tree nursery station in Mondulkiri.....	50
Figure 20: Tree Nursery in Tbong Khmum	51

List of tables

Table 1: Example of the reach potential of the climate change TV spots published on MoE and H.E. Say Samal's Facebook Page in June 2022	14
Table 2: Research partnership grants.....	18
Table 3: GIG LoAs with Line Ministries	35
Table 4: Summary of the Innovation Round 1, Round 2 and COVID19 special grants.....	45
Table 5: Tracking status of gender mainstreaming	73

1.Executive Summary

The Cambodia Climate Change Alliance Phase 3 (CCCA3) programme has played an essential role in establishing the climate agenda and supporting the Royal Government of Cambodia in preparing policies, strategies and moving to implementation. The current third phase (2019-2024) has invested in developing the legal and policy framework, improving transparency mechanisms, securing the engagement of the Ministry of Environment (MoE) and the Ministry of Economy and Finance, and promoting bottom-up innovation through the Grant Facility prioritizing five sectors, such as environment, energy, rural development, transport and education.

The programme was funded by the EU, Sweden and UNDP with total funding of US\$11.8M. The third phase of the programme started in July 2019 and was scheduled to be completed in June 2024, and it was extended until December 2024.

The programme has been implemented under UNDP's National Implementing Modality (NIM) with MoE and National Council for Sustainable Development (NCSd) as implementing partners. The programme provided dedicated support to five strategic ministries, namely the Ministry of Economy and Finance (MEF), Ministry of Rural Development (MRD), Ministry of Public Works and Transport (MPWT), Ministry of Mines and Energy (MME), Ministry of Education, Youth and Sport (MoEYS), and Ministry of Environment (MoE). The programme also involved collaborative partnerships with 22 government institutions, NGOs, and academia, some of them in partnership with private sector, to implement innovative grants focused on adaptation and mitigation measures.

The overall objective of the CCCA3 is to make Cambodia's development path increasingly climate-resilient and low carbon, with the specific objective of scaling up Cambodian response to climate change in strategic sectors. It was structured around three main outcomes:

- Outcome 1: Relevant climate information is generated in a reliable and timely manner, suitable to sectors and targets specific needs
- Outcome 2: Tools are developed and implemented for the effective mainstreaming of climate change into policy/ regulatory frameworks, programmes and budgets of priority sectors
- Outcome 3: National capacities for the mobilizing, coordinating and tracking of public and private climate change resources are strengthened

The Outcome 1 addressed the persistent information gaps that have hindered the capacity to effectively plan for an inclusive and gender-sensitive climate change response at all levels. Major achievements encompass enhanced accessibility to climate data via the National Council for Sustainable Development's website, attracting approximately 47,500 users annually and over 34,000 downloads of reports and resources in the 5 years. Climate change datasets and indexes, which are regularly updated or developed, include the Vulnerability Index, Women's Resilience Index, and Climate Finance data. The third and fourth Knowledge, Attitude, and Practices on Climate Change (KAP) studies have been completed and published, along with knowledge products like case studies and videos aimed at increasing public awareness. Considerable advancements were made in establishing a transparency framework for tracking Cambodia's obligations under the Paris Agreement through the creation of the Nationally Determined Contribution (NDC)/ Long Term Strategy for Carbon Neutrality (LTS4CN) online tracking system, and with the support provided to the finalization of the First Biennial Transparency Report (BTR1). Regular knowledge-sharing events

among grantees, researchers, policymakers, and climate change stakeholders have been conducted, including site visits and support for reforestation and tree planting initiatives. To support the increase of knowledge and evidence-based data on climate change, four local universities have been awarded grants to conduct research related to climate change-related topics in collaboration with international universities and research institutions.

The Outcome 2 aims to strengthen the institutionalisation of climate change at national and sub-national levels, focusing on the pre-identified priority sectors of education, environment, transport, rural development and energy. The programme coordinated the development of three national climate change policies: Updated Nationally Determined Contribution in 2020, Long-Term Strategy for Carbon Neutrality in 2021 and Cambodia Climate Change Strategic Plan 2024-2033 in 2024. Specific studies and analyses were carried out in close partnership with relevant Line Ministries and key results were disseminated with policy briefs and videos to assist inter-ministerial discussions and participation to COPs. Significant progress was made in integrating climate change into Cambodia's national policies and budgets through close support to key line ministries such as MoE, MoEYS, MRD, MPWT, and MME, which also received grants to accelerate the implementation of climate change plans. Policies and standards were developed to promote climate-smart investments, such as the drafting of the Sub-decree on the management of GHG Emissions reduction mechanisms to support access to carbon credit opportunities and the introduction of energy efficiency standards and guidelines. The CCCA3 improved coordination of climate change responses through regular meetings of the Climate Change Technical Working Group (CCTWG) and supported Cambodia's participation in UNFCCC Mechanisms and international climate negotiations.

The Outcome 3 addresses the urgency to leverage various sources of development finance in support of the climate change response and to promote innovation in climate action. As part of efforts to strengthen national capacity to mobilize, coordinate and track public and private resources for climate change, effective collaboration with MEF enabled the annual monitoring and reporting of the Climate Public Expenditure Review (CPER) and the completion of five research studies on topics including import tariffs on electric vehicles, carbon pricing and green infrastructure.

In addition, NGOs and Ministries received dedicated fund to develop innovative adaptation and mitigation approaches, reaching more than 111,500 beneficiaries and reducing more than 167kt CO₂eq, with some initiatives already moving towards scale-up opportunities.

CCCA3 supported the national effort to increase reforestation in degraded areas by aiding the MoE in organizing Tree Planting events and in designing five regional tree nursery stations in Tbong Khmum, Monduliri, Kampong Speu, Siem Reap, and Koh Kong provinces. The Regional Tree Nursery in Tbong Khmum has been successfully established, featuring 70 tree beds spread over 6 hectares. This facility includes an access road, a solar watering system, generation areas, and solar lighting.

The terminal evaluation of the CCCA3 programme highlighted that the strong relevance of the programme in fostering active involvement of government, NGOs, and private sector stakeholders in addressing climate change challenges and that it successfully supported the integration of climate change mitigation and adaptation into planning and budgeting processes, setting the stage for sustainable climate financing in future phases. CCCA3's use of results-based engagement methods, such as Letters of Agreement (LoA) and grants, effectively built stakeholder capacity to identify needs and develop time-bound results frameworks. Continued implementation of these methods, especially with increased private sector participation, is crucial for ongoing success. The evaluation also noted the efficiency of CCCA3's technical and financial support, which was enhanced by significant in-kind contributions from stakeholders. Lastly, CCCA3 adopted a gender-responsive

strategy, empowering women and ensuring that their vulnerabilities were addressed in climate-related policies and activities.

The programme team is actively engaged in designing the next phase of the CCCA programme, aiming to build upon the significant achievements accomplished thus far. This new phase will focus on maintaining the positive momentum generated by previous successes and fostering the strong collaborative relationships that have been established among stakeholders.

2. Programme Achievements

The **Cambodia Climate Change Alliance Phase 3 programme** has played an essential role in establishing the climate agenda and supporting the RGC in preparing policies, strategies and moving to implementation. The current third phase (2019-2024) has invested in developing the legal and policy framework (such as the updated Nationally Determined Contributions¹ and the Long-term Strategy for Carbon Neutrality²), improving transparency mechanisms, securing the engagement of the Ministry of Environment and the Ministry of Economy and Finance, and promoting bottom-up innovation through the Grant Facility prioritizing five sectors, such as environment, energy, rural development, transport and education.

The overall objective of the CCCA3 is to make Cambodia's development path increasingly climate-resilient and low carbon, with the specific objective of scaling up Cambodian response to climate change in strategic sectors.

The programme was structured around three main outcomes:

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- Outcome 3: National capacities for the mobilizing, coordinating and tracking of public and private climate change resources are strengthened

The programme has been implemented under UNDP's National Implementing Modality (NIM) with MoE/NCSD as the Implementing Partner. The programme provided dedicated support to five strategic ministries, namely the Ministry of Economy and Finance (MEF), Ministry of Rural Development (MRD), Ministry of Public Works and Transport (MPWT), Ministry of Mines and Energy (MME), Ministry of Education, Youth and Sport (MoEYS), and Ministry of Environment (MoE). The programme also involved collaborative partnerships with 22 government institutions, NGOs, and academia, some of them in partnership with private sectors, to implement innovative grants focused on adaptation and mitigation measures.

The programme was funded by the EU, Sweden and UNDP with total funding of US\$11.8M. The third phase of the programme started in July 2019 and was scheduled to be completed in June 2024, and it was extended till December 2024.

¹ https://ncsd.moe.gov.kh/resources/document/Cambodia_NDC_Updated

² <https://ncsd.moe.gov.kh/resources/document/cambodia-LTS4CN-En>

Outcome 1: Relevant climate information is generated in a reliable and timely manner, suitable to sectors and targeting specific needs.

Summary of the key results – Outcome 1

Outcome 1 addressed the information gaps that have hindered the capacity to effectively plan for climate change responses at all levels. Major achievements of CCCA3 programme encompass enhanced accessibility to climate data via the National Council for Sustainable Development's website, attracting approximately 47,600 users annually and with over 34,000 downloads of reports and resources in the 5 years. Climate change datasets and indexes, which are regularly updated or developed, include the Vulnerability Index, Families affected by climate hazards, GHG emissions reduction projects, Women's Resilience Index, and Climate Finance data, among others. The third and fourth Knowledge, Attitude, and Practices on Climate Change (KAP) studies have been completed and shared, along with knowledge products like case studies and videos aimed at increasing public awareness. Considerable advancements were made in establishing a transparency framework for tracking Cambodia's obligations under the Paris Agreement through the creation of the NDC/LTS4CN online tracking system. CCCA3 also supported the finalization of the First Biennial Transparency Report (BTR1). Regular knowledge-sharing events among grantees, researchers, policymakers, and climate change stakeholders have been conducted, including site visits and support for reforestation and tree planting initiatives. To support the increase of knowledge and evidence-based data on climate change, four local universities have been awarded grants to conduct research related to climate change-related topics in collaboration with international universities and research institutions.

Output 1.1: Climate Change data portal enhanced, enabling greater access of stakeholders to key climate data in support of effective climate action.

From January 2020³ to December 2024, a total of 238,175 users (of which 55% women⁴) visited the **dedicated page on climate change on the NCSD's website**. Of these, 34,772 users downloaded documents from the NCSD's website, of which 7,508 were women. The documents downloaded included a range of materials related to climate change, such as national guidelines and policies (e.g., Updated NDC, LTS4CN, NDC/LTS4CN annual reports, and BUR), press releases, educational videos on climate change, policy briefs, KAP findings, project factsheets, climate change posters, project reports, and case studies.

Regarding user satisfaction with the NCSD's website, an impressive 98% of users reported that it is both useful and user-friendly, particularly praising the updated climate change information and knowledge products.

CCCA3 built the **data portal** platform, hosted on the NCSD website (<https://ncsd.moe.gov.kh/dcc/data-portal>), where relevant climate change indexed and qualitative information is collected and periodically updated in order to fill the information gap on climate change topics and provide publicly accessible and quality-assured data related to various aspects on climate change work.

A total of 3,772 users, including 1,318 women, downloaded climate data from the data portal.

³ The user tracker of the NCSD's website started in January 2020.

⁴ The gender disaggregation tracker of the NCSD's website (called GA4) started in June 2023.

The Vulnerability Index (VI, <https://ncsd.moe.gov.kh/dcc/data-portal/vulnerability-climate-hazards>) is developed to annually track the percentage and number of communes scoring as highly vulnerable or quite vulnerable to three main types of climate hazards: floods, storms, drought in the national and sub-national levels. The most recent data was recorded in 2022.

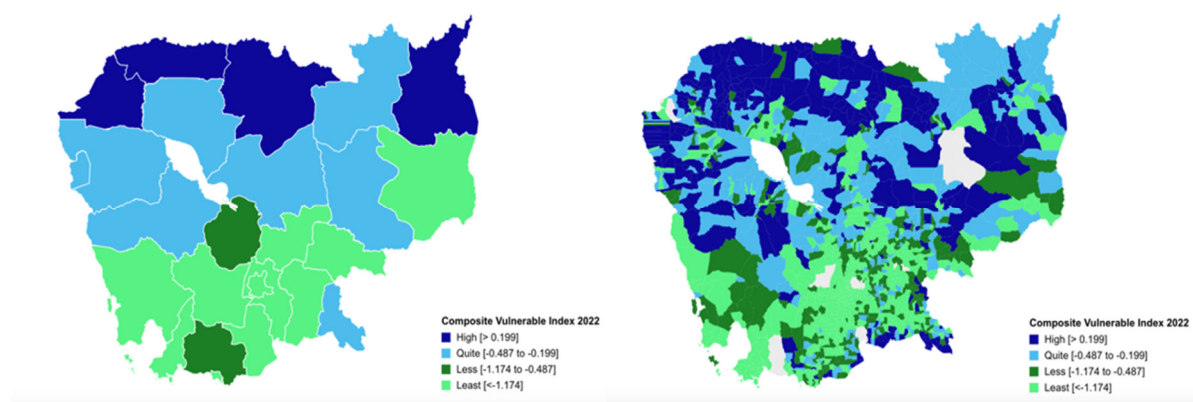


Figure 1: Cambodia's vulnerability Index at the national and commune level in 2022

The Vulnerability Reduction Assessment (VRA, <https://ncsd.moe.gov.kh/dcc/data-portal/vulnerability-assessments>) indicator is a participatory tool which assists local communities at the district and commune levels in identifying the climatic hazards that impact their livelihoods and in recognizing adaptive measures to reduce their vulnerabilities. It has been used as a planning tool to help communes and districts address climate risks effectively. The VRA database provided clear evidence of districts and communes that fully integrate climate change considerations into their development plans and three-year rolling investment programs at the subnational level. From 2012 to 2021, the VRA was conducted across 352 communes, resulting in the mainstreaming of climate change into their development plans and promoting climate resilience at the subnational level.

The Cambodia's Women Resilience Index (WRI, <https://ncsd.moe.gov.kh/dcc/data-portal/womens-resilience-index>) was developed through a collaboration with ActionAid and allows to identify areas that need to be strengthened in both policy and practice, and where women can advocate for positive change to build their individual and community resilience at the local level. It compares women's and men's resilience to disaster risks along four pillars of resilience: Economic, Infrastructure, Social, and Institutional. 2019 and 2022 WRI were developed and updated on the NCSD's website.

The Environmental Management Information System (CEMIS portal) was developed in collaboration with the Ministry of Environment to provide a data platform for managing and distributing environmental information in Cambodia. The system is currently undergoing maintenance and updates by the Ministry of Environment, and public access is unavailable. Additionally, updated information regarding greenhouse gas emissions (<https://ncsd.moe.gov.kh/dcc/data-portal/greenhouse-gas-emission>), including the First Biennial Update Report for 2020, has been developed and uploaded to the data portal. This information is categorized by sector and presented on a per capita basis.

Climate Change Finance data portal (<https://ncsd.moe.gov.kh/dcc/data-portal/climate-finance>) was developed and updated on an annual basis. The recent data was recorded in 2022 and publicly available on the NCSD's website. It provided an overall snapshot of the current sources and allocation of external climate finance in Cambodia, including the level of climate change mainstreaming, disbursements per donor of climate change projects, visualization of climate change project

distribution. It also provided a summary of all climate-change and gender related spending in Cambodia.

To ensure the sustainability of the data portal's maintenance and updates, the IT firm responsible for the portal conducted handover presentations and meetings for DCC, MoE and CCCA3 staff. These sessions aimed to enhance their capacity in the climate data cleaning and uploading processes, enabling them to take over responsibility in the future.

A total of 11 climate change bulletins were developed and distributed to key stakeholders, including members of NCSD, the CCCA3 Board, development partners, INGOs and NGOs, academic institutions, and private sector. These bulletins highlighted climate change practices and lessons learned from various stakeholders and practitioners at both sub-national and national levels. They covered project implementation, updates on climate change news, key climate change policies, achievements, and events under the CCCA3 initiative from the beginning to the end of the CCCA3 phase. For example, the fourth quarterly bulletin of 2021 was developed based on the key findings and summaries from the Long-Term Strategy for Climate Change and Development (LTS4CN).

The CCCA3 produced a leaflet available in both English and Khmer to present the main objectives of the programme and it was printed and distributed in July 2020.

The CCCA3 also developed a series of case studies to capture lessons learned and best practices from field projects, particularly emphasizing climate-friendly implementations and gender integration. One notable case study titled "Advancing Gender Equality Through Climate Action" was published on the NCSD website in the fourth quarter of 2022 (<https://ncsd.moe.gov.kh/dcc/resource/case/study/iDE/Advancing/gender/quality/in/Climate/Action>). In total, 11 gender-focused case studies were developed and distributed through the NCSD website, among partners, and on the Ministry of Environment's Facebook page.



Figure 2: Climate change bulletin and case studies of the CCCA3 project implementation

A total of 22 project posters and factsheets were developed and presented in the annual CCCA3 Knowledge-sharing events concerning key highlights of the project progress, technologies, and key recommendations. In 2022, a total of 16 videos highlighting project implementation progress, best practices, technologies, and recommendations were developed and presented in the CCCA3 Knowledge-sharing event. These videos were also posted on the MoE's Facebook page, NCSd's website, and the YouTube channel.

For each grant, at least a video was developed, highlighting outstanding achievements and lessons learned from each CCCA3 project implementation and disseminated with a range of key stakeholders. The posters and videos were means of communication and discussions to present during Knowledge Sharing Events organized by the CCCA3.

In 2024, a communication expert supported the team to develop additional communication products to showcase the key achievements of each grant with testimonial videos, articles, case studies and infographics. Links to these products are provided in Annex 1.

A series of 4 calendars (2020-2023) focusing on visibility and key achievements of the CCCA3 as well as promoting public understanding of climate change in terms of policies, research initiatives, and grants were developed and distributed to the stakeholders.



Figure 3: CCCA3's calendar developed in 2022

Under a Letter of Agreement (LoA) with the Ministry of Environment from 2020-2022, a total of 9 video lessons on climate change for primary and secondary students were developed in collaboration with the Ministry of Education, Youth, and Sports (MoEYS). The videos focused on basic science on climate change, response measures including adaptation and mitigation actions, national and international policies addressing climate change, and individual actions towards climate change response. Additionally, 9 ToT (training of teachers) video lessons for teachers were also developed to facilitate teaching and learning on climate change and serve as additional materials for capacity buildings on climate change. The videos were launched and disseminated to teachers and students as well as relevant educational practitioners. The videos were also uploaded on **NCSd's YouTube Channel**: www.youtube.com/@ncsdmoe6702

Examples of the videos produced are listed below:

- Climate-smart behavior in Kulen National Park:
<https://www.youtube.com/watch?v=0x0cmATbxoU&t=117s>
- Climate-smart behavior in Kirirom National Park:
<https://www.youtube.com/watch?v=zD0kZ43doWQ&t=149s>

Additionally, in 2021, 4 educational TV spots on climate change were developed. The videos were published on Apsara Media Service (AMS), MoE's Facebook Page, and other public and private communication channels, showing a great attention from the public with over million views on Facebook (Table 1).

Table 1: Example of the reach potential of the climate change TV spots published on MoE and H.E. Say Samal's Facebook Page in June 2022

Titles	Ministry of Environment and H.E. Say Samal's Facebook Pages			
	Views	Likes	Share	Facebook links
Traffic congestion and climate change	19.5k	2.8k	291	Link
Food waste and climate change	1110k	57k	12.5k	Link
Saving energy	491k	15k	2.6k	Link
Plastic and climate change	518k	23.2k	6.7k	link

Three short videos on climate change targeting kids, youth, and elders were developed and published on NCSD's channel and MoE's Facebook Page.

- Climate video for kids: <https://www.youtube.com/watch?v=GDYmAacEycY>
- Climate video for youths: <https://www.youtube.com/watch?v=RVwI9mjl9g&t=25s>
- Climate video for elders: <https://www.youtube.com/watch?v=ggsjZ2fCEAE&t=111s>

Additionally, five technical videos were translated into Khmer and published on the MoE Facebook page and the NCSD website and youtube. These videos aim to disseminate important information on the impacts of climate change, adaptation strategies, energy transition, and the effects of a rise in global temperatures. Below are two examples of videos translated from the IPCC Report dissemination series:

- IPCC Report: Climate change induced droughts major driver of food insecurity: <https://www.youtube.com/watch?v=NwB6UabAXKA>
- IPCC Report: Climate change and its economic consequences: <https://www.youtube.com/watch?v=dv0f9vPVWgE&t=1s>

In 2023 – 2024, two videos on climate change were produced, specifically on home gardening and gender. The final videos are available on the NCSD YouTube Channel:

- Home gardening in response to climate change: <https://youtu.be/GcWExzcYxE0>
- Promoting Gender Equity towards Clean and Sustainable Community: <https://youtu.be/rWjX0tRjG1w>

Output 1.2: Tailored data, information, and knowledge product targeting the needs of public institutions, private sector and CSOs, in priority sectors.

Knowledge, Attitudes, and Practices (KAP) studies

The Knowledge, Attitudes, and Practices (KAP) studies are essential scientific-based studies which analyses Cambodians' understanding and engagement with issues around climate change and aim to generate evidence of Cambodians' experience of changes in the weather and their environment to inform future communication strategies and government interventions. They studies were conducted in every five years. KAP1 and KAP2 were carried out in 2010 and 2015, respectively.

The **KAP3 study** was conducted in 2020 and used mixed-methods approach with 1,560 respondents across Cambodia. The study was conducted by using a qualitative data collection through interviewing respondents from the line ministries, media agencies, communities, vulnerable groups, and the private sector. The national consultation workshop was virtually conducted in November 2020 with participations of relevant stakeholders (including key ministries and parliament) who had been involved in the research. The KAP3 report and infographic were finalized and published in early 2021:

- Full report in English: https://ncsd.moe.gov.kh/resources/document/KAP3_EN
- Full report in Khmer: <https://ncsd.moe.gov.kh/kh/dcc/resource/document/KAP3/in/Khmer>
- Infographic: https://ncsd.moe.gov.kh/resources/document/infographic-KAP3_En
- Results integrated into NCSD's data portal: https://ncsd.moe.gov.kh/report-detail/key-findings-kap?portal_id=17352&standard_report=12766

Also, a series of 10 videos that highlight the key findings of the KAP3 study was produced and published on the NCSD's communication channel and MoE's Facebook Page.

Based on KAP3 results, it is worth noting that there is still a limited understanding of the term 'climate change' among Cambodians. While nearly three-quarters (72%) of respondents said they had heard of the phrase, only one-third (33%) said they knew what it meant. The vast majority (84%) of respondents thought that climate change is happening in Cambodia and 81% thought that climate change will affect Cambodia in the future. Cambodians said that they are well-prepared for extreme weather such as heatwaves, storms, droughts or floods and they are very or fairly willing to make changes in the future. For the future communication strategies or community interventions linked to climate change, the study highlighted that it is important to build on people's key motivations for action such as the benefits of taking action on family's health and livelihoods, and children's education. The study also found out that discussion and increasing awareness are key drivers in behavior change communication and engaging people in taking action, this will also help people to cope with rapid-onset disasters. The key groups, such as fishermen and farmers, very poor people and people in the coastal areas require support in taking action to changes in the weather, the environment and the availability of resources and this should be prioritized in future communication interventions linked to climate change.

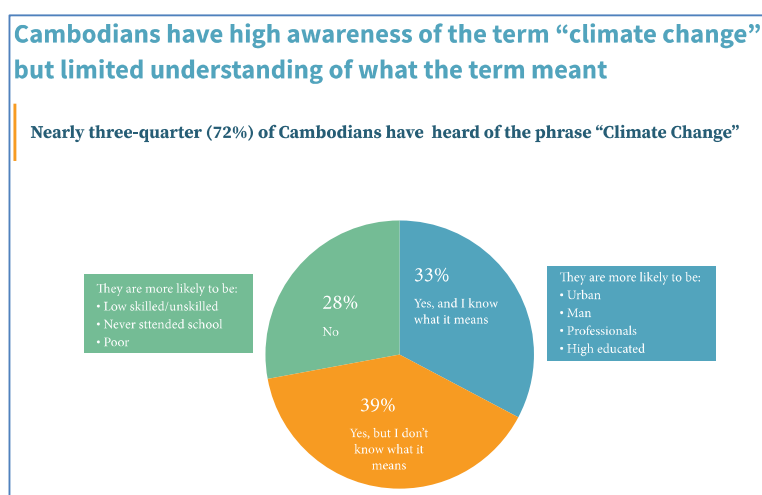


Figure 4: KAP3 study, 2020, Cambodians have heard of the phrase “Climate Change”



Figure 5: KAP3 study, 2020, how Cambodian respond to climate change

The **KAP4 study** was conducted in 2024 and the study used KAP3 as baseline. It also adopted a mixed method approach by interviewing 1,558 respondents across Cambodia and using qualitative approaches through focus group discussion and key informative interviews with various people from national and sub-national levels. The national consultation workshop on the KAP4 results with line ministries, the private sector, and development partners was conducted in March 2024, providing additional insights and inputs from relevant line ministries and stakeholders were collected for the development of an improved climate change communication strategy, final report, and its videos. The KAP4 report, infographic, and policy brief were finalized after the workshop and are publicly available in printing format and on NCSd's website: <https://ncsd.moe.gov.kh/resources/document/understanding/public/perceptions/climate/change/full/report> and <https://ncsd.moe.gov.kh/dcc/resources/document/Understanding/Public/Perceptions/of/Climate/Change/in/Cambodia/%28KAP4%29/ENG>.

Moreover, ten videos highlighting the results of KAP4 findings including best practices on climate change adaptation and mitigations at the national and sub-national levels, climate change gender, and information gaps and technologies were developed and disseminated.

KAP4 results revealed that Cambodia has a high level of awareness regarding climate change, as 84% of the population is familiar with the term "climate change" (72% in KAP3) and 79% is familiar with the term "global warming." However, there is a noticeable difference in their confidence in defining these terms. Although they may not know the formal definitions, they can relate them to their everyday experiences. Despite 77% of Cambodians recognize forest losses as a contributing factor to climate change, there is less awareness of the roles played by industrial emissions, fossil fuel dependency, consumer waste, and agricultural greenhouse gases. Attitudes toward personal contribution to climate change show a substantial rise from 33% in KAP1 to 70% in KAP4, indicating effective influence of targeted campaigns or awareness raising that have been contributed thus far. More specifically, there is a clear preference for community-wide initiatives over individual efforts, with 74% expressing support for collective action. However, despite this inclination, 66% feel somewhat powerless to address global challenges individually. Nonetheless, there is a significant

level of confidence in contributing to community-based disaster preparedness efforts, as 68% express readiness to participate in such initiatives.

The trend observed in the KAP studies regarding community actions to combat climate change is highly encouraging, showing a consistent and substantial increase in community engagement over time. Starting at 55% in KAP1, the percentage of respondents reporting active climate change mitigation practices in their communities rose significantly to 82% in KAP2, climbed to 91% in KAP3, and peaked at 97% in KAP4. Male respondents (86%) exhibit slightly higher engagement in climate response compared to females (84%).

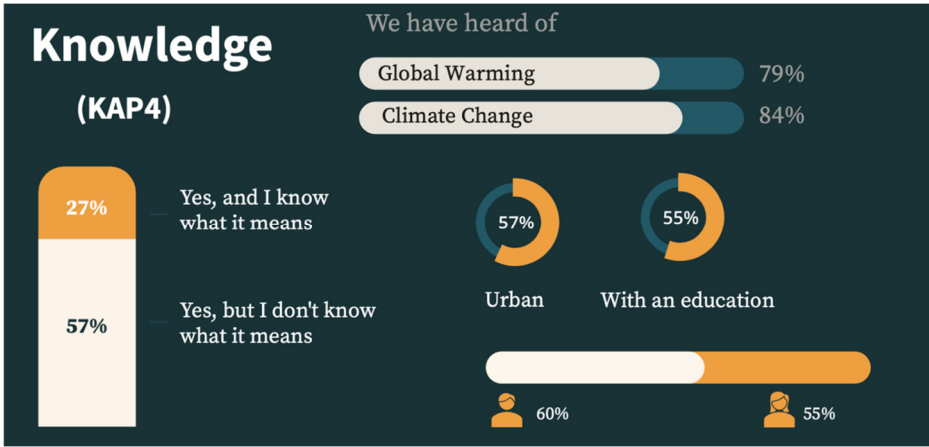


Figure 6: KAP4 study, 2024, Cambodian have heard of the phrase “Climate Change”

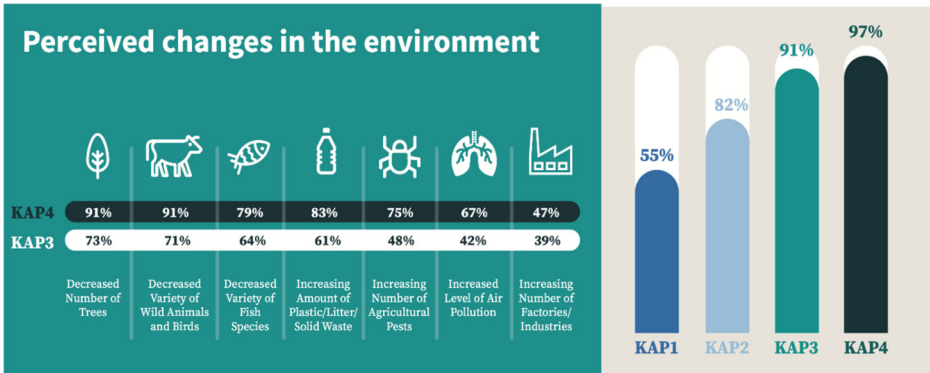


Figure 7: Cambodians’ Perceived changes in the environment and community response to climate change in subsequent KAPs

1.2.2. Support collaborative Climate Change research

In the context of supporting collaborative climate change research to address data and information gaps identified, the CCCA3 has initiated research partnerships with local universities through a range of discussions, research proposal application processes, and evaluation following grant implementation guideline (GIG) and come up with research LoA and implementation.

The universities that received a grant from CCCA3 are the Institute of Technology of Cambodia (ITC – 2 grants to 2 different Departments), Royal University of Phnom Penh (RUPP) and National University of Battambang (NUBB), that were supported to implement research activities on climate change-related topics such as climate modelling in the coastal areas, heat stress, climate -smart agriculture, and adaption costing in infatuations. These universities were required to partner with international universities and institutions in line with their research themes.

Table 2: Research partnership grants

Grantee	Project name	Brief description and partnership
ITC	Impacts of heat on health, productivity, and economy in Cambodia	The research studies the effects of heat stress on construction, education, and garment manufacturing sectors. It highlighted significant reductions in industrial work time across these areas due to heat exposure in the workplace, resulting in considerable economic losses. Knowledge resources were developed: a hand- book for assessing the impact of heat stress on individuals, a scientific paper focused on heat stress effects in the education, construction, and garment sectors, as well as capacity-building workshops on the topic and the graduation of one PhD student. Location: Phnom Penh Partners: • National University of Singapore (NUS) • Hong Kong Polytechnic University (Hong Kong) • Ministry of Education, youth and sports
NUBB	Investing into Soil Organic Carbon management ISOC for resilient upland farming (ISOC)	The impact of changes in land use and farming practices on soil organic carbon in Battambang was evaluated, focusing on Soil Organic Content (SOC) in both Conventional Techniques (CT) and Conservation Agriculture (CA) within Cambodian upland areas. The results of this study contributed to a policy brief titled 'Impacts of Land Use Change and Agricultural Management on Soil Organic Carbon', and policy discussions were held to promote the adoption of CA practices. Additionally, the research involved six farmers and two women-led groups. Location: Battambang Partners: • Department of Agricultural Land Resources Management (DALRM), General Directorate of Agriculture (GDA), MAFF • Cambodian Agriculture and Research Development Institute (CARDI) • Royal University of Agriculture (RUA) • CIRAD, Research Unit AIDA/CSIA, ENSAT Toulouse, France
RUPP	The cost of adaptation to climate change and for infrastructure, water	A Cost and Benefits Analysis (CBA) focusing on road and related infrastructure assets in the context of climate change was developed, proving to be quite significant and

Grantee	Project name	Brief description and partnership
	and agriculture projects	beneficial for road development initiatives in Cambodia. This research project examined the losses and damages affecting road infrastructure in the provinces of Prey Veng and Kampot, as well as conducted adaptation costing analyses for various proposed measures under two scenarios (without and with climate adaptation strategies). The results informed the creation of guidelines for loss and damage assessments, adaptation costing, and capacity building for the two relevant ministries (MRD and MPWT). Additionally, these findings were incorporated into the Master of Science in Climate Change Program (MCC) at RUPP. Location: Kampong Thom, Pursat, Kratie, Prey Veng, Kampot Partners: • Asian Institute of Technology (AIT) • University of Freiburg (Germany)
ITC	Improving capacity on integrated coastal management with low impact development considering environmental sustainability and climate change in the coastal area of Cambodia (CLID)	The implementation of Low Impact Development (LID) strategies as a measure to reduce flooding in coastal cities has been studied. An inundation map depicting the impacts of rising sea levels for coastal regions was developed, along with a report addressing the status of climate change and future projections for Cambodia. Training and outreach on Climate-Resilient LID (CLID) were conducted for relevant ministries, academic institutions, provincial departments, and municipal offices, resulting in the publication of one scientific paper in an international journal and the graduation of four master's and six bachelor's students. Location: Koh Kong, Preah Sihanouk, Kampot, Kep Partners: • Institute of Research for Development (IRD), France • Kyoto University (KU), Japan • Royal University of Agriculture (RUA)

The **Climate Change E-Lexicon** is a user-friendly online platform that helps users explore and understand climate change terms in the Khmer language. It is available on the NCSd website: <https://ncsd.moe.gov.kh/lexicon>. This tool is essential for raising awareness about climate change among Khmer speakers and promoting public engagement in climate action. The lexicon includes 446 terms and 123 acronyms and abbreviation related to climate change. It also features 28 new terms from Article 6 of the Paris Agreement, as well as 78 terms and explanations on climate finance, adaptation, and mitigation. These translations have been reviewed and approved by the DCC/MOE to ensure accuracy and consistency in terminology.

Output 1.3: Reliable and timely data to enable monitoring and evaluation of climate change response.

Establish an enhanced MRV system and provide tailored M&E training program and LoAs with target line ministries to improve their data collection / MRV capacity

Since 2021, successful **LoAs with MPWT, MRD, MoEYS, MME, and MoE**, supported the preparatory work to establish a comprehensive **MRV system to track the progress in the implementation of the NDC**. Initial key activities performed in each ministry are: i. Gap assessment (data available, data needs, and existing systems and indicators); ii. Setting up the NDC reporting system and agreement on data and institutional arrangements for reporting; iii. System testing. The **NDC/LTS4CN tracking system** (<https://ncsd.moe.gov.kh/ndc-tracking/>) was operationalized in 2022 and upgraded with new actions and indicators based on recommendations from CCTWG members.

In a significant development, all concerned ministries has provided an **annual update on NDC implementation** through the system for the first time in 2022, leading to the publication of the 2021 NDC progress report on the NCSD website. Subsequently, two more rounds were conducted in 2023 and 2024.

Each year, the Ministry of Environment initiates the process by sending a formal letter to all concerned ministries requesting the upload of the annual NDC/LTS4CN update into the system. Each year, the CCCA3 technical team has been instrumental in providing support and assistance to each ministry to ensure that the focal points possess the necessary knowledge and capabilities to access the system, collect the required data, and upload it accurately. They have facilitated individual meetings, both in-person and online, and have been proactive in addressing any issues encountered by ministry officials during the completion of their assigned tasks.

In addition, the CCCA3 team has maintained close communication with the IT firm overseeing the NDC/LTS4CN data portal to ensure its smooth operation. Continuous reviews and enhancements are conducted to improve both IT functionality and user experience, and efforts are made to make the tracking system user-friendly and accessible to the focal points from each Ministry.

Following data collection, an annual validation workshop was convened to review the indicators uploaded into the system and validate the data. Subsequently, the annual NDC progress report is prepared by the CCCA3 team and published on the NCSD website.

NDC/LTS4N Annual reports:

- 2021 - <https://ncsd.moe.gov.kh/dcc/resource/document/brief/NDC/annual/report/2021>
- 2022 - <https://ncsd.moe.gov.kh/resources/document/ndc-and-lts4cn-annual-report-2022>
- 2023 - <https://ncsd.moe.gov.kh/dcc/resource/NDC/Summary/Report/2023>

Every 2 years the capacity of national institutions to manage climate risks is tracked with the compilation of the **Institutional Readiness** indicator. CCCA3 aids NCSD and the CCTWG to tracks progress made in the development of institutional capacity in 5 key dimensions: (1) development of national policies, strategies and action plans for climate change response; (2) integration of climate change into development planning instruments; (3) coordination of climate change response; (4) production, access and use of climate information; (5) Availability and effectiveness of a financial framework for climate change response. The results are included in the NDC/LTS4N Annual reports every 2 years.

Furthermore, the CCCA3 team have provided technical support to improve the quality of project management under the **result-based LoAs** with target sectoral ministries such as the MPWT, MRD, MoEYS, MoE, and NCDD through strengthening the M&E framework and reporting requirements. For the MWPT, in particular, the CCCA3 team also involved in the process of establishing the MRV system for transport sector, which was supported by the Initiative for Climate Action Transparency (ICAT), especially through further indication of data sources for the NDC actions for transport sector and recommendation on institutional arrangement.

Capacity development to Department of Climate Change

MoE officials from the Department of Climate Change have consistently been involved in the development and operationalization of the NDC/LTS4CN tracking tool to ensure complete ownership and future management capability.

In addition, training sessions were organized. The first in September 2023 to delineate roles and functions of the CCCA3 and DCC teams in providing technical support to sectoral ministries throughout the process of updating, verifying, and reporting within the NDC/LTS4CN tracking system. The second training, in July 2024, expanded the topics including data portal indexes, and was organized with a wider audience from various departments within the Ministry of Environment (Department of Administration, Planning and Finance, Department of Climate Change, Department of Knowledge and Information) and officials from the National Committee for Sub-National Democratic Development (NCDDs). Participants were trained in tasks such as setting measurable and trackable actions, recording annual progress data, verifying and adjusting submitted data, and independently generating reports. Additionally, they were trained to perform data updates on the NCSD portal for the Vulnerability Index, Climate Finance, and Families Affected by Climate Hazards.

Furthermore, linked with CCCA3 support to MoE on the management of carbon market mechanisms under Outcome 2, support was initiated in 2022 to update and verify data on existing carbon projects in Cambodia, with the exception of REDD+ projects, which already have monitoring in place. Active projects under Clean Development Mechanism (CDM) and Joint Crediting Mechanism (JCM) were jointly visited by DCC and CCCA3 technical staff to check the progress in the implementation and update the information on the projects and on the transfers of Certified Emission Reductions (CER) claimed during their operation. The updated information will be added to the registry of emission reduction projects, on the data portal. The CCCA3 team has regularly supported the DCC team during field monitoring visits at their request.

The CCCA3 team also provided technical support to the National Sub-Group Greenhouse Gas Inventory. It's worth mentioning the support provided to the Department of Climate Change (DCC) in organizing two meetings on 30 July and 26 August 2024 for the preparation of the **First Biennial Transparency Report (BTR1)**. The CCCA3 actively participated in these meetings and provided technical assistance in reviewing the preliminary results and draft reports.

The BTR1 was successfully finalized by the MoE and submitted to the UNFCCC in December 31, 2024: <https://ncsd.moe.gov.kh/resources/document/cambodia%E2%80%99s-initial-biennial-transparency-report-btr1>

Output 1.4: Regular knowledge-sharing event between researchers, policy-makers, practitioners, and other targeted audiences.

The CCCA3 team has organized numerous events throughout the programme implementation to share knowledge and best practices among researchers, policymakers, and key stakeholders. Some events were strategically designed to convene key stakeholders and target specific groups identified as priorities by the programme, particularly youth and media professionals. By focusing on these groups, the events aimed to effectively disseminate climate change knowledge and engage the next generation of advocates.

Furthermore, the CCCA3 team provided additional support to grantees as needed, ensuring that they had the resources to successfully carry out some events. This included collaboration with the MoE on relevant initiatives such as reforestation efforts and related public events.

In this chapter, the most notable events are mentioned. These events not only saw high levels of participation, often of high-ranking official from MoE and other Line Ministries, but also had a substantial impact on shaping Cambodia's climate agenda. By fostering collaboration among various stakeholders, these gatherings have contributed to advancing climate initiatives and enhancing awareness of climate issues in the country.

One of the most notable events is the annual, **CCCA3 Knowledge Sharing Event** which brings together all grant recipients and key stakeholders involved with the CCCA3, including policymakers and academia. These annual events offered participants a chance to share their experiences in implementing climate projects at both national and sub-national levels, to exchange knowledge and insights, foster partnerships, and discuss ways to enhance policy frameworks and research connections related to climate change. Interesting project posters and videos were developed and displayed during the events to foster the exchange of good practices, and promote collaboration on climate actions.



Figure 8: 2023 Knowledge sharing event

Overall, a total of four knowledge sharing events were conducted with over 292 participants (about 68 women).

After each event, the CCCA3 communication team promptly prepares an article and disseminates it on the NCSD portal. For example, here is the article on the 2023 Knowledge Sharing Event (<https://ncsd.moe.gov.kh/dcc/news/CCCA3/knowledge/sharing/workshop>).

The CCCA3 Annual Retreat was held each year to foster team spirit among all CCCA3 and DCC/MoE staff, as well as CCTWG members. The retreat serves to gather and share information about the DCC/CCCA3's project and programme activities, ensuring that all DCC/CCCA3 staff are adequately informed to participate in the implementation of these initiatives. During the retreat, the results and key achievements from the annual work plan are discussed and agreed upon, further strengthening collaboration among the DCC/CCCA3 and relevant stakeholders. The most recent retreat took place at Kirrirom National Park on November 29, 2024. It was attended by the CCCA3 team, UNDP representatives, and CCTWG members, where they reviewed Cambodia's NDC stocktake, assessed

programme progress, and promoted collaboration between CCCA3, development partners, and CCTWG on climate actions in Cambodia. In total, five staff retreats have been organized, with over 170 participants, of which approximately 83 were women.



Figure 9: Final PEB event, December 2024

The Programme Executive Board Meeting (PEB) for CCCA3 was held annually, with two meetings in 2024. The purpose of the meeting is to provide guidance and oversight for the implementation of the CCCA3 programme. The agenda typically focuses on annual achievements and plans for the upcoming year. The meetings have been usually chaired by the Minister of Environment, first by H.E. Say Samal and then by H.E. Dr. Eang Sophalleth. The CCCA3 Board members are representatives of the Ministry of Economy and Finance (MEF), Ministry of Rural Development (MRD),

Ministry of Public Work and Transport (MPWT), Ministry of Education, Youth and Sport (MoEYS), Ministry of Mines and Energy (MME), the European Union, UNDP, Embassy of Sweden. The final PEB meeting was held on 12 December 2024, chaired by H.E. Dr. Eang Sophalleth, Minister of Environment and Chairman of the CCCA3 PEB, with the participation of the European Union, UNDP, and representatives from the five ministries. At the meeting, the NDC3.0's preparation, serving as a bridging project between CCCA3 and the next phase of the CCCA, was discussed and agreed upon. A total of 6 PEB meetings were organized with over 200 participants (about 50 women).

The official launch of the report titled "Addressing Climate Change Impacts on Economic Growth in Cambodia" took place on October 2019. The event was chaired by H.E. Say Samal and attended by 148 participants, including 36 women, representing both the private sector and government officials. This event received extensive coverage in both Khmer and English-language media, which helped to effectively disseminate the report's findings. As a result, it raised the profile of climate change within the MEF policy documents. Notably, the 2020 budget presentation identified climate change as one of the five key external risks facing the economy, and the new debt management policy emphasized climate-proofed infrastructure as one of the six key priorities for government borrowing.

The launching events of the key policies "Cambodia's Updated Nationally Determined Contribution (NDC)" and LTS4CN were organized in February 2021 and February 2022, respectively. The events were chaired by H.E. Say Samal, Minister of Environment, and attended by representatives from the Parliament, Senate, key ministries, development partners, NGOs, media, and the private sector, with a total of 300 participants (about 100 women). At the events, the policies were distributed to delegation of representatives from line ministries and institutions, and press conferences were organized with the participation of more than 20 journalists and media practitioners.

A workshop on Protected Areas Management and Climate Change was held in March 2022 in Kampot Province to provide Members of Parliament with a better understanding of the current status of the environmental and climate change in Cambodia. The workshop was an excellent platform to share information, knowledge, and experiences and seek further possibilities for cooperation between the MoE and the National Assembly of Cambodia. As a result, the two institutions agreed to continue work on climate change and sustainable management of natural resources and biodiversity. An Handbook on Climate Change for MPs of the National Assembly was developed (see XXX) and an

additional field visit and a workshop on the role of the Parliament on climate change response were organized in October 2022 the future to collect inputs from the MPs in order to finalize the Handbook.

The capacity-building efforts extended beyond the national level, as evidenced by a training workshop focused on climate change held in June 2022 for sub-national officials. This workshop aimed to enhance the capacity and understanding of climate change and related response mechanisms among local authorities and forest communities in the provinces of Kampong Thom, Preah Vihear, Oddar Meanchey, and Stung Treng. A total of 72 participants attended the workshop, including 35 women.

During the training, participants engaged in sharing their experiences and identifying key challenges they face in addressing climate change. They also highlighted exemplary implementations in local communities, sharing best practices and developing action plans through group discussions.



Figure 10: Training for sub-national officials, 2022

On the final day of the workshop, participants visited a forestry community supported by the CCCA3. This visit provided an opportunity for participants and community members to exchange insights and experiences related to forest conservation activities. These initiatives serve as exemplary models for improving livelihoods while simultaneously addressing the impacts of climate change.

CCCA3 provided specific logistical support to one of its grantees, ITC, by facilitating the organization of the closing and award ceremony for the Cambodia Energy Efficiency Competition (CEE Comp) in October 2022, hosted at the Ministry of Environment and co-organized by Sevea Consulting. This event marked the official conclusion of the first-ever CEE Comp, where participants who achieved the highest annual energy savings were recognized and rewarded. The award ceremony attracted a total of 132 participants, including 43 women, from the participants to the competition, representatives of ministries, UNDP, development partners and private sector different institutions.

Following the success of this first edition, both the Ministry of Environment (MoE) and the Ministry of Mines and Energy (MME) endorsed the second edition of the competition. The CCCA3 directly supported the organization of the Award Ceremony for the second edition⁵, which was held at the Ministry of Environment in November 2024 in a highly participated event that brought together private sector leaders, policymakers, and sustainability advocates to honor participants who have successfully reduced their energy consumption and environmental impact.

Another grant funded by CCCA3 demonstrated effective scaling up results, notably through the Electric Mobility Showcase. Initially organized by EnergyLab for two years, the event transitioned to management by the MPWT in 2023, with ongoing support from CCCA3. The primary objective of the event was to facilitate policy-focused dialogue by reconvening inter-ministerial discussions on the infrastructure for electric mobility in land transport. It also aimed to showcase electric vehicle options to enhance public awareness. The event provided a valuable platform for knowledge sharing, problem-solving, and collaboration among representatives from government, industry, development

⁵ <https://ceecomp.org/cambodia-energy-efficiency-competition-awards-ceremony-celebrates-impactful-achievements-in-energy-savings/>

partners, and civil society. The showcase featured a diverse exhibition of e-mobility companies, including Onion, VERYWORDS, Pople, CominEVi, VOLTRA, YADEA, TADA, and others.

To capture the voice of youths and children, to enhance their participation on climate action and to further disseminate their messages and ideas to the general public, the CCCA3 organized the Drawing and Photo Competition on Climate Change for Children and Youths. In this event, 444 candidates among children and youth participated in a drawing competition and, after a review process, 30 candidates were selected as winners. The Awarding Ceremony was held in March 2023 at the MoE. The event was presided over by H.E. Chuop Paris, Undersecretary of State of the MoE, and H.E. Tun Sa Im, Under Secretary of State of the MoEYS, with relevant participants from schools, Union Youth Federations of Cambodia, and attended by many representative from line ministry.



Figure 11: Drawing and Photo Competition on Climate Change for Children and Youths

Another opportunity to involve youth was created with the organisation of a training workshop on climate change and gender mainstreaming for youth in Svay Rieng province in December 2023. The workshop was attended by MoE delegations, provincial administration officials, youth representatives, provincial departments, youth, Red Cross, students, scholars and pagoda youth, a total of 69 participants (33 women). The event aimed to raise awareness of climate change among young people and mobilise greater public participation in responding to climate change. As a result, participants learned about the general situation of climate change, including definitions of climate-related, adaptation and mitigation; current status/measures to reduce greenhouse gas emissions and reduce the use of plastic; policies to respond to climate change at global and national levels; sources of information on climate change, particularly for youth and gender; and KAP studies.

In March 2023, a workshop titled "Awareness Raising on Religion and Climate Change" was organized to engage religious leaders and practitioners in understanding climate change-related issues and to highlight the significant role that religions in Cambodia can play in promoting climate action. The event attracted a total of 105 participants, including 25 women, who came together to enhance their knowledge of climate change and its associated response mechanisms. During the workshop, participants learned about the current status of climate change, its impacts, and effective coping strategies. The discussions emphasized the critical role that religious leaders can play in mobilizing their communities to participate in climate action throughout the Kingdom. The workshop also showcased existing religious practices that guide communities in addressing the climate crisis, particularly focusing on the implementation of proper solid waste management and the establishment of eco-friendly facilities in places of worship. By fostering this dialogue, the workshop aimed to empower religious leaders to encourage their congregations to take meaningful action against climate change.

To enhance awareness and ensure accurate knowledge about climate change, media professionals have been identified as a key target group for capacity building initiatives. By focusing on this group,

efforts can be made to increase their understanding of climate change issues, enabling them to effectively communicate and disseminate information to the broader public.

Two awareness-raising workshops for media professionals in Cambodia were organized, one in Battambang province in December 2023 and a second one in Siem Reap province. A total of 254 journalists from 20 institutions participated in the initiative, which included representatives from various media outlets such as radio and television stations, magazines, electronic newspapers, traditional newspapers, and major online networks across Cambodia.

The media professionals recognized that the event was crucial to promote their understanding of climate change and improve their capacity to develop articles on climate change. It allowed them to gain a deeper understanding of current projects implementation to address climate change in Cambodia. After the workshop, the journalists visited different project sites, supported by the CCCA3 in Battambang and Siem Reap provinces. Over 80 news articles and videos were released in the printing and online press and media.

On 9 May 2024, the CCCA3 attended the Europe Day 2024 at the Delegation of European Union to Cambodia. The event underscored the shared commitment to environmental sustainability and the pivotal role of education, aligning with the global #ForOurPlanet campaign. CCCA3 was present with a stand to share knowledge products such as programme brochure; knowledge materials from grantees supported by program including booklets, posters, case studies, videos. Participants were particularly interested in the drawing book compiled from the drawing competition and the climate change booklets produced for primary schools. They have encouraged the team to continue our efforts to support and integrate climate change into education at all levels.

In 2024, CCCA3 supported the organization of the Cambodia Climate Change Summit 2024 and participated in the event with a booth showcasing the program and its key achievements.

In 2024, CCCA3 provided strong support for the initiatives led by the Ministry of Environment (MoE) aimed at achieving the ambitious goal of the 1 Million Trees Campaign and promoting reforestation efforts. In July 2024, the major public event “Green Sprouts exhibition and distribution event” was held at the premises of the Ministry of Environment and provided more than 33,000 young trees for public distribution, sourced from provincial environment departments. CCCA3 was present with an exhibition booth to share knowledge, experiences, best practices and knowledge products to the public, covering various sectors under the GDPS portfolio, such as climate change, biodiversity conservation, science and technology, and green economy.

As an additional initiative to support the reforestation effort and tree planting event, in 10 July 2024, a tree planting event was organized thanks to the support of CCCA3 at the Heng Samrin Chor High School, in Orang Ov district, in Tbong Khmum province with the participation of approximately 500 teachers and students. All the participants learned about daily good practices to contribute to the reduction of GHG emissions into the atmosphere by reducing energy and water consumption, cycling, and planting trees. During the event, about 3500 trees were planted on the school grounds.

The final event of the CCCA3 programme was convened at the Ministry of Environment on 11 December 2024. The event was chaired by H.E. Dr. Eang Sophalleth, Minister of Environment and Chair of the NCSD; H.E. Igor Driesmans, Ambassador Extraordinary and Plenipotentiary Delegation of the European Union; and Ms. Alissar Chaker, Resident Representative UNDP Cambodia with the participation of MoE's delegates and staff, representatives from embassies,



Figure 12: Final CCCA3 event, 11 December 2024

academia, development partners, line-ministries and institutions, youths, NGOs, media, and private sector. The event brought together all key stakeholders and promoted knowledge sharing, facilitated networking, and showcased the main achievements of the CCCA3.

An exhibition of the 22 projects was organised, giving them the opportunity to showcase their significant achievements through reports, key studies, success stories and lessons learned to inspire future climate action. Paintings from the youth competition, along with artistic expressions and motivational speeches from youth representatives and key donors, helped to inspire future collaboration in climate action. At the end of the event, there was also a press conference highlighting the impact of CCCA3 on the climate change agenda, key learnings and next steps of the CCCA.

This event received significant media coverage and here are some examples:

- <https://rnk.gov.kh/article/44626>
- <https://www.tvk.gov.kh/ក្រសួងបរិស្ថាន៖បង្ហាញក/>
- <https://www.khmertimeskh.com/501606844/ccca3-concludes-benefitting-people-advancing-climate-resilience/>

To effectively highlight the main achievements of the program, a final booklet and two engaging videos were developed. These materials present the accomplishments in a visually appealing and accessible manner, ensuring that the key messages resonate with a wide audience.

- Final booklet in English: <https://ncsd.moe.gov.kh/resources/document/cambodia-climate-change-alliance-phase-3-ccca3>
- Final booklet in Khmer: <https://ncsd.moe.gov.kh/resources/document/សមិទ្ធផលកម្មវិធីសម្ព័ន្ធភាពប្រែប្រួលអាកាសធាតុកម្ពុជា>
- Video (long version): https://www.youtube.com/watch?v=xxK1oCij_rM and <https://ncsd.moe.gov.kh/resources/video/ccca3-final-video>
- Video (short version): <https://www.youtube.com/watch?v=y3khq5HPGS8>

Outcome 2: Tools are developed and implemented for the effective mainstreaming of climate change into policies, regulatory frameworks, programmes and budgets of priority sectors.

Summary of the key results – Outcome 2

This outcome aims to strengthen the institutionalization of climate change at national and sub-national levels, focusing on the pre-identified priority sectors of education, environment, transport, rural development and energy.

A significant and well-recognized achievement of the CCCA3 program is its successful coordination in developing three key national climate change policies: the Updated Nationally Determined Contribution (Updated NDC) in 2020, the Long-Term Strategy for Carbon Neutrality (LTS4CN) in 2021 and the Cambodia Climate Change Strategic Plan 2024-2033 (CCCSP 2024-2033) in 2024.

Specific studies and analyses were carried out in close partnership with relevant Line Ministries and key results were disseminated with policy briefs and reports to assist inter-ministerial discussions and participation to COPs.

Significant progress was made in integrating climate change into Cambodia's national policies and budgets through close support to key line ministries such as MoE, MoEYS, MRD, MPWT, and MME, which also received grants to accelerate the implementation of climate change plans.

Technical assistance and training were provided to national and subnational officials to update their Climate Change Action Plans (CCAPs), build capacity to prepare cost-benefit analyses for road and WASH infrastructures, upgrading existing databases and improving data exchange and tracking mechanisms. Policies and standards were developed to promote climate-smart investments, such as the drafting of the Sub-decree on the management of GHG Emissions reduction mechanisms to support access to carbon credit opportunities and the introduction of energy efficiency standards and guidelines. The CCCA3 improved coordination of climate change responses through regular meetings of the Climate Change Technical Working Group (CCTWG) and supported Cambodia's participation in UNFCCC Mechanisms and international climate negotiations.

Cambodia's Updated NDC

During 2020, the CCCA3 supported the Department of Climate Change (MoE) in coordinating the development of the Updated Nationally Determined Contribution (NDC) with relevant line ministries. This involved three main phases: ministerial consultations (March-June 2020), inter-ministerial discussions (July-August 2020) and private sector engagement (October 2020), and final round of feedback and document finalization (October-December 2020). Throughout the process, contributions from various line ministries, development partners, experts and NGOs were collected and analysed.

During the UN Climate Ambition Summit on December 12, 2021, the Cambodian Prime Minister announced key NDC commitments and pledged to develop a long-term strategy for carbon neutrality for Cambodia and, on December 31, 2020, Cambodia submitted its Updated NDC to the UNFCCC.

https://ncsd.moe.gov.kh/resources/document/Cambodia_NDC_Updated

Under the Updated NDC scenario, estimated emissions reduction by 2030 is expected to reach approximately 64.6 million tCO₂e/year, a 41.7% reduction compared to the BAU scenario. Notable enhancements include the inclusion of mitigation targets in the agricultural and waste sectors, more detailed actions in key sub-sectors like energy efficiency, and a stronger set of adaptation measures. The NDC sets an ambitious target in the Forestry and Land Use (FOLU) sector to halve the deforestation rate by 2030, aligning with Cambodia's REDD+ strategy. The Updated NDC places a strong emphasis on gender equality and vulnerable groups and it also examines the linkages between NDC actions and the Sustainable Development Goals.

The plan for an enhanced transparency framework for the updated NDC was drafted and then implemented with the online tracking tool described in output 1.3.

Long-Term Strategy for Carbon Neutrality (LTS4CN)

Cambodia submitted the Long-Term Strategy for Carbon Neutrality in December 2021, aligning with a commitment made by the Prime Minister during the UN Climate Ambition Summit a year prior.

CCCA3 played a crucial coordinating role in supporting the NCSO throughout this process and in supporting extensive consultations with competent line ministries. Additionally, various development partners, including the United Kingdom, World Bank, FAO, AFD, and GGGI, contributed their expertise to different facets of the analysis, enhancing the robustness of the strategy.

The LTS4CN serves as a roadmap or vision document based on a comprehensive analysis and modelling of all relevant economic sectors, and it looks several decades ahead. It outlines priority mitigation actions for each sector to achieve the country's goal of a carbon neutral economy in 2050. The strategy largely builds on existing commitments of the RGC and proposes a trajectory consistent with the Updated NDC. It takes into consideration the balance between emissions reductions, economic growth, social justice, and climate resilience. Economic analysis shows that the investments to be made under this strategy have the potential to create 449,000 additional jobs and deliver an additional 2.8% of annual GDP growth by 2050. Cambodia can achieve carbon neutrality by 2050 through continued efforts to promote sustainable management of forests and land use; decarbonize the power sector and pursue higher energy efficiency; as well as promote low-carbon agriculture, industrial processes, and waste management.

<https://ncsd.moe.gov.kh/resources/document/cambodia-LTS4CN-En>

Cambodia Climate Change Strategic Plan 2024-2033 (CCCSP 2024-2033)

The Cambodia Climate Change Strategic Plan (CCCSP) 2024-2033 represents a crucial update to its predecessor, the CCCSP 2014-2023, and stands as a vital national policy framework for addressing climate change in Cambodia. This new strategic plan has been developed with overall coordination and technical assistance from CCCA3 and significant support from UNICEF.

The CCCSP 2024-2033 articulates the clear vision to "Achieve carbon neutrality and climate resilience through inclusive and sustainable development." This vision underscores Cambodia's commitment to not only mitigating greenhouse gas emissions but also adapting to the impacts of climate change in a way that ensures social equity and environmental sustainability. The mission of the strategic plan is equally ambitious, aiming to "Create a national framework to reduce emissions, enhance resilience, and improve climate governance to ensure societal, environmental, and economic well-being".

To achieve these goals, the CCCSP 2024-2033 focuses on three strategic areas and outlines 19 specific strategic outcomes. These areas are designed to provide a comprehensive approach to climate change, integrating efforts across different sectors and levels of governance.

The policy has been completed in September 2024 and it is pending approval from the Prime Minister.

Output 2.1: Decision-makers, practitioners, private sector actors, and communities in priority sectors are sensitized and engaged in climate responses.

CCCA3 has collaborated with various stakeholders to advocate for climate action, raise awareness for a more robust climate response, and enhance networks and collaborations.

This involved **conducting specific studies in close partnership with relevant Line Ministries and disseminating the key results with policy and technical briefs** to support inter-ministerial discussions, often to support the preparation to COPs and to aid DCC/NCSd in their internal advocacy efforts within the Government. Additionally, policy papers and guidelines were produced to further support advocacy and decision-making processes in the priority sector of CCCA3 as a result of the collaboration built with the grant facility.

Building on the work done during CCCA2, the report title “Addressing climate change impacts on economic growth in Cambodia” was launched in a highly participated event in late 2019. The report contributed to a higher profile of climate change in MEF policy documents, including the 2020 budget presentation where climate change was identified as one of five key external risks, and the new debt management policy including climate-proofed infrastructure as one of the six key priorities for government borrowing.

Among the technical brief produced by CCCA3 to support advocacy work with MEF on issues relevant to climate action linked to the promotion of more fuel-efficient vehicles. First, CCCA3 supported an assessment of the Potential Impacts of Fiscal Measures to Reduce Import Duties/Taxes on Electric Motorbikes, with a good collaboration and engagement from the Department of Planning and Techniques, General Department of Custom and Excise, MEF, and a full report and a technical brief were produced. Second, CCCA3 provided technical support to finalize a study on the economic and climate impacts of a ban on imports of 10-year old second-hand vehicles, presented by the Minister of Environment with the Deputy Prime Ministers (Interior and Economy and Finance) for decision.

In July 2022, following decisions from the Prime Minister, Cambodia officially announced that the country joined the Glasgow Leaders Declaration on Forests and Land Use, the Methane Pledge, and Green Government Initiative, followed by Building Breakthroughs. These decisions follow six months of inter-ministerial advocacy from CCCA3, including policy briefs, and could open possibilities for Cambodia to access funding.

To address the need of strengthening the understanding of basic climate change concepts at the policy decision maker level, the Climate Change Handbook for Members of Parliament (<https://ncsd.moe.gov.kh/dcc/resource/document/climate/change/handbook/members/parliament/2022>) was developed in 2022 and disseminated to Members of Parliament to equip them with crucial information on climate change, relevant policies, mitigation and adaptation strategies, and to aid in integrating climate considerations into the legislative framework. In March 2022, CCCA3 and

DCC/MoE organized a workshop for the National Assembly members on Protected Areas Management and Climate Change to inform lawmakers about the effects of climate change in Cambodia and explore future collaboration opportunities between the National Assembly and the Ministry of Environment. The event included a field visit, which allowed Members of Parliament to witness the environmental challenges that Cambodia is facing.

Additionally, key findings from significant studies such as the two Knowledge, Attitudes, and Practices (KAP) studies on public perceptions of climate change in Cambodia were condensed into policy briefs with infographics in 2021 and 2024 (https://ncsd.moe.gov.kh/resources/document/infographic-KAP3_En and <https://ncsd.moe.gov.kh/dcc/resources/document/Understanding/Public/Perceptions/of/Climate/Change/in/Cambodia/%28KAP4%29/ENG>). Interviews with high-level policymakers from the Ministry of Environment regarding the overview of KAP3 were also conducted and are available at this link: <https://ncsd.moe.gov.kh/resources/video/ep1>.

Key results from grant implementations include the production of the following policy briefs and guidelines:

- Policy advocacy report produced at the end of the first edition of the Cambodia Energy Efficiency Competition (CEE Comp), which helped to advocate for greater involvement of MME and MoE, who then endorsed the second edition of the competition in 2023.
- Guideline for Wastewater Treatment in the SMEs Sector, developed within MISTI project in 2023.
- Policy Recommendations on Procurement Options For E-bike Purchasing and Deployment, developed within the Ministry of Public Works and Transport (MPWT) project in 2022.

Output 2.2: Amended programming / budgeting procedures and processes in priority sectors to incorporate climate change

A key milestone in advancing the mainstreaming of climate change into the planning of relevant Line Ministries was the support provided to three priority ministries - MME, MPWT, and MRD - in updating their **Climate Change Action Plans (CCAPs)**. This accomplishment was made possible through a result-based Letter of Agreements (LoAs) in 2020 between NCSD and each Ministry, which included technical advisory support and dedicated assistance to Ministries' focal points provided by the CCCA3 team, and support for specific assessments and data collection, organization of inception workshops, consultations, and finalization of the Action Plans.

The three Climate Change Action Plans are available on the NCSD website:

- MPWT 2020-2023: <https://ncsd.moe.gov.kh/kh/dcc/resource/document/CCAP/MPWT/2020-2023>
- MME 2021-2023: <https://ncsd.moe.gov.kh/dcc/resource/document/CCAP/MME/2021-2023>
- MRD 2021-2023: <https://ncsd.moe.gov.kh/dcc/resource/document/CCCAP/MRD/2021-2023>

A key strategy identified by CCCA3 to promote the mainstreaming of climate change into budget process improvements is the provision of **advisory support and training to target ministries on planning and budgeting**.

This initiative primarily focused on the **Ministry of Public Works and Transport (MPWT)** and the **Ministry of Rural Development (MRD)**, which have substantial investment portfolios. Integrating climate-resilient design into yearly budgeting and planning within these ministries can significantly enhance Cambodia's resilience to climate change.

CCCA3 has provided this support through a result-based LoAs throughout the entire program duration. MPWT and MRD requested support to enhance their capacity in integrating climate change considerations into their infrastructure budget requests and presenting relevant evidence, including **cost-benefit analyses**, in a standardized manner during budget negotiations. The specific objectives included conducting cost-benefit analyses of prior climate-proofed infrastructure investments and updating the methodology accordingly, providing recommendations for enhancing existing costing/engineering standards based on the analysis, supporting cost-benefit analyses climate-related investments financed by the national budget for use in negotiations with MEF, and mentoring a core team within the ministries to conduct climate-incorporated CBAs.

The first notable achievement is the enhancement of the capacities of MRD and MPWT officials at both the national and sub-national levels in integrating climate change considerations into their infrastructure budget requests. Through the entire programme, several workshop and training session have been supported by CCCA3, based on the LMs needs and specific requests.

A first workshop in July 2020 allowed MPWT and MRD staff to present to present three cases of infrastructure construction or renovation, discuss and receive feedback from the MEF representatives. By 2022, all provincial departments were trained on tools for various rural development activities, leading to additional training requests in 2024, including a session on climate change impacts and disaster risk assessment. In 2024, a targeted CBA training was held for 43 MPWT officials, who expressed appreciation and requested more sessions, including site visits for practical data collection related to CBA analysis, and the establishment of a platform for ongoing technical support and consultation on climate-resilient infrastructure. A total of 130 MRD and PDRD officials participated in training focused on Management Information Systems for the WASH sector, which plays a vital role in gathering, storing, and analyzing data to support decision-making processes, and reinforce the capacity to provide evidence-based data to all the budget requests.

Another significant accomplishment is the development of case studies for cost-benefit analysis (CBA) implementation. In 2021, MRD piloted a CBA for a new drinking water access and distribution model in Kampong Chhnang province and, in 2022, one MRD provincial department and a district successfully integrated climate change considerations into their annual plan and an infrastructure budget request, presenting pertinent evidence in a standardized format for budget negotiations.

Starting from 2021, targeted assistance has been extended to the MPWT Department of Road Infrastructure, which is primarily responsible for preparing budget submissions. In 2022, a pilot road project in Takeo province was identified and CBA conducted. Guidelines were developed to conduct a vulnerability assessment for roads, and templates were created to present this information in budget submissions.

In 2024, CCCA3 facilitated discussions with MEF to reflect on the insights gained from their collaborative efforts over the years on CBA for climate-resilient infrastructure projects and gather further feedback aimed at improving submission quality and enabling more effective budget negotiations. The meeting highlighted the ongoing need for enhanced capacity building among MRD and MPWT officials. It emphasized the importance of coordination meetings between senior management and technical staff within each ministry to underscore the significance of climate-

resilient design and budget responsiveness to climate challenges. The endorsement of CBA at the institutional level was recognized as crucial, with suggestions made for the development of technical guidelines for climate-resilient infrastructure to provide further support.

Furthermore, targeted support was extended to the **Ministry of Education, Youth, and Sports (MoEYS)**, once again through result-based Letter of Agreements. This support aimed to facilitate the integration of climate change into the primary school curriculum. It involved the development of relevant teaching materials and the provision of teacher training to ensure that climate change education is effectively incorporated into the educational system. This work was completed with the GIG LoA (output2.4).

With the support of CCCA3, the **Ministry of Mines and Energy (MME)** launched a pivotal initiative to enhance energy efficiency in air conditioners and refrigerators, two key contributors to energy consumption. MME could count on expertise to undertake a thorough review of existing energy efficiency regulations and standards. New standards/guidelines were developed and validated, and a dissemination workshop was organized for the private sector, facilitating discussions about the implications of these new standards. A significant outcome of this initiative was the drafting of a Sub-Decree on Establishing the Framework for Energy Efficiency Standards and Labeling. This sub-decree underwent multiple rounds of consultations to ensure comprehensive input and feedback from relevant stakeholders, and it was finally approved in August 2023 as “Sub-Decree no. 254 on management and improvement of energy efficiency of electrical appliances”.

In addition, CCCA3 provided inputs for the integration of GHG emissions reduction targets in the National Energy Efficiency Policy, adopted by MME in 2023.

Under this outcome, other Letters of Agreements were signed to enhance collaboration with key organizations. First with the **Secretariat of the National Committee for Sub-National Democratic Development (NCDD-S)** to facilitate the coordination of data analysis from the Commune Data Base (CDB) and to submit the necessary data for calculating the Vulnerability Index and assessing the number of families affected by climate hazards. Over the years, this partnership has led to the successful organization of the database and the implementation of data queries required for two critical climate change indicators. Additionally, collaboration with IT experts and consultants has been instrumental in maintaining the CDB data center, providing administrative and management support to ensure quality assurance.

LoAs were signed with the **Cambodia Development Council (CDC/CRDB)** to focus on climate finance tracking. This collaboration supported consultations on necessary improvements to the database format used for tracking climate finance, and to organize a training workshop for development partners’ focal points on the annual climate change financing tracking within the Cambodia Official Development Assistance (ODA) Database. Secondly, it involves data entry, validation, and extraction of climate change ODA data to support the NCSD in analyzing and preparing relevant reports. This work informs the preparation of the annual Climate Public Expenditure Review (CPER, see output 3.1).

Finally, the CCCA3 team also provided an informed technical review for the development of the "Strategic Framework and Programmes for Economic Recovery in the Context of Living with COVID-19 in a New Normal 2021-2023", in collaboration with the General Secretariat of Committee on Economic and Financial Policy and published in December 2021.

Output 2.3: New or updated policies/standards in priority sectors incentivizing climate-smart investment (public or private)

The CCCA3 has played a pivotal role in promoting climate-smart investments through the development of strategic briefs, policies, and standards that incentivize such initiatives. This support has included facilitation, technical expertise, and backing the efforts of the DCC/MoE and the NCSD.

A significant achievement during this period was the drafting of a **Sub-Decree on the Management of GHG Emissions Reduction Mechanisms**. This important document was developed with technical support from CCCA3 between 2022 and 2023, receiving approval from the Ministry of Environment's legal team before being submitted to the MEF for further consideration. Its approval is currently pending. The work accomplished through this initiative has greatly contributed to the development of the [Operations Manual for the implementation of Article 6 of the Paris Agreement on Climate Change in Cambodia](#), approved in 2024. However, the implementation of this operation manual still requires a robust legal framework, which could be provided through the approval of the sub-decree.

The CCCA3 significantly contributed to the development of the following relevant guidelines, sub-decrees, and studies that have helped establish a strong foundation for advancing climate-smart investments. The support provided by CCCA3 encompasses a range of activities, including technical assistance, peer review, collaborative consultations, and advisory roles with line ministries. Additionally, CCCA3 offered direct guidance and support to grantees funded by the programme, who were engaged in developing various products aimed at fostering climate-smart investment practices.

- 1) Sub-decree on the Management of GHG Emissions Reduction Mechanisms
- 2) Sub-decree on Air Quality, Noise and Vibration Management. Developed by MoE during the CCCA3 funded grants, it's important for setting standards that businesses must meet, thus incentivizing investments in cleaner technologies to comply with air quality regulations and reduce noise pollution. Its approval is still pending.
- 3) Research paper "Cambodia: Potential Fiscal and Economic Impacts Of Measures and Regulations on Second-hand Vehicle Imports (Of more than 10 years of age)" (2022). The analysis shows the potential to steer investments towards newer, more efficient vehicles and promoting a shift from older, polluting models.
- 4) Study "Assessing the Potential Impacts of Fiscal Measures to Reduce Import Duties/Taxes on Electric Motorbikes" (2022). This study could lead to policy changes that encourage consumers and businesses to invest in electric vehicles, contributing to reduced emissions.
- 5) Building Energy Management Guidelines (2023). Developed by MME during the CCCA3 funded grant, these guidelines provide a framework for improving energy efficiency in buildings, incentivizing investments in energy-saving technologies and practices that lower operational costs and reduce GHG emissions.
- 6) Public Energy Efficiency Procurement Guideline (2023). Developed by MME during the CCCA3 funded grants and approved by MME, they are seen as a first step towards greening public procurement.
- 7) National Energy Efficiency Policy, adopted in April 2023, this policy is a commitment to energy efficiency at the national level, incentivizing investments to improve energy performance and reduce overall consumptions
- 8) Guidelines on Operational model for off-grid solar mini-grids (2022). Developed by MME during the CCCA3 funded grants, they could pave the way for more public-private investment in solar mini-grids.
- 9) Technical review of the MPWT's "National Strategic Plan for Climate Change Adaptation and Greenhouse Gas Mitigation in Transport Sector" and alignment with the new CCAP, 2021.

This could promote investments in sustainable transportation solutions and infrastructure that reduce emissions and enhance resilience.

- 10) Guideline on Water Scarcity Mitigation Plan for Rural Drinking Water Facilities, 2023. - developed by the Department of Rural Water Supply/MRD during the CCCA3 funded grants to aid in promoting investments in sustainable water solutions that are resilient to climate impacts, thereby improving community access to clean water.
- 11) Regulatory guidance and options to improve electric motorcycles battery waste management in Cambodia (2022). Developed by MPWT during the CCCA3 funded grant, can help create a framework to reduce environmental risks and encouraging investments in electric motorcycles as a cleaner transportation alternative
- 12) Regulatory guidance and options to improve electric motorcycles (EMs) registration in Cambodia (2022) - developed by MPWT during the CCCA3 funded grants
- 13) Policy guidance on electric motorcycles (EMs) battery charging and swapping space at public buildings (2022) - developed by MPWT during the CCCA3 funded grants
- 14) Roadmap of Prek Kampong Smach Marine Fisheries Management Area (2023) - supported by CDMC during the CCCA3 funded grants to ensure the protection of the newly established MFMA and attract potential investments, as eco-tourism initiatives.

Output 2.4: Top-up financing provided for selected public investments which have gone through a climate screening process

CCCA3 identified key initiatives within its priority focus areas, namely environment, rural development, energy, transport, and education, for financial support through GIG LoA to the competent target ministries: MoE, MRD, MME, MPWT, and MoEYS.

The project proposals were formulated since the initial phases of the programme and subsequently presented to the board for thorough review and approval. By late 2020, crucial progress was made with the signing of Letter of Agreements between the NCSD and MRD, MPWT, and MoE to support projects in line with the implementation of the Cambodia Updated NDC and the Climate Change Action Plans (CCAP) commitments of these ministries. Additionally, in 2021, two more initiatives were launched in collaboration with MoEYS and MME.

In 2023, a sixth initiative was financed to bolster support for the National Committee for Sub-national Democratic Development Secretariat (NCDDS).

The tables below offer a concise overview of the project contents, while detailed information on the outcomes and accomplishments can be found in the annex. Information on the projects objectives and implementers is also available on the NCSD website: <https://ncsd.moe.gov.kh/dcc/program/cambodia-climate-change-alliance-ccca-phase-iii/line-ministries-grants>;

Table 3: GIG LoAs with Line Ministries

Grantee	Project name	Brief description
Ministry of Public Works and Transport (MPWT)	Promotion of Electric Motorbike Adoption for a Sustainable transport sector	This project showcased the advantages of Electric Motorbikes (EMs) in both the public sector (30 EMs) and the private sector (137 EMs) through a subsidy program. A survey analyzed user preferences and confidence levels, outlined in a policy brief titled "Understanding the Confidence Level of Early Adopters"

Grantee	Project name	Brief description
		of Electric Motorcycles.” Awareness campaigns were launched to encourage the adoption of EMs, alongside the creation of guidelines and informational materials focused on enhancing EM registration, improving battery waste management for EMs in Cambodia, providing policy recommendations for e-bike procurement and deployment, and offering policy guidance on EM charging and battery storage in public buildings. Target province: Phnom Penh
Ministry of Rural Development (MRD)	Building climate resilience for rural water supply Infrastructures in Cambodia (BCR-WS)	Construction of 6 water infrastructures designed to withstand climate impacts (three ponds and three wells) to serve 6,268 individuals. Six Water User Groups were established, along with training on operation, maintenance, and financial management. Awareness campaigns focused on the effects of climate change and adaptation strategies reached 689 community members. Training for provincial department officials covered the design of climate-resilient water infrastructures and their incorporation into strategic budget plans. Target province: Kampong Thom
Ministry of Environment (MoE)	Strengthening Air and Climate Pollution Management in Cambodia (SACPMC)	Preparation of a sub-decree on air pollution, noise and vibration control; establishment of the first air quality monitoring data platform (https://airquality.moe.gov.kh/home); provision of dust monitoring and carbon analysis equipment to the MoE; implementation of emission control measures at 13 sites; and training of national and sub-national officials in air quality management. Target provinces: Phnom Penh, Sihanoukville, Kampot, Kandal, Kampong Speu, Siem Reap, Battambang, Otdar Meanchey, Kampong Cham
Ministry of Education, Youth, and Sport (MoEYS)	Mainstreaming Climate Change and Increasing Resilience in the Education Sector	The initiative created climate education resources for students in grades 4, 5, and 6, along with a climate change response guide for both primary and secondary levels. It offered training and assisted in the pilot implementation of Eco-schools by installing climate change and WASH materials in 27 selected schools across seven provinces, benefiting a total of 9,188 students.

Grantee	Project name	Brief description
		Target provinces: Kampong Chhnang, Svay Rieng, Stung Treng, Kampong Speu, Kampot, Kratie, Battambang
Ministry of Mines and Energy (MME)	Piloting Energy Efficiency and Solar Micro Grids for Cambodia's Clean Energy Future	The project assessed 10 governmental buildings, implemented a Smart Energy Monitoring System in 3 of those buildings, and created guidelines for Building Energy Management as well as Energy Efficiency Procurement. Additionally, MME set up a 48 KWp solar microgrid on Koh Kantheay Island, which is benefiting 170 households, a school, and community facilities. Target provinces: Phnom Penh, Kandal
National Committee for Sub-national Democratic development Secretariat (NCDDSD)	Upgrading the climate investment information database of sub-national government of Cambodia	Climate change investment data has been incorporated into the current NCDD Databases (Project Implementation Database (PID) and Sub-national Project Database (SPD)). The project created a manual to assist local administrations and provided training on entering climate investment data, facilitated a structured process for transferring climate information from the Commune Data Base (CDB) to refresh the Vulnerability Index, and carried out Vulnerability Risk Assessments (VRA) in 346 communes, 44 districts, and 10 provinces. Target province: Phnom Penh



Figure 13: MPWT project



Figure 14: MME project



Figure 16: MRD project



Figure 15: MoEYS project

Output 2.5: The climate response is coordinated across sectors and actors, under NCSd leadership

Throughout the programme, the CCCA3 team has played a pivotal role in supporting the NCSd as the coordinator of Cambodia's climate change response. This support has been facilitated through **regular meetings of the Climate Change Technical Working Group (CCTWG)**, on average every 3 months. At least twice a year, the CCTWG meetings also welcomed representatives from development partners, NGOs, and academia.

The technical and logistical aspects of these meetings have been diligently supported by the CCCA3.

The CCCA3 has extended critical assistance to the CCTWG on specific aspects, such as:

- coordination and technical assistance during formulation of climate change strategies, such as the Updated NDC, LTS4CN and CCCSP 2024-2033 supporting inception, consultation and validation workshops and technical follow-up;
- dissemination and awareness raising, through dedicated workshops e.g dedicated to the the KAP studies;
- development of Cambodia's position for COPs;
- capacity building with training sessions and workshops to boost the technical expertise and skills of CCTWG members regarding climate change topics, policy formulation, and resource mobilization, including assistance in securing funding from international donors, government bodies, and the private sector. Notable the session in 2023 loss and damage, and the technical session on the negotiations at COP in 2014 ahead of COP29;
- monitoring and reporting: technical support and individual assistance for the annual update of the NDC/LTS4CN tracking system.

A total of 24 CCTWG meetings have been organized under the coordination and technical support of the CCCA3 team, with the participation of over 1,400 individuals, including more than 300 women.

Support to Cambodia's participation in UNFCCC Mechanisms

The CCCA3 has continually enabled the Cambodian delegation to participate actively and with informed perspectives in international climate negotiations, specifically the Climate Change Conference of the Parties (COP) under the UNFCCC.

Each year, the CCCA3 assists the government in developing Cambodia's stance ahead of each COP. This assistance involves organizing inter-ministerial gatherings, referred to as pre-COP meetings,

where the country's position is discussed and the delegation is prepared for the event. After the COP, post-COP sessions are held to share crucial outcomes.

In addition, the CCCA3 is instrumental in ensuring the participation of around 4-5 delegates annually at the COP. Notably, in 2024, support was provided to facilitate attendance at the subsidiary bodies session in Bonn, Germany.

Output 2.6: An LTS4CN implementation plan is developed, including required sectoral actions and governance arrangements.

The “[NDC Roadmap and stakeholder engagement plan 2019–2030](#)” was developed in 2019 and the “Private Sector Engagement Plan 2021-2025 for the NDC Implementation” in 2021, with the coordination and support from CCCA3.

In 2022, the “[LTS4CN implementation plan](#)” was developed and presented to concerned stakeholders in December 2022. The action plan lists milestones under each of the mitigation sector proposed in the LTS4CN, as well as cross-sectoral. These milestones could be considered as short term (up to 2030), medium term (up to 2040) and long-term (up to 2050). The short term and medium-term milestones include those proposed under the updated NDC.

Output 2.7: Model for delivery of climate change response at district and provincial level is developed and tested, in line with decentralization reforms

Since 2021, CCCA3 liaised with NCDD-S to identify suitable activities to support the mainstreaming of climate change in systems used by sub-national administrations and the 21-month project “Upgrading the climate investment information database of sub-national government of Cambodia” started in mid-2022.

The project focused on upgrading the existing NCDD-S databases so that climate change indicators and climate change finance allocations can be tracked at the sub-national level. This will help fill an important gap in the monitoring of the climate change response, ensure better information is available to local decision-makers and potential partners, and support capacity development of NCDD-S as accredited entity for multilateral climate funds.

By the project's completion, significant improvements were made to two publicly accessible sub-national climate investment information systems: the pID (Project Implementation Database, <https://demo.ncdd.gov.kh/pid/home/index.castle>) and the SPD (Subnational Project Database, <https://demo.ncdd.gov.kh/spd1/>). These enhancements included the incorporation of new features and detailed climate investment project information, facilitating download options, categorization into mitigation, adaptation, and co-benefit activities, and streamlined report generation. Moreover, two comprehensive manuals were developed to provide detailed instructions and guidance on effectively utilizing the systems.

86 officials from the Planning Investment Division of provincial administration and Provincial Department of Planning in the target provinces of Kampot, Svey Rieng, and Prey Veng underwent training on climate investment data entry and the new system features, including report generation. The sessions focused on system navigation, utilization of new features, and report generation as outlined in the user manuals. The project identified two key barriers hindering greater mainstreaming of climate change: limited capacity among local authorities to categorize climate investment data and inadequate internet connectivity in rural areas.

Furthermore, the project successfully collaborated with the Ministry of Environment and Ministry of Planning to develop the ToR on Commune Data Base Data Transferred that clearly define roles and responsibilities related to climate data transfer to annually produce the Vulnerability Index. The ToR was agreed upon by all involved partners and received an endorsement from the Program Management Support Division of NCDDDS.

Furthermore, the project also conducted consultative meetings with relevant stakeholders, including INGOs and development partners, to discuss the collection and review of Vulnerability Risk Assessment (VRA) data and from October 6, 2022, to March 2, 2023, VRA data were collected and analyzed from 346 communes, 44 districts, and 10 provinces, namely Takeo, Kampot, Pursat, Battambang, Prey Veng, Svay Rieng, Kratie, Preah Vihear, Siem Reap, and Kampong Thom.

Outcome 3: National capacities for the mobilization, coordination, and tracking of public and private climate change resources are strengthened.

Summary of the key results – Outcome 3

This outcome addresses the urgency to leverage various sources of development finance in support of the climate change response and to promote innovation in climate action. As part of efforts to strengthen national capacity to mobilize, coordinate and track public and private resources for climate change, effective collaboration with the Ministry of Economy and Finance (MEF) enabled the annual monitoring and reporting of the Climate Public Expenditure Review (CPER) and the completion of five research studies on topics including import tariffs on electric vehicles, carbon pricing and green infrastructure.

In addition, NGOs and Ministries received dedicated fund to develop innovative adaptation and mitigation approaches, reaching more than 111,500 beneficiaries and reducing more than 167kt CO₂eq, with some initiatives already moving towards scale-up opportunities.

CCA3 supported the national effort to increase reforestation in degraded areas by aiding the MoE in organizing Tree Planting events and in designing five regional tree nursery stations in Tbong Khmum, Monduliri, Kampong Speu, Siem Reap, and Koh Kong provinces. The Regional Tree Nursery in Tbong Khmum has been successfully established, featuring 70 tree beds spread over 6 hectares. This facility includes an access road, a solar watering system, generation areas, and solar lighting.

Output 3.1: Climate-related expenditures are regularly tracked and their efficiency and effectiveness is analyzed.

Thanks to the CCA3 programme, the **Cambodia Climate Public Expenditure Review** (CPER) was consistently developed, validated, and published, with data available between year 2018 and 2023. The report provides an update on climate finance trends to monitor to what extent Cambodia and its development partners are effectively supporting national climate change priorities.

- 2018 CPER: https://ncsd.moe.gov.kh/resources/document/2018_CPER
- 2019 CPER: https://ncsd.moe.gov.kh/resources/document/2019_CPER
- 2020 CPER: <https://ncsd.moe.gov.kh/resources/document/cambodia-climate-public-expenditure-review-2020-cper>
- 2021 CPER: <https://ncsd.moe.gov.kh/dcc/resource/document/CPER/2021>
- 2022 CPER: https://ncsd.moe.gov.kh/dcc/resource/CPER_2022/MEF/MOE
- 2023 CPER: <https://ncsd.moe.gov.kh/resources/document/cambodia-climate-expenditure-review-2023>

To achieve this significant result, CCA3 collaborated with the Cambodian Development Cooperation Board/Council for the Development of Cambodia (CDCB/CDC) and the Ministry of Economy and Finance.

The partnership with CDC was crucial in ensuring the accuracy of climate change Official Development Assistance (ODA) data and providing training on properly categorizing climate change finance in the Cambodia ODA database. On the other end, the expertise of MEF officials was essential for critically reviewing climate change-relevant public expenditures from the previous fiscal year.

MEF also played a key role in final quality assurance, printing, and distribution in coordination with line ministries and partners.

Over the years, various improvements were integrated into the study. Starting in 2021, the report started addressing gender issues in climate change responses. Data suggests that gender issues are not sufficiently prioritised in climate change programmes, and that progress is essential to ensure effective protection of vulnerable groups and to empower women to contribute to resilience and sustainable low-carbon development. Again starting in 2021, the analysis included data from the subnational administration (SNA), and in 2022, for the first time, the CPER assessed the alignment of expenditure with the Updated NDC and estimated the financing gap. In 2024, an on-the-job session for MEF and CDC staff was conducted during the preparation of the 2023 CPER. This new initiative aimed at improving the sustainability of the whole process and reducing the reliance on external expertise for future updates of the CPER.

As part of the cooperation with MEF, the CCCA3 has provided the MEF each year with a detailed proposal for climate change wording to be incorporated into the **Budget Strategic Plan Circular** and **Annual Budget Circular**. The Budget Strategic Plan outlines the government's financial strategy and priorities for the fiscal year. It serves as a framework for budget preparation, allocation of resources, and implementation of government policies and programs. The BSP is important for ensuring that the government's financial resources are aligned with its development goals and objectives.

Output 3.2: MEF receives technical support to increase its capacities to conduct policy research on fiscal and economic policy issues related to climate change and develop the corresponding policy instrument

Since the beginning of the programme, the CCCA3 team has collaborated with MEF in conducting fiscal and economic policy analysis related to climate change.

In 2020, a study on **Vulnerability Assessment and Adaptation Planning for the Road Transport Master Plan** was conducted at the request of MEF. The objective was to investigate the impact of climate change on key public investment plans – and road transportation in particular – to minimize risk through the integration of adaptation measures. Adaptation options for main climate-related hazards were identified and subjected to cost-benefit assessment, and the MEF staff were trained on this methodology and participated in the review of assumptions and selection of case studies. Potential financing strategies for these adaptation costs were reviewed, including potential improvements to public-private partnership contracts for roads. A consultation meeting was conducted by MEF to disseminate the findings and recommendations to MRD, MPWT, MoE and MEF staff.

In 2021, a **scoping study on carbon pricing options** in Cambodia was developed in cooperation with the UNDP-Sweden regional programme. The study recognized the existing experiences with carbon market instruments and the country's intention to use them more extensively in the coming years. It also drafted specific recommendations for Cambodia, including the need to further specify NDC commitments, track key metric to show economic value of offset measures, enhance project budgets to raise funds for administering offset programs, enhance equity outcomes of offset programs, develop institutional capacity for offset programs, consider carbon tax on fossil-fired electricity or internal carbon price, additional to offset, offer vehicle tax incentives.

CCCA3 and NCDS have utilized these key recommendations to advance their efforts in the carbon market, primarily focusing on capacity development and establishing the legal framework (see draft sub-decree on Management of GHG Emissions Reduction Mechanisms describe in Output 2.2).

In 2021 and 2022, a study of the **potential value of Green Infrastructure in urban centers in Cambodia, with a focus on Phnom Penh**, was developed. The objectives of the study were to diagnose the current status of urban infrastructures as well as demand for resilient and green urban infrastructure development in Cambodia; to benchmark current policies in Cambodia against international best practices and provide policy options to the MEF and other relevant Government institutions. The study, titled “Cambodia Resilient Urban Green Infrastructure Economic and Policy Analysis Study”, found a positive cost-benefit ratio for many green infrastructure interventions, and in particular tree planting in urban areas due to their contribution to water / flood management. After its finalization, CCCA3 has supported MEF to engage the municipality of Phnom Penh and the Ministry of Land Management, Urban Planning and Construction in a dialogue on the results of the study and concrete next steps in Phnom Penh. All three institutions agreed to set up an inter-ministerial mechanism to address the recommendations of the report.

In 2022, two significant studies were conducted to assess the fiscal and economic impacts of proposed measures aimed at promoting sustainable transportation in Cambodia. The first study focused on the potential reduction of import duties and taxes on electric motorbikes, exploring how such a policy could incentivize the adoption of cleaner vehicle technologies and contribute to environmental sustainability. The second study examined the implications of implementing a ban on the import of second-hand vehicles that are more than 10 years old, analyzing how this measure could help reduce emissions and improve air quality by phasing out older, less efficient vehicles.

The study titled **Potential Impacts of Fiscal Measures to Reduce Import Duties and Taxes on Electric Motorbikes** is linked to the '3 R' COVID-19 economic recovery plan adopted by the Government in 2021, which aims to reduce import taxes on electric motorbikes. This initiative complements the measures implemented by the Government to lower special duty import tax on electric cars from 30% to 10% in February 2021. The primary objective of the study was to provide evidence-based data and scenarios regarding the economic impacts of this tax reduction on revenues and the broader economy. The study analyzed two scenarios: reducing duties on electric motorbikes from 15% to 5% and from 15% to 0%. The findings suggest that, assuming the reform is implemented in 2025, the economic impacts by 2030 would be minimal. In Scenario 1, a reduction to 5% would result in a 0.02% increase in GDP, while Scenario 2, reducing duties to 0%, would lead to a 0.08% decrease in GDP. However, both scenarios indicate significant economic benefits stemming from reduced air pollution and lower greenhouse gas emissions.

The second study, titled **Potential Fiscal and Economic Impacts Of Measures and Regulations on Second-hand Vehicle Imports (Of more than 10 years of age)**, confirmed significant benefits for the Cambodian economy of a ban on imports of vehicles older than 10 years, in the range of USD 400 to 600 million by 2030. Additional economic benefits from road safety improvements, reduced air pollution and climate change impacts cannot be exactly quantified, but international evidence suggests they would amount to several hundred million dollars. Cambodia could potentially save up to about -97,208 metric tons of CO₂ emissions in 2025 and to -183,035 metric tons in 2030 or 2.4 – 2.9 million metric tons cumulatively, depending on ban and replacement scenarios, assisting the country to meet its policy targets of reducing GHG. Based on the Social Cost of Carbon, the emissions saved would generate between USD 8.4 million and USD 9.3 million in annual cost savings for the Cambodian economy by 2030. On the other hand, annual customs revenues would be reduced by USD 199 to 363 million depending on scenarios, and this would be only partially offset by additional tax revenues from a growing economy, or from potential budget support from development partners.

As of June 2024, Cambodia has not yet imposed an age restriction on the importation of second-hand vehicles. In an interview⁶, Prime Minister Hun Manet emphasized the importance of enhancing technical automotive inspections over banning older vehicle imports. He acknowledged that while environmental concerns are valid, many citizens rely on used vehicles for affordability and, therefore, the focus remains on ensuring all vehicles, regardless of age, meet safety and environmental standards through rigorous inspections.

Output 3.3: Innovative adaptation and mitigation approaches from the public and private sector receive seed funding and have access to scaling-up opportunities

CCCA3 has supported **12 innovative projects** through a **Facility Grant**, providing financial resources to NGOs, academia, and ministries selected for their innovative approaches in implementing mitigation and adaptation solutions linked with the Cambodia Updated NDC Implementation. On average, the projects received a financial contribution of \$100,000 and required the grantees to provide co-financing. These projects were implemented over 2-3 years and collectively impacted more than 11,000 households and 39,397 individuals, of whom 19,363 (49%) were women.

The 12 innovative projects were selected through two calls for proposals, the first of which was launched on December 17, 2019, and the second on October 27, 2020. These selections followed the application, appraisal, and implementation guidelines outlined in the Grant Implementation Guidelines (GIG) approved by the CCCA3 Board.

CCCA3 offered extensive support to the grantees, including a launching workshop and Q&A session for the first call for proposal in December 2019. In October 2020, a training session was conducted for the grantees under the innovation grant facility round 1 to familiarize them with the CCCA3 GIG, covering reporting requirements, financial management procedures, communication and visibility, and monitoring, evaluation, and learning. A refresher training workshop on the CCCA3 Grant Implementation Guidelines was also organized in November 2021. Over 100 representatives from ministries, institutions, educational institutions, NGOs and the private sector participated to these training sessions.

Throughout the project implementation period from 2021 to 2023, both virtual (during the COVID-19 pandemic) and physical monitoring visits were conducted for the projects, in accordance with the GIG requiring at least one visit per year of implementation. The purpose of these monitoring visits was to ensure that the activities were progressing according to the timeline, deliverables were meeting the indicators, and technical coordination was provided to address any challenges faced by the grantees. Spot checks were also carried out to provide hands-on support to the grantees on management systems and practices in alignment with the agreed guidelines. Additionally, capacity development support was offered to address any identified gaps.

The CCCA3 team has conducted expertise reviews of the quarterly reports submitted by grantees and provided individual assistance to ensure quality delivery, correct calculation of indicators, and improvements in reporting. The level of support requested clearly indicated the need for more management expertise capacity to collect, analyze data, and report accurately for some grantees. It is believed that this type of support contributed to enhancing the grantees' reporting capacity and added value to their future experiences in grant implementation and reporting.

⁶ https://www.phnompenhpost.com/national/pm-hun-manet-rejects-ban-on-used-car-imports-urges-enhanced-vehicle-inspections?utm_source=chatgpt.com

In 2022 and 2023, visits were conducted with representatives of the Delegation of European Union to Cambodia to monitor progress and engage with beneficiaries in the field.

In 2021, **two additional special grants** were awarded to two NGOs as top-ups for existing initiatives. These grants aimed to ensure spending within a very limited timeframe (1.5 to 2 months of implementation) and to provide an opportunity to reallocate budget availability to grantees capable of executing meaningful initiatives swiftly, particularly during the challenging circumstances of the pandemic.

Table 4: Summary of the Innovation Round 1, Round 2 and COVID19 special grants

#	Grantee	Project name	Key achievements, project partners and location
Innovation grant – Round 1			
01	Energy Lab	Building the Electric Mobility Ecosystem in Cambodia	Deployment of the first electric motorbike sharing service in Cambodia, B2B sales to delivery businesses to increase electric motorbike fleet, organization of two electric mobility showcases, successful handover to MPWT, and of an inter-ministerial meeting on the policies and responsibilities for Electric Vehicles (EVs) moving forward; development of educational materials, including video. Project partners: Oyika CO., LTD. Target province: Phnom Penh
02	HEKS	Climate-smart farming	The pilot cover crop techniques involving 212 small-scale farmers have shown promising improvement in soil quality and improved performance in pepper and cashew farming, resulting in a yield increase of 15%-18%, a reduction in labor costs by 41%-70%, and a decrease in production expenses by 16%-70%. Approximately 70%-80% of early adopters have expressed satisfaction with the desirability, applicability, and affordability of cover crops. The dissemination of video documentation showcasing farmer testimonials and lessons learned regarding the testing of cover-crop techniques has reached nearly 60,000 views through digital platforms. Project partners: SmartAgro Target provinces: Tbong Khmum, Kratie, MondulKiri
03	ITC	Pushing Energy Efficiency in Cambodia	The design and execution of Cambodia's energy efficiency competition serves as a tangible approach to lower GHG emissions through changes in behavior. A collective average energy savings of 9.2% was achieved from 22 participating buildings, resulting in a reduction of 200 tons of CO ₂ -equivalent emissions. Capacity building efforts included involvement from six public universities, with 211 students taking part in the 90-day Challenge and 37 members being part of the Green Teams, alongside engagement from three ministries, with 53 officials (26 of whom are female) participating in training sessions and workshops.

			Project partners: Sevea Consulting, IFPEB, EnergyLab, Liger Leadership Academy, EuroCham Target province: Phnom Penh
04	PIN	Strengthening Climate Information and Early Warning System in Cambodia to Support Climate Resilient Development and Adaptation to Climate Change	Implementation of the first urban Early Warning System in Battambang, benefiting 1,501 households, along with quality training dissemination to local officials and community members; flood modelling to aid in spatial planning and the creation of flood risk management strategies; formulation of well-substantiated and practical suggestions to enhance the flood risk management plan in Battambang city. Target provinces: Battambang
05	Prek Leap National Institute of Agriculture (NIA)	Installation of Demonstration RAM Pump	Demonstration system of a ram pump and a solar pump at the Prek Leap National Institute of Agriculture, with training sessions benefitting more than 400 students and 10 teachers, and installation of a large-scale system in Kampong Speu to irrigate 17 hectares and serving 20 households. Target province: Phnom Penh, Kampong Speu
06	RECOFTC	Sustainable financing for climate action through community forestry in the Prey Land landscape	Ten Community Forests (CFs) actively participated in revising their Annual Operation Plans, which were subsequently approved by the local Forestry Administrations and commune leaders. The implementation of credit schemes for these 10 CFs led to an increase in credit capital (growing from USD 15,298 to USD 60,177), generating revenue that supported CF management and patrol activities. The project successfully carried out its reforestation efforts, planting a total of 57,250 seedlings across 5 CFs, which spanned approximately 25 hectares and included the involvement of 332 CF members (153 of whom were women). A total forest area of 6,059 hectares has been safeguarded by the Community Forestry Management Committee and CF members, contributing to a carbon stock of approximately 37,385 tons per year. Target province: Kampong Thom, Kratie
07	Teuk Saat 1001	Ensuring Safe and Resilient Drinking Water Supply Services for 3 Communes in Times of COVID-19	3 solar-powered water kiosks were set up to deliver safe drinking water to 1,500 families across three communes with 31 villages. The entrepreneurship model guarantees a sustainable income for the ten individuals overseeing the water kiosk. The distribution of information and hygiene supplies to safeguard against COVID-19 reached over 3,800 households. Target province: Tbong Khmum, Siem Reap, Kompong Thom
Innovation grant – Round 2			

01	FAEC	Resilience and Adaptation Planning for Ecosystem and Sustainable Development (RAPESD)	Key achievements include providing training to Agriculture Cooperatives (ACs) in climate-resilient farming practices, enhancing yields by 15% through the use of biochar, assisting 220 farms and 10 Agricultural Cooperatives, and creating materials such as lessons and booklets addressing the effects of Climate Change and Resilience, Contract Farming, and Agriculture, among other topics. Target provinces: Battambang, Kampong Thom
02	MISTI	Waste Water Treatment Waste Management in Industry and SMEs Sector	The anaerobic wastewater treatment process was established in 8 food and beverage small and medium enterprises (SMEs) to minimize greenhouse gas emissions and environmental pollution by allowing the safe discharge of treated water into the public sewer system post-treatment. Training sessions and skill development were provided to SMEs and MISTI officials. Guidelines for wastewater treatment in SMEs and a greenhouse gas inventory from industrial wastewater in the food and beverage industry were developed. Target province: Battambang
03	IDE	Scale pilots to accelerate the uptake of efficient electric cooking appliances to mitigate climate impacts through avoided deforestation and reduced emissions	The promotion of clean cooking technologies, specifically electric cookstoves, was carried out in rural and peri-urban regions through door-to-door and group sales presentations. A total of 268 households embraced the cookstove, impacting 1,286 individuals, with a sales success rate of 26.3% and 70% of customers continuing to use them regularly. Awareness of the effects of Hazardous Air Pollutants (HAP) and clean cooking through digital marketing reached over 258,000 individuals. Users acknowledge that electric cook stoves are healthier for families, and women and girls benefit from a reduction in reliance on wood or LPG for cooking. Target province: Kandal
04	CDMC	Enhancing Climate Resiliency Through Strengthening MPA Management Effective in Kampong Smach, Prey Nob District	The formal designation of Kampong Smach as a Marine Fishery Management Area (MFMA) is outlined in Prakas number 504/2022. This empowers local communities to enforce regulations and policies, establishes distinct boundaries, and clarifies both restricted and allowed activities in each zone. An information center has been established, and awareness campaigns have been conducted to encourage engagement with the zoning scheme and its regulations. Community groups have received training and been organized to carry out regular patrols to deter illegal activities. Discussions have taken place regarding sustainable eco-tourism initiatives as an additional income source for local communities. Collaboration with other Marine Protected Areas (MPAs) has enabled the project team and the communities to exchange insights and share valuable lessons from domestic experiences.

			Target province: Preah Sihanouk
05	MRD/TS1 001	CSO-Public partnership to favor safe water access in rural areas	2 climate-resilient water kiosks were established to supply safe drinking water to 1,150 households in two drought-affected communes. The Water in School program benefited 1,655 primary school students. Guidelines for mitigating water scarcity were developed, along with a training module on the community safe drinking water kiosk model for the MRD/DRWS staff. Target provinces: Siem Reap, Banteay Meanchey
Special funds during Covid-19 pandemic			
01	Teuk Saat 1001	Provision of Hygiene and Access to Water Kits for Vulnerable Households in the Context of the COVID-19 Outbreak	Between May and August 2021, 13176 rural households across 263 communes in 17 provinces benefited from free safe water for three months and were educated on safe practices to prevent the spread of COVID-19. As a result of the project, entrepreneurs have enhanced their partnerships with local authorities and have fostered stronger connections within their communities.
02	RECOFTC	Reforestation and Capitalization of CF Credit Schemes in Prey Lang	Between May and June 2021, as a result of the project, 10 Community Forests (CFs) enhanced their credit capital, positively impacting 614 households. Additionally, tree planting activities were carried out in 4 CFs, restoring degraded land across 34.8 hectares with 7,850,000 seedlings planted, thanks to the enthusiastic participation of 506 CF members, including 268 females.



Figure 18: TeukSaat1001 project



Figure 17: HEKS project

Annex 1 provides more detailed information for each grant, including financial support, main outputs, number of beneficiaries and GHG ER estimates for mitigation grants. In addition, the annex includes lessons learned and the communication products developed and published during project implementation to disseminate key results and best practices.

Information can be also be found on dedicated pages on the NCSD website:

- <https://ncsd.moe.gov.kh/dcc/program/cambodia-climate-change-alliance-ccca-phase-iii/innovation-grants-round-1>
- <https://ncsd.moe.gov.kh/dcc/program/cambodia-climate-change-alliance-ccca-phase-iii/innovation-grants-round-2>

Support to reforestation activities: tree nursery in the provinces

In 2024, a targeted support to the national effort to increase reforestation in degraded areas of Cambodia was provided by CCCA3, in line with the objectives of the LTS4CN and Circular Strategy for Environment 2023-2028.

A LoA signed in July 2024 between CCCA3 and the Provincial Department of Environment of Kampong Speu allowed support planting and forest restoration by the identification of a degraded area in the Cardamom Mountains National Park and by carrying out reforestation activities in an area of about 44 ha. In August 2024, a Tree Planting Day was organized to plant trees in a pilot area of 4 ha and the event reached up to 150 participants (60 women), including rangers, students, communities within the Protected Area, and local authorities. In addition, focal points were identified at the Provincial Department of Environment of Kampong Speu to maintain and care for the seedlings to ensure that the area is protected.

CCCA3 supported another Tree Planting Day at Heng Samrin Chork High School in Chark Commune, Orang Ov District, Tbong Khmum Province. Participants, including 345 students and teachers, were educated on the benefits of tree planting and its potential for carbon offsetting. Together, they planted 4,600 tree seedlings in a 3-hectare open space around the school and distributed additional seedlings to their families for planting over an area of 1,500 hectares.

Additionally, a study was conducted to identify the most suitable types of plants for increasing carbon stock in Cambodia. This research aims to support national planning efforts for establishing tree nurseries that will aid in reforestation activities, with support from the CCCA3 program. Key findings include the identification of tree species recommended for planting in public spaces, urban areas, and degraded forests. These findings have been acknowledged by stakeholders, including the Forestry Administration and the FAO who were involved in supporting the research and conducting peer review.

Enhancement of Green Strategy Through the Establishment of the Regional Tree Nursery Station in Cambodia

An LoA between UNDP and MoE was signed on 17th July 2024 to launch an initiative called “Enhancement of Green Strategy Through the Establishment of the Regional Tree Nursery Station in Cambodia”. This agreement is part of the Nature, Climate and Energy (NCE) portfolio for UNDP Cambodia, and the parties have convened to include the related budget (USD 500,000) and management arrangement in the CCCA3 programme.

The main objective of the project is to support the establishment of tree nurseries and production of tree seedlings, as part of the Circular Strategy on Environment 2023-2028, and the main results achieved are described as follows.

1. Identification of the geographic area and site location

Field missions allowed to explore potential locations in the five target provinces, Tboung Khmum, Mondulkiri, Siem Reap, Koh Kong and Kampong Speu, and to pinpoint suitable sites, with the involvement of MoE officials, including representatives from the Department of Administration, Planning, and Finance from the General Directorate of Policy and Strategy, and the GIS department. Experts from a technical firm, assigned to conduct feasibility studies and technical designs as part of output 2, also participated in the mission. There were regular discussions and technical meetings with the Provincial Department of Environment in all five provinces, ensuring close collaboration and coordination. MoE senior management was involved to validate site selection, location preferences, and operational details for establishing a tree nursery.

2. Technical design

MoE outsourced the technical assistance to conduct the feasibility study and technical design for the five regional tree nursery stations. This work was coordinated by an internal team of MoE officials. The technical assistance provided by the contracted firm helped validate the proposed location according to a number of criteria, such as road access, water availability, and regional coverage. The technical design team completed the work in due time and master plan and technical designs for the five tree nurseries are available.

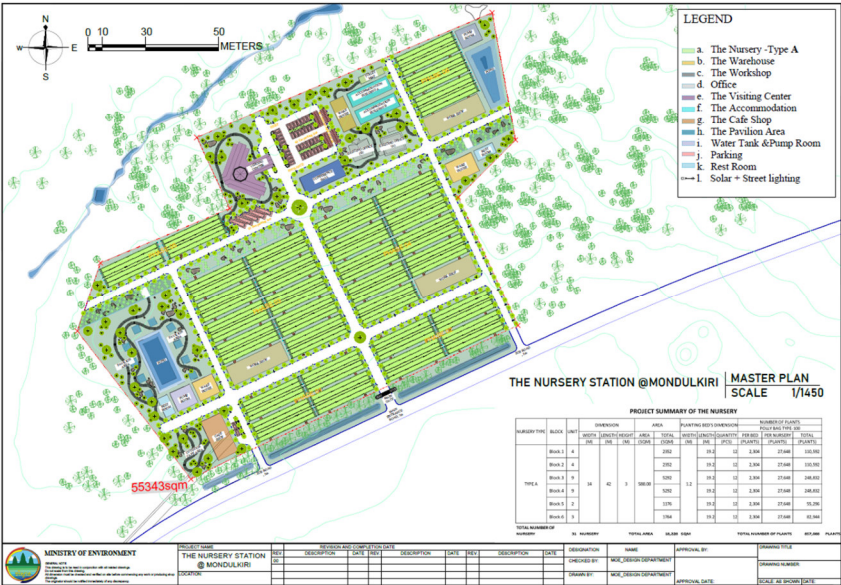


Figure 19: Master plan of the tree nursery station in Mondulkiri

3. Land preparation

Based on outputs 1 and 2, the project aims at supporting on ground and land preparation for one of the five locations, according to the master plan, by building the access road, entry gate and temporary fence to ensure that the land will be protected. Solar lights will be installed.

In the province of Tbong Khmum, an area spanning 6 hectares has been identified as the most suitable location for establishing the first tree nursery station.

The preparation of the land was initiated with a groundbreaking ceremony was held on September 8, 2024, with a considerable turnout of representatives from the Ministry of Environment, UNDP, and various development partners.

Preparatory work on the site has been successfully completed, encompassing activities such as land filling, construction of access roads, installation of gates, and marking out different functional areas. A well has been dug, and thanks to additional funding secured from Coca-Cola, solar lights have been installed on the premises.

4. Support the pilot Regional Tree Nursery Station

The tree nursery in Tbong Khmum was selected as a pilot site to start seedlings production by providing soil preparation tools, seeds, bags, compost and humus for soil mixing.

The Provincial Department of Environment of Tbong Khmum was assigned the responsibility of running the nursery. A specific budget from the Environment and Social Fund was estimated and allocated for the operation of the tree nursery.

Two training sessions were held for 6 Provincial Department of Environment officials and 16 workers responsible for the daily operation of the tree nursery, including seed germination, transplanting and maintenance of the tree seedlings in the nursery. All participants improved their skills, both theoretical and practical, under the guidance of technical experts from the General Directorate of Protected Areas and the CCCA3 Project Manager, with a solid background in forestry science.

By the end of December 2024, the Regional Tree Nursery in Tbong Khmum was successfully established, with 70 tree beds spread over 6 hectares. To date, 450,000 seedlings have been produced, including palm, indigenous and fruit tree species. This facility includes an access road, solar irrigation system, production areas and solar lighting, with a capacity to produce 1 million trees per year.



Figure 20: Tree Nursery in Tbong Khmum

3. Logical Framework Analysis

Overall objective			
Indicators	Baseline	Target	Final status
Number of final beneficiaries of adaptation measures	7, 600 (2017)	15,000	109,327 beneficiaries of adaptation measures (of which, 50,331 female beneficiaries, 46%). Note that 1 project (MoEYS) could not provide disaggregated data by gender, leading to an underestimation of % women beneficiaries.
GHG emission reduced or avoided with support from program [CCCA 3] in kt. Of CO2 eq	0 (2018)	300	167.84 kt of CO ₂ This estimate is derived from the cumulative contributions of all projects with mitigation impacts. Based on calculations performed by each project team, the total GHG emission reductions for the entire duration of the programme, extending until December 2024, has been determined.
Outcome 1: Relevant climate Information is generated in a reliable and timely manner, is suitable to sector and target specific needs			
Indicators	Baseline	Target	Final status
1.0.1 Change in social response to climate risk	4.2 [w 4.6] (2015)	10 [10] MTR target : 7% ⁷ between KAP3 and KAP4	9% (women, 8%)
1.0.2 Level of user satisfaction with data and knowledge products made available with CCCA 3 support	N/A	80%	98 %

⁷ According to the MTR recommendation: Use KAP 3 findings as the baseline (2020 data), and set 7% change between KAP3 and KAP 4

Output 1.1: Climate change data portal enhanced, enabling greater access of stakeholders to key climate data in support of effective climate action

Output Indicators	Baseline	Target	Final status
1.1.1. Number of users of data products available through the data portal [number of women]	0	2,000 [1000]	From January 2020-December 2024, a total of 238,175 users visited the NCSD's website. 34,772 users (7,508 women) downloaded documents and materials from the NCSD's website. ⁸ 3,772 users downloaded climate change data portal from the NCSD's website, of which 1,318 users were women.

Output 1.2: Tailored data, information and knowledge products are available, targeting the needs of public institutions, private sector and CSO in priority sectors

Output Indicators	Baseline	Target (2024)	Final status
1.2.1 Number of tailored data and knowledge products available through the data portal [with data product directly addressing gender/CC data needs], with support by CCCA 3	6[0] (2018)	15 [4]	15 data products ⁹ (of which 4 have gender-disaggregated data) were developed and deployed on the NCSD's Website

⁸ The user tracker of the NCSD's website started in January 2020, and the gender disaggregation tracker of the NCSD's website (called GA4) in June 2023

⁹ 1) Vulnerability to Climate Hazards: <https://ncsd.moe.gov.kh/dcc/data-portal/vulnerability-climate-hazards>, 2) Vulnerability Assessments, <https://ncsd.moe.gov.kh/dcc/data-portal/vulnerability-assessments>, 3) Families Affected by Climate Hazards: <https://ncsd.moe.gov.kh/dcc/data-portal/families-affected-climate-hazards>, 4) Climate Finance: <https://ncsd.moe.gov.kh/dcc/data-portal/climate-finance>, 5) Institutional Readiness: <https://ncsd.moe.gov.kh/dcc/data-portal/institutional-readiness>, 6) Greenhouse Gas Emission <https://ncsd.moe.gov.kh/dcc/data-portal/greenhouse-gas-emission>, 7) Knowledge, Attitude, and Practices on Climate Change (KAP): <https://ncsd.moe.gov.kh/dcc/data-portal/knowledge-attitude-and-practices-climate-change-kap>, 8) Green Climate Fund: <https://ncsd.moe.gov.kh/dcc/green-climate-fund>, 9) NDC/LTS4CN tracking system: <https://ncsd.moe.gov.kh/ndc-tracking/>, 10) CCCA3 project factsheets (Innovation grant round 1&2, line ministries grants, Responding in time of Covid, and research partnership grants): <https://ncsd.moe.gov.kh/dcc/program/cambodia-climate-change-alliance-ccca-phase-iii/innovation-grants-round-1>, 11) Online lexicon: <https://ncsd.moe.gov.kh/lexicon>, 12) Publications on climate change including updated case studies, research and policy documents, videos and CC related resources <https://ncsd.moe.gov.kh/dcc/publication>, 13) Air Quality Monitoring Data Platform: <https://airquality.moe.gov.kh/home>, 14. Gis portal: <https://cemis.arbonaut.com/catalogue/#/>, 15. Women Resilience Index <https://ncsd.moe.gov.kh/dcc/data-portal/womens-resilience-index>

1.2.1.Number of joint climate change research projects established between local universities with other national institutions and with international and regional research centers focusing on CC related research	6 (2018)	12	15 1) Cambodia Resilient Urban Green Infrastructure Economic and Policy Analysis Study (2022) 2) Research on Carbon Finance and Carbon in Rice and Horticulture (2023) 3) Research on potential pathways for Cambodian farmers to be able to access carbon finance opportunities (2023) 4) Case Study on Evaluation of effectiveness of Low Impact Development on Peak Flow of Surface Runoff, in Sihanouk Ville (2023) 5) Case study on Low Impact Development Concept for Urban Flood Management in Kampot, Cambodia (2023) 6) Shoreline Evolution over the past Four Decades in Koh Kong, Cambodia (2023) 7) Case Study: Storm Water Management using Low Impact Development in Khemarak Phumin City, Koh Kong (2023) 8) Research article on Precipitation Projection in Cambodia Using Statistically Downscaled CMIP6 Models (2023) 9) Development of conceptual framework with supporting methods on economic analysis of climate change adaptation of road infrastructure (2023) 10) Four Bachelor theses: The studies on perception of people at the coastal area on low impact development concept and climate change in coastal areas of Cambodia (Koh Kong, Preah Sihanouk, Kep, and Kampot Provinces) (2022) 11) Estimation of Heat Impacts on Labour Productivity in Singapore, Cambodia and Vietnam (2023) 12) Workers' Survey in Cambodia (2023) 13) Descriptive results of the preliminary design approach of the survey on heat
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			stress among primary school students in Cambodia (2023) 14) A multicriteria assessment of early-implemented conservation agriculture cropping systems over farmers plots in northwestern Cambodia (has been published in Farming System 3 (2025) 15) Effect of Land Use/Land Cover and management practices on soil organic carbon in Battambang province, Cambodia (under reviews by journal reviewers)
1.2.2 Number of joint climate change research projects involving line ministries, NCSD and national/international academia established with support by CCCA 3	0(2018)	6	Four research partnerships have been successfully implemented: 1) Impacts of heat on health, productivity, and economy in Cambodia, 2) Investing into Soil Organic Carbon management ISOC for resilient upland farming (ISOC), 3) The cost of adaptation to climate change and for infrastructure, water and agriculture projects 4) Improving capacity on integrated coastal management with low impact development considering environmental sustainability and climate change in the coastal area of Cambodia (CLID)

Output 1.3: Reliable and timely data generated to enable monitoring and evaluating of climate change response			
Output Indicators	Baseline	Target	Final status
1.3.1. Number of M&E/MRV frameworks with indicators timely updated and accessible through the online data portal	1 (2018)	8	9 1) Institutional Readiness Indicator (https://ncsd.moe.gov.kh/dcc/data-portal/institutional-readiness, updated every 2 years), 2) Climate Finance Data Portal (https://ncsd.moe.gov.kh/dcc/data-portal/climate-finance, updated annually),

			3) Vulnerability Index (https://ncsd.moe.gov.kh/dcc/data-portal/vulnerability-climate-hazards, updated annually), 4) Families Affected by climate hazards (https://ncsd.moe.gov.kh/dcc/data-portal/families-affected-climate-hazards, updated annually), 5) GHG Emission Projects Registry and the GHG Inventory Data (https://ncsd.moe.gov.kh/dcc/data-portal/greenhouse-gas-emission, updated in line with BUR report), 6) KAP (https://ncsd.moe.gov.kh/dcc/data-portal/knowledge-attitude-and-practices-climate-change-kap, developed and updated based on KAP3) 7) NDC/LTS4CN tracking system have been developed and updated annually from 2021, 2022, 2023, https://ncsd.moe.gov.kh/ndc-tracking/public/ . 8) Vulnerability assessment (https://ncsd.moe.gov.kh/dcc/data-portal/vulnerability-climate-hazards, updated annually) 9) Women's resilience index (https://ncsd.moe.gov.kh/dcc/data-portal/womens-resilience-index, updated in 2019 and 2022)
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Output 1.4: Strengthened knowledge sharing mechanism in place for researchers, policy-makers and practitioners			
Output Indicators	Baseline	Target	Final status
1.4.1 Number of regular knowledges sharing event and awareness raising campaigns organized per year	4 (2018)	17 (in total)	31 events + 6 Programme Executive Board meetings 1) 4 annual Knowledge sharing events with CCCA3 grantees and climate

			change practitioners, 2020, 2021, 2022, 2023 2) 4 MoE/CCCA3 staff retreat with information sharing and annual planning 3) Launch of the report "Addressing Climate Change Impacts on Economic Growth in Cambodia" and "De-risking Renewable Energy Investment in Cambodia", 2020 4) Training Workshop on Gender and Climate Change, 2020 5) Workshop on "CCAP for the Energy Sector 2020-2023, 2020 6) Launching Workshop on Cambodia's 1st Biennial Update Report (BUR), 2020 7) Workshop on "Engaging the Private Sector for Reaching the Targets of the NDC of Cambodia: NDCs to accelerate private sector investment to tackle climate change", 2020 8) Presentation of the KAP3 report, 2021 9) Presentation of the LTS4CN, 2022 10) Workshop on Protected Areas Management and Climate Change for Members of Parliament, 2022 11) Knowledge sharing event for university partnerships, 2022 12) Training workshop on climate change for the communities of Kampong Thom, Preah Vihear, Odor Meanchey, and Stung Treng, 2022 13) Climate Change Field visit for member of parliaments at Koh Kong and Kep, 2022 14) Workshop on the Roles of the Parliament in the Climate Action, 2022 15) Cambodia Energy Efficiency Competition Closing Ceremony, 2022 16) Awareness Raising Workshop on Religions and Climate Change, 2023 17) Awarding Ceremony Drawing on Climate Change for Kids and Youths, 2023
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			18) Awareness-Raising Workshop on Climate Change for Media Professional in Cambodia, Battambang, 2023 19) Training Workshop on Climate Change and Gender for Youth, 2023 20) Awareness-Raising Workshop on Climate Change for Youths and Media Professionals in Cambodia, 2024 21) CCCA3's booth exhibition at the Green Sprouts Promotion and Seedling Distribution Exhibition and the 4th National Orchid Forum, 2024 22) Groundbreaking ceremony for Establishment of the Regional Tree Nursery Station in Tboung Khmum Province, 2024 23) Tree planting event in Tbong Khmum province, 2024 24) Cambodia Energy Efficiency Competition – 2nd edition – Award and Closing Ceremony, 2024 25) CCCA3 programme Final Event, 2024
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Outcome 2: Tools are developed and implemented for the effective mainstreaming of climate change into policy/regulatory frameworks, programs and budgets of priority sector			
<i>Indicators</i>	<i>Baseline</i>	<i>Target</i>	<i>Final status</i>
2.0.1 Number of ministries/agencies that include climate criteria in planning/screening procedure [with gender aspects explicitly addressed]	3[0] (2017)	6 [2]	6 1) MPWT (CCAP 2020-2023 and climate change screening criteria in CBA for public investments, tested on pilots) 2) MRD (CCAP 2021-2023 and climate change screening criteria in CBA for public investments, tested on pilots) 3) MME (CCAP 2021-2023 and Energy Efficiency Standards and Labeling)

2.0.2 Number of development plans that explicitly integrated climate change in budget and M&E (national, sectoral, sub-national) with support by CCCA 3	3 (2017) NSDP, MRD strategic plan, MPWT Budget Strategic plan	8	8 1) Updated Nationally Determined Contribution (Updated NDC, 2020) 2) Long Term Strategy for Carbon Neutrality (LTS4CN, 2021) 3) Cambodia Climate Change Strategic Plan 2024-2033 (CCCSP 2024-2033) 4) National Energy Efficiency Policy (2023) 5) Strategic Framework and Programs for Economic Recovery in the Context of Living with COVID-19 in a New Normal 2021-2023 (2021)
Output 2.1: Decision-makers, practitioners, private sector actor and communities in priority sectors are sensitized and engaged in climate responses			
<i>Output Indicators</i>	<i>Baseline</i>	<i>Target</i>	<i>Final status</i>
2.1.1. Number of advocacy products, including policy briefs targeting high level decision makers, on climate change produced	0(2018)	10	10 1) Policy brief on “Potential Impacts of Fiscal Measures to Reduce Import Duties/Taxes on Electric Motorbikes” (2022) 2) Policy Brief on “ Analysis of economic and fiscal impacts of banning imports of second-hand vehicles older than 7 or 10 years” (2022). 3) Policy briefs of key KAP3 findings with infographics (2021). 4) Interviews of high level policy makers from MoE on KAP3, link: https://ncsd.moe.gov.kh/resources/video/ep1 5) Policy briefs of key KAP4 findings with infographics (2024). 6) In 2022, technical briefs have been produced to support inter-ministerial discussions on - Methane Pledge, - Glasgow Leader’s Declaration on Forests and Land Use

			- Green Government Initiative - Climate Change Handbook for Members of Parliament (2022) - Policy advocacy report developed at the end of the first edition of the Cambodia Energy Efficiency Competition (CEE Comp), during ITC-Sevea project (2022) - Guideline for Wastewater Treatment in SMEs Sector, developed during MISTI project (2023) - Policy Recommendations on Procurement Options For E-bike Purchasing and Deployment, developed within MPWT project (2022)
Output 2.2: Programming/budgeting procedures are processes in priority sector amended to incorporate climate change			
Output Indicators	Baseline	Target	Final status
2.2.1 Number of sectors having amended procedures and processes to incorporate climate change in programming and/or budgeting	3 (2018)	6	6 Climate Change Action Plans - MPWT 2020-2023: https://ncsd.moe.gov.kh/kh/dcc/resource/document/CCAP/MPWT/2020-2023 - MME 2021-2023: https://ncsd.moe.gov.kh/dcc/resource/document/CCAP/MME/2021-2023 - MRD 2021-2023: https://ncsd.moe.gov.kh/dcc/resource/document/CCAP/MRD/2021-2023
Output 2.3: New or updated policies/standards in priority sectors incentivizing climate- smart investments (public or private)			
Output Indicators	Baseline	Target	Final status

2.3.1 Number of policy documents, standards or regulations incentivizing climate –smart investment developed	0 (2017)	5	14 1) Sub-decree on the Management of GHG Emissions Reduction Mechanisms 2) Sub-decree on Air Quality, Noise and Vibration Management 3) Research paper “Cambodia: Potential Fiscal and Economic Impacts Of Measures and Regulations on Second-hand Vehicle Imports (Of more than 10 years of age)” (2022) 4) Study “Assessing the potential impacts of fiscal measures to reduce import duties/taxes on electric motorbikes” (2022). 5) Building Energy Management Guideline (2023) 6) Public Energy Efficiency Procurement Guideline (2023) 7) National Energy Efficiency Policy (2023) 8) Guidelines on Operational model for off-grid solar mini-grids (2022) 9) Technical review of the MPWT's "National Strategic Plan for Climate Change Adaptation and Greenhouse Gas Mitigation in Transport Sector" (2021). 10) Guideline on Water Scarcity Mitigation Plan for Rural Drinking Water Facilities (2023) 11) Regulatory guidance and options to improve electric motorcycles battery waste management in Cambodia (2022) 12) Regulatory guidance and options to improve electric motorcycles (EMs) registration in Cambodia (2022) 13) Policy guidance on electric motorcycles (EMs) battery charging and swapping space at public buildings (2022)
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			14) Roadmap of Prek Kampong Smach Marine Fisheries Management Area (2022)
Output 2.4: Top-up financing provided for selected public investments which have gone through a climate screening process			
Output Indicators	Baseline	Target	Final status
2.4.1 Amount, USD value and type of climate-smart public investment in priority sector topped up with CCCA 3 financing	0 (2018)	4/ USD 2M	6/1,279,000 USD. 1) Promotion of Electric Motorbike Adoption for a Sustainable transport sector (MPWT) 2) Building climate resilience for rural water supply infrastructures in Cambodia (BCR-WS) (MRD) 3) Strengthening Air and Climate Pollution Management in Cambodia (MoE) 4) Mainstreaming Climate Change and Increasing Resilience in the Education Sector (MoEYS) 5) Piloting Energy Efficiency and Solar Micro Grids for Cambodia's Clean Energy Future (MME) 6) Upgrading the climate investment information database of sub-national government of Cambodia (NCDD-S)
2.4.2 Number of beneficiary households of adaptation and mitigation activities supported by target ministries	0 (2018)	1000 HH (4,000 people, 60% female)	1382 HHs 7174 people, of which 48% women 9188 students The number of households is calculated based on MRD and MME projects. The number of people is calculated based on all projects (note that MPWT, MoE, and NCDDs projects benefited e-motorbike users, and ministries officials rather than individual households). The number of students is calculated based on MoEYS project.

			● MRD: 1212 households, which 171 female-headed households. Total beneficiaries are 6268, of which 3074 women. ● MME: 170 households and 537 people, of which 281 women ● MPWT: 167 E-motorbike users (48 women). ● MoEYS: 9188 students (no gender disaggregation) ● MoE: 202 officials (38 women) ● NCDD: n/a
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Output 2.5: The climate response is coordinated across sector and actors under NCSD leadership			
Output Indicators	Baseline	Target	Final status
2.5.1 Number of meetings of the climate change technical working group per year including number of meetings with DPs	4 including 2 with DPs (2018)	22 including (11 with DPs) For the 5 years	24 CCTWG meeting 1) 4 th CCTWG meeting, with DPs, 2019 2) 5 th CCTWG Meeting, with DPs, 2019 3) Pre COP25 (National Workshop on Cambodia's Position Development for CoP25, UNFCCC), 2019 4) Meeting on the NDC update process, with DPs, 2020 5) Meeting with the Development Partners on "Validation of Updated NDC", 2020 6) Launching of the Updated NDC, with DPs, 2021 7) Inception workshop on LTS4CN, with DPs, 2021 8) LTS4CN consultation workshop, with DPs, 2021 9) Meeting on the Implementation Plan for LTS4CN, 2022 10) Consultative Meeting on the Implementation of Cambodia's Updated NDC, with DPs , 2022 11) Post CoP26 meeting, 2022 12) Meeting on Cambodia's Position Development for COP27, 2022 13) Training Workshop on Implementation Plan of the LTS4CN

			and NDC / LTS4CN tracking system, 2022 14) Consultation Workshop on the assessment of the implementation of CCCSP 2014-2023, with DPs, 2023 15) Consultative Meeting on the progress of Climate Change Policy implementation, with DPs, 2023 16) Meeting on Cambodia's Position Development for COP28, 2023 17) Consultative Meeting on the Implementation of Climate Change Related Policies and Loss&Damage, with DPs, 2023 18) Consultation meeting on the CCCSP 2024-2033, with DPs, 2024 19) Consultation workshop on KAP4 findings, with DPs, 2024 20) Meeting on the decision on newly appointed CCTWG and outcomes of COP28, 204 21) Validation workshop on the CCCSP 2024-2033 and consultation meeting on the implementation of the updated NDC, with DPs, 2024 22) Pre-COP29 meeting: discussion on Cambodia position, 2024 23) Pre-COP29 meeting: online training on negotiations at CoPs, 2024 24) Consultation meeting on NDC Stocktake, 2024
2.5.2. Level of engagement of targeted sectors in CCTWG meeting, including meeting for updating national M&E indicators	83% (2018)	90%	90%
Output 2.6: An NDC implementation plan is developed including required sectoral actions and governance arrangement leadership			
<i>Output Indicators</i>	<i>Baseline</i>	<i>Target</i>	<i>Final status</i>
2.6.1 NDC implementation plan developed with required sectoral actions and governance arrangement and with private sector	No	Yes	Yes The NDC Roadmap and stakeholder engagement plan 2019 – 2030 was developed in 2019 (https://ncsd.moe.gov.kh/sites/default

participation and engagement			/files/2019-08/Cambodia%20NDC%20Roadmap%20and%20Stakeholder%20Engagement%20Plan_awaiting%20signature_2019_en.pdf), the Private Sector Engagement Plan 2021-2025 for the NDC implementation in 2021, and the LTS4CN Implementation Plan in 2022 (https://ncsd.moe.gov.kh/resources/document/implementation-plan-long-term-strategy-carbon).
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Output 2.7: Model for delivery of climate change responses at district and provincial level is developed and tested, in line with decentralization reform

<i>Output Indicators</i>	<i>Baseline</i>	<i>Target</i>	<i>Final status</i>
2.7.1 Status of procedures developed and tested in at least one province and one district for climate change mainstreaming in line with their functioning responsibilities.	No (2018)	Yes (Tested)	Completed - Information on the existing, proposed and ongoing climate change projects and available climate investment data have been integrated into sub-national system (the pID - Project Implementation Database, https://demo.ncdd.gov.kh/pid/home/index.castle, and the sPD - Subnational Project Database, https://demo.ncdd.gov.kh/spd1/) in 3 pilot provinces (Kampot, Prey Veng and Svay Rieng), contributing to MRV/ Enhanced Transparency Framework in Cambodia - data verification from CDB (Commune Data Base) used to inform the Vulnerability Index (VI) has been deployed annually.

Outcome 3: National Capacity for mobilization, coordination and tracking of public and private climate change resource are strengthened

<i>Outcome Indicators</i>	<i>Baseline</i>	<i>Target</i>	<i>Final status</i>
3.0.1 Amount of climate change public expenditure at national, sectoral and sub-	71M USD (2016)	99.4M USD (2022 Data)	CPER 2023 shows that climate change expenditure is at 2.1% of GDP or KHR 2,769 billion (about USD 692 million)

national levels (<i>domestic funds only</i>)			Domestic funds in CPER 2023 amounts for KHR 1,341 billion
Output 3.1: Climate related expenditure are regularly tracked and their efficiency and effectiveness are analysis			
Output Indicators	Baseline	Target	Final status
3.1.1 Annual Climate Public expenditure report is available, including analysis of effectiveness and gender analysis	No (CPER does not include effectiveness or gender (2017))	N/A	CPER has been developed annually 2018 CPER: https://ncsd.moe.gov.kh/resources/document/2018_CPER 2019 CPER: https://ncsd.moe.gov.kh/resources/document/2019_CPER 2020 CPER: https://ncsd.moe.gov.kh/resources/document/cambodia-climate-public-expenditure-review-2020-cper 2021 CPER: https://ncsd.moe.gov.kh/dcc/resource/document/CPER/2021 2022 CPER: https://ncsd.moe.gov.kh/dcc/resource/CPER_2022/MEF/MOE 2023 CPER: https://ncsd.moe.gov.kh/resources/document/cambodia-climate-expenditure-review-2023

Output 3.2: MEF receives technical support to increase its capacities to conduct policy research on fiscal and economic policy issue related to climate change and develop the corresponding policy instrument			
Output Indicators	Baseline	Target	Final status
3.2.1 Number of policy studies (support by CCCA 3) with MEF staff involvement economic and fiscal policy issue related to climate change	1 (2018) (Report "Addressing Climate Change Impacts on Economic	6	6 1) Vulnerability Assessment and Adaptation Planning for the Road Transport Master Plan, 2020 2) Carbon Pricing Instrument - options in Cambodia, 2021

	Growth in Cambodia")		3) Cambodia Resilient Urban Green Infrastructure Economic and Policy Analysis Study (https://ncsd.moe.gov.kh/dcc/resources/document/MEF/Final/Report/Cambodia/Resilient/Urban-Green-Infrastructure-Economic-and-Policy-Analysis-Study), 2022 4) Potential Impacts of Fiscal Measures to Reduce Import Duties and Taxes on Electric Motorbikes, 2022 5) Potential Fiscal and Economic Impacts Of Measures and Regulations on Second-hand Vehicle Imports (Of more than 10 years of age), 2022
3.2.2 Number of legal and policy instruments introduced with CCCA 3 support to promote climate-smart investment and practice	1 Budget circular (2018)	6	6 1) Updated NDC, 2020 2) LTS4CN, 2021 3) CCCSP 2024-2033, 2004 4) NEEP, 2023 5) Sub-decree on the Management of GHG Emissions Reduction Mechanisms (pending approval)
Output 3.3: Innovative adaptation and mitigation approaches from public and private sector receive seed funding and have access to scaling up opportunities			
<i>Output Indicators</i>	<i>Baseline</i>	<i>Target</i>	<i>Final status</i>
3.2.1 Number and type of adaptation and mitigation activities supported by CCCA 3 innovation grant facility	(2018)	10	12 adaptation and mitigation projects, supported by the CCCA 3 innovation grants (Round1 &2) facility. <u>Innovation Round 1:</u> 1) Building the Electric Mobility Ecosystem in Cambodia 2) Climate Smart Farming Project 3) Pushing Energy Efficiency in Cambodia

			4) Strengthening Climate Information and Early Warning System in Cambodia to Support Climate Resilient Development and Adaptation to Climate Change. 5) Innovation Facility Installation of Demonstration Ram Pump 6) Sustainable financing for climate action through community forestry in the Prey Land landscape 7) Ensuring safe and resilient drinking water supply services for 3 communes in times of Covid-19 <u>Innovation Round 2:</u> 1) Resilience and Adaptation Planning for Ecosystem and Sustainable Development 2) Waste Water Treatment Waste Management in Industry and SMEs Sector 3) Scale pilots to accelerate the uptake of efficient electric cooking appliances to mitigate climate impacts through avoided deforestation and reduced emissions 4) Enhancing Climate Resiliency through Strengthening MFMA Management Effectiveness in Kampong Smach, Prey Nob District 5) CSO-Public partnership to favor safe water access in rural areas
3.3.2 Number and type of beneficiaries' households of adaptation and mitigation activities supported by CCCA 3 innovation grant facility (disaggregated by sex)	0 (2018)	1000 HH (4,000 people, 60% Female)	11,034 HHs (2817 Females-head HHs; and 1850 HHs of beneficiaries with ID Poor I & II) 39,397 people (19,363 - 49% women) No individual households targeted by EnergyLab and ITC projects

			1) HEKS: 212 HHs (86 ID Poor I and, 91 female-headed, and 53 from ethnic minorities) and 810 people 2) PIN: 1501 HHs (498 HHs ID Poor, 241 female-headed) and 6454 people 3) NIA: 20 HHs and 490 people 4) RECOFTC: 745 HHs (174 ID Poor) and 3796 people 5) TS1001: 3879 HH beneficiaries (582 ID Poor) and 16,641 people 6) FAEC: 2786 HHs (696 female-headed HH, 417 ID Poor) 7) MISTI: 8 SMEs= HH beneficiaries and 76 individuals (45 women) 8) IDE: 268 HHs (187 female-headed) and 1,286 individuals 9) CDMC: 465 households and 2111 people 10) MRD/TS1001: 1150 HHs (81 ID Poor) and 4947 people
3.3.3 Volume of funds (by type public/private) leveraged through the financing facility	0 (2018)	2M USD	813,857 USD: ▪ USD 400,590 (public) ▪ USD 413,267 (private) Co-financing for the 12 approved projects.

4. Lessons learned

The main lessons learnt have been categorized into the following areas, as recommended by the Terminal Evaluation (TE):

- Transparency, Awareness Raising, and Advocacy
- Development of Sectoral Strategic Plans and Integration of Climate Change Considerations
- Capacity Building

Transparency, Awareness Raising, and Advocacy

The CCCA3 programme has made significant strides in generating reliable climate information. A dedicated page in the NCSD website has been established and regularly updated with climate-related news, report, case studies and other resources. The data portal and the climate change lexicon have been instrumental to increase knowledge and awareness on climate change topics. Various educational initiatives, including video lessons and competitions, have been organized to raise awareness among children and youth. Despite these efforts, user engagement with the website and data portal could be enhanced, prompting the need for strategic initiatives to enhance visibility and accessibility.

While the NDC/TLS4CN Tracking System is operational, it faces other challenges that hinder its smooth functioning. First, technical issues in IT platform persist. Second, there is a need for further refinement of indicators to accurately reflect the current status of specific sectors. Some ministries have identified indicators that are no longer relevant to their operations. Improvements are essential not only for the system itself but also for enhancing the capacity of line ministries to contribute effectively to the NDC/TLS4CN online tracking system.

It is recommended to engage in consultations with line ministries to review and update the indicators used in the system and it is advised to develop new tracking initiatives align with the submission of the Cambodia's NDC 3.0, due in 2025.

Other lessons learned emphasize the importance of sustainability in awareness-raising initiatives and the need for continuous engagement with stakeholders. Future efforts must focus on refining communication strategies by ensuring that content reaches the target audience through appropriate channels and platforms is crucial for maximizing impact.

In terms of capacity building and sustainability, it is noted that the sustainability of initiatives such as the NCSD data portal requires ongoing technical expertise and financial resources. Transitioning the management of platforms to relevant government agencies necessitates capacity-building efforts to empower personnel for continued operation and maintenance.

Last but not least, collaborating with various government agencies for data updates and sharing is essential for maintaining the functionality and regular update of platforms like the NCSD data portal. Strengthening partnerships, securing resources, and streamlining processes among agencies can ensure the sustainability and effectiveness of these initiatives.

Development of Sectoral Strategic Plans and Integration of Climate Change Considerations

The CCCA3 programme has been instrumental in integrating climate change into national policies and sectoral planning.

Several key lessons have emerged from this experience. First, it is vital to mainstream climate change knowledge into national and sub-national policies, requiring ongoing technical support for Line Ministries. This integration enhances understanding and tracking of climate initiatives, ultimately mobilizing resources more effectively.

Despite advances in policy development, challenges remain in translating these policies into actionable measures. Without strong commitment and clear action plans, policies risk becoming ineffective. Financial constraints pose significant hurdles to implementing Ministerial Climate Change Action Plans (CCAPs) and Nationally Determined Contributions, highlighting the need for diverse funding mechanisms to ensure sustainability.

Institutional arrangements also present challenges, such as uneven participation among Line Ministries and limited engagement with technical officers. Strengthening coordination and promoting inclusivity are essential for effective collaboration. While external support has been crucial for developing climate planning tools, its sustainability remains a concern, necessitating investment in internal capacities.

Finally, focusing on evidence-based decision-making is critical. Technical analyses and targeted training significantly influence ministry activities, underscoring the importance of internal research capabilities to drive informed climate action. Overall, these lessons highlight the need for collaboration, sustained support, and strategic funding in effectively addressing climate change.

The continued collaboration with the Ministry of Economy and Finance (MEF) has revealed critical insights and lessons that underscore the importance of continued engagement and strategic alignment. The integration of climate considerations into fiscal management remains a challenge, highlighting the need for ongoing technical assistance to develop climate-informed investments. The completion of various policy studies has shown the potential for fiscal policy to support climate actions, emphasizing the need for sustained dialogue between the MEF and stakeholders.

Throughout the CCCA3 programme, collaboration with academia and the education sector has proven to be essential, yielding several important lessons. One key takeaway is the need for the development of climate change educational materials for all levels of education. While creating these resources is a priority for the Ministries of Education, Youth and Sports and Environment, integrating this knowledge into the national curriculum poses challenges. Effective incorporation requires a stronger commitment and necessary adjustments from the relevant ministries.

The programme has also highlighted the importance of fostering long-term partnerships with research institutions and academia, which enhances knowledge on climate change topics. Continued donor support is vital for sustaining research activities and empowering the younger generation to actively engage in addressing climate challenges.

The impact of the Facility Grant is noteworthy, having supported 22 initiatives, including 12 innovative pilot projects focused on both mitigation and adaptation, thereby assisting NGOs and Line Ministries. Efforts to engage the private sector and establish research partnerships with local universities have strengthened connections with international institutions and improved research capabilities. Grants allocated to Line Ministries have facilitated the implementation of the Updated NDC in daily operations, demonstrating a multifaceted approach to advancing climate resilience.

Recognition of the effectiveness of small-scale grants, ranging from USD 100,000 to USD 250,000, underscores the high impact achievable through targeted funding. Despite positive initial outcomes, scaling up these initiatives has proven challenging, necessitating a strategic focus on extending their reach and impact.

To overcome limitations, the CCCA3 team has invested significant effort in grant management and project performance enhancement, emphasizing the need for targeted assistance to grantees.

Successful projects, such as eco-schools and energy efficiency programs, illustrate the potential for positive change through collaboration across various stakeholders. Sustained engagement from political and community spheres, alongside continuous governmental and civil society support, is crucial for the longevity of these initiatives aimed at building resilience.

However, challenges remain, such as slow progress and limited capacity among project implementers, compounded by staff turnover issues. Deficiencies in project management skills, particularly in indicator tracking and gender considerations, highlight the need for enhanced capabilities and robust monitoring systems. By addressing these gaps through targeted capacity-building interventions, stakeholders can improve their effectiveness and drive substantial progress in climate change implementation efforts.

Finally, the presence of limited ownership and turnover within certain grants poses significant obstacles to project continuity. Fostering enduring commitment and ensuring smooth transitions within project teams are vital for maintaining impact and sustainability. Establishing mechanisms that promote sustained engagement and accountability beyond project completion will enhance the effectiveness and longevity of climate change initiatives.

Capacity Building

A capacity assessment conducted in 2024 revealed key gaps in the operational capabilities of ministries involved in climate change activities. Recommendations include enhancing technical training on climate science and project formulation to address these gaps. Therefore, recognising that capacity building is an ongoing process, regular support and training is required to keep pace with the evolving climate change landscape. Targeted training on climate change concepts, NDC tracking, vulnerability assessments, GHG emissions, UNFCCC requirements, climate finance and project design can address critical knowledge gaps and build essential skills within line ministries.

Sustaining the Climate Change Technical Working Group (CCTWG) and formalizing roles within ministries can empower personnel and improve coordination.

Employee motivation, resource allocation, and ongoing capacity building are critical for the success of climate initiatives. Effective collaboration with academic institutions can enhance project outcomes and foster long-term institutional partnerships.

Finally, the CCCA3 programme demonstrated resilience and adaptability in response to the COVID-19 pandemic, successfully shifting to virtual communication and maintaining project continuity. The ability to pivot strategies in response to emerging priorities reinforced the importance of flexibility in managing climate initiatives.

Another key lesson learnt revolved around the need for robust policy development and capacity building efforts. Data gaps in Cambodia posed challenges in formulating evidence-based policies, while the complexities of tracking policy processes underscored the importance of comprehensive monitoring tools and related capacity building and continues technical support to the bodies in charge of the tracking (mainly Line Ministries officials).

Climate change is a fast-moving issue, and the programme has been able to adapt quickly to emerging priorities and requests from ministries, such as the emerging need for capacity building on carbon pricing mechanisms to prepare Cambodia for future negotiations and strengthen its reporting obligations under the UNFCCC.

The following table summarizes the efforts and actions taken to **mainstream gender** throughout the implementation of the programme.

Table 5: Tracking status of gender mainstreaming

No	Key activities	Indicator and baseline	Final Status
1	KAP 4 Study	Use KAP 3 findings as the baseline (2020 data), and set 7% change between KAP3 and KAP 4	The study has been finalized. The indicator has been achieved, with a 8% increase between KAP 3 and KAP considering the female responses.
2	Sectoral gender/climate change assessments	Number of sectoral assessments conducted (Target= 5, Baseline=0) Number of CCTWG, Gender Mainstreaming Action Group and non-governmental stakeholders who have participated in the assessments (Target = 3; Baseline = 0)	The sectoral gender aspects analyzed as part of the NDC update process including all (16) of the CCTWG representatives/or substitute representatives/ministries. An International Consultant was recruited to conduct a study to assess the main barriers and opportunities in the climate action in Cambodia and the study has been finalized.
3	Tailored data products* exploring different dimensions of gender and climate change issues in Cambodia (relevant to the 5 priority sectors) *These should be selected based on the results of sectoral G/CC assessment and discussions	Number of data products directly addressing gender/CC data needs (target=1 product per year; baseline=0)	- The KAP4 study results are aggregated by gender and the indicators developed are added to the data portal. - NDC/LTS4CN tracking system has gender mainstreamed and a tool that shows gender engagement through the implementation of the commitments. -The LTS4CN includes some initial analysis of socioeconomic gender impacts of the proposed mitigation measures. - The Women Resilience Index was added in the NCSD portal. - 2022 and 2023 CPER includes gender analysis
4	Gender/CC data being tracked by M&E national or sectoral frameworks	Number of gender/CC indicators being produced (target= 12 G/CC indicators, baseline=0)	All main NDC actions (138) and LTS4CN (47) actions have integrated gender in the tracking system, providing information on gender related actions taken and, number of actions where gender related progress made/reported and the % of women engagement. In addition, the Ministry for Women Affairs has 5 gender-related enabling actions covering all ministries (included in the tracking system).

5	Gender analysis incorporated in Cost-Benefit Analysis of relevant public climate investments	Gender analysis (qualitative or quantitative) is presented in the CBA document for the proposed investment (0)	Gender aspects incorporated into the cost-benefit analysis conducted with MRD and MPWT. Analysis of net socioeconomic benefits from the LTS4CN actions for gender were added to the LTS4CN document submitted.
6	Gender analysis incorporated in the design and result frameworks of the investments funded by CCCA in target sectors	Project document and results frameworks include gender analysis (0)	- All result frameworks of the investments funded (22) by CCCA3 in the target sectors have gender-disaggregated data requirements and the projects include gender analysis.
7	Gender analysis integrated in Cambodia's updated NDC, including evidence from the CCCA programme	NDC documents includes up-to-date analysis and targets on gender (no specific gender analysis in the NDC)	- The NDC incorporates a gender lens. This was recognized by a UNESCAP assessment, where Cambodia is highlighted for progress in mainstreaming gender into climate change action. Most actions have specific gender targets. - Progress made on gender targets is also tracked in the NDC tracking system and in the annual reports (2021, 2022, 2023)
8	Gender analysis incorporated in the annual climate public expenditure review exercise	CPER report includes analysis of gender mainstreaming in climate change projects (initial analysis included in CPER on 2017 fiscal year)	The assessment of gender integration in climate change programmes has been conducted in the CPERs for fiscal years 2018 and onwards, including a quantitative assessment and case studies of specific programmes.
9	Gender analysis incorporated in the design of CCCA-funded grant projects	Grant project documents include gender analysis in their situation analysis, and work plans / budgets strategies (0)	The gender tracking has been integrated into the M&E framework and the tracking sheet of the grants.
10	Monitoring and evaluation frameworks for CCCA-funded grant projects are gender-sensitive	Grant project results framework include gender data and evaluation ToRs include gender analysis (0)	The gender analysis has been included in the grants documents as well as the result frameworks and a rapid gender assessment conducted in December 2022.

5. Financial status and utilization

5.1. Contribution Overview

	Donors	Committed		Received		Remark
		Original Currency	USD (1)	Original Currency	USD (2)	
1	UNDP	USD 500,000.00	500,000.00	1,000,000.00	1,000,000.00	BRV-G08 (signed on 27th Aug & 02 Sept 2024) to top up TRAC1 in the amount of US\$500,000.00 BRV-G09(signed on 19th & 23rd Dec 2024)
2	EU	EUR 6,000,000.00	6,715,200.00	EUR 5,438,203.69	6,626,328.45	1. The final-prefinancing is US\$ 696,061 (Based on agreement sign) 2. Actual fund receive for the final-prefinancing is US\$ 607,189.45 (10 June 2024) 3. Exchange lost = US\$ 88,871.55 (the lost amount will not be received)
3	SIDA	SEK 34,000,000.00	3,730,740.16	SEK 34,000,000.00	3,386,681.48	
4	UK	£ 50,000.00	67,006.18	£ 70,000.00	67,006.18	
5	Funding Gaps	USD 922,955.17	855,948.99	-	-	Based on BRV-G08 & BRV-G09 budget revised to 11,080,016.11 (no funding gaps at these revisions)
TOTAL			11,868,895.33		11,080,016.11	

Note:

(1): Based on the exchange USD1=EUR0.8935 (info EURO in June 2019)

(2): subjected to change based on the date of the actual fund receive from EU and SIDA donor

5.2. Expenditure by activity [1 Jan – 31 Dec 2024]

RESULT	in USD			
	BRV-G09 at the 6th (final) Project Board on 12 Dec 2024	2024 Expenditure (01 Jan-31 Dec)	Balance	Delivery (%)
RESULT 1: Relevant climate information is generated in a reliable and timely manner, is suitable to sectors and targets specific needs	560,642.01	521,332.88	39,309.13	93%
RESULT 2: Tools are developed and implemented for the effective mainstreaming of CC into policy/regulatory frameworks, programmes and budgets of priority sectors	398,189.38	416,454.04	(18,264.66)	105%
RESULT 3: National capacities for the mobilization, coordination and tracking of public and private climate change resources are strengthened	848,034.31	852,256.90	(4,222.59)	100%
Evaluation (mid-term, final and contribution to CPD evaluation)	32,650.00	32,650.00	-	100%
Indirect Eligible Cost (GMS)	88,095.37	88,115.35	(19.98)	100%
Total	1,927,611.07	1,910,809.17	16,801.90	99%

5.3. Cumulative Expenditure by Results as of 31 December 2024

	in USD										
RESULT	Budget (Prodoc)	Budget Revision BRV-G09 Approved at the 6th (final) Project Board on 12 Dec 2024	Cumulative Expenditure							Budget Balance (BRV-G09)	Delivery rate (%)
			2019 01 Jul-31 Dec	2020 01 Jan-31 Dec	2021 01 Jan- 31 Dec	2022 01Jan-31 Dec	2023 01Jan-31 Dec	2024 01Jan-31 Dec 2024	Total 01 Jul 2019- 31 Dec 2024	01 Jul 2019- 31 Dec 2024	
RESULT 1: Relevant climate information is generated in a reliable and timely manner, is suitable to sectors and targets specific needs	3,894,500.00	3,391,347.85	254,011.06	666,583.60	515,940.23	669,239.04	724,931.90	521,332.88	3,352,038.71	39,309.14	99%
RESULT 2: Tools are developed and implemented for the effective mainstreaming of CC into policy/regulatory frameworks, programmes and budgets of priority sectors	3,871,000.00	3,449,733.70	159,887.11	517,018.96	791,377.09	915,629.75	667,631.41	416,454.04	3,467,998.36	(18,264.66)	101%
RESULT 3: National capacities for the mobilization, coordination and tracking of public and private climate change resources are strengthened	3,209,500.00	3,489,368.82	186,999.71	630,187.55	859,763.94	590,971.40	373,411.91	852,256.90	3,493,591.41	(4,222.59)	100%
Evaluation (mid-term, final and contribution to CPD evaluation)	110,000.00	59,954.27	-			27,304.27	-	32,650.00	59,954.27	-	100%
Indirect Eligible Cost (GMS)	783,895.33	689,611.47	36,684.31	144,640.00	159,802.05	140,174.03	119,911.09	88,115.35	689,326.82	284.65	100%
Total	11,868,895.33	11,080,016.11	637,582.19	1,958,430.11	2,326,883.31	2,343,318.50	1,885,886.31	1,910,809.17	11,062,909.58	17,106.53	100%

Annexes

Annex 1: Summary of grants: key outputs

No	Grantee's Name	Project name	Key achievements, project partners and location
Innovation grant – Round 1			
01	Energy Lab	Building the Electric Mobility Ecosystem in Cambodia	Deployment of the first electric motorbike sharing service in Cambodia, Business-to-business (B2B) sales to delivery businesses to increase electric motorbike fleet, organization of two electric mobility showcases, successful handover to MPWT, and of an inter-ministerial meeting on the policies and responsibilities for Electric Vehicles (EVs) moving forward; development of educational materials, including video. Project partners: Oyika CO., LTD. Target province: Phnom Penh
Duration: 01-09-2020 – 30-04-2022 Total Approved Budget: US\$ 100,000 <u>Objective</u> Mitigate the effects of climate change by reducing GHG emissions from fuel-powered motorbikes. <u>Key achievements:</u> Increased use of electric motorbikes • Deployment of first electric motorbike sharing service in Cambodia with 70 e-bikes and over 1400 users • Success of B2B with delivery businesses, which have increased their electric motorbike fleet totaling 1M Kms Increased public awareness and engagement with electric vehicles • A successful inter-ministry workshop (MPWT, MEF, EDC, MOE and MISTI) on electric mobility opportunities, policies and ways forward • Organization of two e-mobility showcases in 2021 and 2022, gathering 110 and 182 participants respectively, and handover to MPWT that is now running its own annual event • Development of education material on EVs published on social media and at public events • Development of baseline and endline surveys to assess the general public's understanding and use of EVs • Increased visibility of careers in electric vehicle industry: 1 intern and 3 employed with EVs companies (until Covid). This is initiative marked the beginning of a partnership with EnergyLab and EV companies for the Clean Energy Internship – a program that has run for around 7 years and employs 15-20 students per year.			

Main lessons learned:

- To reach the target groups youth and low-income groups, key aspects to considered are: i. Leveraging partnerships, ii. Engage with media partners, iii. Involve key people to advocate at the community level.
- Cambodians are open to accepting the electric motorbikes and most people already have a basic understanding and exposure to the technology.

Recommendations and ways forward:

- To scale up EV economy, strategies should include the increase of charging infrastructures, improvement of regulatory environment to incentivize market scaling, organization of regular dialogues with key people from ministries such as MPWT, MEF, EDC, MoE and key stakeholders, focus on B2B sales for quicker mass adoption, target young professionals as potential buyers

Beneficiaries

292 participants to the two mobility showcases

bike sharing users: >1400

GHG ER = 0.181 ktCO₂

GHG ER during project implementation (20 months): from bike share = 22.7 t CO₂, from B2B sales: 63.5 t CO₂ (=38.1 t/y).

To estimate GHG ER until the end of CCCA3 programme (additional 2.5 years) only B2B sales are considered (GHG ER= 38.1tCO₂*2.5y=95.25tCO₂) as a conservative assumption because the bike sharing pilot was not working as expected

Total GHG ER=22.7+63.5+95.25=181 t CO₂

Communication products (case studies, video, etc)

Project case study: <https://ncsd.moe.gov.kh/resources/document/building-electric-mobility-ecosystem-cambodia>

Go smooth, Go cool, #GoElectric!

https://www.youtube.com/watch?v=5yjAdhSF56I&list=PLGWgG7EYwQe3zAS_pWfeZA5q2Ya8Limun

What is an electric vehicle?

https://www.youtube.com/watch?v=9u_tmOAP_yk&list=PLGWgG7EYwQe3zAS_pWfeZA5q2Ya8Limun&index=10

How does the Government Support E-mobility in Cambodia?

https://www.youtube.com/watch?v=iZ7EFFAHYuk&list=PLGWgG7EYwQe3zAS_pWfeZA5q2Ya8Limun&index=7

3 Reasons Why You Should Switch to Electric Vehicles: <https://www.youtube.com/watch?v=v9sj-JUo59A>

EV in Cambodia – 3 episodes

<https://www.facebook.com/watch/?v=372053151323637>

<https://www.facebook.com/watch/?v=424265992469616>

<https://www.facebook.com/watch/?v=247194260722044>

Event 2021

<https://www.facebook.com/watch/?v=1049809612268965>

02	HEKS	Climate-smart farming	The pilot cover crop techniques involving 212 small-scale farmers have shown promising improvement in soil quality and improved performance in pepper and cashew farming, resulting in a yield increase of 15%-18%, a reduction in labor costs by 41%-70%, and a decrease in production expenses by 16%-70%. Approximately 70%-80% of early adopters have expressed satisfaction with the desirability, applicability, and affordability of cover crops. The dissemination of video documentation showcasing farmer testimonials and lessons learned regarding the testing of cover-crop techniques has reached nearly 60,000 views through digital platforms. Project partners: SmartAgro Target provinces: Tbong Khmum, Kratie, MondulKiri
Duration: 01-10-2020 – 31-06-2023 Total Approved Budget: US\$ 100,000 <u>Objective:</u> Improve farm performance while enhancing the climate change resilience of the farmers and impact mitigating the GHG emission and soil organic carbon sequestration. <u>Key achievements:</u> • The cover-crop techniques were tested providing technical assistance on-field demonstration, farmer field school program, and support to business model on cover crops seed of SmartAgro company. The trial plots demonstrated a promising improvement in soil quality, e.g. increasing of NPK even if at the time of end-line soil assessment haven't yet met the target indicator of 250 kg of C/ha/year. • Improved farm performance through climate-smart crop production (pepper and cashew farm): a) increased yield from 15%-18%, b) decreased cost of labor inputs: from 41%-70%, c) decreased prod. cost: 16%-70%, lastly d) increased net income: from 10% - 92% of pepper and cashew farms respectively due to particularly the significant decrease of production cost (from using herbicide) of cashew production. • 70%-80% of early adopters are satisfied with cover crop desirability, applicability, and affordability. Farmers participants realized that it was worth testing and investing in cover			

crops, both for soil health and wealth and economic returns, savings on watering, weeding, and labor costs.

- 80%-90% of 212 household farmers who attended farmer field school understood about the uses of cover crops
- Dissemination through digital platforms of video documentation of farmer testimony and lesson learnt, reaching up to 60K views over the past years with Smart Agro, and Tonle Sap Facebook channels seen as the biggest viewers.

Main lessons learned:

- Farming technique: cover crop techniques are proving to have multiple benefits for farms, but require proper management. Lack of equipment and failure to follow management guidelines could lead to unsatisfactory results and farmers opting to return to conventional practices. Adoption requires motivation, interest and understanding of agro-ecological principles, as evidenced by field monitoring.
- Farming school models and learning events need to be adapted to farmers' availability, interest and resources, proposing field demonstrations, practical activities and learning by doing.
- Business model of the company: SmartAgro still has limited capacity to reach smallholder farmers and needs to refine the business model to distribute the cover crop products to the retail market.

Recommendations and ways forward:

- Extend the time period for monitoring soil C dynamics and measuring SOC changes to 3-5 years.
- In order to scale up the adoption of cover crops, it's proposed to: i. Analyse the value chain of cover crop seeds, market demand, optimal price, and the barriers and facilitators that hinder or support the adoption of cover crops, including key entry points in the community (ACs, input suppliers, etc.); ii. Redefine an effective distribution model for the cover crop seed business and consider providing incentives for early adopters; iii. Disseminate the results and lessons learned to a national platform.

Beneficiaries

212 households of farmers, including 91 women, and 53 households from the ethnic minority, in 4 communities (cluster-site) in the provinces of Tbong Khmum, Kratie, and Mondulhiri,

Communication products (case studies, video, etc)

Project information and factsheet update: <https://ncsd.moe.gov.kh/dcc/project/climate-smart-farming-project>

Introduction video of the Implementation of Climate Smart Farming project:

<https://www.facebook.com/100568751349619/videos/1601066890308114>

Video of Perennial cover-crops for black pepper:

<https://ncsd.moe.gov.kh/kh/dcc/resource/video/SmartAgro/HEKSCambodia/pepper/covercrop>

Poster on cover crops for pepper:

<https://ncsd.moe.gov.kh/dcc/resource/poster/showcase/pepper/HEKS/Cambodia>

Case study on Weed Management and water shortage solutions for pepper plantation:

<https://ncsd.moe.gov.kh/resources/document/case-study-heks-cambodia-farmer-nutt-phi>

Case study:

<https://ncsd.moe.gov.kh/resources/document/climate-smart-farming-project>

03	ITC	Pushing Energy Efficiency in Cambodia	The design and execution of Cambodia's energy efficiency competition serves as a tangible approach to lower GHG emissions through changes in behavior. A collective average energy savings of 9.2% was achieved from 22 participating buildings, resulting in a reduction of 200 tons of CO₂-equivalent emissions. Project partners: Sevea Consulting, IFPEB, EnergyLab, Liger Leadership Academy, EuroCham Target province: Phnom Penh
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Duration: 01-09-2020 – 15-10-2022

Total Approved Budget: US\$ 99,884

Key achievements:

- First ever competition organized in Cambodia to engage commercial buildings in saving energy by implementing energy efficiency practices based on employee behavior change. Despite the challenges of launching a new initiative in the middle of COVID 19 crisis, 14 private companies (22 participating buildings) participated to the 1st CEE Comp
- A 9.2% average annual energy savings equal 194,256 kWh of electricity saved on average for all private company participants., with office buildings performing even better with 15.3% (low energy-intensity offices) and 11.7% (high energy-intensity offices). A concrete mechanism to reduce GHG emissions, with 200 tons of CO₂-eq prevented from emitting into the atmosphere.
- Number of active entities involved in the competition and, 6 public universities, and 3 ministries. 211 students (120 female) were actively involved in the 90-day Challenge, 37 members of the universities Green Teams (18 female), and 53 Ministries staff (26 female) involved in training and workshop.
- Engagement of the public sector, six universities participated in a 90-day challenge on EE practices. Youth Energy Games (YEG) were conducted to involve students through an interactive way to learn about EE: 30 teams (90 individuals – 59% female and 41% male so 71 women and 20 men) registered, 41 teams (121 individuals, 49 women and 72 men) joined the energy contest (for the best thematic visuals) and 6 green teams (37 individuals) proactively participated in the 90-day challenge between universities.
- Three ministries participated in a 45 days-challenge for EE: Ministry of Environment, the Ministry of Mines & Energy, and the Ministry of Industry, Science, Technology & Innovation.

- Overall satisfaction from the candidates in terms of involvement, lessons learned, and savings achieved and increased level of knowledge and awareness on energy efficiency from the private and public sectors.

Main lessons learned:

- Promising a high level of interest and active engagement from the public sector: universities and ministries.
- All sessions presented to participants should be executed in a bi-lingual manner considering most employees are Khmer.
- Keeping the green team motivated throughout the competition is challenging and ensuring active engagement from top management is vital to drive all employees and give necessary means and motivation to the green team.
- Long term behavior change is an ongoing and difficult process where continuous participation is key to achieving true transformation towards energy-efficient practices adoption.

Recommendations and ways forward:

- Ensure continuous momentum with 1st edition private company participants by involving them in the 2nd edition.
- Pursue and deepen the close collaboration with the Ministry of Mines and Energy (MME) and the Ministry of Environment (MoE) as the initiative plays a key role in some of their strategies.
- Finetune the strategic approach for different sectors where practicing EE through behavior change can achieve impact and support in meeting national EE targets.

Current status:

The 2nd edition of the CEEComp was organized from August 2023 to August 2024, involved 21 participants including for the first time the hospitality sector, and achieving annual cumulative energy savings up to 37.2%, preventing 149 tons of CO₂ emissions

GHG ER = 0.599 ktCO₂

During project implementation (1st edition CEEComp, Aug 2021- Aug22) = 200 tCO₂

Until the end of the CCCA3 programme (additional 2.5 years), the conservative assumption of 50% savings compared to the competition period was adopted (50%*200*2.5=250t) and the savings from the 2nd edition (149t) were added.

Total GHG ER=200+250+149=599 t CO₂

Communication products (case studies, video, etc)

Project information and factsheet:

<https://ncsd.moe.gov.kh/sites/default/files/2022-01/ITC-CEE-Poster%20presentation%20Knowledge%20sharing%20event.pdf>

Project video: <https://youtu.be/QWEbGH--XBk>

Poster of tips to help save energy in the kitchen:

<https://www.facebook.com/CEECComp/photos/a.102991184944329/655415263035249/>

Poster of energy efficiency in using refrigerator:

<https://www.facebook.com/CEECComp/photos/a.102991184944329/651019393474836/>

Poster of energy efficiency in using air conditioner:

<https://www.facebook.com/CEECComp/photos/a.102991184944329/624981132745329/>

CEE Comp Award Ceremony at the Ministry of Environment (MoE):

<https://www.facebook.com/CEECComp/posts/pfbid02isaZDcTUpJJodwrvMt5z7jt4vcTykkAygNg3LRwZsd1uMVWcc9roVLEqzgvtdRnzI>

Announcement of Award Ceremony:

<https://www.facebook.com/CEECComp/photos/a.102991184944329/607557711154338>

04	PIN	Strengthening Climate Information and Early Warning System in Cambodia to Support Climate Resilient Development and Adaptation to Climate Change	Implementation of the first urban Early Warning System (EWS) in Cambodia featuring stationary public speakers in Battambang, benefiting 1,501 households, along with quality training dissemination to local officials and community members; flood modelling to aid in spatial planning and the creation of flood risk management strategies; formulation of well-substantiated and practical suggestions to enhance the flood risk management plan in Battambang city. Target province: Battambang
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Duration: 01-09-2020 – 28-02-2022

Total Approved Budget: US\$ 100,000

Key achievements:

- Finalization of a flood modelling to support spatial planning and the development of flood risk management (e.g. flood evacuation) schemes in Battambang ;
- Design of evidence-based and actionable recommendations to improve the flood risk management plan in Battambang city (and potentially applicable to other risk-prone urban areas across the country);
- Installation of fixed public speakers in Battambang city (first urban EWS in Cambodia);
- Promotion of ownership of the urban EWS through quality training to local authorities and village members;
- Solid partnership and mutual trust with national and sub-national authorities was built, paving the way towards further cooperation.

Main lessons learned:

- The way the urban EWS has been developed and utilized proves that the system can be used for multiple communication purposes of community interest (i.e. alert messages were shared through the speakers even out of the rainy season);

- Capacity-building on how to operate and maintain the system should include information and awareness on the needed preliminary financial planning to ensure a continued functioning of the speakers;
- Capacity-building should not only involve the duty bearers (i.e. local authority who is responsible for ensuring the proper functioning of the EWS), but also community participants (e.g. village chiefs and community members), including those living with specific vulnerabilities who should not be left behind;
- Performing technological improvements to alerts dissemination can present more challenges than the expected (i.e. Facebook channel for broadcasting could not be created during the project lifetime): a careful planning of possible risks and obstacles should be done before starting any project, and related alternatives should be identified in advance.

Recommendations and ways forward:

- enlarge the scope of urban EWS, replicating the achievements in Battambang in additional risk-prone areas;
- improve the outreach of the urban EWS to vulnerable groups (including people living with disabilities, women, ethnic and religious minorities, elders), ensuring that marginalized/disadvantaged groups are included at all stages of disaster risk management. Tailored measures should be considered to allow their full access to EWS and their possibility to properly respond to alert messages;
- Invest on capacity building to national/provincial/local duty bearers across the country, not only in operation and maintenance of EWS, but also in financial planning, in view of allowing a full ownership, scaling-up and sustainability of the system throughout the Kingdom;
- Investigate and explore the most effective and feasible ways to link disaster risk management and social protection mechanisms

Beneficiaries

1501 households, of which 241 women lead

Communication products (case studies, video, etc)

Project information and factsheet: <https://ncsd.moe.gov.kh/sites/default/files/2022-01/PIN-Poster%20presentation%20Knowledge%20sharing%20event.pdf>

Project testimonial: <https://ncsd.moe.gov.kh/resources/document/strengthening-climate-information-and-early-warning>

Project video: <https://youtu.be/zGgbHFf22Ck>

05	Prek Leap National Institute of Agriculture (NIA)	Installation of Demonstration RAM Pump	Demonstration system of a ram pump and a solar pump at the Prek Leap National Institute of Agriculture, with training sessions benefitting more than 400 students and 10 teachers, and installation of a large-scale system in Kampong Speu to irrigate 17 hectares and serving 20 households. Target province: Phnom Penh, Kampong Speu
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Duration: 01-09-2020 – 31-07-2023

Total Approved Budget: US\$ 99,987

Objective

Test and install hydraulic ram pumps for agricultural irrigation to replace diesel pump and contribute to the reduction of CO₂ emissions in agriculture.

Phase 1: demonstration system at the Prek Leap National Institute of Agriculture in Phnom Penh

Phase 2: construction of a large-scale system to irrigate 50Ha of plantation and pump air into fishponds

Key achievements:

- Demonstration system (water tower with solar pump and ram) was installed at the Prek Leap National Institute of Agriculture, 6 trainings were organized reaching 404 students and 10 teachers from the Agricultural Machinery Department on the advantages of the hydraulic ram pump, the pump efficiency calculation, installation requirements, site evaluation and required parameters, and GHG reduction calculation method.
- The ram pump was installed in the Phnom Srouch district, Kampong Speu, and the irrigation system could supply 17 hectares for 20 households (of which 9 are women-led).

Main lessons learned:

- The system uses renewable energy source, instead of fossil fuel, it is simple, reliable and requires low maintenance and limited operational cost
- A detailed site evaluation, including an assessment of the water source availability and demand, is important to operate the system efficiently and effectively.
- Community engagement and cooperation of the local authority is crucial along the process of installation and operation of the system.
- The ram pump system represents a suitable solution for farmers in mountainous areas

Recommendations and ways forward:

- Disseminate the results to promote an extensive use of this solution and its suitability for mountainous areas

Beneficiaries

20 households and 404 students (120 women)

GHG ER = 0.037 ktCO₂ (entire CCCA3 duration)

Detailed calculation: 14.64 t emission saved per year by avoiding use of diesel, replaced by the ram pump. In total, 37 t CO₂ from the installation until the end of CCCA3 programme.

Communication products

Project information and factsheet: <https://ncsd.moe.gov.kh/sites/default/files/2022-01/NIA-Poster%20presentation%20Knowledge%20sharing%20event.pdf>

Case study: <https://ncsd.moe.gov.kh/resources/document/innovation-facility-installation-demonstration-ram-pump>

06	RECOFTC	Sustainable financing for climate action through community forestry in the Prey Land landscape	Ten Community Forests (CFs) actively participated in revising their Annual Operation Plans, which were subsequently approved by the local Forestry Administrations and commune leaders. The implementation of credit schemes for these 10 CFs led to an increase in credit capital (growing from USD 15,298 to USD 60,177), generating revenue that supported CF management and patrol activities. The project successfully carried out its reforestation efforts, planting a total of 57,250 seedlings across 5 CFs, which spanned approximately 25 hectares and included the involvement of 332 CF members (153 of whom were women). A total forest area of 6,059 hectares has been safeguarded by the Community Forestry Management Committee and CF members, contributing to a carbon stock of approximately 37,385 tons per year. Target province: Kampong Thom, Kratie
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Duration: 01 November 2020 – 30 April 2022

Total Approved Budget: US\$ 99,977.00

Objective: Cambodia's most vulnerable citizens become more resilient to climate shocks and improve the ability of landscapes to adapt to and mitigate climate change by

1. CF and government agencies, including local authorities and technical departments, are able to deploy effective climate change mitigation and adaptation activities for Community Forestry (CF) management;
2. Sustainable financing of CF credit schemes are introduced and expanded, enabling CF communities to protect their forests and contribute to improved livelihoods;
3. Forest cover of target CFs is increased and existing cover is well- protected, as a result of better funding, and implementation of climate-friendly plans.

Key achievements:

- The activities of the Community Forestry Management Committee (CTMC) are based on the annual operational plan (AOP) and include forest restoration, silviculture treatments, patrolling, institutional strengthening, annual assembly, piloting new initiatives etc. The project involved 166 participants (of which 72 women) from CFs, local authorities, and local Forestry Administration (FA) to review and revise the AOPs of 10 CFs (5 CFs in Kampong Thom province and 5 CFs in Kratie province). The revised AOPs were endorsed by local FA and commune chiefs
- The CF network is recognized as a strategy sharing information, experiences and knowledge, and engage with key stakeholders such as FA, local government, NGOs, donors and the private sector. The project supported 10 events of provincial coordination: 7 CF network meetings and 3 Provincial Community Forestry Programme Coordination Committee (PCFPCC) meetings. On the job capacity building, coaching, and sharing

experiences through the CF network have improved capacity of CFMCs to formally communicate with local authorities and local FAs.

- The concept of CF credit was introduced by RECOFTC and first piloted in five CFs in Kampong Thom in 2015. It was later expanded to Kratie, Stung Treng, and Preah Vihear provinces. The primary goal of CF credit is to strengthen CF institutions by allocating a portion of the credit interest to support CF management and development. This funding helps with activities such as patrolling and improving members' livelihoods. Loans are mainly used for purchasing agricultural tools or hiring labor for farming. In general, revenue from credit interest is distributed as follows: 30% for CF management, 30% to increase credit capital, 30% as dividends for the members, 10% for administrative costs. The project supported existing CFs by increasing their credit capital. During implementation, the system operated effectively, leading to a significant rise in credit capital—from USD 15,298 to USD 63,057.
- A total of 57,250 tree seedlings were planted across 5 CFs, covering 25 ha. 332 CF members, of which 153 women, participated in the tree planting.
- While patrolling is a regular CF activity, budget constraints often limit its frequency. With increased credit capital supported by the project, CFs established stable patrol groups of 8 to 12 members, conducting 3 to 4 patrol trips per month. As a result, community members effectively protected 6,059 hectares of forest.
- With better protection and restoration efforts across 10 CFs, forest cover has been preserved and enhanced and this has increased the forest's capacity to absorb CO₂, contributing to climate change mitigation.

Main lessons learned:

- While local authorities and the Forestry Administration are strong institutions funded by national budgets, CFs operate on a voluntary basis and rely entirely on project support, which often has limited activities, budgets, and timeframes. It is essential to strengthen CF institutions and help them engage with local authorities and the Forestry Administration. This will ensure they have reliable financial resources to fulfill their basic roles.
- The CF credit scheme is a positive initiative that helps CFs achieve financial independence and improve the livelihoods of their members. It has the potential to attract more investment for the protection of forest resources.
- Creating a safe space for communities to share their experiences and best practices during meetings and workshops is an effective learning method. For example, in the CF credit reflection workshop, all three presentations were made by community representatives. This encouraged participants from other communities to learn, engage actively, and adopt new concepts for use in their own communities.

Beneficiaries

745 households, of which 402 women-led

GHG ER = 130,845 ktCO₂

Detailed calculation: The project saves 37,385 tons of CO₂ emissions per year by protecting 6,059 hectares of forest. Over an additional 2.5 years following the project's conclusion, the total CO₂ emissions saved amounts to 130,000 tons. This figure takes into account the regular monitoring

and follow-up conducted by CCCA3, which confirmed that the CFs continued to operate fully even after the project ended.

Communication products (case studies, video, etc)

Project information and factsheet: <https://ncsd.moe.gov.kh/sites/default/files/2022-01/RECOFTC-Poster%20presentation%20Knowledge%20sharing%20event.pdf>

Project video: <https://youtu.be/y6iPg141uv8>

Project testimonial:

<https://ncsd.moe.gov.kh/resources/document/sustainable-financing-climate-change-through-community>

07	Teuk Saat 1001	Ensuring Safe and Resilient Drinking Water Supply Services for 3 Communes in Times of COVID-19	3 solar-powered water kiosks were set up to deliver safe drinking water to 1,500 families across three communes with 31 villages. The entrepreneurship model guarantees a sustainable income for the ten individuals overseeing the water kiosk. The distribution of information and hygiene supplies to safeguard against COVID-19 reached over 3,800 households. Target province: Tbong Khmum, Siem Reap, Kompong Thom
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Duration: 01-09-2020 – 30-07-2021

Total Approved Budget: US\$ 112,879

Objective: three commune inhabitants in Siem Reap, Tbong Khmum and Kompong Thom provinces have access to sustainable, safe and affordable drinking water, through climate change resilient water kiosks, in times of Covid 19.

Key achievements:

- Residents of 3 communes have access to safe and affordable water delivered directly to their homes thanks to the installation of 3 water kiosks.
The kiosks use solar panels to treat water using an UV technology, making them less dependent from the power grid, and they are run by a local entrepreneur, who received training and support from the NGO Teuk Saat 1001. The water produced is tested monthly following national and WHO standards, the selling price is set at an affordable level for the communities and for the entrepreneur to get a reasonable income, the water is delivered at home and the social franchise combined with the “Owe committee” commitment’ ensured the long-term sustainability of the water kiosks.
As a result, 10 people receive a decent income due to their involvement in the management of the three water kiosks.
By drinking safe water, households around the water kiosks don’t harm the environment by collecting wood to boil their water. Teuk Saat can issue carbon credits based on the reduction of GHG emissions due to the reduced use of biomass that would have been used to boil the water.

- The project also conducted dissemination activities for 3879 households to provide information and hygiene items to protect against Covid-19
- Door-to-door awareness reached up to 1617 households to promote the operation of the water kiosks, explain the importance of safe drinking water and the consequences of drinking unsafe water.

Main lessons learned:

- To ensure sustainability, it is essential to follow up with the entrepreneurs regularly.
- A reserve water source is crucial for maintaining continuous production.
- Distributing COVID-19 kits has strengthened the community's trust in the water entrepreneur.
- The franchise's commitment to the water kiosks is vital for providing safe water to communities in the long term

Recommendations and ways forward:

- Teuk Saat 1001 core 's mission is to support the water kiosk on the long-run and the monitoring over the years thanks to the social business model. The tripartite model of the water kiosk governance is a sustainability warranty. The combination of the commitment of the commune council, owner of the water kiosk, the involvement through the Owe committee of key opinion leaders in overseeing the water kiosk and Teuk Saat 1001 close follow-up and monitoring, confirm the sustainability of the water kiosks network. As an evidence, 79% of the sites established since 2010 are still operational.
It is recommended to strengthen collaboration with district and provincial administrations, as well as Teuk Saat 1001, to ensure public ownership at all levels.
- Authorities are encouraged to utilize Teuk Saat 1001's laboratories and expertise to conduct water analyses across the entire territory.

Beneficiaries

3879 households (Covid19 and hygiene awareness raising)

1617 households (door to door awareness raising)

1507 households (use the water kiosks services)

GHG ER = 1.2 ktCO₂ (entire CCCA3 duration)

Detailed calculation: 100t/kiosk/year, all of them active since the beginning of 2021.

Teuk Saat 1001 received the Gold Standard certification based in the fact that the water kiosk operations reduce the use and demand of non-renewable biomass that would have been used to boil the water as a mean of water purification.

Communication products (case studies, video, etc)

Project information and factsheet: <https://ncsd.moe.gov.kh/sites/default/files/2022-01/TS1001-Poster%20presentation%20Knowledge%20sharing%20event.pdf>

Project case study:

<https://ncsd.moe.gov.kh/resources/document/ensuring-safe-and-resilient-drinking-water-supply>

Innovation grant – Round 2			
01	FAEC	Resilience and Adaptation Planning for Ecosystem and Sustainable Development (RAPESD)	Key achievements include providing training to Agriculture Cooperatives (ACs) in climate-resilient farming practices, enhancing yields by 15% through the use of biochar, assisting 220 farms and 10 Agricultural Cooperatives, and creating materials such as lessons and booklets addressing the effects of Climate Change and Resilience, Contract Farming, and Agriculture, among other topics. Target provinces: Battambang, Kampong Thom
Duration: 1 June 2021 - 29 February 2024 Total Approved Budget: US\$ 99,810 Objective: reduce the vulnerability to negative impacts and risks of vulnerable smallholder farmers through participation engagement in public awareness and climate change response action and sustainable developments Key achievements: • 13 target agriculture cooperatives (ACs), 10 in Battambang province and 3 in Kampong Thom province, with 2,786 members, of which 417 ID-poor households and 696 women-headed households, where engaged in FGDs and trainings on climate change resilience, climate-resilience farming practices, use of carbon-based fertilizers (CBF), and strategic and business plan development • Distribution of soil improvement products (HUSK's products) to smallholder horticulture farms: Biochar, ONIX, CBF, Toek Biochar sold, exceeding the initial target of 100 metric tons. These products were purchased by 1,126 horticulture and rice farmers, showcasing the project's significant and positive impact on the agricultural cooperatives. • The 13 ACs developed their business plans integrating elements of climate resilience, agro-ecosystem sustainability, and food and economic security for smallholders and vulnerable groups. The reviewing processes involved 50 participants, 40% women, from the 13 ACs, participating in 13 reviewing workshops. • 10 small-scale farmers, 70% of whom are females, were selected to become model farms: they received free CBF fertilizers and specific training, with the commitment of using CSA techniques. • Visits to the 10 model farms to learn about climate-smart agriculture techniques and the use of Biochar were organized for 392 participants • Researches on carbon finance and pathways, such as different organizations, methodologies, and certificate systems, that can help farmers take advantage of carbon finance opportunities. • Dissemination targeting farmers with 12 videos and posts on the Facebook page • Organization of three annual AC Forum, from 2021 to 2023, in collaboration with NGO Forum and CCC: a total of 221 cooperatives and five government departments participated Main lessons learned:			

- Mixing kitchen waste and animal manure with HUSK's biochar produces compost suitable for vegetable cultivation; compared to previous methods in which the farmers used chemical fertilizers, this approach has led to a significant increase in vegetable yield, improved health and weight, reduced incidence of diseases and insects, delicious taste, and lower labour costs.
- Farmers in the project areas prefer HUSK's Carbon-Based Fertilizer (CBF) for seedlings and substrates when it results in good germination, fast growth, active roots, robust leaves, and micro-organism stimulation that actually, it also improves soil quality, fertility, and nutrient storage, reduces pests and diseases, and leads to high yields with a delicious taste and no harmful substances, contributing to sustainable development. Carbon-based fertilizers are recognized as a suitable choice for the small-scale farmers to increase yields while ensuring safety for human health, soil, and the environment
- The knowledge of climate resilience increased among small-scale farmers through their regular practices of sustainable land management.

Beneficiaries

2786 households, of which 417 ID-poor households and 696 women-headed households, as members of the 13 ACs

Communication products (case studies, video, etc)

Project information and factsheet: <https://ncsd.moe.gov.kh/sites/default/files/2022-01/FAEC-Poster%20presentation%20Knowledge%20sharing%20event.pdf>

Project case study: <https://ncsd.moe.gov.kh/resources/document/resilience-and-adaptation-planning-ecosystem-and>

40 students from Royal University of Agriculture and Agricultural students from Vietnam visited project implemented by FAEC Cambodia:

<https://www.facebook.com/faec.cambodia.org/posts/pfbid02JQW7cunsjutSRpHp4L5xycK5ftfPTmKphrMcHmyHS5695Yh4QRLbZRSSRgFBr13KI>

SANTOK Agricultural Cooperative continues to provide training to its members on climate change under FAEC Cambodia's RAPESD project, funded by the EU / Sverige & UNDP through MOE / CCCA3

<https://www.facebook.com/faec.cambodia.org/posts/pfbid02GxjpShYqXF6PKkAYDMWGEpDjStEDPB9W3ESsg6Gzh87zhpuL8w3CWwu1TvJU7ax4I>

KAMKO KILO 38 Agricultural Cooperative continues to provide training to its members on climate change under FAEC Cambodia's RAPESD project, funded by the EU / Sverige & UNDP through MOE / CCCA:

<https://www.facebook.com/faec.cambodia.org/posts/pfbid0MNqYbBJVyshUTZHfkZXW8dC8tGBFi zzphEjDLZztzwTHmYBYUFoeuFAVSrnkbu7SI>

Wat Kor Chamroeun Phal Agricultural Cooperative continues to provide training to its members on climate change under FAEC Cambodia's RAPESD project, funded by the EU / Sverige & UNDP through MoE / CCCA:

<https://www.facebook.com/faec.cambodia.org/posts/pfbid0zsKXcVq6kGZBrbN1go8ULanzgo9MkV6Kpruo14eubk7s8Qk22tmxPuBQHrvYwLD7I>

The training organized by FAEC CAMBODIA in the RAPESD project funded by EU / SIDA / UNDP through MoE / CCCA3 was conducted by cooperative-based trainers in Battambang and Kampong Thom provinces

<https://www.facebook.com/faec.cambodia.org/posts/pfbid0qtPTdmk8RV3fBDdbd9fUcEbvxf6ByKB TUCQvF15kmzkzP5LWdrFGtNGA5KcpmUZ3dl>

02	MISTI	Waste Water Treatment Waste Management in Industry and SMEs Sector	The anaerobic wastewater treatment process was established in 8 food and beverage small and medium enterprises (SMEs) to minimize greenhouse gas emissions and environmental pollution by allowing the safe discharge of treated water into the public sewer system post-treatment. Training sessions and skill development were provided to SMEs and MISTI officials. Guidelines for wastewater treatment in SMEs and a greenhouse gas inventory from industrial wastewater in the food and beverage industry were developed. Target province: Battambang
Duration: 01-06-2021 – 31-05-2023 Total Approved Budget: US\$ 100,000 Objective: develop an innovative approach to help reduce the GHG emissions into the atmosphere generated from wastewater from food and beverage SMEs Key achievements: - Organized training on GHG inventory and Technology Need Assessment for MISTI staff, enhancing their knowledge on this emerging topic. - Selected 11 SMEs in Battambang for a pilot project. Each SME underwent factory audits and multiple visits to help the project team prepare GHG inventory reports and Technology Need Assessments. This helped identify wastewater generation, estimate GHG emissions, and recommend actions and technology to treat wastewater, while reducing emissions and costs. 76 individual beneficiaries, including 45 women, from the SMEs received training on the importance of wastewater treatment and the available technologies. As a result, anaerobic treatment processes were built and operational in 8 SMEs, and the treated water was used for irrigation around the company premises and safely discharged into the public sewer. - Development of Guideline and Regulation on Wastewater Treatment in SMEs, which were approved by the five head department of MISTI.			

Main lessons learned:

- Most SMEs had limited prior knowledge of GHG emissions but expressed strong interest in building wastewater treatment plants after training sessions that highlighted the impacts of climate change.
- A common concern was the maintenance costs associated with wastewater treatment plants.
- SMEs in the food and beverage sector produce relatively low GHG emissions.

Recommendations and ways forward:

- Conducting annual training and knowledge sharing event to SMEs

GHG ER = 0.029 ktCO₂ (entire CCCA3 duration)

Detailed calculation: The wastewater treatment plants installed in the 8 SMEs are expected to reduce GHG emissions by approximately 11.49 tons of CO₂ per year based on the audits and calculations done by the project team. Considering an additional 1.5 years from the end of the project to the conclusion of the program, the total estimated GHG reduction will be 28.7 tons of CO₂.

Communication products (case studies, video, etc)

Project information and factsheet: <https://ncsd.moe.gov.kh/sites/default/files/2022-01/MISTI-Poster%20presentation%20Knowledge%20sharing%20event.pdf>

Project video: <https://youtu.be/3yaZCDVWkKY>

03	IDE	Scale pilots to accelerate the uptake of efficient electric cooking appliances to mitigate climate impacts through avoided deforestation and reduced emissions	The promotion of clean cooking technologies, specifically electric cookstoves, was carried out in rural and peri-urban regions through door-to-door and group sales presentations. A total of 268 households embraced the cookstove, impacting 1,286 individuals, with a sales success rate of 26.3% and 70% of customers continuing to use them regularly. Awareness of the effects of Hazardous Air Pollutants (HAP) and clean cooking through digital marketing reached over 258,000 individuals. Users acknowledge that electric cook stoves are healthier for families, and women and girls benefit from a reduction in reliance on wood or LPG for cooking. Project partners: Nexus for Development and ATEC Target province: Kandal
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Duration: 01-06-2021 – 30-06-2022

Total Approved Budget: US\$ 98,960

Objective: exposing rural and peri-urban Cambodians to clean cooking technologies (induction stoves)

to reduce/ replace existing stoves using including biomass and/or, LPG.

Key achievements:

- This project introduces efficient electric stoves (induction stoves) in the pilot target of Kandal and Phnom Penh. The iDE sales team directly exposed 1,167 households to induction stoves, which resulted in uptake by 268 households (1,286 individuals). 2 ID poor customers purchased cookstoves and 187 of the customers were female. 70% of customers per end-line continue to use our products regularly.
- 1,167 people who used the project technology believe it is better for family health and 561 women and girls benefit from stop/reduce cooking with baseline fuel (wood and LPG).
- Awareness raising on the impacts of Hazardous Air Pollutants (HAP) and clean cooking to almost 258,438 people through digital marketing.

Main lessons learned:

- The higher adoption rate is impacted by the household income range. The medium-income
- family seems to adapt to the electric cooks more. Poor households have less tendency to purchase electric cookstoves due to their financial ability. Payment installment plans 18 months and 27 months are one of the key triggers for people to purchase Double Stove even though it is more expensive.
- Door-to-door sale is a great approach for this clean cooking project, however, it also requires a great operational cost to sustain this approach.
- People are slowly using the electric cookstove that they purchased while still consuming other sources of fuel like gas or firewood. The exclusive adoption of electric cookstoves might take some time for households.
- Digital marketing is an effective means to expose a large audience to electric cooking (especially in younger age groups).

Recommendations and ways forward:

- Consider sales testing/pilot with a more hybrid approach (combine online and offline approach) in order to reduce the operational cost.
- Reach more households that primarily use wood and charcoal in daily cooking (for larger impacts on the health of the community and environment).
- The sales pilot should be at least 12 months in order to allow time for users to adopt and ensure sufficient time to monitor and evaluate the adoption rate.

Beneficiaries

268 households (1,286 individuals). 2 ID poor customers purchased cookstoves and 187 of the customers were female.

GHG ER = 0.0125 ktCO₂ (entire CCCA3 duration)

Detailed calculation: The project reduces GHG emissions to 0.038 tCO₂e/Unit or 5tCO₂e/year. The credited methodology Gold Standard was used to estimate it, using data collected in the pilot study.

2.5 years are considered, from the end of the project to the end of the programme.

Communication products (case studies, video, etc)

Project information and factsheet: <https://ncsd.moe.gov.kh/sites/default/files/2022-01/iDE-Poster%20Presentation%20Knowledge%20sharing%20event.pdf>

Project video: <https://youtu.be/ekU8uAZRP4s>

Case study on Advancing gender equality in Climate Action:

<https://ncsd.moe.gov.kh/dcc/resource/case/study/iDE/Advancing/gender/quality/in/Climate/Action>

Project product (what is MECs): <https://ncsd.moe.gov.kh/node/12810>

04	CDMC	Enhancing Climate Resiliency Through Strengthening MPA Management Effective in Kampong Smach, Prey Nob District	The formal designation of Kampong Smach as a Marine Fishery Management Area (MFMA) is outlined in Prakas number 504/2022. This empowers local communities to enforce regulations and policies, establishes distinct boundaries, and clarifies both restricted and allowed activities in each zone. An information center has been established, and awareness campaigns have been conducted to encourage engagement with the zoning scheme and its regulations. Community groups have received training and been organized to carry out regular patrols to deter illegal activities. Discussions have taken place regarding sustainable eco-tourism initiatives as an additional income source for local communities. Collaboration with other Marine Protected Areas (MPAs) has enabled the project team and the communities to exchange insights and share valuable lessons from domestic experiences. Target province: Preah Sihanouk
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Duration: 01-06-2021 – 30-03-2024

Total Approved Budget: US\$ 99,854

Objective: protect existing natural resources in Prek Kampong Smach(predominantly a mangrove area, that can significantly contribute to carbon sequestration) to ensure the sustainability of ecosystem services that they provide

Key achievements:

- Official Designation as Marine Fishery Management Area (MFMA): Prek Kampong Smach received official recognition as an MFMA through Prakas No. 504, issued on December 26,

2022, by the Ministry of Agriculture, Forestry, and Fisheries (MAFF). This legal framework empowers the community to enforce laws and policies.

- A boundary map for the MFMA was created through consultations with local communities, technical personnel, and decision-makers. The MFMA spans 10,923 hectares, including 2,876 hectares of mangroves and 8,047 hectares of mudflats and water bodies. Clear boundaries define prohibited and permitted activities within each zone.
- Public Awareness and Information Campaigns: Efforts were made to promote the zoning scheme and ensure that the rules are effectively communicated and enforced.
- An information center was built, serving as a learning site for communities, patrol groups, students, and researchers.
- Community groups were trained and mobilized to conduct regular patrols to prevent illegal activities. These patrols utilize Spatial Monitoring and Reporting Tools (SMART) to measure project impacts and reduce illegal activities in the area.
- A roadmap for eco-tourism was developed to create additional income sources for the community, and it was endorsed by the MFMA technical working group.
- Collaborative efforts were made in building a network with other Marine Protected Areas (MPAs) to share experiences and lessons learned.

Main lessons learned:

- Strong commitment from stakeholders is crucial for effective project implementation. The establishment of a co-management mechanism, supported by a Provincial Decision, facilitates collaboration among all concerned stakeholders.
- When local capacity is insufficient, support from national, regional, and international organizations is essential for capacity building.
- Technical reports and scientific research, such as mangrove health assessments, should be simplified and presented in an understandable format to aid in planning and decision-making.

Recommendations and ways forward:

- The national government should conduct an assessment of blue carbon credits in the Kampong Smach MFMA area. This should include evaluating institutional arrangements and financial management schemes as potential funding sources for the management and implementation of Kampong Smach MFMA.

Beneficiaries

465 HHs

GHG ER = 32.645 ktCO₂ (entire CCCA3 duration)

The potential GHG ER per year was estimated by the project team as a combination of:

1. 25-year period of mangrove life cycle of carbon restoration, accounting for 163,052 tCO₂/year
2. stock carbon capacity of the newly planted area of 4 ha, with a contribution to CO₂ stock significant in about 15/20 years and up to 227 tCO₂ per year.

3. Conservative estimate of 10% of the total potential per year (#1+#2) since the establishment of the MFMA and the mangrove planting until the end of CCCA3. So, $10\% * (227 + 163000) * 2 \text{ years} = 32,645 \text{ tCO}_2$

Communication products (case studies, video, etc)

Project information and factsheet: <https://ncsd.moe.gov.kh/sites/default/files/2022-01/CDMC-Poster%20presentation%20Knowledge%20sharing%20event.pdf>

Meeting on project update and monitoring:

https://www.facebook.com/permalink.php?story_fbid=pfbid036XphcuB1rQ4qjmU24MyL689N1oiuThFfWU7T9SpYE2z4V9Gb1aZ6zK6QEhtHDLzl&id=100078915878480

Monitoring and Evaluation visit at project site:

https://www.facebook.com/permalink.php?story_fbid=pfbid04hLxtWTyiJgndCRjj2NamYHPijiaaNorToy18vUMJXKQ1xpfyYt5Fe9LM7V5bdBI&id=100078915878480

Field visit at Koh Kong province:

https://www.facebook.com/permalink.php?story_fbid=pfbid0xoBu6KyuhZV3x6qnYjeGLMaz1zp7QtCjz8iu35DVpMzXakZvFS88H8VGhcJa7Ni8l&id=100078915878480

05	MRD/TS1 001	CSO-Public partnership to favor safe water access in rural areas	2 climate-resilient water kiosks were established to supply safe drinking water to 1,150 households in two drought-affected communes. The Water in School program benefited 1,655 primary school students. Guidelines for mitigating water scarcity were developed, along with a training module on the community safe drinking water kiosk model for the MRD/DRWS staff. Target provinces: Siem Reap, Banteay Meanchey
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Duration: 01-06-2021 – 30-09-2023

Total Approved Budget: US\$ 99,567

Objective: mutualize innovative solutions and methodologies to achieve access to safe water especially in drought affected rural communes

Key achievements:

- Establishment of 2 sustainable community safe drinking water kiosks powered by solar energy to supply safe drinking water to communities in 2 communes affected by drought: Trapeang Thum Commune, in Siem Reap province and Tuek Chour Commune, in Banteay Meanchey province. Since their installation in May 2022, the operation had been maintained despite weather impact (heavy rains or hot season drying raw water sources), proving the sustainability of the facilities despite the climate change effects. The two water kiosk have more than 5000 daily consumers and 1655 primary school children.
- Engagement of 2 committed women independent entrepreneurs, who manage the 2 kiosks and who actively join workshops and meetings organized under the project aiming to strengthen and to maintain the water kiosk operation at all times, even during water

scarcity events. The 2 entrepreneurs are part of the top performers of Teuk Saat 1001 network, since they sell on average 100 bottles per day in their respective communes.

- Organization 10 workshops at national and provincial levels resulting in (i) the development of a mitigation guideline to help rural water providers to cope with water scarcity issue. The guideline was finalized thanks to workshops and consultation meetings gathering stakeholders from public institutions, SMEs and social and civil organizations. and (ii) a draft of a technical module to be used by any stakeholders for the construction of bottled water production facilities. The DRWS staff gained better understanding of community safe drinking water kiosk model through capacity building activities

Main lessons learned:

- Partnership between public and CSO accelerate access to safe drinking water in rural area
- Support and good collaboration from local authorities is part of the success of the project implementation. Involving all sectoral stakeholders enable a full implementation of the expected activities

Recommendations and ways forward:

- Further disseminate the water scarcity mitigation guidelines
- Keep exploring the collaboration of pipe water supply and bottled water kiosk is an efficient driver to expand access to safe water in rural areas,

Beneficiaries

1150 households, of which 81 are ID Poor

GHG ER = 0.5 ktCO₂ (entire CCCA3 duration)

100t/kiosk/year, all of them are active since May 2022.

Teuk Saat 1001 received the Gold Standard certification based in the fact that the water kiosk operations reduce the use and demand of non-renewable biomass that would have been used to boil the water as a mean of water purification.

Communication products (case studies, video, etc)

Project information and factsheet: <https://ncsd.moe.gov.kh/sites/default/files/2022-01/MRD-TS10001-Poster%20presentation%20Knowledge%20sharing%20event.pdf>

Project video: <https://youtu.be/GCjp2WXLtQQ>

Special funds during Covid-19 pandemic

01	Teuk Saat 1001	Provision of Hygiene and Access to Water Kits for Vulnerable Households in the Context of the	Between May and August 2021, 13176 rural households across 263 communes in 17 provinces benefited from free safe water for three months and were educated on safe practices to prevent the spread of COVID-19. As a result of the project, entrepreneurs have enhanced their partnerships with local authorities and have fostered stronger connections within their communities.
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		COVID-19 Outbreak	
Duration: 15-05-2021 – 30-06-2021 Total Approved Budget: US\$ 39,972 <u>Objective:</u> provide hygiene and access to water kits for vulnerable households in the context of the COVID19 outbreak <u>Key achievements:</u> • Assistance to 13176 vulnerable households in 263 communes across Cambodia by providing free safe water for 3 months, hygiene kits (10 masks and 2 soap bars per household) and education on safe behaviors to prevent the spread of Covid-19. Only IDPoor households were targeted, thanks to the collaboration with commune authorities who helped identify the beneficiaries. • The project fostered stronger collaboration between entrepreneurs and communes' authorities, enhancing community relations • Effective implementation in a short time an emergency project. • Besides this emergency intervention and free water provision, Teuk Saat 1001 aimed to convert these new beneficiaries into long-term consumers of safe water. They collaborated with entrepreneurs to effectively communicate this message, resulting in a 45% conversion rate of households becoming regular paying users. Beneficiaries 13,176 vulnerable households, and about 55,330 people			
02	RECOFTC	Reforestation and Capitalization of CF Credit Schemes in Prey Lang	Between May and June 2021, as a result of the project, 10 Community Forests (CFs) enhanced their credit capital, positively impacting 614 households. Additionally, tree planting activities were carried out in 4 CFs, restoring degraded land across 34.8 hectares with 7,850,000 seedlings planted, thanks to the enthusiastic participation of 506 CF members, including 268 females.
Duration: 11-05-2021 – 30-06-2021 Total Approved Budget: US\$ 95,000 <u>Objective:</u> expansion of reforestation and Community Forestry Credit Schemes (CFCS) for sustainable livelihoods and forest protection in the context of Covid-19 <u>Key achievements:</u> • Increased Community Forestry (CF) Credit Capital: Total CF credit capital rose to USD 49,364, up from a baseline of USD 35,430. This increase directly benefits 614 households and boosts the amount allocated for CF management and forest protection from USD 169 per month to USD 333 per month. The project targets the 5 CFs in Kampong Thom and 5 CFs in Kratie already supported by RECOFTC by the other CCCA3's grant. • Successful Tree Planting Initiative: The project conducted tree planting in degraded areas of 4 target CFs in Kratie province, covering 34.8 hectares. A total of 78,500 seedlings were			

planted with the active involvement of 506 CF members, including 268 women, as well as local Forestry Associations and authorities.

Beneficiaries

614 CF members (327 women) = HHs benefitting from CF credit scheme

506 people (268 women) directly involved in tree planting

LINE MINISTRIES			
01	Ministry of Public Works and Transport (MPWT)	Promotion of Electric Motorbike Adoption for a Sustainable transport sector	This project showcased the advantages of Electric Motorbikes (EMs) by selling Ems to public sector (30 EMs) and private sector (137 EMs) through a subsidy program. A survey analyzed user preferences and confidence levels, outlined in a policy brief titled “Understanding the Confidence Level of Early Adopters of Electric Motorcycles.” Awareness campaigns were launched to encourage the adoption of EMs, alongside the creation of guidelines and informational materials focused on enhancing EM registration, improving battery waste management for EMs in Cambodia, providing policy recommendations for e-bike procurement and deployment, and offering policy guidance on EM charging and battery storage in public buildings. Target province: Phnom Penh
Duration: 01-10-2020 – 31-03-2024 Total Approved Budget: US\$ 250,000 <u>Objective</u> Promote electric vehicle (EV) adoption through a mix of policy measures, capacity development for relevant officials, and increased exposure to two-wheeled electric vehicle fleets in both the public and private sectors. <u>Key Achievements:</u> The project contributed to reducing Cambodia's GHG emissions by promoting the expansion of the electric motorbike market through capacity-building programs, workshops, and incentives for early adopters from both the public and private sectors. - Conducted a consultation workshop with key stakeholders to develop important guidance documents: - Regulatory guidance and options to improve electric motorcycles (EMs) registration in Cambodia. - Regulatory guidance and options to improve electric motorcycles battery waste management in Cambodia			

- Policy guidance on electric motorcycles (EMs) battery charging and swapping space at public buildings.
- Policy Recommendations on Procurement Options For E-bike Purchasing and Deployment

- Implemented a pilot initiative to demonstrate the benefits of electric mobility by selling 30 electric motorbikes to the public sector and 137 electric motorbikes to the private sector through a subsidy scheme. Out of the beneficiaries, 48 were women. Additionally, a swapping station was established at the Ministry of Public Works and Transport, providing access to charging and swapping batteries for both early electric motorbike users and general adopters.
- Awareness Raising and Dissemination:
 - Launched a compelling campaign to promote the adoption of electric motorbikes.
 - Created educational videos about electric motorbikes to raise awareness and encourage adoption.
 - Organized dissemination initiatives, including the EV Showcase held in March 2024 in Siem Reap, with representatives from the private sector.
 - Hosted a series of four training sessions for 166 participants (17% of whom were female) from both the public and private sectors. These sessions focused on raising awareness of electric mobility technology and its environmental and social benefits, knowledge dissemination, and promoting a deeper understanding of electric mobility technology and charging facilities.
 - Conducted a dissemination workshop to share the achievements and outcomes of the "Promotion of Electric Motorbike Adoption for a Sustainable Transport Sector" initiative
 - Development of a policy brief "Understanding the level of confidence of the electric motorcycles' early adopters"

GHG ER = 0.038 kt CO₂

The project team estimated an annual reduction of 25,288 kg of CO₂ based on a survey among direct beneficiaries and a desk review, comparing emissions from internal combustion engine motorcycles (ICEM) to electric motorcycles (EM). The total greenhouse gas (GHG) emissions reductions also consider an additional half year until the end of the CCCA3 program.

Communication products (case studies, video, etc)

Project information and factsheet: <https://ncsd.moe.gov.kh/sites/default/files/2022-01/MPWT-Poster%20presentation%20Knowledge%20sharing%20event.pdf>

Handover of electric vehicles and inauguration of electric vehicle charging stations at the Ministry: <https://www.facebook.com/mpwt.gov.kh/posts/pfbid0Ar2SZf51cJdM8Y34C5Phc4WTyj6sTiUcWUreM5Jh5SWDVMgP1r4tTxaPi6nCBi2KI>

Project video: <https://youtu.be/NOR3CwgwbTs>

02	Ministry of Rural	Building climate resilience for	Construction of 6 water infrastructures designed to withstand climate impacts (three ponds and three wells) to
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	Development (MRD)	rural water supply Infrastructures in Cambodia (BCR-WS)	serve 6,268 individuals. Six Water User Groups (WUGs) were established, along with training on operation, maintenance, and financial management. Awareness campaigns focused on the effects of climate change and adaptation strategies reached 689 community members. Training for provincial department officials covered the design of climate-resilient water infrastructures and their incorporation into strategic budget plans. Target province: Kampong Thom
Duration: 01-10-2020 – 30-04-2024 Total Approved Budget: US\$ 250,000 <u>Objective</u> Enhance the climate resilience of rural water supply infrastructures to increase access to safe water and sanitation for rural communities in Cambodia by developing their capacity to build resilience to climate change. <u>Key achievements</u> The project has achieved significant progress in strengthening institutional capacity, increasing climate-resilient rural water supply infrastructures, and raising awareness among vulnerable communities. It helped improve access to safe and climate-resilient water supply for the rural communities in Kampong Thom province, contributing to enhanced livelihoods and climate change adaptation. • Capacity development of 66 (9 female) MRD and PDRD staff on climate-resilient water infrastructure design and integration into strategic budget plans through a series of training • Construction of 6 climate-resilient water infrastructures (3 ponds and 3 wells) in the target areas, benefiting 6,268 people (nearly 50% female). • Establishment of 6 Water User Groups (WUGs) and provision of training on operation, maintenance, and financial management of the water supply systems. • Awareness-raising campaigns on climate change impacts and adaptation measures for 689 (50% female) community members. <u>Main lessons learned:</u> • Strengthening the institutional capacity of local stakeholders, including PDRD staff, is crucial for the sustainability of climate-resilient water infrastructure projects. • Involving the community, especially through the establishment of Water User Groups, is essential for the long-term operation and maintenance of the water supply systems. • Integrating traditional knowledge and community-based approaches with technical solutions enhances the cultural appropriateness and local ownership of climate adaptation interventions for rural water infrastructure. • Considering gender and social inclusivity throughout the project cycle in climate-resilient water infrastructure projects ensures equitable access, addresses diverse needs, and			

promotes social inclusion by integrating marginalized communities, women, Indigenous people and persons with disabilities.

Recommendations and ways forward:

- Institutionalize capacity building of local stakeholders, particularly PDRD staff, in climate-resilient water infrastructure design and integration into five years strategic budget plans, ensuring the long term sustainability of the project's interventions.
- Integrating into national action plan of relevant ministries to scale up the successful models and lessons learned from this project to other provinces in Cambodia to enhance climate resilience of rural water supply infrastructures across the country.
- Strengthen the operation and maintenance capacities of the established Water User Groups to ensure the long-term functionality and climate resilience of the constructed water supply systems.

Beneficiaries

6268 people (3074 women)

Communication products (case studies, video, etc)

Project information and factsheet: <https://ncsd.moe.gov.kh/sites/default/files/2022-01/MRD-Poster%20presentation%20Knowledge%20sharing%20event.pdf>

Project video: <https://youtu.be/7sA1vZJfRcc>

03	Ministry of Environment (MoE)	Strengthening Air and Climate Pollution Management in Cambodia (SACPMC)	Preparation of a sub-decree on air pollution, noise and vibration control; establishment of the first air quality monitoring data platform (https://airquality.moe.gov.kh/home); provision of dust monitoring and carbon analysis equipment to the Ministry of Environment; implementation of emission control measures at 13 sites; and training of national and sub-national officials in air quality management. Target provinces: Phnom Penh, Sihanoukville, Kampot, Kandal, Kampong Speu, Siem Reap, Battambang, Otdar Meanchey, Kampong Cham
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Duration: 01-11-2020 – 30-06-2023

Total Approved Budget: US\$ 184,999

Objective

Enhance monitoring and management of air pollution by increasing the capacity of the Department of Air Quality, Noise, and Vibration Management (DAQNVM) at MoE and of provincial departments of MoE and improve inter-ministerial cooperation.

Key achievements:

- Drafted a sub-decree on air pollution control, noise, and vibration management through a participatory process that included consultation workshops and several internal MoE meetings. The draft is currently pending final approval.
- Established an air quality monitoring data platform to be operated by DAQNVM. The online data platform is accessible at this link <https://airquality.moe.gov.kh/home> and displays data from all 41 air quality monitoring stations installed across the country.
- Purchased and deployed two sets of air carbon analyzers and one set of dust monitoring equipment to monitor air quality and black carbon levels near industrial sites (e.g., coal power plants, cement factories, brick factories, and garment factories) at 20 locations.
- Conducted capacity-building training for 202 officers at both national and subnational levels on operating the data platform, using monitoring equipment, and implementing short-lived climate pollutant (SLCP) mitigation measures.
- Provided one set of dust monitoring equipment and two carbon analyzers to DAQNVM.

Beneficiaries

202 people (38 women)

Communication products (case studies, video, etc)

Project information and factsheet: <https://ncsd.moe.gov.kh/sites/default/files/2022-01/MoE-Poster%20presentation%20Knowledge%20sharing%20event.pdf>

Project video: <https://drive.google.com/file/d/1LcCWFmniS1HkH-c7nGYTgZOi5vn5PaBU/view>

04	Ministry of Education , Youth, and Sport (MoEYS)	Mainstreaming Climate Change and Increasing Resilience in the Education Sector	The initiative created climate education resources for students in grades 4, 5, and 6, along with a climate change response guide for both primary and secondary levels. It offered training and assisted in the pilot implementation of Eco-schools by installing climate change and WASH materials in 27 selected schools across seven provinces, benefiting a total of 9,188 students. Target provinces: Kampong Chhnang, Svay Rieng, Stung Treng, Kampong Speu, Kampot, Kratie, Battambang
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Duration: 21-02-2021 – 23-07-2023

Total Approved Budget: US\$ 250,000

Objective

Increase the adaptation and mitigation of the Climate Change impact through mainstreaming environmental awareness into the education system.

Key achievements:

- Developed climate change educational materials for primary grades 4, 5 and 6: Climate Change Response Booklet, student book and workbook of the Environment and Climate Change Education

The project team held several consultative workshops to produce these materials, involving up to 279 participants (113 females) from the Department of Curriculum Development (DCD), the Department of School Health (SHD), Provincial Education officers (PoE), primary school principals, and teachers.

- Developed climate change response booklet for secondary schools.

After extensive consultations, the project team developed a booklet on climate change response for secondary students. A total of 3,150 booklets were printed and distributed to secondary schools.

- Capacity building to 155 key stakeholders

Various training sessions were conducted on the content of the Climate Change Response Booklet and on integrating climate change into education. The training targeted teachers and officers from the Provincial Teacher Training Centers (PTTC) in Kampong Chhnang, Kampot, Kratie, Kampong Speu, Battambang, and Kampong Cham, and from the 7 schools that were piloting the Eco-school model, reaching a total of 155 participants, including 43 women.

- Support to pilot Eco-schools' implementation.

7 target schools were selected in Battambang, Kampong Speu, Kratie, Kampong Cham and Kampot. These schools received training and orientation on Eco-school implementation guidelines. As a result, the 7 schools created Eco-clubs with 187 members (95 females) with action and budget plans aimed at improving their school environments.

- Supported the installation of climate-resilient and WASH facilities in 27 target schools

The project provided support to 17 primary schools and 10 secondary schools with materials such as lightning protection, wells, handwashing stations, and water tanks. This initiative aimed to increase the schools' resilience to climate change impacts and improve hygiene for students. The schools were selected based on a baseline survey conducted by MoEYS in early 2020.

Beneficiaries

9188 students

Communication products (case studies, video, etc)

Project information and factsheet: <https://ncsd.moe.gov.kh/sites/default/files/2022-01/MoE-Poster%20presentation%20Knowledge%20sharing%20event.pdf>

Project video: <https://youtu.be/gO0-GxfhXL8>

05	Ministry of Mines and Energy (MME)	Piloting Energy Efficiency and Solar Micro Grids for Cambodia's Clean Energy Future	The Project assessed 10 governmental structures, implemented a Smart Energy Monitoring System in 3 of those buildings, and created guidelines for Building Energy Management as well as Energy Efficiency Procurement. Additionally, MME set up a 48 KWp solar microgrid on Koh Kantheay Island, which is benefiting 170 households, a school, and community facilities.
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			Target provinces: Phnom Penh, Kandal
Duration: 01-04-2021 – 30-06-2021 Total Approved Budget: US\$ 249,865 Objective: enhance energy efficiency in government buildings and provide clean and reliable electricity to villages without access to power through solar micro grid systems. Key achievements: • Successful completion of energy audits for 10 government buildings and installation of smart energy monitoring systems in 3 LMs • Development and dissemination of energy efficiency procurement guidelines, and guidelines for building energy management. • Establishment of a 48 kWp solar micro grid power system on Koh Kantheay Island, providing clean access to energy to 170 households, 1 school, and 1 community hall. The system's capacity has improved the villagers' living standards and economic opportunities. Access to 24-hour clean energy has enhanced safety, particularly for women and children, while enabling the school to operate computers, printers, and fans, thereby creating an improved learning environment. • Development of an Operational model for solar minigrid. • Conducting capacity-building workshops and technical training sessions to enhance knowledge and skills in energy efficiency and clean energy technologies • Engagement of stakeholders through consultations, workshops, and awareness campaigns, fostering collaboration and raising climate change awareness. Beneficiaries 170 households GHG ER = 1,753 kt CO₂ The project team estimated a potential GHG emission reduction of 955 tCO₂e/y from the proposed energy efficiency measures for 10 government buildings. Additionally, approximately 654 tCO₂e of emissions could be reduced over 20 years by replacing the Kandal grid for battery charging with a solar microgrid system. After the project closure in mid-2023, the solar grid has continued to operate for an additional 1.5 years until the end of CCCA3 and, as a conservative estimate, it is anticipated that at least 50% of the emission reductions from the energy efficiency measures in the government buildings were also realized. Communication products (case studies, video, etc) Project information and factsheet: https://ncsd.moe.gov.kh/sites/default/files/2022-01/MME-Poster%20presentation%20Knowledge%20sharing%20event.pdf Project video: https://youtu.be/6P1HIWYLAX8			

06	National Committee for Sub-national Democratic Development Secretariat (NCDDS)	Upgrading the climate investment information database of sub-national government of Cambodia	Climate change investment data has been incorporated into the current NCDD Databases (Project Implementation Database (pID) and Sub-national Project Database (sPD). The project created a manual to assist local administrations and provided training on entering climate investment data, facilitated a structured process for transferring climate information from the Commune DataBase (CDB) to refresh the Vulnerability Index, and carried out Vulnerability Risk Assessments (VRA) in 346 communes, 44 districts, and 10 provinces. Target province: Phnom Penh
Duration: 01-07-2022 – 28-03-2024 Total Approved Budget: US\$ 94,967 <u>Objective</u> Upgrade the existing NCDD-S databases so that climate change indicators and climate change finance allocations can be tracked at the sub-national level. <u>Key achievements:</u> The project helped fill an important gap in the monitoring of the climate change response, ensure better information is available to local decision-makers and potential partners, and support capacity development of NCDD-S as accredited entity for multilateral climate funds. • Two publicly accessible sub-national climate investment information systems (pID - Project Implementation Database, https://demo.ncdd.gov.kh/pid/home/index.castle, and the sPD - Subnational Project Database, https://demo.ncdd.gov.kh/spd1/) were updated with new features: detailed climate investment project information, facilitating download options, categorization into mitigation, adaptation, and co-benefit activities, and streamlined report generation. • Development of two comprehensive manuals were developed to provide detailed instructions and guidance on effectively utilizing the systems. • Capacity building for 86 officials from the Planning Investment Division of provincial administration and Provincial Department of Planning in the target provinces of Kampot, Svey Rieng, and Prey Veng underwent training on climate investment data entry and the new system features, including report generation. • Successful collaboration with the MoE and MoP to clearly define roles and responsibilities related to climate data transfer to annually produce the Vulnerability Index. A ToR was agreed upon by all involved partners and received an endorsement from the Program Management Support Division of NCDDS. • Consultative meetings with relevant stakeholders, including INGOs and development partners, to discuss the collection and review of Vulnerability Risk Assessment (VRA) data and from October 6, 2022, to March 2, 2023, VRA data were collected and analyzed from 346 communes, 44 districts, and 10 provinces, namely Takeo, Kampot, Pursat, Battambang, Prey Veng, Svay Rieng, Kratie, Preah Vihear, Siem Reap, and Kampong Thom.			

Communication products (case studies, video, etc)

Project video: <https://youtu.be/m0h1zHBRUMw>

Project factsheet and poster: <https://ncsd.moe.gov.kh/dcc/project/upgrading-climate-investment-information-database-sub-NCDD/line-ministries/grant/CCCA3>

RESEARCH PARTNERSHIP GRANTS

01	ITC	Impacts of heat on health, productivity, and economy in Cambodia	The research studies the effects of heat stress on construction, education, and garment manufacturing sectors. It highlighted significant reductions in industrial work time across these areas due to heat exposure in the workplace, resulting in considerable economic losses. Knowledge resources were developed from this research, such as a hand- book for assessing the impact of heat stress on individuals, a scientific paper focused on heat stress effects in the education, construction, and garment sectors, as well as capacity-building workshops on the topic and the graduation of one PhD student. Location: Phnom Penh Partners: • National University of Singapore (NUS) • Hong Kong Polytechnic University (Hong Kong) • Ministry of Education, youth and sports
Duration: 01-08-2020 – 28-02-2024 Total Approved Budget: US\$ 149,995 <u>Objective</u> Prevent economic loss for policy planning and increase human resources in this research field in Cambodia. Specifically, the research aimed to: • Build knowledge of heat stress, • Investigate the productivity loss due to heat stress, and • Build evidence on the impacts of heat stress in three selected sectors: construction, garment, and education <u>Methodologies:</u> • Interviews through well-structured questionnaires in three sectors: Construction: 74 respondents (rebar and molding workers) (100% M), age range: 18-57, in 5 construction sites in Phnom Penh, both cool (Nov 22 to Feb 23) and hot (Mar to Jun 23) seasons			

Garment: 778 respondents (97% F), age range: 19-55, in 3 factories, both cool (Jul 2022) and hot

(Feb 2022) seasons

Education: 493 respondents (52% F, 48% M), grade 6, 2 primary schools in Phnom Penh

- **Environmental parameters and physical observations:** Air temperature, radiant temperature, humidity and air movement, Heart rate, Age, body mass index, alcohol and smoking habits, medical history and so on
- **Productivities observations:** Direct, indirect, and non-productive time with observation every 15 minutes
- **Energy audit:** Energy adaption measures and energy efficiency recommendations

Key Achievements:

- Heat stress significantly reduces construction labor productivity and work duration due to physiological strain.
- Workers endure more intense heat-related effects during warmer months compared to colder ones. Working in the hottest month of the year exacerbates negative influences on both work pace and precision.
- Students experience symptoms of heat stress while studying, which include difficulty concentrating, mild headaches, dizziness, and fatigue.
- By employing an interdisciplinary approach, Cambodia saw an 11.2% annual decline in industrial productive working time in 2018, leading to an output loss of USD 2,638 million across the economy. Projections for 2035 indicate an additional loss of USD 634 million in out- put, emphasizing the growing severity of heat-related productivity challenges.

Recommendations:

- Create green spaces around school buildings to provide shade and reduce indoor temperatures, addressing the need for adaptive measures in tropical countries like Singapore and Cambodia, where workers are chronically exposed to heat (Section 4 - Discussion).
- Educate teachers and students about the impacts of heat on health and implement heat acclimatization programs, leveraging the findings that heat-induced mental distraction can significantly affect productivity in indoor workers.
- Implement comprehensive heat stress management protocols in construction sites, including regular breaks (e.g., any time of 5-30 minutes for every 45-150 minutes of work), access to shaded areas, and provision of cool drinks to mitigate the impact of heat-induced productive working time loss.
- Foster collaboration between construction companies, government agencies, and research institutions to develop sector-specific heat mitigation strategies, leveraging the knowledge gained from interdisciplinary analyses combining meteorological, epidemiological, and economic factors.
- Ensure schools have proper ventilation and access to drinking water for students and staff to mitigate heat-related impacts on educational outcomes.
- Improve workplace ventilation and provide access to drinking water for garment workers to address heat-induced productivity loss.

- Create shaded areas in factories and invest in green infrastructure to reduce indoor temperatures, considering that the manufacturing sector suffered the highest total output loss.

Communication products (case studies, video, etc)

Project information and factsheet: <https://ncsd.moe.gov.kh/sites/default/files/2022-01/ITC-HSC-Poster%20presentation%20Knowledge%20sharing%20event.pdf>

Research infographic and findings: <https://ncsd.moe.gov.kh/resources/document/impact-heat-stress-human-productivity-and-economy>

Project video: <https://youtu.be/FKHn46Cvhxc?si=ImTCrlqEuOVwpVA9>

02	UBB	Investing into Soil Organic Carbon management ISOC for resilient upland farming (ISOC)	The impact of changes in land use and farming practices on soil organic carbon in Battambang was evaluated, focusing on Soil Organic Content (SOC) in both Conventional Techniques (CT) and Conservation Agriculture (CA) within Cambodian upland areas. The results of this study contributed to a policy brief titled 'Impacts of Land Use Change and Agricultural Management on Soil Organic Carbon', and policy discussions were held to promote the adoption of CA practices. Additionally, the research involved six farmers and two women-led groups. Location: Battambang Partners: • Department of Agricultural Land Resources Management (DALRM), General Directorate of Agriculture (GDA), MAFF • Cambodian Agriculture and Research Development Institute (CARDI) • Royal University of Agriculture (RUA) • CIRAD, Research Unit AIDA/CSIA, ENSAT Toulouse, France
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Duration: 12-2021 – 03-2024

Total Approved Budget: US\$149,990

Objective: understand the impacts of conservation agriculture (CA) by assessing soil organic carbon (SOC) and ecosystem services, piloting a study in Battambang province, by:

- Assess the impact of land use change on SOC and nitrogen stocks;
- Quantify the impact of conventional plough-based management vs CA-based cropping systems on soil health;
- Assess the impacts on farms; and
- Feed policy dialogue.

Methodologies:

- Experiment – Randomised block design (4 replicates of 315 m², six main cropping systems with plough, green manure and CA-based management)
- Different soil parameters analysis
- Bio Function Toolbox is used to assess the functional quality of soils, particularly in relation to ecosystem services like carbon storage, nutrient cycling, and soil structure maintenance
- Analysis of the effect of the transition from conventional plough-based to CA-based management using some soil parameters sensitive to management practices: Permanganate Oxidizable Carbon (POXC) (labile carbon pool) and SituResp® (soil respiration)
- Measurements over two years to capture the temporal evolution of the performances of the systems

Key Findings:

- The transformation of land use, particularly the shift from forest to agricultural areas (both annual and perennial crops), negatively affects the stock of soil organic carbon, resulting in a depletion ranging from 31% to 69% when compared to the SOC stock remaining in forest patches, with a depletion rate between -3.4 to -5.9 MgC/ha/y.
- Management through CA provides various advantages, such as enhanced earthworm populations that aid in the breakdown of organic material, nutrient cycling, improved water infiltration, and stabilization of SOC levels. After five years, SOC under CA can be two times greater than that under conventional methods, thus enhancing soil ecosystem functions and quality. Moreover, CA fosters increased soil microbial diversity and abundance, which benefits soil health and decreases pest and disease prevalence. The Soil Quality Index (SQI), derived from the Biofunctool® methodology, improved by 15% within two years of CA transition compared to CT.
- Collaborative methods have been enhanced among partners assessing changes in soil organic carbon stock, soil ecosystem services, and conducting multicriteria analysis.

Recommendations:

- Long-Term Commitment: Implement CA over extended periods to fully realize its benefits for soil health, crop productivity, and economic returns.
- Tailored Approaches: Develop CA strategies suited to specific soil types to maximize effectiveness.
- Knowledge Dissemination and Capacity Building: Promote CA through policy dialogues, field visits, and publications. Invest in training for farmers and extension workers to support effective adoption.
- Investment in Analytical Facilities: Equip with tools like carbon and nitrogen analysers to accurately measure greenhouse gas emissions and assess CA's impact.
- Policy Support: Advocate for policies offering financial incentives, technical assistance, and market access to encourage CA adoption.

Communication products (case studies, video, etc)

Project information and factsheet: <https://ncsd.moe.gov.kh/sites/default/files/2022-01/NUBB-Poster%20presentation%20Knowledge%20sharing%20event.pdf>

Research infographic: <https://ncsd.moe.gov.kh/resources/document/research-investing-soil-organic-carbon-management>

Published paper on Multicriteria assessment of recently implemented conservation agriculture cropping systems across farmers' plots in northwestern Cambodia

<https://www.sciencedirect.com/science/article/pii/S2949911925000048?via%3Dihub>

03	RUPP	The cost of adaptation to climate change and for infrastructure, water and agriculture projects	A Cost and Benefits Analysis (CBA) focusing on road and related infrastructure assets in the context of climate change was developed, proving to be quite significant and beneficial for road development initiatives in Cambodia. This research project examined the losses and damages affecting road infrastructure in the provinces of Prey Veng and Kampot, as well as conducted adaptation costing analyses for various proposed measures under two scenarios (without and with climate adaptation strategies). The results informed the creation of guidelines for loss and damage assessments, adaptation costing, and capacity building for the two relevant ministries (MRD and MPWT). Additionally, these findings were incorporated into the Master of Science in Climate Change Program (MCC) at RUPP. Location: Kampong Thom, Pursat, Kratie, Prey Veng, Kampot Partners: • Asian Institute of Technology (AIT) • University of Freiburg (Germany)
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Duration: 29-05-2021 – 31-03-2024

Total Approved Budget: US\$ 149,990

Objectives:

- Investigate methodologies for assessing damage and losses caused by climate change on roads and other infrastructure.
- Perform a Cost-Benefit Analysis (CBA) of these infrastructures under scenarios without and with climate change adaptation measures, incorporating climate projections.
- Develop practical tools and methods for Ministry of Public Works and Transport (MPWT) and Ministry of Rural Development (MRD) officials to assess the financial costs of adaptation in roads, small-scale irrigation, and related infrastructure.

Methodologies:

- Climate projections using the MRC's global climate models and satellite images to identify flood-prone areas and inundation areas, estimate floodwater depth, and predict flood hazard for selected infrastructure (road).

- Loss and damage assessment based on evaluation of climate risk and risk areas, inventory dataset for roads and infrastructures, damage-cost based on expert judgement and local cost and exposure.
- CBA: climate risk analysis, scenario determination, cost-benefit identification for each adaptation option, decision analysis, and spreadsheet software like Microsoft Excel or Google Sheets.
- CBA parameters include key parameters like Internal Rate of Return (IRR), Benefit Cost Ratio (BCR), and Net Present Value (NPV) as well as consultation with relevant MRD and MPWT Provincial Departments.
- Capacity needs assessment for relevant officials of MPWT and MRD to assess the information gaps and training needed in the adaptation costing in road infrastructures.

Key findings:

- Both Prey Veng and Kampot provinces are extremely vulnerable to flooding, with 3,745 km² (2.45%) in Prey Veng and 4,316 km² (2.07%) in Kampot classified as flood-prone.
- The total estimated damages resulting from the flood in 2019 and 2020 reached \$4,464,557 in Kampot and \$3,645,618 in Prey Veng.
- Implementing CBA is vital for increasing the resilience of roads by integrating nature-based solutions, such as the Canal Option, Wetland Option, and Greening Roadway Option, which are best adapted to local conditions.
- Based on capacity needs assessment with government officials from the MPWT and MRD, capacity and knowledge on “skills and technical methods” to losses and damages, and the adaptation costing model was evaluated and provided better understanding of building a national guideline on adaptation costing on road infrastructure development in Cambodia.

Recommendations:

- Integrate developed methods and tools for assessing losses and damages, and CBA into ministry plans and design standards, with necessary technical and financial support.
- Use statistical and spatial analyses to understand how hazards impact infrastructures and guide policy adaptations at the provincial level.
- Continuous monitoring and updating of tools and methods for assessing climate change impacts on infrastructure.
- Incorporate assessment methods and tools into the university curriculum, particularly in climate change programs.
- Provide comprehensive training for government officials and contractors on these assessment methods.
- Support the approval of national adaptation guidelines and expand research into water and irrigation infrastructures based on the CAMI project’s experiences.

Communication products (case studies, video, etc)

Project information and factsheet: <https://ncsd.moe.gov.kh/sites/default/files/2022-01/RUPP-Poster%20presentation%20Knowledge%20sharing%20event.pdf>

Research infographic and findings: <https://ncsd.moe.gov.kh/resources/document/appropriate-costing-methods-climate-change-adaptation>

Project video: <https://youtu.be/xNJ8NiGkofs?si=GE3hKZz1YHecTVvM>

04	ITC	Improving capacity on integrated coastal management with low impact development considering environmental sustainability and climate change in the coastal area of Cambodia (CLID)	The implementation of Low Impact Development (LID) strategies as a measure to reduce flooding in coastal cities has been considered. An inundation map depicting the impacts of rising sea levels for coastal regions was created, along with a report addressing the status of climate change and future projections for Cambodia. Training and outreach on Climate-Resilient LID (CLID) were conducted for relevant ministries, academic institutions, provincial departments, and municipal offices, resulting in the publication of one scientific paper in an international journal and the graduation of four master's and six bachelor's students. Location: Koh Kong, Preah Sihanouk, Kampot, Kep Partners: • Institute of Research for Development (IRD), France • Kyoto University (KU), Japan • Royal University of Agriculture (RUA)
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Duration: 01-09-2021 – 31-03-2024

Total Approved Budget: US\$ 149,940

Objective: support the integration of best practices in LID with urban planning process through scenario evaluation platforms, workshops, and instruction materials that involve the participation of city planners, policymakers, practitioners, and citizens. Specifically, the research aims to study on:

- urban storm water modeling and scenario analysis for LID,
- sea-level rise analysis and impact in coastal area,
- climate change data processing and impact analysis,
- baseline and impact survey,
- and capacity building.

Methodologies:

- Utilize scientific modelling tools and dataset for scenario analysis on land use changes, urban floods, global warming, and climate change impacts such as PCSWMM, (ECMWF) ERA5 database, and Policy
- Decision making for Future climate change (d4PDF) Propose scenarios combining land-use changes and climate change impacts to apply LID or SCC in the study areas
- Estimate sea-level rise for the Cambodian coastline using climate models and developing sea-level rise inundation maps
- Perform baseline and end-line surveys among practitioners, planners, decision-makers, and local communities to assess the project's impact and raise awareness of LID
- Conduct dissemination activities and training workshops to engage stakeholders
- Publish scientific articles and support research of undergraduate and graduate students on LID

Key findings:

- The urban flood simulations show that utilizing the LID approach can reduce both the height and duration of flooding in sub-catchment regions.
- Analysis of rising sea levels reveals an annual increase of 5.96 mm, with forecasts suggesting a rise of up to 1,302 mm over the next 50 years. This will submerge 242 km² of land, leading to an estimated economic impact of 304 million USD, particularly affecting areas such as Khemarak Phoumin City, Botum Sakor district, the Preah Sihanouk coastline, and Kampot City.
- Studies on global warming show that Cambodia has witnessed rising temperatures throughout the nation and is anticipated to experience an increase in both droughts and floods in the upcoming decades.
- The baseline survey on LID reveals a limited comprehension of LID principles among households and key stakeholders in coastal regions. Nevertheless, the majority recognize the substantial impacts of climate change and express concern regarding the environmental repercussions of rising sea levels.
- Three training workshops were conducted for 80 stakeholders (including 15 females) from provincial administration, departments, academia, local communities, development partners, NGOs, and the private sector.
- A scientific paper was published in an international journal, and four Master's and six Bachelor's students graduated.

Recommendations:

- Develop a compendium of coastal biodiversity hotspots, a master plan for affected areas, and awareness programs for sustainable resource management, targeting coastal communities and local authorities.
- Design a new drainage system in urbanizing areas to mitigate flooding.
- Increase public and private investment in adaptation strategies to address flood and drought impacts on health, infrastructure, the economy, environment, wildlife, agriculture, and water resources.
- Advocate for the national government to incorporate the LID concept into public investment plans and collaborate with sub-national authorities, private sectors, and international agencies to improve construction methods and legal frameworks.
- Organize practical training to enhance technical skills related to LID concepts.
- Integrate LID practices into education curricula and research programs.
- Pilot small-scale LID initiatives in coastal regions, involving relevant stakeholders and local authorities.

Communication products (case studies, video, etc)

Project information and factsheet: <https://ncsd.moe.gov.kh/dcc/project/improving-capacity-integrated-coastal-management-low>

Research infographic and findings: <https://ncsd.moe.gov.kh/resources/document/research-improving-capacity-integrated-coastal>

Project video: <https://youtu.be/iaEXtyl6kSQ?si=ZawbydTntxDLrKSC>

Annex 2: Response to Terminal Evaluation

Evaluation Recommendations	Progress Status
1. The exit strategy, currently under development, should highlight the prioritized sectors and the support needed to develop mechanisms to achieve sustainable climate financing through innovative approaches, such as initiatives that are self-sustaining and financially viable through self-implementation, and engagement with private sector. As this recommendation is intended to address funding gaps identified by stakeholders it will be important to work collaboratively with stakeholders to seek solutions.	Completed The Exit Strategy Report was finalised with the assistance of a team of consultants who undertook an extensive consultation phase. The main findings were further discussed and validated by the PMU.
2. Documentation of lessons learned and achievements should be completed and ready to showcase in the process of sectoral strategic plan development in the 7th mandate of the government. This recommendation addresses both the need for continued transparency and advocacy of actions that address CC	Completed The key achievements were presented during the final CCCA3 event organized on December 11, 2024. A booklet was distributed and published: https://ncsd.moe.gov.kh/resources/document/cambodia-climate-change-alliance-phase-3-ccca3. Achievements and lessons learnt were discussed during the 6th and final Programme Executive Board (PEB), organized on December 12, 2024. The main lessons learnt were summarized in a dedicated note
3. Public Financial Management: A shift to a public financial management model, whereby MEF, working with MoE, to develop the tools required to mainstream CC into all government budget planning with a legal requirement to ensure that CC is being included in AWP's demonstrating sector actions that address CC resilience, adaptation and mitigation needs, for example a CC budget tagging method should be introduced with a greater role given to MEF in leading the financial allocation for CC actions. This recommendation which builds on	Completed The consultant team hired to support the design of the next phase of CCCA successfully completed the consultation phase, and outlined the design structure, proposed outcomes, and theory of change, taking into account this recommendation. During the 6th PEB meeting, UNDP and MoE decided to focus on refining the draft design in

CCCA3 is directed at mainstreaming climate change into all government planning and budgeting.	early 2025. The goal is to reach a final version by February 2025.
4. Building Capacity within Government: Continue to utilize a project implementation approach whereby government staff take on a large role in the planning, implementation, monitoring, analyzing and reporting on CC activity outputs. This approach should be supported by direct coaching and mentoring from the CCCA technical assistants as needed. The approach is intended to continue to build within government - effective, results-based project management, ownership, and sustainability of CC project activity outputs. Careful consideration and management should also be given to the transparency and accountability of project financial management.	Completed The consultant team hired to support the design of the next phase of CCCA successfully completed the consultation phase, and outlined the design structure, proposed outcomes, and theory of change, taking into account this recommendation. During the 6th PEB meeting, UNDP and MoE decided to focus on refining the draft design in early 2025. The goal is to reach a final version by February 2025.
5. Grant Components: CCCA3 demonstrated the use of small-grants and LoAs is an effective implementation strategy to engage government, NGOs, research organizations and the private sector in targeted, gender responsive, results-based CC activities that were innovative, built capacity within participating stakeholders and leveraged significant in-kind co-financing. To address issues of sustainability the implementation approach could benefit from the inclusion of technical support and requirements for the development of viable sustainability strategies that ensure outputs are sustained and plans (including financial plans) are in place to support replication and/or scale-up of successful outcomes. The continuation of a grant program should be considered an integral component of the next phases provided financial sustainability is embedded in the project strategies.	Completed The consultant team hired to support the design of the next phase of CCCA successfully completed the consultation phase, and outlined the design structure, proposed outcomes, and theory of change, taking into account this recommendation. During the 6th PEB meeting, UNDP and MoE decided to focus on refining the draft design in early 2025. The goal is to reach a final version by February 2025.
6. Private Sector: CCCA3 demonstrated there are opportunities for the private sector to be engaged in CC resilience, adaptation and mitigation activities. There is a need to significantly expand	Completed The consultant team hired to support the design of the next phase of CCCA successfully

private sector engagement by identifying and facilitating for profit CC activities where an engaged private sector brings innovation, expertise and co-financing to work with government, NGOs and the public to address CC.	completed the consultation phase, and outlined the design structure, proposed outcomes, and theory of change, taking into account this recommendation. During the 6th PEB meeting, UNDP and MoE decided to focus on refining the draft design in early 2025. The goal is to reach a final version by February 2025.
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Annex 3: Risk log

No	Description	Date Identified	Type	Impact & Probability	Countermeasures / Mngt response	Owner	Submitted, updated by	Last Update	Status
1	Changes in leadership in counterpart institutions lead to lower commitment to climate change action	10/2018	Political	May affect the capacity of the project to engage on certain policy issues, or to support improvements in planning/budget systems in these institutions P = 2 I = 4	Sensitization and engagement of HL decision- makers. Nurturing relationship with technical levels in key institutions (informing choice of focus sectors).	Project Manager	Project Developer	31 December 2024	Unchanged

No	Description	Date Identified	Type	Impact & Probability	Countermeasures / Mngt response	Owner	Submitted, updated by	Last Update	Status
2	New directions are taken for the National Strategic Development Plan (2019-2023) and sector-wide policies deviating from green growth	10/2018	Strategic	May affect the capacity of the project to engage on certain policy issues P = 1 I = 4	Engagement in the Mid Term Review of the CCCSP (2014-2023) in 2018. Support key stakeholders in the use of climate mainstreaming tools in key planning documents (applied research, CBA, making the business case).	Project Manager	Project Developer	31 December 2024	Unchanged

No	Description	Date Identified	Type	Impact & Probability	Countermeasures / Mngt response	Owner	Submitted, updated by	Last Update	Status
3	Decentralization agenda compromised by internal debate within Government stakeholders and disengagement of development partners' support	10/2018	Strategic	Affect the capacity of the project to engage sub-national institutions P = 2 I = 3	A cautious and gradual engagement of sub-national level authorities in climate response. Piloting approaches while NCDD issues conclusions from its study on sub-national institutions' capacities. Undertaking a "needs based assessment" to reinforce climate action at the subnational level and envision investments only in the 2nd part of the programme.	Project Manager	Project Developer	31 December 2024	Unchanged

No	Description	Date Identified	Type	Impact & Probability	Countermeasures / Mngt response	Owner	Submitted, updated by	Last Update	Status
4	Brain-drain, high staff turnover posing sustainability risks and limited availability of Government staff to engage in or lead proposed activities	10/2018	Organizational	Limits the potential for capacity development and transfer of knowledge P = 3 I = 3	Proposed activities are in line with Government staff mandates (not add-ons), and contribute to the core functions assigned to Government staff (public officials will be assigned to programme activities based on their usual functions). Nurturing relationships with Government managers already engaging with CCCA and offering hands-on mentorship, training and knowledge exchange opportunities to public officials engaged in the programme.	Project Manager	Project Developer	31 December 2024	Unchanged

No	Description	Date Identified	Type	Impact & Probability	Countermeasures / Mngt response	Owner	Submitted, updated by	Last Update	Status
5	Vested interests in specific sectors (e.g. energy, transport) may prevent the enactment of climate-smart policy measures if they are perceived as threats to their business model	10/2018	Strategic	Recommended measures may not be approved/applied in concerned sectors P = 2 I = 3	Engagement of all concerned actors through private sector dialogue. Building the business case of climate-smart and green technology solutions through local evidence. Positive incentives to mobilise climate-smart and low-carbon investments (technical assistance, access to financing, tax regime). Promote schemes to reward private sector “champions”/ green investors (awards, certifications).	Project Manager	Project Developer	31 December 2024	Unchanged

No	Description	Date Identified	Type	Impact & Probability	Countermeasures / Mngt response	Owner	Submitted, updated by	Last Update	Status
6	Lack of availability of international support for “means of implementation” for NDCs	10/2018	Financial	Limited financing to scale up solutions developed by CCCA P = 2 I = 3	Tracking the increase of domestic investments to reduce dependence on international support. Use public funds to leverage private investments. Track international climate finance and engage in UNFCCC negotiations to hold donors accountable to existing commitments.	Project Manager	Project Developer	31 December 2024	Unchanged
7	Unfavorable exchange rate variations	10/2018	Financial	Insufficient budget for planned activities P = 3; I = 2	Track exchange rates and anticipate any reductions through timely USD budget revisions.	UNDP Prog. Associate	Project Developer	31 December 2024	Budget adjustment proposed to the Board.

No	Description	Date Identified	Type	Impact & Probability	Countermeasures / Mngt response	Owner	Submitted, updated by	Last Update	Status
8	Restrictions to activities due to the COVID-19 pandemic	03/2020	Health / Operational	Restrictions to our capacity to deliver, conduct meetings and field activities, threat to CCCA 3 staff health P = 2; I = 2	Implement remote working arrangements whenever possible, adjust work plans.	Project manager, and PEB	Project manager	31 December 2024	Risk realized already in March 2020. Work plan adjustments implemented.

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