CAMBODIA NATIONAL ADAPTATION PLAN FINANCING FRAMEWORK AND IMPLEMENTATION PLAN

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FOREWORD

Cambodia is among the countries most at risk to the impacts of climate change partly due to its agrarian based economy, limited human and financial resources, insufficient physical infrastructure, and limited access to technologies. Cambodia has however made significant effort to combat the effects of climate change. Lessons are being learned in planning and implementing climate actions, and domestic and international funds have been allocated for adaptation. In order to further reduce the country's vulnerability in the medium to long term and integrate climate change adaptation into sectoral policy and budget planning, the Royal Government of Cambodia has initiated a process to implement its national adaptation plan (NAP).

The goal of the NAP process builds on the objectives set by the National Strategic Development Plan (NSDP) 2014-2018 and the Cambodia Climate Change Strategic Plan (CCCSP) 2014–2023, and focuses on strengthening and better integrating already ongoing processes. As the availability of financing is key for the implementation of more climate change adaptation measures, there are also ongoing efforts to mobilise more funds. The Cambodia Climate Change Financing Framework was finalised in April 2015 to promote a common approach to defining climate financing and to assess its current level and prospects for future financing.

To bring the NAP process in Cambodia closer to its execution, and with a specific aim to increase the possibilities for Cambodia to access additional adaptation financing, a NAP Financing Framework and Implementation Plan has been developed. Through analysing the financial demand and gap, based on the sectoral Climate Change Action Plans (CCAPs) of 14 relevant line ministries/agencies and national stakeholder consultations, and by examining the international climate finance landscape, the framework gives both short-term suggestions for 40 priority climate change actions as well as medium- and long term recommendations. These include among others, to pursue approaches sector-wide or programmatic approaches rather than small-sized projects, to strengthen project and budgeting capacities, to further develop a national repository on climate science/knowledge/development, to further strengthen sectoral coordination, to continue to mainstream climate proofing into ministries' budgets, and increasingly integrating gender dimensions in climate responses.

On behalf of the Ministry of Environment and the National Council for Sustainable Development, we look forward to working with all stakeholders on implementing the actions and recommendations in the NAP Financing Framework in order to ensure that more climate change adaption measures are being realised in Cambodia.

I would like to express my appreciation to the Department of Climate Change (DCC), General Secretariat of the National Council for Sustainable Development, for taking the lead in the development of this important framework. My sincere gratitude also goes to the Climate Finance Readiness Programme, implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), and financed by the United States Agency for International Development (USAID), for their technical and financial support.

Phnom Penh, 31 August 2017

Say Samal
Minister of Environment
Chair of the National Council for Sustainable Development

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LIST OFACRONYMS

ADB	Asian Development Bank
AEZ	Agro Ecological Zone
AF	Adaptation Fund
AFD	*Agence Française de Développement*
ASAP	Adaptation for Smallholder Agriculture Program
CACIC	Cambodian Agriculture Cooperative Insurance Company
CC	Climate Change
CCAP	Climate Change Action Plan
CCCA	Cambodia Climate Change Alliance
CBA	Community Based Adaptation
CCCSP	Cambodia Climate Change Strategic Plan (2014 – 2023)
CCFF	Climate Change Finance Framework
CDC	Council for the Development of Cambodia
CDM	Clean Development Mechanism
CFU	Climate Funds Update
CIF	Climate Investment Funds
COP	Conference of Parties
CPER	Climate Public Expenditure Review
CPEIR	Climate Public Expenditure and Institutional Review
CPI	Climate Policy Initiative
CR	Cambodian Riel
CRI	Climate Relevance Index
CS	Commune/Sangkat
CSA	Climate Smart Agriculture
CSO	Civil Society Organization
CSF	Commune/Sangkat Funds
CTF	Climate Technology Fund
DAC	Development Assistance Committee
DCC	Department of Climate Change
DM	District and Municipality Level
DMF	District and Municipality Funds
DFID	Department for International Development
EU	European Union
FAO	Food and Agriculture Organization
FDI	Foreign Direct Investment
FIP	Forestry Investment Program
FMIS	Financial Management Information System
GCCA	Global Climate Change Alliance
GCF	Green Climate Fund
GDP	Gross Domestic Product
GEF	Global Environment Facility
GFDRR	Global Facility for Disaster Risk Reduction
GHG	Greenhouse gas
GIS	Geographical Information Systems
GIZ	*Deutsche Gesellschaft für Internationale Zusammenarbeit*
IFAD	International Fund for Agricultural Development
IKI	International Climate Initiative
INDC	Intended Nationally Determined Contribution
IRRBD	International Rubber Research Development Board
JICA	Japan International Cooperation Agency
LDC	Least Developed Country
LDCF	Least Developed Countries Fund
LEG	Least Developed Countries' Expert Group
LGCC	Local Governance and Climate Change
LoCAL	Local Climate Adaptive Living (UNCDF)
ICF	International Climate Fund
IKI	Internationale Klimaschutzinitiative (by its German acronym)
IWRAM	Water Resource Access and Management for Better Farming in Drought Prone Communities
MAFF	Ministry of Agriculture, Forestry and Fisheries

MDB	Multilateral Development Bank
MEF	Ministry of Economy and Finance
MoEYS	Ministry of Education, Youth, and Sports
MIE	Multilateral Implementing Entity
MIH	Ministry of Industry and Handicrafts
MLMUPC	Ministry of Land Management, Urban Planning & Construction
MME	Ministry of Mines, Minerals and Energy
MOE	Ministry of Environment
MOH	Ministry of Health
MOINFO	Ministry of Information
MOP	Ministry of Planning
MOT	Ministry of Tourism
MOWA	Ministry of Women Affairs
MOWRAM	Ministry of Water Resources and Meteorology
MPWT	Ministry of Public Works and Transport
MRD	Ministry of Rural Development
MTEF	Medium Term Expenditure Framework
MTMFF	Medium Term Macroeconomic and Fiscal Framework
NAMA	Nationally Appropriate Mitigation Action
NAP	National Adaptation Plan
NAPA	National Adaptation Program of Action
NCDM	National Council of Disaster Management
NCSD	National Council for Sustainable Development
NCDD	National Committee for Sub-National Democratic Development
NCDD-S	Secretariat of NCDD
NDA	National Designated Authority
NDC	Nationally Determined Contribution
NIE	National Implementing Entity
NGO	Non-Governmental Organization
NIS	National Institute of Statistics
NSDP	National Sustainable Development Plan
ODA	Official Development Assistance
ODI	Overseas Development Institute
OECD	Organization for Economic Cooperation and Development
PA	Priority Action
PES	Payment for Ecosystem Services
PFM	Public Financial Management
PFMRP	Public Finance Management Reform Program
PIP	Public Investment Program
PIU	Project Implementation Unit
PM	Prime Minister
PPCR	Pilot Program for Climate Resilience
PPG	Project Preparation Grant
REDD	Reducing Emissions from Deforestation and Degradation
RGC	Royal Government of Cambodia
SCCF	Strategic Climate Change Fund
SIDA	Swedish International Development Cooperation Agency
SIDS	Small Island Developing States
SNA	Sub-National Administration
SNC	Second National Communication
SNIF	Sub-National Investment Funds
SPCR	Strategic Program for Climate Resilience
VRA	Vulnerability Reduction Assessment
UNCDF	United Nations Capital Development Fund
UNDP	United Nations Development Program
UNEP	United Nations Environment Program
UNFCCC	United National Framework Convention on Climate Change
USAID	United States Agency for International Development
USD	United States Dollar
WHO	World Health Organization

EXECUTIVE SUMMARY

Introduction

The main purpose of the National Adaptation Plan (NAP) Financing Framework and Implementation Plan is to bring the National Adaptation Plan process in Cambodia closer to its execution and with a specific aim to increase the possibilities for Cambodia to access additional adaptation finance. The lack of financing is a key barrier to the implementation of climate change adaptation measures in Cambodia, thus supporting efforts to mobilise more funds is critical. Getting access to additional funding will contribute to the endeavour of the Royal Government of Cambodia (RGC) in responding to the negative impacts of climate change by reducing vulnerabilities.

The NAP financing framework includes an analysis and articulation of various financing dimensions (by scoping demand, existing gaps, funding options at domestic and international levels) and offers an implementation plan for priority actions. This built on an analysis of financial demand and gaps from the existing Cambodia Climate Change Strategic Plan (CCCSP) 2014-2023, sectoral Climate Change Action Plans (CCAPs), existing relevant documents and key interviews with line ministries, national stakeholder consultations, and an examination of the international climate finance landscape. The framework is making both medium- and long-term recommendations as well as short-term suggestions for 40 priority climate change actions. These include among others, to pursue sector-wide or programmatic approaches rather than small-sized projects, to strengthen project and budgeting capacities, to further develop a national repository on climate science /knowledge /development, to further strengthen sectoral coordination, to continue to mainstream climate proofing into ministries' budgets, and integrate gender dimensions in climate responses.

Background

Based on several international climate change indices, Cambodia is considered as one of the countries most vulnerable to climate change. The Global Climate Risk Index (1995–2015) and the World Risk Index (2016) placed Cambodia in the 13th and the 8th place respectively among the most vulnerable countries in the world. The vulnerability is characterised by frequent flooding and irregular rainfall, agrarian based economy, limited human and financial resources, insufficient physical infrastructure, and limited access to technologies. Major climate change impacts are projected to have negative effects on sectors key to human development such as agriculture, health and infrastructure. Considering the size of the challenges for the Cambodian economy and society, both public and private investment will be required to address these threats and to minimize climate change impacts on the economy, business environment and well-being of the population.

In response to the climate change challenges, the RGC ratified the United Nations Framework Convention on Climate Change (UNFCCC) in 1996. In 2013, RGC undertook a high-level national policy dialogue on climate change that led to the development of the CCCSP, 2014-2023. Another key document is Cambodia's Climate Change Financing Framework (CCFF), which aims to guide future climate financing, both for adaptation and mitigation purposes. It promotes a common approach to defining climate financing demand and assessed the level of resources available and the prospects for future financing. Cambodia's NAP process was institutionalised in 2014 and builds on the objectives set by the National Strategic Development Plan (NSDP), the CCCSP and the CCFF. The NAP process focuses on strengthening and better integrating already existing strategies and ongoing approaches and practices. As such, it is meant to play a critical role in reducing climate vulnerability and building adaptive resilience in the medium- and long term. The actions identified under line-Ministries' CCAPs, Cambodia's Initial and Second National Communication and NDCs are considered to be the key inputs to the NAP. The Cambodian NAP process follows the UNFCCC Least Developed Countries' Expert Group (LEG) Technical Guidelines.

Scope and methodology

The NAP Financing Framework is based on the outputs and key findings resulting from previous analytical and planning exercises, strategic plans and policies that Cambodian institutions have undertaken. The approach taken is also guided by the Least Developed Countries' Expert Group guidelines for NAP development. The construction of the NAP financing framework is articulated around different building blocks, and has been informed by the outputs of several analytical pieces led by the National Council for Sustainable Development (NCSD) and conducted with support from experts offered by GIZ.

Defining the Financing Demand and Gap

The NCSD has coordinated the RGC's effort to estimate the financial demand and the financing gap relating to the implementation of the climate agenda at national level (considering the needs of climate-sensitive institutions primarily). The adaptation financing gap has been estimated based on the actions identified intended to build resilience within the Ministries' CCAPs and these are estimated requiring a total USD 865.5 million for implementation. The financing gap for the implementation of CCAPs is estimated at 92.7%. Details on the financing demand and gap can be found in chapter 2.

Climate Change Integration into Government Budgets

Considerable progress has been made in integrating climate change into national planning and budgeting processes. The NCSD and the Ministry of Economy and Finance (MEF) have led these efforts in order to improve the efficiency and effectiveness of climate change related public expenditure. Climate change related public expenditure trends have also been tracked in Cambodia through a series of related reviews starting in 2012. In April 2016 MEF included a reference to climate change for the first time in its 2017 BSP Circular. This being said, the progress to integrate climate change actions into the line Ministries' regular budgeting and planning processes is still quite limited. Program-based budgeting provides an opportunity to further enable climate change integration into policy-guided financial decision-making processes.

At sub-national level, the decentralization reform has during the last years centered on the Districts/Municipalities (DMs). The establishment of a new planning process for DMs constitutes a foundation for increased adaptation actions at the local level. The implementation of a policy for climate change mainstreaming at the sub-national level is also expected to have a significant positive impact. The National Committee for Sub-National Democratic Development (NCDD) is planning to scale-up climate change efforts to the entire country, working closely with the NCSD. Financing from national and local level budgets is further explored in chapter 3.

The International Climate Finance Landscape

The global architecture of climate funds is a complex and changing picture. A plethora of mechanisms exist, which multiplies the options for recipient countries, but also makes coordination challenging. While bilateral climate funding initiatives are consolidating and some regional ones also exist, the bulk of public climate finance continues to be channeled through large multilateral funds, most but not all under the UNFCCC. Under the Paris Climate Agreement reached at COP21, developed countries reiterated their commitment to "lead mobilizing climate finance from a wide variety of sources, instruments and channels, noting the significant role of public funds". At COP21, the previous commitment from COP15 to mobilize an annual USD100 billion by 2020 was extended to 2025. Beyond that, the Paris Agreement signaled a "progression beyond previous efforts" in climate finance. Many developing countries highlighted in Paris the need to scale up international support to finance the implementation of NAPs.

Multilateral climate funds have developed fast in the last decade and offer recipient countries a financing route that is less influenced by donor-led approaches and ways of working. Under the UNFCCC framework,

the Adaptation Fund and the Green Climate Fund in particular have developed an internal governance structure that seeks to balance North/South representation and to be more permeable to alignment with the investment decisions and policy priorities of the recipient, hence attracting high-expectations from developing countries. The Global Environment Facility, the Adaptation Fund, the Green Climate Fund, the Climate Investment Funds, the Pilot Program for Climate Resilience, the Forest Investment Program and other initiatives all provide possible avenues for adaptation financing. In addition, the global Nationally Determined Contribution (NDC) Partnership was recently launched at COP22 (November 2016) to help countries achieve their NDCs and to ensure financial and technical assistance is delivered as efficiently as possible.

A significant amount of public climate finance is channeled bilaterally and managed mostly by the same agencies in charge of development aid. There are no universally agreed accounting criteria for bilateral donors' climate finance, but according to reports from the OECD-DAC in 2014, USD26 billion of ODA was invested in climate related operations. A few donors have set up specific funds to channel and administer their contributions to climate action in developing countries. Germany's International Climate Initiative (IKI), UK's International Climate Fund (ICF) and the EU's Global Climate Change Alliance (GCCA) have been the most relevant climate-specific bilateral funds in recent years. Other bilateral donors (including Sweden and the US) are currently providing climate-related development assistance to Cambodia and could remain relevant to the financing of the country's National Adaptation Plan. The review of international climate funding options in chapter 4 is not exhaustive, but provides a selection that potentially can be used to mobilize resources for Cambodia´s NAP priorities.

Private Sector Engagement

In Cambodia, the most recent climate public expenditure review 2016 provides up-to-date information on levels of public financing for climate action, but much less information is available on climate finance mobilized through private actors at the national level. A study from 2016 on promoting private sector contributions to climate responses in Cambodia indicates the current contribution of, and potential for, private sector engagement. The study maps private sector participation in climate-related investments for both mitigation and adaptation and seeks to identify policy options whereby the RGC could enhance the contribution from investors, companies and households. While the main potential to scale up private investments relate to mitigation efforts, barriers can be removed in order to stimulate private sector adaptation engagement, not least in the agriculture-, forestry-, fisheries- and tourism-sectors. A review of opportunities for private sector engagement is offered in chapter 5.

Towards a NAP Financing Implementation Plan

To accelerate the NAP process, the development of a Financing Implementation Plan is important. Its design incorporates concrete actions to trigger the implementation of NAP priorities in the short-term, facilitates potential synergies with other climate programs in the mid-term, and enhances the country's capacity to further plan and implement adaptation measures in the longer-term. In light of the UNFCCC/LEG technical guidelines a prioritization exercise was made and all the CCAP actions were assessed against their potential to be funded. In addition, NCSD decided to focus on priority actions identified in the ministries' CCAPs that are not being financed or only partially financed.

From the long list of un-funded actions, and in order to prioritize those that the financing framework should focus on, a score was generated combining 15 indicators with varying weights. The screening exercise from this set of criteria led to a short-list of 40 Priority Actions for the NAPFF implementation plan.

The 40 Priority Actions were then classified into three different groups through a multi-stakeholder consultation and based on analytical dimensions such as target, type of intervention, synergies/ coordination, implementing partners, financing, preparedness, timing, and cross-cutting issues.

A) Priority Actions near implementation stage:
   Adaptation projects at formulation stage, hence for which implementation could be triggered in the short-term (within approximately one year time-span), if funding proposal is approved. An estimated 30% of the NAP actions fall in this group.
B) Priority Actions under preparation stage:
   Adaptation projects, concept notes or ideas that need to be further formulated and/or better sustained institutionally to be apt for implementation (in over a year time-span). An estimated 60% of the NAP actions fall in this group.
C) Priority actions contributing to the NAP enabling environment:
   Cross-cutting and/or sector-wide initiatives that are necessary to facilitate the implementation of the NAP. An estimated 10% of the priorities for the NAP fall in this group.

Given the early stage of project design of the majority of the Priority Actions identified for the NAP Financing Framework, a significant preparation process needs to be pursued at institutional and technical levels for the framework to be effectively implemented. The CCAP planning process constituted a good starting point, but for an estimated 25 Priority Actions, the CCAPs' project fiches are only at a preliminary stage of formulation, with little detail on the objectives, rationale, expected impact, target, cost or budget. For these Priority Actions, classified as being in the "Preparation Phase", the most common gaps are:

- Unclear definition of target/potential beneficiaries and lack of climate vulnerability and impacts assessments has hindered the target specification (either socioeconomic groups or interventions sites).
- Insufficient consultations and needs' assessment for a more strategic and detailed project planning.
- Lack or insufficient economic/ financial analysis.

In the long run, the implementation of the NAP Priority Actions will entail a continuous "learning by doing" process for national institutions, of which the financing framework is only one of the key dimensions. The NAP Financing Framework also offers recommendations on how to remove barriers limiting access to international and domestic finance for adaptation. Recommendations include supporting climate change knowledge, institutional strengthening, planning and budget systems and processes, and the integration of CCAPs into routine annual budget planning, Budget Strategic Plans (BSP) and Public Investment Programs (PIP). In seeking to identify existing gaps and measures to improve the climate finance preparedness of the national institutional framework, two other key dimensions needing strengthening have been identified; the institutional coordination mechanisms and the tackling of gender issues. The full NAP Financing Framework Implementation Plan can be found in chapter 6. Additional recommendations on how to improve access to domestic budgets and private funds are provided in annex 1.

INTRODUCTION

Objective

Under the title "National Adaptation Plan Financing Framework", the objective of this document is to bring the NAP process in Cambodia closer to its execution phase by analyzing and articulating the financing dimensions (scoping demand, existing gaps, funding options at domestic and international levels) and offering an implementation plan for the NAP financing framework.

Scope

The approach taken for this document is inspired by the Least Developed Countries' Expert Group guidelines for NAP development and it is based on the outputs and key findings resulting from previous analytical and planning exercises that Cambodian institutions have undertaken. Scoping:

- A needs-assessment of the financing demand for climate actions, and an identification of the cost financing gaps for the implementation of sector-specific climate change policies, all explored in Chapter 2 of this document,
- Several studies on the national budget and expenditure reviews to assess the resources made available at domestic level to address key climate challenges, which is explored in Chapter 3,
- An analysis of international climate funding options relevant to address adaptation priorities in Cambodia, covered in Chapter 4,
- A review of the potential for private sector investment opportunities, summarized in Chapter 5, and finally,
- Proposals for a NAP financing implementation plan, seeking to identify short and mid-long term actions that would help articulate and resource the set of 40 Priority Actions for climate adaptation, as identified by national institutions, captured in Chapter 6.

Methodology

The construction of the NAP financing framework is articulated around different building blocks: key documents developed by national institutions and the outputs of several analytical pieces led by NCSD and conducted with expert support offered by GIZ.

a) Key references from the national institutional framework:

- The Cambodia Climate Change Strategic Plan (CCCSP, 2014-2023), which represents a significant step towards integrating climate change into the National Strategic Development Plan (NSDP, 2014-2018) and into the sector-wide development plans of all the relevant ministries.
- The Intended Nationally Determined Contribution (INDC) submitted by Cambodia to the UNFCCC in 2015.
- The sectoral Climate Change Action Plans (CCAPs) that key climate-sensitive line Ministries have developed.
- The Cambodian Climate Change Financing Framework (CCFF) undertaken at national level.

b) New analytical work led by NCSD:

- In 2016, the NCSD (with technical assistance from GIZ) decided to assess all the CCAP actions against their potential to be funded, effectively adopting the "fundability" of actions as the first prioritization *criterion* for the NAP implementation plan. NCSD decided to focus on "Priority Actions" identified in the ministries' CCAPs – (see Chapters 2 and 3) that are not been financed or only partially financed. This first screening, led to a long-list of 148 actions out of the total 171 actions in CCAPs.
- To ensure country ownership and alignment with pre-existing plans, CCAP Priority Actions were pre-selected when they corresponded with: (a) actions put forward in Cambodia's INDC, and (b) actions identified in response to the request by the PM to respond to the recent flood and droughts in 2017/18 (see Chapter 3).

- The next step was to identify the most *fundable* actions, based on selection criteria used by international climate adaptation funds (see Chapter 6 for details). The prioritization approach for the NAP implementation plan adopted the following criteria: Impact potential, Transformation potential, Sustainable development potential, Needs of recipients, Effectiveness/Efficiency.
- Based on this set of criteria, the screening exercise led to a short-list of 40 Priority Actions, on which the second phase of the analytical work was undertaken in 2017. A number of stakeholders relevant to the implementation of the NAP in Cambodia (including the 15 climate-sensitive institutions responsible for the CCAPs development partners and civil society organizations) were invited to a Multi-stakeholder consultation organized by NCSD in Phnom Penh and participants to this event undertook a collaborative analysis of the 40 Priority Actions shortlisted for the NAP, based on the following analytical dimensions (see Chapter 6 for details): Target, Type of intervention, Synergies/Coordination, Implementing partners, Financing, Preparedness, Timing, Cross-cutting issues. Based on the inputs collected in the participatory consultation, an Implementation Plan for the NAP financing framework was proposed for the short, mid and long term examining issues like packaging of actions, potential funding sources/financing instruments, sequencing and further strategic needs to be addressed (in the mid and long term). Priority Actions have been classified as being “near implementation phase”, “under preparation phase” and “contributing to an enabling environment for the NAP”. The exercise is completed with some concrete next steps (to the extent possible) and suggested ways forward (all captured in the analysis and summary tables in Chapter 6).

Chapter 1: Background and Context

1.1 Climate vulnerability in Cambodia and adaptation policies

1.1.1 A country highly vulnerable to climate impacts

Cambodia is situated in the tropical zone and has a coastline of 435 km. Its topography is comparable to a bowl: surrounded by hills and with the Tonle Sap Great Lake in the middle. With a large land area still covered by forests, Cambodia has a significant carbon –sink capacity that could provide benefits for Cambodia in carbon markets. However, the country is prone to floods, droughts, tropical storms and vector borne diseases. In coastal areas, it is exposed to sea level rise and severe impacts from typhoons. Rising temperatures lead to increased frequency and intensity of extreme weather events in a fragile socio-economic context. The country's climate vulnerability results in loss and damage to human life, livelihoods and the national economy.

Cambodia is ranked 13th in the Global Climate Risk Index[1] (1995–2015) and 8th in the World Risk Index in 2016[2]. In 2014, Standard and Poor's rating service[3] ranked Cambodia's economy as the most vulnerable to the effects of climate change worldwide. And the Notre Dame Global Adaptation Index[4] assigns a *high-vulnerability* and *low-readiness* scores to Cambodia. In October 2013[5], heavy rainfall resulted in flash-floods that impacted over half a million people and affected 50% of Cambodia's provinces. Loss and damage resulting from the floods was estimated at USD356 million, combining damage and destruction of physical assets and loss of agricultural production and other economic activities. A year earlier, in 2012, severe drought had affected 11 out of 24 provinces in Cambodia and tens of thousands of hectares in rice growing areas. Such periodic and ever-more intense climate shocks rapidly compromise livelihoods and put food security at stake. According to the Climate Risk and Adaptation Country Profile elaborated by the World Bank Group in 2011[6], the average annual temperature in Cambodia has increased by 0.8°C since 1960. The frequency of warm days and nights has dramatically increased, while cold days and nights have decreased significantly. Climate projections indicate that temperatures across the country would rise by 0.7–2.7°C by 2060 and 1.4–4.3°C by 2090[7]. Rainfall trends and patterns are uncertain and difficult to predict. They are likely to vary between different geographical areas but an overall increase of rainfall is expected during the monsoon season. In addition to the increased frequency of severe floods experienced over the last decade, by 2050 rainfall patterns will become even more unpredictable.

In 2014, vulnerability assessments[8] indicated that 17.2% of Cambodia's communes (279 communes) were 'highly' vulnerable and over 31.5% (512 communes) were 'quite' vulnerable to multiple climate hazards[9]. Agriculture, water resources, infrastructure, forestry, health, and coastal development are the most vulnerable sectors to the impacts of climate change[10]:

- Agriculture, representing 26.5% of GDP in 2015 according to the National Institute of Statistics (NIS), is highly dependent on rainfall and on the annual flooding/recession of the Tonle Sap Great Lake.
- Water resources: rural communities mostly affected by climate impacts are highly dependent on water resources for agricultural production. Sustainable irrigation systems and sound freshwater

[1] http://http://germanwatch.org/en/download/16411.pdf
[2] http://weltrisikobericht.de/english/
[3] Kraemer & Negrila (2014), http://www.maalot.co.il/publications/GMR20140518110900.pdf
[4] http://index.gain.org/country/cambodia
[5] Cambodia's Intended National Determined Contribution (2015), http://www4.unfccc.int/submissions/INDC/Published%20Documents/Cambodia/1/Cambodia's%20INDC%20to%20the%20UNFCCC.pdf
[6] http://sdwebx.worldbank.org/climateportal/countryprofile/home.cfm?page=country_profile&CCode=KHM
[7] McSweeney et al. 2010. UNDP Climate Change Country Profiles: Cambodia.
8 National Adaptation Plan Process in Cambodia (2016); https://es.slideshare.net/NAP_Global_Network/current-status-of-national-adaptation-plan-process-in-cambodia
[9] Cambodia's national climate change monitoring and evaluation framework, Department of Climate Change, General Secretariat, NCSD, April 2016.
[10] Cambodia's Nationally Intended Determined Contribution to UNFCCC

management are critical to build the resilience of the country.

- Infrastructure is critically affected by the increasing occurrence and severity of floods resulting in high maintenance costs and the recurrent need to upgrade rural roads and irrigation infrastructure.
- Forestry: By 2050, it is projected[11] that over 4 million hectares of lowland forest with a current dry season lasting between 4 and 6 months, will become exposed to water deficit periods of between 6 to 8 months or more.
- Health: Climate change can have both direct and indirect impacts on human health. Changes in the geographical range and incidence of vector and water borne diseases, infectious diseases, and malnutrition and hunger as a result of severe disturbance to the food production systems and ecosystem, are some examples.
- Coastal development: Coastal resources already face a number of environmental pressures, including over-fishing and over-exploitation of forests and mangrove ecosystems that lead to increased erosion. Climate change adds to existing challenges through sea level rise, saline intrusion and coastal erosion. These contribute to the shrinking of arable land, reduction of drinking water sources and loss of coastal infrastructure.

1.1.2 Policy responses to climate change

In response to these challenges, the Royal Government of Cambodia (RGC) ratified the National Framework Convention on Climate Change in 1996 and, in 2013 undertook a high-level national policy dialogue on climate change, that led to the development of the Cambodia Climate Change Strategic Plan (CCCSP, 2014-2023) with 8 key objectives, namely:

1. To promote climate resilience through improving food, water and energy security;
2. To reduce sectoral, regional, gender vulnerability and health risks to climate change impacts;
3. To ensure climate resilience of critical ecosystems (Tonle Sap Lake, Mekong River, coastal ecosystems, highlands, etc.), biodiversity, protected areas and cultural heritage sites;
4. To promote low-carbon planning and technologies to support sustainable development;
5. To improve capacities, knowledge and awareness for climate change responses;
6. To promote adaptive social protection and participatory approaches in reducing loss and damage due to climate change;
7. To strengthen institutions and coordination frameworks for national climate change responses; and
8. To strengthen collaboration and active participation in regional and global climate change processes.

The CCCSP is consistent with the National Strategic Development Plans (NSDP). NSDP 2014-2018, for example, has a section dedicated to "Environmental Protection, Conservation and Climate Change". Building institutional capacity and utilizing science-based solutions to address climate risks are common themes running through these overarching national policy documents. Within this framework, line ministries have prepared Sectoral Climate Change Strategic Plans supported by actionable Climate Change Action Plans (CCAPs), prepared in 2013-2014 and lasting until 2018. So far, 15 ministries[12] have developed CCAPs and these encompass a total of 171 climate actions (7% of them mitigation-oriented and 93% with adaptation focus) but one CCAP still pending approval. However, only a handful of the action plans have been allocated resources and have managed to be implemented. To date, 148 actions identified in the CCAPs have not been implemented and remain largely unfunded.

Out of this list of 148 actions to be funded, the prioritization phase for the NAP implementation plan (see Chapter 6) identifies 40 Priority Actions that the NAP financing framework will focus on (see Chapter 2 for assessment of the financing gap in 2016).

[11] Under certain emissions' scenarios (SRESB1 and SRESA2), by 2050 most lowland forests in Cambodia, particularly forest areas located in the northeast and southwest, will be exposed to longer dry seasons. (Special Report on Emissions Scenario, A2 family, Emissions Scenarios, IPCC, 2000. N.B.: The SRES scenarios have four qualitative story lines that yield four sets of scenarios called "families": A1, A2, B1 and B2.)

[12] 14 CCAPs have already been approved, while CCAP of the Ministry of Post and Telecommunication is awaiting official endorsement.

In addition to the national government policies to respond to climate challenges, there are a number of climate change flagship initiatives supported by development partners that are helping shape climate action and build resilience in Cambodia. The most relevant for climate change adaptation are:

- The National Adaptation Plan (NAP) process aims at strengthening on-going climate adaptation policy responses through cross-sectoral programming, financing and implementation and provides an umbrella-framework to build resilience at national level. The NAP process is supported by GIZ and USAID;
- The Cambodia Climate Change Alliance CCCA takes a comprehensive and innovative approach to address climate change in Cambodia. The CCCA program was designed to be fully aligned with and to strengthen the national institutional framework for climate change. It plays a unique role in strengthening the national institutional framework for the coordination of the climate change response. The overall objective of the CCCA is to strengthen the capacity of the National Committee for Sustainable Development (NCSD) in order to fulfill its mandate to address climate change and to enable line ministries and Civil Society Organizations to implement priority climate actions. Phase 1 of CCCA (2010- 2014) was funded by the European Union (EU), the United Nations Development Program (UNDP), the Swedish International Development Cooperation Agency (Sida) and the Danish International Development Agency (Danida). Phase 2 (2014-2019) is also funded by the EU, UNDP and Sida. The initiative is implemented by the Ministry of Environment (MOE) and coordinated by its Department of Climate Change (DCC);
- The Strategic Program for Climate Resilience (SPCR[13], tentative timeframe 2012-2019) emphasizes two streams to promote climate resilience: (i) developing knowledge of climate impacts in Cambodia and mainstreaming climate risk management into agriculture, water resources and transport and urban infrastructure sectors and (ii) applying new skills, techniques, technology, and engineering practices to climate-proof hard investments. Financial support is provided from the Climate Investment Funds via the Asian Development Bank (ADB).

1.2 The National Adaptation Plan: guidelines and process in Cambodia

1.2.1 Framing of NAPs under the UNFCCC process

At the global level, the process for the development of National Adaptation Plans (NAP) was conceived under the UNFCCC Cancun Adaptation Framework. The Least developed countries' Expert Group (LEG) developed Technical Guidelines[14] for countries willing to elaborate a strategic plan for adaptation for the medium-long term. NAPs are expected to build on the experience and knowledge generated in previous planning efforts (National Communications, National Adaptation Programs of Action-NAPAs) and to identify key adaptation needs, coping measures at country level and plans for implementation. Since 2011, several Conferences of the Parties (COPs) have adopted extra decisions on the framing, the technical guidelines, financial and technical support, reporting, monitoring and review of the NAP process. The NAP process is meant to play a critical role in reducing climate vulnerability and building adaptive resilience by mainstreaming adaptation into national and sectoral development planning processes. The main objectives of a NAP process as suggested by the UNFCCC and LEG Technical Guidelines are:

- To take a medium- and long-term approach to reducing vulnerability to the adverse effects of climate change
- To facilitate the integration of climate change adaptation, in a coherent manner, into relevant new and existing policies, programs and activities, in particular development planning processes and strategies, within all relevant sectors and at different levels.

The initial Guidelines for the formulation of NAPs suggest the following elements for the process:

- Laying the groundwork and addressing gaps;
- Preparatory elements;

[13] https://www-cif.climateinvestmentfunds.org/sites/default/files/meeting-documents/ppcr_4_spcr_cambodia_0.pdf
[14] http://unfccc.int/resource/docs/publications/publication_ldc_nap_techguidelines.pdf

- Implementation strategies;
- Reporting, monitoring and evaluation.

It should be noted there are no specific indications on the financing framework for the NAP in the LEG Technical Guidelines. Nevertheless, the LEG recommendations have informed the development of the financing framework for Cambodia's NAP and Chapter 6 of this document follows the recommendations regarding the preparation of NAP Implementation Plans.

While the LEG was mandated by the COP to provide technical guidance for the NAP process for LDCs, the Global Environment Facility (GEF) has been identified as the financial instrument to offer support to developing countries. The UNDP/UNEP NAP Global Support Program should help channel GEF funds to the country level. In LDC settings, it is expected the LDC-Fund (LDCF, under the GEF, see Chapter 4) will enable the preparation of the NAP[15]. More concretely, the GEF-LDCF has been mandated to:

(a) Avail LDCF resources to meet the cost of activities that enable the preparation of the NAP,
(b) Provide support for the NAP process, while maintaining support for the LDC work-program, including NAPAs,
(c) Encourage a flexible approach for LDC Parties to access funding for specific components of the NAP process, in response to their national needs and circumstances,
(d) Encourage LDC Parties to report on the status of their NAP process through National Communications, INDCs and other channels under the UNFCCC.

1.2.2 The NAP process in Cambodia

In 2006, Cambodia submitted its NAPA to the UNFCCC, focusing on 'urgent and immediate' adaptation needs. This short-term plan is now to be complemented by the NAP's mid-long-term vision and assessment of adaptation requirements. The actions identified under line-Ministries' CCAPs are considered to be the key inputs to the National Adaptation Plan (NAP)[16]. Other inputs to the NAP are Cambodia's Initial and Second[17] National Communication (see box below) and the Intended Nationally Determined Contribution (INDC, see section 1.3), registered under the UNFCCC in 2015.

Building on the objectives set by the National Strategic Development Plans and the Cambodia Climate Change Strategic Plan (CCCSP) 2014–2023[18], the goal of the NAP process focuses on strengthening and better integrating on-going processes for climate change adaptation.

Cambodia's Initial (2002) and Second (2015) National Communication to the UNFCCC

This **First National Communication** describes how Cambodia is meeting its commitments under the UNFCCC as a Non-Annex Party. This Communication provides information on the national circumstances and a GHG inventory for 1994. It also describes Cambodia's capability to respond to climate impacts and the measures taken to mitigate climate change in the country. But the national policy and strategy on climate change had not been developed by then.
By 2013, Cambodia had adopted the Cambodian Climate Change Strategic Plan for 2014-2023 and the climate change action plans for relevant institutions. In 2015, Cambodia issued the **Second National Communication**, offering information on: national circumstances; GHG inventory for 2000 and emissions' projections; assessment of impacts and vulnerability to climate change; status of implementation of climate measures (mitigation and adaption); financial commitments, technology transfer and international cooperation; systematic research and observation; education, training and public awareness; and constraints, gaps and related financial and technical capacities.

The RGC seeks to follow the LEG Technical Guidelines for the NAP process in its different dimensions, including the setting up of monitoring and reporting frameworks. These will be aligned with the NSDP,

[15] http://www.adaptation-undp.org/projects/supporting-cambodia-advance-their-nap-process
[16] For details of the NAP process in Cambodia, see: http://es.slideshare.net/NAP_Global_Network/current-status-of-national-adaptation-plan-process-in-cambodia
[17] http://unfccc.int/resource/docs/natc/khmnc2.pdf
[18] http://www.camclimate.org.kh/en/policies/nccc-news/197-cccsp-2014-2023-kh-en-final.html

which includes some climate-related indicators taken from the CCCSP. The four key indicators integrated into the NSDP 2014-2018 to measure the country's progress in responding to climate change:

1. Ratio of climate related expenditure to total public spending,
2. Mainstreaming climate change issues into national and subnational planning,
3. Percentage of households vulnerable to climate change,
4. Carbon credit from the Clean Development Mechanism and other mechanisms.

In 2015, a national M&E framework[19] for climate change was completed with the development of a more complete system with 9 core indicators: 5 measuring the progress made by national institutions in preparing for an effective climate response, and 4 measuring the impact of climate change in Cambodia (including vulnerability indicators, loss experienced, total of GHG emissions). The baselines for 8 of these 9 indicators were also established (including all adaptation indicators). Within the Ministry of Environment, the Department of Climate Change has established an M&E team to roll out this work at the national level, and to help sectors develop their sector-specific climate M&E frameworks. So far, work has been piloted with MPWT, and completed with MoH and MAFF).

Cambodia's NAP process was institutionalized in 2014, and climate adaptation is progressively taking a more prominent role in the government's policy agenda. The United Nations Development Program (UNDP), the United Nations Environment Program (UNEP) and GIZ helped to identify entry points and a Roadmap for advancing the NAP process in Cambodia[20]. The main gaps and challenges identified in that roadmap related to:

- Inventories of existing climate information and vulnerability assessments;
- Consistent climate scenarios, and limited cross-sectoral collaboration on climate adaptation programming at national and sub-national levels;
- Clear climate change policy and legislation;
- Technical and institutional capacity;
- Data availability, reliability and management issues;
- Awareness and understanding about future climate impacts, and;
- Connection between research results, policy formulation and proposed actions.

In order to close the gaps identified and to operationalize the NAP process, the following strategic intervention areas were envisaged:

1. Cross-sector coordination: based on Sector Climate Change Action Plans to identify synergies for collaboration and joint-implementation between sectors;
2. Data systems: for harmonization/standardization of data processing, modeling, projections, vulnerability assessments and the use of Geographic Information Systems (GIS);
3. Systematic financing: the MOE might adopt a "finance brokering" function to match financing needs with sources while the General Secretariat of NCSD and NCDD-S would prepare for accreditation as National Implementing Entities (NIE) to access international climate funds (e.g.: the Green Climate Fund, see Chapter 4);
4. Capacity development and vertical mainstreaming linking national and sub-national levels: support measures such as advisory services, up-scaling mechanisms and enhanced ownership at the local level;
5. Overall steering of implementation and evaluating effectiveness, M&E: establishment and operationalization of the M&E system to ensure a learning process for climate adaptation;
6. Qualitative mainstreaming: integration of climate risks into the environmental impact assessment and climate-proofing of larger projects.

[19] Developing a National M&E Framework for Climate Change, Tracking Adaptation and Measuring Development (TAMD) in Cambodia (IIE, 2015): http://pubs.iied.org/pdfs/10118IIED.pdf

[20] http://www.camclimate.org.kh/en/ccd/ccd-news/230-a-road-map-for-advancing-cambodia%E2%80%99s-national-adaptation-plan-process.html

There are two other key references that the NAP development process is taking into account. First is the Cambodia Climate Change Financing Framework (CCFF, 2015), undertaken by the CCCA with DCC This seeks to promote a common approach to defining climate financing and to assess its current level and prospects for future financing. Secondly, the Intended Nationally Determined Contribution (INDC, 2015), which the Royal Government of Cambodia submitted to the UNFCCC, constitutes an important step in furthering adaptation at the core of Cambodia's climate change policies.

The process benefits from significant political commitment from political leaders at the highest level. The Head of State, His Majesty King Norodom Sihamoni, delivered a speech at COP21 to the UNFCCC (Paris 2015), noting that: "Cambodia has adopted clear objectives for the fight against climate change, which are spelled out in our Intended Nationally Determined Contribution (INDC)[21]". The MOE/DCC has taken initiatives in addressing the impacts of the recent drought and floods and in setting up preparedness and response measures to these climate shocks in 2017 and 2018. In addition, the Budget Strategic Plan circulars and budget law preparation circulars also specifically require all ministries and agencies to prepare their budgets taking into account climate change responses (see details in Chapter 3).

In March 2016, as part of GIZ's support "Climate Finance Readiness" (see Chapter 4), NCSD led a process with line-Ministries on the implementation of the NDC so far and its links to the CCAPs and the NAP process. This served to identify some additional cross-ministerial priorities that could benefit adaptation at national level, these are:

- Strengthening technical and institutional capacity to conduct climate change impact assessments, climate change projections, and mainstreaming of climate change into sector and sub-sector development plans;
- Promoting and improving the adaptive capacity of communities and restoring the natural ecology system to respond to climate change;
- Strengthening climate information and early warning systems;
- Developing and rehabilitating the flood dykes for agricultural/urban development;
- Increasing the use of mobile pumping stations and permanent stations in responding to mini-droughts, and promoting groundwater research in response to drought and climate risk; and
- Developing climate-proof tertiary-community irrigation to enhance the yields from agricultural production of paddy fields.

Furthermore, on-going or future efforts to contribute to the NAP process[22] were identified:

- Tracking of progress in building institutional readiness for adaptation
- Monitoring the vulnerability of communities in light of climate change projections;
- Exploring financial resources mobilization with a reasonable mix of domestic and international, public and private funds (the NAP Financing Framework will contribute to this end).
- Mainstreaming climate actions into development planning: enhance institutional coordination and information sharing and link to financing and budgeting exercises.

1.3 The Intended Nationally Determined Contribution and the NAP process

Cambodia's Intended National Determined Contribution (INDC[23]) was guided by the Green Growth Road Map (2009). This aims to support the achievement of middle-income status for Cambodia by 2030. Cambodia's INDC, that became its Nationally Determined Contribution (NDC) after the Paris Agreement entered into force in 2016, describes the NAP process as one of four strategic priorities in shaping Cambodia toward a green, low-carbon, climate-resilient, equitable, sustainable and knowledge-based society. The four drivers of the NDC are:

[21] Statement by HMJ King Norodom Sihamoni, Leader Event of the United Nations Climate Change Conference (November 30, 2015)

[22] National Adaptation Plan Process in Cambodia (October, 2016)

[23] http://www4.unfccc.int/submissions/INDC/Published%20Documents/Cambodia/1/Cambodia's%20INDC%20to%20the%2 0UNFCCC.pdf

1. The Sectoral Climate Change Strategic Plans and Action Plans developed by line-ministries in alignment with the CCCSP, which cover all the main sectors of relevance to climate change.
2. Initiatives undertaken at national, sectoral and sub-national levels to mainstream adaptation into development plans (specifically in sectors such as agriculture, forestry and health, as well as coastal zone management); and the National Adaptation Program of Action (2006), in which coping mechanisms to climate hazards are identified.
3. The ongoing National Adaptation Plan (NAP) process, used to strengthen programming and implementation at national and sub-national levels. This may in turn inform future climate change strategies, financing frameworks, and national development planning and budgeting.
4. Forestry related actions that would be implemented as part of the national REDD+ Strategy. Cambodia is developing an operational National Forest Monitoring System, Reference Emission Level to more accurately quantify GHG impacts of actions in this sector. This will form the basis for implementing and accounting for the forestry actions post 2020. Further, Forest Reference Emission Levels and Forest Reference Levels and a Safeguards Information System will be used to account for the emissions reduced via the implementation of activities identified from 2016-2020.

Cambodia intends to sustain the delivery of the NDC mainly through the implementation of the CCCSP. The majority of the NDC's priority projects draw from the line-Ministries' CCAPs and target adaptation measures (13 adaption projects, 5 on mitigation and 1 project on recommendations from the Second National Communication[24]). The table below summarizes the priority actions in the NDC related to climate adaptation, and the link to planning and implementation processes. In 2018, these will be the basis of a Stock-taking and progress monitoring exercise within the UNFCCC.

Table 1: INDC planning and links to existing climate change strategies and plans

INDC Adaptation Priority actions	Existing climate change strategies and plans
Promoting and improving the adaptive capacity of communities and restoring the natural ecology system to respond to climate change	Implementation of Climate Change Action Plan for Environment and Protected Area (2014-2018)
Implementing measures of management and protection of areas to adapt to climate change	Implementation of Climate Change Action Plan for Environment and Protected Area (2014-2018)
Strengthening climate information and early warning systems	Implementation of Climate Change Action Plan for Water Resources and Meteorology (2014-2018)
Developing and rehabilitating flood protection dykes for agricultural/urban development	Implementation of Climate Change Action Plan for Water Resources and Meteorology (2014-2018)
Increasing the use of mobile pumping stations and permanent stations in responding to mini-droughts, and promoting groundwater research in response to drought and climate risk	Implementation of Climate Change Action Plan for Water Resources and Meteorology (2014-2018)
Developing climate-proof tertiary-community irrigation to enhance the yields from agricultural production of paddy fields	Implementation of Climate Change Action Plan for Rural Development (2014-2018)
Promoting the climate resilience of agriculture through building sea dykes in coastal areas and scaling-up of climate-smart farming systems	Implementation of Climate Change Action Plan for Water Resources and Meteorology (2014-2018); and Climate Change Action Plan for Agriculture, Forestry and Fisheries (2014-2018)
Developing crop varieties suitable to Agro-Ecological Zones (AEZ) and resilient to climate change (include coastal zones)	Implementation of Climate Change Action Plan for Agriculture, Forestry and Fisheries (2014-2018)
Promoting aquaculture production systems and practices that are adaptive to climate change	Implementation of Climate Change Action Plan for Agriculture, Forestry and Fisheries (2014-2018)

[24] http://unfccc.int/resource/docs/natc/khmnc2.pdf

INDC Adaptation Priority actions	Existing climate change strategies and plans
Repairing and rehabilitating existing road infrastructure and ensuring effective operation and maintenance, taking into account climate change impacts	Implementation of Climate Change Action Plan for Public Works and Transport (2014-2018)
Up-scaling the Malaria Control Program towards pre-elimination status of malaria	Implementation of Climate Change Action Plan for Public Health (2014-2018)
Up-scaling the national program on acute respiratory infection, diarrhea and cholera in disaster-prone areas, including conducting surveillance and research on water-borne and food-borne diseases associated with climate variables	Implementation of Climate Change Action Plan for Public Health (2014-2018)
Strengthening technical and institutional capacity to conduct climate change impact assessments, climate change projections, and mainstreaming of climate change into sector and sub-sector development plans	Implementation of recommendations from the draft SNC

Source: Cambodia's INDC, 2015

1.4 The Climate Change Financing Framework

The Royal Government of Cambodia (RGC) developed Cambodia's Climate Change Financing Framework (CCFF)[25] in 2014 with the following objectives:

- To update the existing climate expenditure analysis across the most affected government agencies
- To estimate potential climate funding for Cambodia in the future through low growth and high growth scenarios (within 5 and 10 year timeframes)
- To conduct Cost Benefit Analyses for the climate actions prioritized in government's plans and an assessment of national benefits of climate finance
- To analyze modalities to manage climate finance. In particular, the CCFF assesses the option of a National Climate Fund and considers the requirements for improved coordination.

The CCFF also aims to guide future climate financing, both from domestic and international sources. It promotes a common approach to defining climate financing demand and assesses the current level of resources available and the prospects for future financing (based on scenarios with increasing share of public finance - domestic and international - in response to the challenges and opportunities posed by climate change). The CCFF defines three types of CC finance:

i) New funding that is dedicated to climate change;
ii) Modification to existing funding in order to respond to climate change; and
iii) Changes in the allocation of resources to take account of the changes in the benefits generated by expenditure arising from climate change.

The budgets for actions under the CCCSP and the sectoral CCAPs are broadly consistent with ceilings derived from the low growth climate change financing scenarios presented in the Climate Change Financing Framework[26]. Given that the NAP process is based on the CCAPs and its indicative cost-estimates, the CCFF ceiling distribution could be used to compare the ceiling of each ministry's and the level of funding that would be necessary under the NAP process (see Table 2 below). The comparison shows that, for most ministries, there is a financing gap for the implementation of their CCAPs (and associated NAP priorities) when relying on current levels of public finance.

[25] Analysis and Recommendation for a Cambodia Climate Change Financing Framework, CCCA (2014), http://camclimate.org.kh/en/documents-and-media/library/category/135-climate-change-financing-framework-ccff.html
[26] ibid

Table 2: Costs of ministerial CCPAs the ministerial ceiling (according to CCFF scenarios)

No.	Ministry	CCAP Cost (USD million)	CCFF ceilings (USD million)	Δ (CCAP cost - CCFF ceiling)
1.	MAFF	187.6	124.0	63.6
2.	MIH	11.0	32.1	-21.1
3.	MLMUPC	9.1	NA	NA
4.	MME	5.0	1.9	3.1
5.	MOE	27.7	57.0	-29.3
6.	MOEYS	10.6	9.0	1.6
7.	MOH	46.8	49.0	-2.2
8.	MOINFO	4.3	NA	NA
9.	MOT	3.4	NA	NA
10.	MoWA	3.6	3.0	0.6
11.	MoWRAM	272.5	347.0	-74.5
12.	MPTC	4.6	NA	NA
13.	MPWT	211.0	220.0	-9.0
14.	MRD	56.7	59.0	-2.3
15.	NCDM	11.8	12.0	-0.3
	TOTAL	**865.5**	**914.0**	

Sources: CCAP and CCFF

Under the guidance of the NCSD, the CCFF[27] work will be complemented under NAP Process by:

1. The development of Sectoral Financing Frameworks: a comprehensive approach to adaptation financing in the key sectors, seeking programmatic and sector-wide approaches and avoiding small-scale project financing;
2. The development of this current Climate Adaptation Finance Framework: this document includes an overview of aggregate costs for climate adaptation measure, a list of priority actions for the NAP, and an implementation plan seeking to identify resources to be mobilized.

Once the challenges of climate vulnerability in Cambodia and the government's major policy response instruments have been explored, Chapter 2 analyzes the financial demand for the adaptation measures to be put in place by climate-sensitive sectors and institutions. The financing gap for the overall national adaptation response, and for each line-Ministry's climate plan, will be key elements informing the NAP Financing Framework.

[27] For details of the NAP process in Cambodia, see: http://es.slideshare.net/NAP_Global_Network/current-status-of-national-adaptation-plan-process-in-cambodia

Chapter 2: Defining the Financing Demand and Gap Analysis

The NCSD has coordinated the RGC's effort to estimate the financial demand and the financing gap relating to the implementation of the climate agenda at national level (considering the needs of climate-sensitive institutions primarily). The adaptation financing gap has been estimated based on the actions identified intended to build resilience within the Ministry Climate Change Action Plans (CCAPs). The NAP financing gap has been further estimated focusing solely on the 40 priority actions selected by the line-Ministries and by the NCSD.

In the last year, the GIZ's "Climate Finance Readiness" program has provided support to NCSD in the NAP planning process, with two key outputs for the development of the "NAP Financing Framework":

- In March 2016, the financial demand from the CCAPs was estimated as a result of technical assistance provided by Ricardo Energy and Environment that led to the report "Support to the NAP process in Cambodia: data collection and analysis of information on financing requirements", aka (Ricardo, 2016).
- In October 2016, a second expert mission led to the estimation of the financing gap for the CCAP implementation, as captured in the report "Costing of, and mobilizing funds for, Climate Change Adaptation Projects in Cambodia", aka (GIZ/NCSD, 2016).

N.B. These two reports constitute pillar references for Chapter 2 and the "NAP Financing Framework" as a whole, and they are both available upon request from NCSD and/or from the GIZ "Climate Finance Readiness" program in Cambodia.

2.1 Aggregate financing demand and financing gap analysis based on CCAPs

The starting point for estimating climate change adaptation funding needs are the 15 sectoral Climate Change Action Plans (CCAPs) prepared during 2013 and 2014 by the climate-sensitive institutions (line Ministries/ budget agencies[28]; see Chapter 1). The 15 CCAPs comprise 171 actions requiring a total USD 865.5 million for implementation. However, 14 CCAPs are officially used for the financing gap estimation in the NAP Financing Framework (MPTC's CCAP is still to be officially approved). To estimate the financing gap for the CCAPs, two approaches are available:

I. Information in the report on Data Collection and Analysis of Information: "Support to the NAP process in Cambodia" Working Document (Ricardo, 2016). This study attempted to develop links between CCAP actions, funding provided by SPCR and other funding provided by development partners reflected in the CDC/ODA database, thereby assessing development partners' disbursements to CCAP actions. In practice, it was found impossible to establish direct links, so an indirect approach was taken seeking matches between key-words in the CCAP actions and the project titles CDC/ODA database. Due to data constraints, detailed assessment at the CDC/ODA and SPCR projects' sub-level could not be carried out. Based on the "tentative" alignment of CCAPS with broad sources of funding used in the Ricardo (2016) study, the financing gap for the implementation of CCAPs is estimated at 81%.

II. An assessment undertaken specifically for the NAP Financing Framework based on: expert calculations consisting of: (1) Computation of the amounts funded for CCAP activities based on data provided by CCCA and financing estimates gathered from line-ministries through questionnaires and interviews; (2) Estimates of SPCR and CDC-ODA allocations (though these are not clearly and directly aligned with CCAP actions); and (3) Calculation of the financing gap by applying the formula: *(cost of action) – (funded amount))/(cost of the action)*. The financing gap by Ministry[29] is the sum of its CCAP actions' gaps.

Ultimately, because of issues of data reliability, the NAP Financing Framework gap estimate is based on financing provided mainly by the CCCA which has provided grants to CCAP actions[30] in eight ministries amounting to USD2.25 million in 2015-2016. On the basis of CCCA past disbursements and 2017-2018

[28] MAFF, MIH, MLMUPC, MME, MOE, MOEYS, MOH, MOINFO, MOT, MOWA, MOWRAM, MPWT, MRD, NCDM and MPTC.
[29] Including MPTC though this Ministry's CCAP is waiting for final approval.
[30] The CCCA funding is intended to be catalytic and in general can only provide partial funding to the individual CCAP actions.

allocations, the financing gap for the implementation of CCAPs is estimated at 92.7%. The more conservative 92.7% gap is used as the reference for the disaggregated estimates provided in Table 3 below.

Table 3: Financing Gap for CCAPs by Ministries and Agency (in USD)

No.	Ministry	# of CCAP Projects	# of Priority Actions	Funded projects	Partially Funded	Non-Funded	Estimated Cost	Financing Gap	Gap %
1.	MoE	17	2	8	4	5	27,670,000	>6,940,000	>25%
2.	MOWRAM	16	8	0	1	15	272,500,000	272,150,000	100%
3.	MRD	10	5	4	1	5	56,530,000	17,880,000	32%
4.	MAFF	29	17	0	1	28	187,550,000	187,100,000	100%
5.	MPWT	11	1	1	0	10	210,975,000	210,375,000	100%
6.	MOH	11	1	0	1	10	46,800,000	46,400,000	99%
7.	MIH	17	0	0	1	16	11,000,000	10,750,000	98%
8.	MLMUPC	8	2	0	1	7	9,120,000	8,870,000	97%
9.	MME	9	0	0	1	8	5,020,000	4,820,000	96%
10.	MOEYS	7	2	0	1	6	10,600,000	10,250,000	97%
11.	MOINFO	5	0	0	1	4	4,330,000	4,205,000	97%
12.	MOT	8	1	0	1	7	3,400,000	3,275,000	96%
13.	MOWA	6	0	1	1	4	3,620,000	3,360,000	93%
14.	NCDM	11	1	0	1	10	11,750,000	11,650,000	99%
15.	MPTC	6	0	0	0	6	4,605,000	4,605,000	100%
	Total	**171**	**40**	**14**	**16**	**141**	**865,470,000**	**802,630,000**	**92.7%**

Source: Ricardo (2016); CCCA data and expert team calculation

The majority but not all of the CCAP actions are designed to provide resources for climate change adaptation. By screening the 171 CCAP actions, 130 were found to be primarily adaptation. Using the methodology based on distinguishing between funded and non-funded actions, the financing gap for CCAP adaptation projects was also found to be 92% (see Table 4 below).

Table 4: Financing Gap of Adaptation Actions by Ministry[31]

No.	Ministry	No. Adaption-relevant Projects	No. of Adaptation Priority Actions	Costs in USD	Gap
1.	MOE	15	2	26,835,000	24%
2.	MoWRAM	16	8	272,500,000	100%
3.	MRD	10	5	56,530,000	32%
4.	MAFF	27	16	180,800,000	100%
5.	MPWT	4	1	174,450,000	100%
6.	MOH	11	1	46,800,000	99%
7.	MLMUPC	8	2	9,120,000	97%
8.	MME	3	0	3,270,000	100%
9.	MIH	1	0	700,000	100%
10.	MOEYS	6	2	9,850,000	96%
11.	MoInfo	5	0	4,330,000	97%
12.	MoT	7	1	3,000,000	96%
13.	MoWA	6	0	3,620,000	93%
14.	NCDM	11	1	11,750,000	99%
	Total	130	39	803,555,000	92.4%

Source: Ricardo (2016); CCCA data and expert team calculation

[31] It should be noted that in some of the 40 actions prioritized by NCSD, there are mitigation elements.

The total CCAP portfolio of projects was further disaggregated to focus on the top 40 Priority Actions. These amounted to USD530 million. The financing gap for these is 98% as shown in the breakdowns by Sector in Tables 5.

Table 5: Financing Gap of the 40 Priority Actions by Sector

Sectors	No of Priority Actions	Costs in USD	Financial Gap
Agriculture	6	44,500,000	99%
Capacity building	3	8,800,000	97%
Cross cutting	2	8,000,000	Partially Funded
DRR	3	12,200,000	99%
Fishery	3	7,700,000	100%
Forestry	4	14,300,000	100%
Health	1	800,000	100%
Housing	1	2,000,000	88%
Infrastructure	7	380,080,000	100%
Land use	1	720,000	100%
Livestock	2	14,500,000	100%
Rubber	1	1,970,000	100%
Tourism	1	400,000	100%
Water	4	25,500,000	100%
Water and Sanitation	1	8,500,000	100%
Total	40	529,970,000	98.3%

Source: Ricardo (2016); CCCA data and expert team calculation

2.2 Financing gap of the CCAPs by Ministry

This section provides estimates of the financing gaps by individual ministries and agency, all estimations based on the CCCA funding scenarios, combined with questionnaire results from line-Ministries and expert judgment calculations.

2.2.1 Ministry of Environment (MOE)

The Ministry of Environment's (MoE) climate change strategic objectives, as reflected in the CCCSP, are to:

(1) Promote climate resilience through improving food, water and energy security,
(2) Reduce sectoral, regional, gender vulnerability and health risks to climate change impacts,
(3) Ensure climate resilience of critical ecosystems (Tonle Sap Lake, Mekong River, coastal ecosystems, highlands, etc.), biodiversity, protected areas and cultural heritage sites,
(4) Promote low-carbon planning and technologies to support sustainable development,
(5) Improve capacity, knowledge and awareness for climate change responses,
(6) Promote adaptive social protection and participatory approaches in reducing loss and damage due to climate change,
(7) Strengthen institutions and coordination frameworks for national climate change responses and
(8) Strengthen collaboration and active participation in regional and global climate change processes.

For MOE, the financing gap is only 25% (Table 6), the lowest of all the Ministries. Among its 17 projects, eight projects are already funded and four projects are partially funded, while the remaining five projects are seeking funding.

In the prioritization exercises of the GIZ/DCC/NCSD (2016) mission report, two MOE projects were selected among the top 40 Priority projects:
(1) Priority Action No. 39: Support to line ministries to mainstream climate change into development planning and budgeting, which is partially funded from the CCCA, and
(2) Priority Action No. 40: Conduct national and sectoral vulnerability assessments, which have not received any funding.

Table 6: Financing Gap for the Ministry of the Environment CCAP Actions (USD)

Priority Action #	Project	Project status	Adaptation, Mitigation or both	Cost/budget demand	Financed	Gap
	Funded projects			**5,930,000**		
	Develop the national GHG inventory system and preparation of contributes to BURs	Ongoing	M	450,000	Yes	0%
	Launch and Roll Out of the National and Sectoral M&E System	Ongoing	AM	215,000	Yes	0%
	Strengthening legal and regulatory framework for resilient low carbon development	Ongoing	AM	100,000	Yes	0%
	Establish a national climate change finance framework	Ongoing	AM	1,000,000	Yes	0%
	Engage and raise awareness of different target groups on CC and GG/sustainable consumption and production	Ongoing	AM	600,000	Yes	0%
	Establish a knowledge management System on CC & GG	Ongoing	AM	615,000	Yes	0%
	Promote and improve the adaptive capacity of communities to respond to climate change	Ongoing	A	2,500,000	Yes	0%
	Integrate CC and env. issues into the curriculum at all levels	Ongoing	AM	450,000	Yes	0%
	Partially Funded project			**18,300,000**		
	Develop and test low carbon resilient approaches and options in urban areas	Ongoing	AM	3,800,000	300,000	92%
	Institutionalize UNFCCC reporting	Ongoing	AM	1,500,000	Partially	Partially
	Capacity building of national institutions coordinating the implementation of climate change response	Ongoing	AM	5,000,000	Partially	Partially
39	Support to line ministries to mainstream climate change into development planning and budgeting	Ongoing	AM	8,000,000	Partially	Partially
	Non-Funded project			**3,440,000**		
	Establish a Resilient Low Carbon Technology Hub for Food, Water, and Energy Security	Planned	AM	635,000	No	100%
	Develop preliminary studies for the establishment of natural capital accounting	Planned	AM	120,000	No	100%
	Facilitate GHG emission reduction through project and program carbon finance crediting mechanisms	Planned	M	385,000	No	100%
40	Conduct national and sectoral vulnerability assessments	Planned	A	0	No	100%
	Conduct an assessment of CC impact on biodiversity and test specific management options to cope with CC	Planned	A	2,300,000	No	100%
Estimated total				**27,670,000**	**>6,940,000**	**>25%**

Source: Ricardo (2016); CCCA data and expert team calculation

2.2.2 Ministry of Water Resources and Meteorology (MOWRAM)

The Ministry of Water Resources and Meteorology (MOWRAM) identifies four strategic areas in its CCAP:
(1) Improved hydrological planning and management and early warning,

(2) Improved flood and drought management, through changes in design of reservoirs and irrigation and protection infrastructure,
(3) Staff capacity building and
(4) Promoting gender responsiveness in climate change planning in the water sector.

MOWRAM has the largest CCAP budget at 31% of aggregate CCAP requirements. All its projects are for climate change adaptation. One project is partially financed by a CCCA grant, while the others remain non-funded and the financing gap for the MOWRAM CCAP is 99.9% (Table 7). The MOWRAM domestic budget for 2016 provides allocations relevant to Priority Action 15 ("Rehabilitation of Small, Medium and Large scale irrigation infrastructure", budgeted at USD200 million), under its Program 1: "Management and Development of Water Resources. This program provided substantial resources" (USD35 million) under its Sub-program 2 for "Rehabilitation, Repair and Construction of Irrigation Systems". There is, therefore, likely to be considerable overlap between the MOWRAM domestic budget and CCAP actions in this area.

MOWRAM has eight projects in the 40 priority actions list with Priority Actions No. 5, 14, 28, 3, 15, 9, 8, and 25.

Table 7: Financing Gap for the Ministry of Water Resources and Meteorology CCAP Actions (USD)

Priority Action #	Project	Project status	Adaptation, Mitigation or both	Cost/budget Demand	Financed	Gap
	Partially Funded Projects			**3,500,000**		
	Capacity building for national and provincial department of water resource for climatic data collection, recording, etc.	Planned	A	3,500,000	350,000 Partially, CCCA	90%
	Non-Funded Projects			**269,000,000**		
5	Strengthening climate information and EWS	Planned	AM	5,500,000	No	100%
	Improving institutional structure, networking with mass media for public weather and climate forecasting dissemination.	Planned	A	5,000,000	No	100%
	Establishment of national hydrology forecasting center (ADB).	Planned	A	2,000,000	No	100%
	Promoting scientific and comprehensive methods on ground water study in responding to drought and climate risk.	Planned	A	2,500,000	No	100%
	Assessment of potential impact of sea level rise, salt water intrusion (Mekong delta and coastal areas).	Planned	A	1,500,000	No	100%
14	Capacity building and awareness raising on climate change and DRR for FWUC	Planned	A	2,000,000	No	100%
	Capacity development for irrigation engineers on climate risk management	Planned	A	1,500,000	No	100%
28	Improve capacity for flood and drought forecasting and modeling for technical offices at national and sub national level (ADB) GMS.	Planned	A	2,000,000	No	100%
3	Promoting climate resilience of agriculture through building sea dikes in coastal areas.	Planned	A	3,000,000	No	100%
	Installation of gauging station to monitor rainfall, wind speed, storms and sea level rise (4 provinces).	Planned	A	3,500,000	No	100%
15	Climate risk management and rehabilitation of small, medium and large-scale irrigation infrastructure.	Planned	A	200,000,000	No	100%
	Promoting innovative irrigation technology structure in areas affected by torrential rain (Mondulkiri, Pursat, Sihanouk)	Planned	A	15,000,000	No	100%
9	Up-scaling mobile pumping stations (20) and permanent station (10) in responding to mini-droughts.	Planned	A	20,000,000	No	100%
8	Development and rehabilitation of flood protection dikes (Kampong,Trabek, Bateay) for agricultural/urban development	Planned	A	4,000,000	No	100%
25	Promoting gender responsiveness in water management, cc impact and adaptation.	Planned	A	1,500,000	No	100%
Estimated total				**272,500,000**	**272,150,000**	**99.9%**

Source: Ricardo (2016); CCCA data and expert team calculation

2.2.3 Ministry of Rural Development (MRD)

The Ministry of Rural Development (MRD) focuses on climate change adaptation through:
(1) Climate change resilience for rural roads and infrastructure,
(2) Adaptation to climate change for local business opportunities,
(3) Awareness in vulnerable areas and
(4) Capacity building for village development committees (primary health care, and water sanitation).

MRD has a team dedicated to preparing project proposals. Overall, the Ministry has four funded actions and one partially funded action, while the other five actions are non-funded. The financing gap is estimated at 31.6% (Table 8). Four of the non-funded projects (Priority No. 4, 20, 26, and 32) of MRD and the partially funded project (Priority No. 29) are in the top 40 Priority Action list.

Table 8: Financing Gap for the Ministry of Rural Development CCAP Actions (USD)

Priority Action #	Project	Project status	Adaptation, Mitigation or both	Cost/budget	Financed	Gap
	Funded project			**38,400,000**		
	Map rural vulnerable infrastructure (roads, water supply facilities) in provinces with high vulnerability to climate change	(6 Prov. completed;; 8 Prov. Ongoing.)	A	400,000	Yes	0%
	Scale up microfinance to support GHG mitigation and reduce climate change impacts in vulnerable areas (currently three provinces).	Planned	AM	4,000,000	Yes	0%
	Pilot community-based climate change adaptation for VDCs in the Cambodia Mekong Delta (Takeo, Svay Rieng, Prey Veng)	Ongoing	A	4,000,000	Yes	0%
	Climate proof Mekong river islands' connectivity (roads and ferries), and Kampong Cham island networks.	Ongoing	A	30,000,000	Yes	0%
	Partly Funded project			**5,500,000**		
29	Raise awareness of climate change for Village Development Committees (VDCs).	Ongoing	AM	5,500,000	Partially, 250000 (CCCA)	95%
	Non-Funded project			**12,630,000**		
20	Climate-proof tertiary-community irrigation development to enhance agricultural production of paddy field in four communes of Mekong Delta, District Kampong Ro, Svay Rieng Province	Planned	A	530,000	No	100%
4	Carry out risk assessment and management for the improvement of water supply and sanitation (WATSAN) in the Tonle Sap Great Lake provinces.	Planned	A	8,500,000	No	100%
26	Build capacity on climate proofing rural infrastructure design, construction and maintenance for civil engineers (250) at national and sub-national level.	Planned	A	600,000	No	100%
32	Build awareness and capacity at national and sub-national level for mainstreaming climate change into rural development planning processes.	Planned	A	2,500,000	No	100%
	Develop adaptation options and guidelines to improve climate change resilience of rural infrastructure	Planned	A	500,000	No	100%
Estimated Total				**56,530,000**	**17,880,000**	**31.6%**

Source: Ricardo (2016); CCCA data and expert team calculation

2.2.4 Ministry of Agriculture, Fisheries, and Forestry (MAFF)

The Ministry of Agriculture, Forestry and Fisheries (MAFF) identifies five climate strategic objectives:
(1) To enhance human and institutional capacity in developing new technology of rubber seed, animal production, forestry, fishery and tolerance to weather, disease, and insects;
(2) To enhance capacity of farmers with new technology in coping with climate change;
(3) To reduce GHG emission caused by forest degradation, livestock and crop production, and to encourage sustainable forest management by forest communities, renewable energy (biomass) and appropriate agricultural technology;
(4) To develop and enhance the effectiveness of fishery management through water ecological improvement, protected flooded forest and mangrove forest, increased research and development on aquaculture and post-harvest processing and to continue strengthening the capacity of the fishery community; and
(5) To strengthen capacity on crop production, rubber, livestock, forestry and fishery community.

MAFF has the third largest CCAP budget at 22% of total CCAP requirements. Its projects are mostly for climate change adaptation. It has only one action partially funded by the CCCA, while the other 28 actions are waiting for funding. The MAFF CCAP financial gap is 99.8% (Table 9).

17 CCAP projects of MAFF numbers are selected in the 40 Priority Action list with the Priority Actions No. 1, 2, 6, 10, 11, 12, 13, 17, 19, 21, 23, 24, 27, 33, 36, 37, and 38.

Table 9: Financing Gap for the Ministry of Agriculture, Forestry and Fisheries CCAP Actions (USD)

Priority Action #	Project	Project status	Adaptation, Mitigation or both	Cost/budget	Financed	Gap
	Partially Funded Project			**13,470,000**		
6	Promoting and up-scaling climate smart farming system that resilient to climate change.	Planned	A	13,470,000	Partially, 450000, CCCA	97%
	Non Funded Project			**174,080,000**		
	Promoting an integrated approach in efficiency energy and inputs used in latex and rubber wood production.	Planned	M	250,000	No	100%
17	Promoting sustainable forest management	Planned	AM	2,250,000	No	100%
21	Promoting reforestation and afforestation to increase carbon stock.	Planned	AM	8,200,000	No	100%
12	Enhancing animal waste management and climate change emission mitigation	Planned	M	6,500,000	No	100%
	Promoting and enhancing technology development on the improvement of animal breed, animal feed and animal health to adapt climate change	Planned	A	11,000,000	No	100%
	Mapping of agriculture's productions (agricultural production, rubber, livestock, forestry and fisheries) and of land use.	Planned	A	19,400,000	No	100%
	Developing and using integrated socio-economic and climate scenarios with climate, and land use models and establishment of carbon accounting system for agriculture, forestry and fisheries.	Planned	AM	7,850,000	No	100%
2	Developing and implement regulations and mechanism on REDD+	Planned	AM	2,250,000	No	100%
23	Promote post-harvest technology for cereal crop and tuber crop and conduct the research and transfer appropriate post-harvest technology.	Planned	AM	3,500,000	No	100%

	Promote research work on appropriate climate smart agriculture technology/technique to adapt and mitigate climate change	Planned	AM	18,770,000	No	100%
19	Develop crop variety suitable to AEZ resilient to climate change (include coastal zone)	Planned	A	13,380,000	No	100%
	Established experimental networking sites and develop growth, yield, biomass, and carbon stock within existing rubber plantation in 5 AEZ.	Planned	AM	1,520,000	No	100%
24	Development of knowledge and information system on climate change.	Planned	A	2,600,000	No	100%
33	Strengthening capacity of agricultural and agro industry development entrepreneur and the agricultural cooperative in low carbon production	Planned	AM	1,550,000	No	100%
13	Institutional capacity development for natural disaster coordination and intervention.	Planned	AM	700,000	No	100%
	Institutional mainstreaming climate change adaptation by building capacity and scaling up community resilience.	Planned	A	30,990,000	No	100%
38	Conducting capacity development, research and awareness raising on REDD+	Planned	AM	1,600,000	No	100%
	Building climate resilience capacity in forestry sector	Planned	A	2,100,000	No	100%
1	Promoting aquaculture production systems and practices that more adaptive to climate change.	Planned	A	3,400,000	No	100%
10	Promoting climate resilience of wild fishery resources	Planned	A	1,300,000	No	100%
11	Enhancing the climate resilience in fishery sector (ECRF)	Planned	A	3,000,000	No	100%
	Enhancing fish and fisheries product in the entire value chain in response to climate change impact.	Planned	A	3,000,000	No	100%
36	Promoting resilience in animal production and adaptation to climate change (technical package).	Planned	AM	8,000,000	No	100%
27	Enhancing knowledge management related to climate change adaptation and promoting innovation that is needed based.	Planned	A	10,000,000	No	100%
	Modifying existing agriculture good practice (GAP) through additional training to technical staff related climate change	Planned	AM	350,000	No	100%
37	Promoting, piloting and scaling- up rubber clones from IRRBD (International Rubber Research Development Board) member country in responding to climate change	Planned	AM	1,970,000	No	100%
	Promoting new rubber clone trial	Planned	A	2,900,000	No	100%
	Promoting marginalized groups and women participation to climate change adaptation and mitigation strategy.	Planned	AM	5,750,000	No	100%
Total				**187,550,000**	**187,100,000**	**99.8%**

Source: Ricardo (2016); CCCA data and expert team calculation

2.2.5 Ministry of Public Work and Transportation (MPWT)

The CCAP for the transport sector focuses on enhancing adaptation and mitigation capacity of staff in MPWT in order to cope with issues arising from changing climate variation and events such as floods, storm, and extreme weather. MPWT has endorsed two strategic priorities and has identified 11 CCAP actions. The two priorities are:

1) Promote climate resilience in transport infrastructure,
2) Promote low-carbon consumption for GHG reduction in transport sector.

MPWT has the second largest CCAP budget requirement at 24% of total. Its projects are mainly for climate change mitigation, though the largest is a combination of mitigation and adaptation. MPWT has only one partially funded action, while the remaining actions are awaiting funding. Its financing gap is 99.7% (Table 10). One of its actions (Priority Action No. 7) is among the top 40 priority project list.

Table 10: Financing Gap for the Ministry of Public Works Transport CCAP actions (USD)

Priority Action #	Project	Project status	Adaptation, Mitigation, or both	Cost/budget	Financed	Gap
	Funded Project			**600,000**		
	Enhance traffic management	Ongoing	M	600,000	Rev. to 435237.5, (25.000 from CCCA, and in-kind from MPWT)	0%
	Non Funded Project			**210,375,000**		
	Develop national road construction and maintenance design standards for nat. and prov. roads, taking into account climate change impact	Planned	A	500,000	No	100%
	Enhance maintenance and inspection of vehicles	Planned	M	600,000	No	100%
	Promote integrated public transport systems in main cities	Planned	M	800,000	No	100%
	Establish green belts along major roads for climate change mitigation	Planned	AM	950,000	No	100%
	GHG mitigation for urban transport including mass transit and cycle systems	Planned	M	800,000	No	100%
	Promote environmentally friendly efficient and proven transport technology	Planned	M	375,000	No	100%
	Shift long distance freight movement from trucks to trains	Planned	M	31,250,000	No	100%
	Capacity building and institutional strengthening for addressing to climate change impacts	Planned	AM	3,000,000	No	100%
	Raise public awareness about climate change caused by GHG emissions from the transport sector.	Planned	M	2,100,000	No	100%
7	Repair and rehabilitate existing road infrastructure and ensure effective operation and maintenance system, taking into account climate change impact	Planned	A	170,000,000	No	100%
Total				**210,975,000**	**210,375,000**	**100%**

Source: Ricardo (2016); CCCA data and expert team calculation

2.2.6 Ministry of Health (MoH)

The Ministry of Health (MoH) currently has four priority areas related to climate change:

(1) Combating water stress, vector-borne/water-borne diseases;
(2) Reducing malnutrition and strengthening food safety related to climate change,

(3) Reducing impacts from extreme weather events (disaster); and
(4) Building capacity of health personnel to cope with climate change impact;

One of the MOH actions has received partial funds, while the remaining actions are awaiting funding. MOH has a 99.1% financing gap (Table 11). One CCAP Priority Action No 18, is in the top 40 Priority list.

Table 11: Financing Gap for Ministry of Health CCAP Actions (USD)

Priority Action #	Project	Project status	Adaptation, Mitigation or both	Cost/budget	Financed	Gap
	Funded Project			**1,500,000**		
	Development and implementation of dengue control program in provinces with high climate change risk.	Planned	A	1,500,000	Partially, 400000 from CCCA	73%
	Non Funded Project			**45,300,000**		
	Development and update of technical guidelines for diagnosis, detection, control, prevention and treatment of vector borne and water borne diseases, injuries and other food poisoning illness arising from climate change	Planned	A	250,000	No	100%
	Up-scaling Communicable Disease Control across the country, including conducting surveillance and research on malaria and dengue fever in the context of climate change, including other emerging climate change related diseases	Planned	A	1,000,000	No	100%
	Up-scaling Malaria Control Program to contain Artemisinin-resistance Plasmodium Falciparum parasites and moving toward malaria pre-elimination status in Cambodia (PIP 12-120)	Planned	A	30,000,000	No	100%
18	Up-scaling of National program on acute respiratory infection, diarrhea disease and cholera in disaster prone-areas, including conducting surveillance and research on water-borne and food borne diseases associated with climate variables.	Planned	A	800,000	No	100%
	Development and implementation of data collection system on health outcomes arising from natural disasters and other man-made disasters, taking into consideration gender impacts, in synergy or collaboration with the Cambodia Red Cross, NCDM, MOWRAM and other relevant agencies	Planned	A	250,000	No	100%
	Strengthening emergency preparedness and responsive	Planned	A	10,000,000	No	100%
	Capacity development for mainstreaming climate change in annual operation agencies (SOA) as part of the Service Delivery Grant (Pool Funding Modality)	Planned	A	250,000	No	100%
	Promoting public education and awareness campaign with a focus on women through different means on health impacts of climate change, including disease control, prevention, treatment, epidemic preparedness, nutrition and sanitation and hygiene	Planned	A	1,000,000	No	100%
	Organizing trainings on health impact/vulnerability assessment, modeling of climate variability and health impacts, surveillance and research based on training need assessment in collaboration with CCCD of the MOE, WHO and other relevant health institutes such as Pasteur;	Planned	A	1,500,000	No	100%
	Updating Health Database with inclusion of climate change variables and associated diseases	Planned	A	250,000	No	100%
Total				**46,800,000**	**46,400,000**	**99.1%**

Source: Ricardo (2016); CCCA data and expert team calculation

2.2.7 Ministry of Industry and Handicraft (MIH)

The Ministry of Industry and Handicraft (MIH) focuses mainly on climate change mitigation. Its portfolio is intended to:

(1) Promote green industry for climate resilient, low carbon production in Cambodia,
(2) Use renewable energy and energy diversification including promoting on-site renewable energy generation for industrial production processes,
(3) Introducing path-breaking technologies for low-carbon production industries and
(4) Managing Industrial waste.

The Ministry's financing gap is 98% (Table 12). However, two actions had received pre-funding for pilot activities. All the CCAP projects of MIH are for mitigation. None of the MIH projects is in the top 40 Priority Action list.

Table 12: Financing Gap for the Ministry of Industry and Handicraft CCAP Actions (USD)

Project	Project status	Adaptation, Mitigation or both	Cost/budget	Financed	Gap
Partially Funded Project			**10,000,000**		
Resource and energy efficiency assessment of industries and SMEs	Planned	M	1,000,000	250,000	75%
Non Funded Project			**11,000,000**		
Development of best resource and energy efficiency practices for industries and SMEs	Extension	M	200,000	No	100%
Development green industry policy and green industry award program	Planned	M	400,000	No	100%
Development of Nationally Appropriate Mitigation Actions (NAMAs)	Planned	M	400,000	No	100%
Establishment of an information system to support resilient low carbon industrial development	Planned	AM	700,000	No	100%
Development of a compendium of renewable energy technology for the industrial sector	Planned	M	300,000	Over	100%
Promote the renewable energy generation on site and co-generation for industrial sector as well as special economic zone	Planned	M	1,500,000	Over	100%
To develop compendium of low carbon technology for industrial production process	Planned	M	300,000	No	100%
Pilot and documents strategies for converting industrial waste into energy	Planned	M	1,200,000	No	100%
Promote waste management strategies, including hazardous waste management	Planned	M	800,000	No	100%
Development of compendium of waste management for the manufacturing handicraft sector including to energy technology	Planned	M	400,000	No	100%
Develop resource and energy efficiency guidelines for the industry and handicraft sectors	Planned	M	100,000	No	100%
Development of a policy to promote the use path-breaking technologies for low-carbon production industries.	Planned	M	400,000	No	100%
Assessment the waste generation by the industrial sector	Planned	M	2,000,000	No	100%
Assess the potential of renewable energy applications in the industrial sector	Planned	M	100,000	No	100%
Training of national expert and industrial personnel on resource and energy efficiency	Extension	M	800,000	No	100%
Dissemination of information on low carbon technology relevant to industries and partners.	Planned	M	400,000	No	100%
Total			**11,000,000**	**10,750,000**	**98%**

Source: Ricardo (2016); CCCA data and expert team calculation

2.2.8 Ministry of Land Management, Urbanization Planning and Construction (MLMUPC)

The Ministry of Land Management, Urban Planning and Construction (MLMUPC) focuses on:
(1) Promoting low-carbon, climate resilient city development planning and developing city-level coordination mechanisms, especially mass transport and waste water management,
(2) Promoting land use planning to prioritize adaptation measures for key regions of Cambodia, such as coastal zones, highlands, rural and urban areas,
(3) Promoting low-carbon planning and technologies to support sustainable development through building codes for buildings and infrastructure development and
(4) Enhancing staff capacity for building and raising public awareness of rural house construction resilient to extreme weather events.

The financing gap is 97% (Table 13) and no CCAP projects have received funding. Two CCAP projects, Priority Actions No. 34 and 35, are in the 40 Priority Project list.

Table 13: Financing Gap for the Ministry of Land Management, Urbanization Planning and Construction(USD)

Priority Action #	Project	Project status	Adaptation, Mitigation or both	Cost/budget	Financed	Gap
	Partially Funded Project			**2,000,000**		
35	Promote the resettlement development that adapts to urban and rural natural disasters at.	Planned	A	2,000,000	250,000	88%
	Non Funded Project			**9,120,000**		
34	Integrate climate change respond measure to commune land use planning.	Planned	AM	720,000	No	100%
	Promote proper shelters for low income households and vulnerable households.	Planned	A	1,000,000	No	100%
	Mainstreaming climate change to the development of building code.	Planned	AM	500,000	No	100%
	Prepare spatial planning guideline at all levels for climate change adaptation.	Planned	A	400,000	No	100%
	Formulating and developing green infrastructure and green building guideline for existing and on-going city master plan.	Planned	AM	500,000	No	100%
	Conduct vulnerability assessment for major urban and cities (15 towns/cities) to climate change and develop climate safeguard principle.	Planned	AM	2,000,000	No	100%
	Enhancing climate change vulnerability assessment and adaptation through regional and provincial spatial planning, master plan and land use in coastal area.	Planned	AM	2,000,000	No	100%
Total				**9,120,000**	**8,870,000**	**97%**

Source: Ricardo (2016); CCCA data and expert team calculation

2.2.9 Ministry of Mining and Energy (MME)

MIH and MME were split out from the Ministry of Industry, Mining and Energy (MIME) in 2014. The Ministry of Mines and Energy (MME) focuses on four strategic priorities and nine CCAP actions, all of which are predominantly mitigation in nature:
(1) Developing policy for the energy sector to meet the SE4 ALL target for Cambodia,
(2) Promoting energy infrastructures to be climate proof or climate resilient,
(3) Implementing the GHG emission management approach for the energy sector, and
(4) Strengthening capacity, knowledge and awareness concerning climate change response.

The MME's financing gap is 96% (Table 14). Similar to MIH, none of the MME's CCAP projects with mitigation aspects is in the 40 priority action list.

Table 14: Financing Gap for the Ministry of Mining and Energy CCAP Actions (USD)

Project	Project status	Adaptation, Mitigation or both	Cost/budget	Financed	Gap
Partially Funded Project			**200,000**		
Develop renewable energy promotion strategy and action plan	Planned	M	200,000	250,000	-25%
Non-funded projects			5,020,000		
Development of a NAMA for the energy sector, based on the study of mitigation potential and CBA	Planned	M	600,000	No	100%
Monitoring and inspection on fuel installation and handling of oil terminal, fuel service station and fuel street vendors	Planned	M	200,000	No	100%
Establish greenhouse gases inventory system for energy sectors	Planned	M	450,000	No	100%
Finalize and disseminate national policy, strategy and action plan on energy efficiency in Cambodia	Planned	M	150,000	No	100%
Conduct climate risk analysis for the existing electricity infrastructures and provide recommendation	Planned	AM	170,000	No	100%
Conduct Technology Need Assessment for GHGs emission reduction in the energy sector	Planned	M	150,000	No	100%
Improve capacity for hydropower project appraisal in the context of climate change	Planned	AM	400,000	No	100%
Raising awareness about environmental friendly for small scale gold mining	Planned	AM	2,700,000	No	100%
Total			**5,020,000**	**4,820,000**	**96%**

Source: Ricardo (2016); CCCA data and expert team calculation

2.2.10 Ministry of Education Youth and Sports (MEYS)

The Ministry of Education, Youth and Sports (MEYS) identifies the following priorities in its CCAP:
(1) Climate change policy,
(2) Capacity building,
(3) Formal and informal CC education mainstreaming, and
(4) CC resilience of schools, university and education facilities.

MEYS has one partially funded action on the mainstreaming of climate change into the curriculum for primary and secondary schools, while the remaining actions are awaiting funding. The financing gap is estimated at 96.7% (Table 15). Two of the CCAP projects (with Priority Action No 16 and 31) are selected among the 40 priority actions list.

Table 15: The Financing Gap for the Ministry of Education, Youth and Sports CCAP Actions (USD)

Priority Action #	Project	Project status	Adaptation, Mitigation, or both	Cost/budget	Financed	Gap
	Partially Funded Project			**2,000,000**		
	Upgrading curriculums and training methodologies, including libraries, to include climate change subjects for primary and secondary schools.	Planned	AM	2,000,000	Partially, 350,000 CCCA	83%
	Non-Funded Project			**8,600,000**		
	Upgrading curriculum to include climate change for non-formal education and Buddhism schools.	Planned	AM	950,000	No	100%

	Integration of green growth concept and low carbon development in school and university building and design.	Planned	M	750,000	No	100%
31	Develop education policy, analyses, research and planning for climate change adaptation and mitigation.	Planned	AM	800,000	No	100%
16	Promoting climate proofing and retrofitting of existing and planned schools and universities infrastructure.	Planned	A	1,950,000	No	100%
	Promoting universities and centers of excellence for delivering climate change course and research.	Planned	AM	3,250,000	No	100%
	Strengthening capacity of the relevant departments under MoEYS for planning and monitoring of education effectiveness related to climate change.	Planned	AM	900,000	No	100%
Total				**10,600,000**	**10,250,000**	**96.7%**

Source: Ricardo (2016); CCCA data and expert team calculation

2.2.11 Ministry of Information (MoInfo)

The Ministry of Information (MoInfo) is prioritizing climate change capacity building and awareness, mainly through its broadcasting networks. The Ministry of Information CCAP has a 97% financing gap (Table 16). None of the MOINFO's CCAP projects are in the top 40 Priority action list.

Table 16: Financing Gap for the Ministry of Information CCAP Actions (USD)

Project	Status of project, planned, ongoing, or completed	Adaptation or Mitigation or both	Cost/budget	Financed	Gap
Partially Funded Project			**300,000**		
Human resource development and enhancing human capacity on climate change in information sector.	Planned	AM	300,000	125,000	58%
Non Funded Project			**4,030,000**		
Enhance and expand the broadcasting means for raising awareness on climate change nationwide	Planned	AM	2,000,000	No	100%
Expanding the national radio and TV broadcasting coverage to cover the vulnerable area for facilitating public access to information on climate change	Planned	AM	330,000	No	100%
Program production for awareness raising on climate change and its impacts and solution	Planned	AM	1,200,000	No	100%
Urge broadcasting private units to participate in broadcasting climate change topic and its impacts and solution.	Planned	AM	500,000	No	100%
Total			**4,330,000**	**4,205,000**	**97%**

Source: Ricardo (2016); CCCA data and expert team calculation

2.2.12 Ministry of Tourism

The Ministry of Tourism (MoT) has strategies to develop the tourism sector for cultural heritage, and to develop natural ecosystems towards green, low-carbon, climate resilience and sustainable development, thereby contributing to employment generation and poverty reduction. Its CCAP actions are predominantly mitigation in nature. It aims to enhance cooperation with relevant ministries, the private sector and development partners in order to promote tourism.

MOT has a 96.3% financing gap Table 17), and only one action is partially funded. One project (Priority Action No. 30) is in the top 40 Priority action list.

Table 17: Financing Gap for Ministry of Tourism CCAP Actions (USD)

Priority Action #	Project	Project status	Adaptation, Mitigation or both	Cost/budget	Financed	Gap
	Partially Funded Project			**400,000**		
	Awareness raising to Tourism Industry on Environment and Climate Change.	Planned	AM	400,000	125,000	69%
	Non-Funded Project			**3,000,000**		
	Livelihood improvement of people and Environmental Management in heritage site (Sambor Prey Kuk), Kompong Thom province.	Phase I completed Phase II planned	AM	400,000	Yes for Phase I, JFPR grant.	100%
30	Promote livelihood resilience through tourism development in Community Based Tourism and Community Based Eco-Tourism	Planned	A	400,000	No	100%
	Piloting solid waste management and sanitation improvement in the Peam Krasob Community Based Eco-Tourism.	Planned	AM	700,000	No	100%
	Pilot pattern of District, Clean City, in 4 main tourism destination (PP, SR, SHV, BTB)	Planned	AM	600,000	No	100%
	Developing of joint Prakas on CBT/CBET with MAFF,MOE, and climate mainstreaming CBT Development and Management. (Clean City)	Planned	AM	100,000	No	100%
	Promote Green Hotel Standard in Cambodia	Planned	M	400,000	No	100%
	Promote "One Tourist One Tree" campaign through tourism parks development.	Planned	AM	400,000	No	100%
Total				**3,400,000**	**3,275,000**	**96.3%**

Source: CCAP, NCSD (2016) and expert team calculation

2.2.13 Ministry of Women's Affairs (MOWA)

The Ministry of Women's Affairs (MOWA)'s CCAP aims to address the vulnerabilities of women and other vulnerable groups such as children and elderly through specific actions for capacity development for women in policy discussions, leadership, livelihoods, green growth and community resilience. MOWA has one funded action and one partially funded project. The MOWA CCAP financing gap is 92.8% (Table 18). None of the MOWA's CCAP project is in the top 40 Priority action list.

Table 18: Financing Gap for Ministry of Women's Affairs CCAP Actions (USD)

Project	Project Status	Adaptation or Mitigation or both	Cost/budget	Financed	Gap
Funded Project			**160,000**		
Promoting integration of gender responsiveness in NSDP and sector plans to increase resilience capacity of women to cope with climate change impact with agencies concerned.	Completed, with UNDP	AM	160,000	Yes	0%
Partially Funded Project			**680,000**		
Promoting education and awareness building on climate change impacts and disaggregated role of men and women in coping with cc impacts.	Preparing with MoEYS	A	680,000	Partially, 100000 CCCA	85%
Non Funded Project			**2,780,000**		

Developing and piloting gender based climate change adaptation and mitigation project or initiative in cooperation with sector ministries and other stakeholders.	Planned (completed pilot, Agri. and rural sectors)	AM	1,300,000	No	100%
Conducting vulnerability assessment of women and girls to climate change impact, including developing database and Monitoring and Evaluation Framework on climate change gender responsiveness with line ministries.	Planned (completed the gender assessment but not the database)	A	300,000	No	100%
Strengthening gender and climate change capacities at all level, especially at sub national levels in partnership with all stakeholders	Planned	AM	680,000	No	100%
Promoting women's participation in decision making on climate change policy at all level.	Planned	AM	500,000	No	100%
Total			**3,620,000**	**3,360,000**	**92.8%**

Source: Ricardo (2016); CCCA data and expert team calculations

2.2.14 National Committee for Disaster Management (NCDM)

The National Committee for Disaster Management (NCDM) has the coordination role with government agencies, authorities, and communities in relation to disaster management, preparedness and emergency response. NCDM's CCAP includes staff capacity building in disaster risk management and reduction, food and health security warning, capacity building for sub-national administrations and awareness raising in disaster response and adaptation. NCDM has one partially funded action. And its financing gap is 99.1% (Table 19). Priority Action No.22, which is partially financed is in the top 40 Priority project list.

Table 19: The Financing Gap for the National Committee for Disaster Management CCAP Actions (USD)

Priority Action #	Project	Project status	Adaptation or Mitigation or both	Cost/budget	Financed	Gap
	Partially Funded Project			**6,000,000**		
22	Piloting community based disaster reduction, preparedness and response plans	Planned	A	6,000,000	Partially, 100.000 CCCA	98%
	Non Funded Project			**5,750,000**		
	Integration of DRR and Emergency Response into NSDP and sector planning	Planned	A	200,000	No	100%
	Mapping of disaster prone areas as knowledge base for monitoring and planning of DRR and P and R plans	Planned	A	2,000,000	No	100%
	Setting up DRR insurance scheme	Planned	A	250,000	No	100%
	Strengthening capacity of NCDM at all levels, especially sub national, for coordination and implementation of DP & R plans	Planned	AM	1,000,000	No	100%
	Strengthening sub national EWS and communication mechanism	Planned	A	900,000	No	100%
	Setting up disaster database system	Planned	A	300,000	No	100%
	Promote integrated of DRR and CCA into commune development and investment plan	Planned	A	500,000	No	100%
	Mainstreaming DRR and CCCA into primary, secondary and higher education curricula in cooperation with MoEYS.	Planned	A	300,000	No	100%
	Mainstreaming DRR and CCA into royal administration school curriculum	Planned	A	50,000	No	100%
	Develop and implementation of education and public awareness campaign on DRR and CC Adaptation	Planned	A	250,000	No	100%
Total				**11,750,000**	**11,650,000**	**99.1 %**

Source: Ricardo (2016); CCCA data and expert team calculation

The analytical work undertaken by NCSD, with support from CCCA, GIZ and USAID, leads to the conclusion that the bulk of the actions contemplated in the ministerial CCAPs remain unfunded. The exceptions are the MRD's CCAP (showing a financing gap of approximately 30%) and the MOE's CCAP (showing a financing gap of approximately 25%). Adaptation needs in Cambodia are very large. While the adaptation finance gap is enlarging, some domestic and external resources have been mobilized at a slow but steady pace in the last years. Chapter 3 explores climate change financing through the national budget.

Chapter 3: Funding from the National Budget

This Chapter focuses on the public resources made available for climate action at national level, exploring both domestic budget and external sources channeled to Cambodia in recent years.

3.1 Climate Change Public Expenditure Reviews

Climate change public expenditure trends have been tracked in Cambodia through a series of related reviews starting in 2012:

- Cambodia Climate Public Expenditure and Institutional Review (CPEIR), Final Report, ODI, July 2012
- Analysis and Recommendations for a Cambodia Climate Change Financing Framework (CCFF), Cambodia Climate Change Alliance (CCCA), November 2014
- Cambodia Climate Public Expenditure Review (CPER) 2013-2014, Ministry of Economy and Finance, 2016.

The latest of these, the CPER, provides an overview of the evolution of climate change financing in Cambodia[32]. This gives an indication about the extent to which the financing of future climate plans, including the NAP priority actions have relied on public and domestic resources.

3.1.1 Objectives and Methodology of Climate Public Expenditure Reviews

The objectives of these reviews are twofold. Firstly, they can help improve the balance and focus of existing climate expenditure. And secondly, they can guide new climate finance that is likely to be available to Cambodia through international climate funds, domestic funds and through the funding provided by bilateral and multilateral programs.

The CCFF updated climate public expenditure data (2009-2012) from the original CPEIR, and focused on ten climate-sensitive line ministries and agencies as well as sub-national administrations. It also included scenarios for climate finance, the cost of action plans of key ministries and recommendations on required improvements at national and sub-national level for climate finance management. The CPER extended the period of climate public expenditure reviewed from 2009 to 2014, and expanded the number of climate relevant institutions to 15.

The methodology for tracking climate finance in Cambodia has evolved over time, based on lessons learnt from the CPEIR and the CCFF. The CPEIR used a “Climate Relevance Index (CRI)” with three categories of climate change relevance and their assumed proportion of climate change expenditure (80% for high relevance, 50% for mid relevance and 25% for low relevance). However, it was noted that the use of this classification of public expenditure could lead to an over-estimation of public expenditure on climate change, and that a more evidence-based methodology would be needed to refine these estimates.

The CCFF exercise, conducted in 2013 and finalized in 2014, provided the opportunity to refine the methodology. For the CPER, a Benefit Cost Ratio (BCR) approach was used to estimate the climate relevance of a program by comparing its benefit cost ratio “with” and “without” climate change, and then calculating the share of the benefits of a program that is related to climate change. Case studies were conducted for typical climate change activities in nine sectors. This led to adjusted percentages of relevance for these activities, which were often lower than the initial estimates used in the first CPEIR. The latest review, the CPER 2013-2014, is also based primarily on the BCR rather than the CRI approach, the BCR approach being judged to provide better accuracy and to be more evidence- based. The sources of data used by the CPER report were:

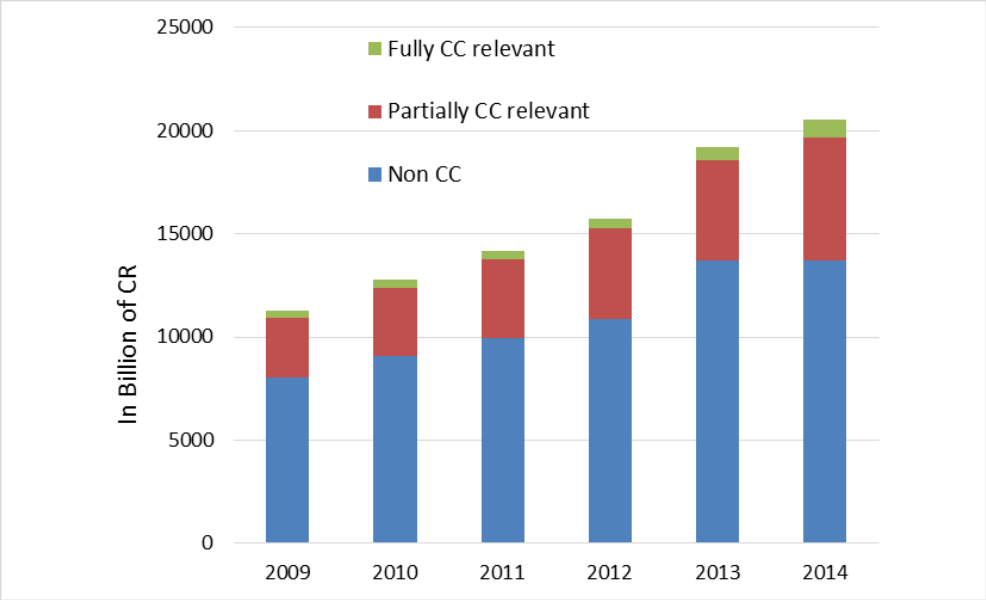
[32] The next three sections are based on the findings of the Cambodia Climate Public Expenditure Review (CPER) 2013-2014, MEF, 2016.

- Recurrent expenditure (national budget): budget data were provided by the Ministry of Economy and Finance (MEF) Department of Budget Formulation. The analysis focused on approved budget documents where some ministries use program budgeting while others still use the older economic classification. All ministries are required to fully implement program budgeting by 2018. The data obtained were only disaggregated to program level, not to sub-program nor activity;
- Capital expenditure (national budget): the budget data were provided by the MEF Department of Investment;
- External finance: data were obtained from the ODA database of the Cambodia Development Council (CDC) and the MEF Department of Cooperation and Debt Management. The CDC data include planned development partners' loans and grants. The MEF data include actual disbursements from development partners' loans and grants under MEF management (mostly from development banks).

3.1.2 Key findings of the CCFF and CPER studies

Public expenditure (domestic and external resources) directly focused on climate change was estimated by the CCFF at 6.5% of total public expenditure in 2012 (or 1.29% of GDP). The CPER found that total climate change public spending had increased steadily from CR 367 billion (USD 91.7 million) in 2009 to CR 847 billion (USD 211.7 million) in 2014, see Figure 1.

Figure 1: Climate change related expenditure and total public expenditure (in billions of CR)



Source: CPER 2016

In 2014, one third of public expenditure was either fully or partially related to climate change, up from 28.9% in 2009 (Table 20). Once climate change relevance weightings were applied, climate finance constituted 4.1% of public expenditure (up from 3.3% in 2009). The proportion of climate expenditure to GDP increased, from 0.9% of GDP in 2009 to 1.3% of GDP in 2014 with a low point in 2011 (0.8% of GDP). The years 2009 and 2010 were marked by relatively high levels of disaster recovery expenditures due to typhoon Ketsana and floods in 2009 which significantly raised climate related expenditures in those years.

Table 20: Evolution of climate change expenditure (2009-2014)

Climate spending	2009	2010	2011	2012	2013	2014
Climate (un-weighted) spending to total spending	28.9%	28.9%	29.8%	30.9%	28.7%	33.3%
Climate (weighted) spending to total spending	3.3%	3.5%	2.9%	3.1%	3.3%	4.1%
Climate spending as percentage of GDP	0.9%	1%	0.8%	0.9%	1%	1.3%

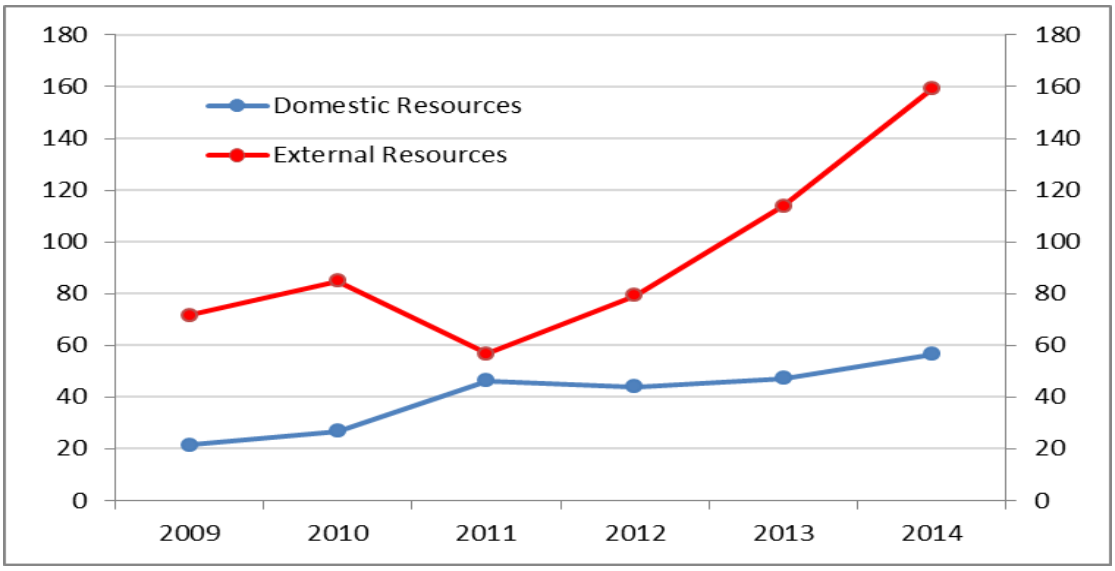
Source: CPER 2016

3.1.3 Sources of Climate Public Expenditure

The increase in public spending on climate change has been supported by increases in both domestic and external financial resources for climate change. As mentioned, the amounts allocated from domestic resources (national budget) for climate expenditure increased from CR 87 billion (USD 21.7 million) in 2009 to CR 211 billion (USD 52.7 million) in 2014. And the amounts from external sources increased from USD 71.6 million in 2009 to USD 159 million in 2014.

External financing continues to represent the largest source of funding for climate expenditure in Cambodia - see Figure 2. It has, however, been more volatile than domestic funds, with a dip in 2011 probably due to the simultaneous completion of several large climate-related projects. But the overall trend is clearly positive, with a sharp increase in 2013 and 2014. Of external resources, only 41% of these were reflected in the MEF's systems in 2009. The situation has changed significantly, with 67% of externally funded climate expenditures reflected in the MEF system in 2014, mostly for large infrastructure and agriculture projects.

Figure 2: Source of Public Climate Finance (in millions of USD)



Source: CPER 2015

Climate adaptation activities constitute the majority of external and government domestic funding in Cambodia. Adaption spending was estimate at 95% of total climate expenditure in 2014 (Table 21), and 28% of the adaptation came from domestic resources (within the 15 climate-sensitive line ministries and agencies).

Table 21: Climate Expenditure for adaptation in climate-sensitive institutions (in million of USD)

Within the CCAPs of the 15 climate-sensitive institutions:	2014	2015
Total climate change expenditure (weighted)	**176**	**171**
Domestic resources	37	47
External resources	140	124
Adaption expenditure (weighted)	**167**	**165**
Domestic resources	37	47
External resources	130	118
Adaption within total climate change total expenditure (%)	95%	96%
Adaptation within the external resources (%)	93%	95%

Source: CPER 2016 and CPER 2017(at draft stage[33])

3.2 Strategies to Mobilize Domestic Climate Change Resources

The Cambodian Climate Change Policy Framework is guided by three fundamental elements:

(i) Strategic objectives of the Cambodia Climate Change Strategic Plan (CCCSP, 2013) [34],
(ii) Objectives of Sectoral Climate Change Strategic Plans (SCCSP), and
(iii) Climate Change Action Plans (CCAPs).

The CCAPS were introduced under the umbrella of the CCCSP in 2014 as a key instrument for mobilizing finance for climate change. The sectoral objectives set out in the CCCSP have been converted to key "Actions" within the CCAPs. The CCAPs include general information on financing and estimated costs under their "Action Fiches".

A total of 15 climate-sensitive institutions have prepared climate change action plans (CCAPs). These have been a vital step to improve planning for adaptation and to define the climate financing needs of line-ministries as well as to assess current levels and prospects for future financing. The CCAPs were prepared by dedicated ministerial Working Groups, most of which ceased activity after the CCAPs preparation was completed in 2014. The lapse into inactivity of the CCAP Working Groups is one of the reasons for the relatively slow pace of mainstreaming both the CCAPs and climate change generally into routine planning and budgeting at the Departmental level.

As mentioned in Chapter 2, the 15 CCAPs contain 171 actions requiring more than USD 865 million to implement during 2014-2018[35], with an overall estimated 92.7% financing gap in early 2017 (see Chapter 2 for details). The cost of the top 40 priority actions is USD 530 million and has a 98% financial gap. Underpinning the process of mainstreaming climate change in development plans has been an increasing political commitment to climate change expressed by decision-makers. The strong focus on adaptation of the INDC submitted by the Royal Government of Cambodia to the UNFCCC in 2015 was an important step in furthering adaptation as the core of Cambodia's climate change policy. In the same vein, the Prime Minister's initiative to allocate domestic funds to prepare for the event of drought and floods in 2017 and 2018 sends a clear message that climate change is being taken seriously by the government and that it is expected to be addressed in budget allocations.

3.2.1 Climate Change Integration into Government Budgets

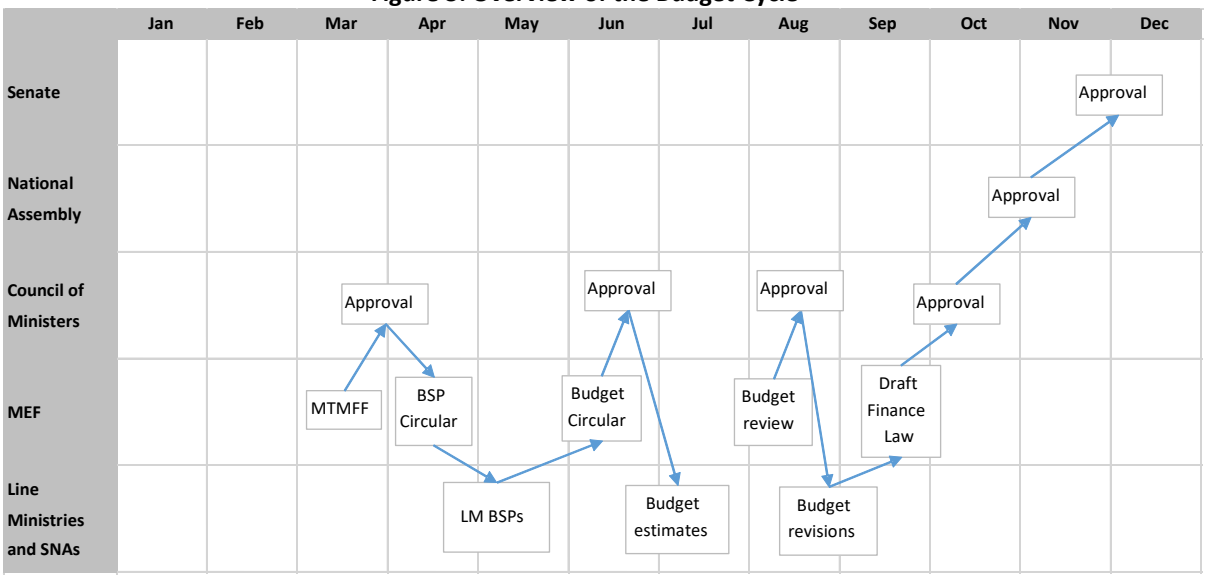
The Cambodia Budget Cycle is regulated by MEF and involves a multi-stage process as illustrated in Figure 3. The Public Finance Management Reform Program (PFMRP), initiated earlier in the millennium, has identified a well-defined national budget pathway. The budget cycle process starts with the preparation of the Medium Term Macroeconomic and Fiscal Framework (MTMFF) by the MEF in the first quarter of the year. The MTMFF provides medium term (three year) projections of the main macroeconomic variables for GDP growth, inflation, balance of payments, monetary growth, the exchange rate and external flows. The growth estimates provide the basis for estimates of the funds likely to be available from revenues raised via taxation, other charges and external flows of funds. From these, MEF is able to forecast the resources available for government spending over the following three years.

After the preparation of the MTMFF, MEF sends out a Circular for the preparation of Ministry Budget Strategic Plans (BSP) in early April. The BSPs, supported by Program Budgeting (PB), are the tool for applying a strategic approach to medium term government resource allocation. The ministry's BSPs are intended to set out the strategic framework and budget priorities plus PB budget estimates. Budgeting for the BSP is structured both programmatically and by economic classification. A resource guideline is stipulated and this was 10.7% for economic sectors in the BSP Circular for 2017-2019. Once approved by

[33] Official data to be published, provisional ones obtained through personal communication from CCCA staff.
[34] Cambodia Climate Change Strategic Plan 2014 – 2023, National Climate Change Committee 2013.
[35] CCAPS for MAFF, MIH, MLMUPC, MME, MOE, MOEYS, MOH, MOINFO, MOT, MOWA, MOWRAM, MPWT, MRD, NCDM, and MPTC (the last not yet approved)

MEF, the Ministry BSP should then provide the strategic framework for the preparation of the individual Ministry medium term budget and the annual budget estimates.

Figure 3: Overview of the Budget Cycle



Key: MTMFF = Medium Term Macroeconomic and Fiscal Framework ; BSP = Budget Strategic Plan (line Ministries); LM = Line Ministries
Source: Adapted from Cambodia Climate Change Financing Framework, 2014

MEF included a reference to climate change for the first time in its 2017 BSP Circular (April 7th 2016). It asks Ministries to take account of climate change along with other cross-cutting issues. The circular states "each ministry and agency shall consider (...) cross-cutting activities such as industrial development policy, gender, and climate change and disaster impacts".

Following the preparation of the Ministry BSPs[36], MEF issues its Budget Law Circular for the detailed preparation of Ministry Budgets in early June. This sets out the macroeconomic, fiscal, revenue and expenditure budget framework in detail and a set of guidelines to govern the detailed budget formulation process. The 2017-19 Budget Circular highlighted priority investments in public infrastructure - road, rail, ports, water, energy electricity, schools and hospitals. The Circular also included a paragraph advising relevant ministries: "to limit the damage of natural disasters and climate change on economic development, prioritize new infrastructures and agriculture activities with sufficient quality to resist extreme weather events including floods, drought, storms, and disease outbreak".

The process for drawing up the detailed revenue and expenditure estimates for the Budget submissions is quite time consuming. It is paper based involving the completion of 16 forms for numerous budget entities[37], covering both programmatic and economic classification presentations. The time available for budget preparation, the large number of budget units and the intensity of the work that is needed to complete the bureaucratic requirements of the budget submission means that there is limited time for strategic change and fine tuning such as integrating climate change.

Budget hearings/negotiations between MEF and line Ministries are key to resource allocation decisions. These take place at the technical and leadership levels, starting with Technical negotiations in mid July. The purpose of this technical hearing, which is attended by all Ministry heads of Departments, allows MEF's Budget Formulation Department to carry out a general review of prospective recurrent (i.e. salary and non-staff) budgets across all departments of the Ministry. Hearings on the domestically financed capital budget are governed by a separate process administered by the Investment Department of MEF. The critical leadership negotiations involving senior Ministry officials take place from mid August. This is when MEF invites Ministries and provinces to make final budget revisions including budget cuts. Revised budgets are then incorporated into a set of consolidated revenue

[36] These should be submitted by mid May, but in practice submission can be later.
[37] For example, MAFF has around 20 budget entities.

and expenditure estimates and into the draft Budget Law in September, followed by discussion and approval by the Council of Ministers, the National Assembly and the Senate.
Neither of these negotiating stages routinely involve the application of technical/analytical tools such as cost-benefit, cost effectiveness, or multi criteria analysis.
Development project expenditure is regulated through the Public Investment Program (PIP). The PIP is a 3-year rolling plan prepared annually to reflect government priorities in order to achieve the NSDP and sectoral development strategies, policies, and frameworks. The PIP was introduced in 1996 and its purposes are:

- As a primary programming tool, it is the main mechanism for identifying and listing specific projects and activities to achieve the broader sectoral goals and targets specified in the National Strategic Development Plan (NSDP);
- It is the basis to assist CDC, the Cambodian Rehabilitation and Development Board and all line ministries and agencies to attract and direct external development assistance for the RGC priority programs and projects; and,
- It is the mechanism for aligning external resources and the RGC's own investment programs with nationally identified priorities shown in NSDP, as well as a tool for monitoring the progress of this alignment over time.

Planning processes for the PIP are bottom-up and needs-based rather than resource constrained. And inclusion of an action in the PIP by the Ministry of Planning does not necessarily result in the inclusion of action in the national or DP budgets. The instruction to prepare the PIP budget is issued by the Ministry of Planning (MOP) in January, for projects to be submitted by the end of June. For the 2017 financial year, the process has been computerized with dedicated on-line software. The PIP submissions to MOP by Ministries are a compilation of all project submissions received from the Ministry Departments. There is no selection process for the PIP submissions neither at the ministry, nor at the MOP.

Each project is entered into a standard digital template covering project objective, description, justification, benefits, social and environmental impact, costing and financing plan. However, the template[38] is usually only completed in detail, where a feasibility study has been carried out, usually with development partner funding.

There are examples of CCAP actions that are executed as parts of government or development partner funded projects. However, these have not been systematically identified, recorded and monitored. A few ministries have started to align CCAPs and their PIP submissions and the program budget submission process should also be a promising entry point in this regard. The integration of climate change into the Public Investment Program (PIP) is so far quite limited due to the lack of focus on integrating climate change into regular program budgets. Budget coding for climate change has not been introduced into the formal budget process of MEF or the PIP. Climate budget tagging was introduced into the CDC ODA database at the time of the CPEIR preparation. This continues to be utilized in the preparation of CPERs.
In summary, progress to integrate climate change actions into line Ministry regular budgeting and planning processes is still quite limited. Program-based budgeting provides an opportunity to enable climate change integration into policy-guided financial decision-making processes. A few ministries have tried to include explicit climate change actions into their PIP or annual budget submissions though only a small subset of them have been accepted or funded. More institutional and administrative efforts are needed to establish climate change as an integral theme in Cambodia's public sector.

3.3 The Special Initiative to address floods and droughts

In May 2016, the Prime Minister mandated the Ministry of the Environment (MOE), to assess the impacts of climate change and to produce a report proposing solutions, with the NCSD taking a facilitating role with relevant Ministries and budget agencies. Based on the mechanism provided by the Prime Minister, the MOE through its letter of September 9th, 2016, reported that the NCSD had requested seven climate-

38 PIP Forms & Guideline 2010-2012, http://www.mop.gov.kh/Home/PIP/tabid/155/Default.aspx

sensitive ministries to study climate change impacts in-depth and tasked them to suggest strategic measures and action plans (based on the CCCSP) to respond to climate impacts, specifically droughts and floods, in the two year period (2017-2018). All seven ministries submitted their priority actions and related budgets to the NCSD (see Table 22).

To implement these activities, the NCSD was requested by the Prime Minister:

- To share the findings, priority actions and related budgets with MEF to serve as a basis for inclusion in the mid-term expenditure framework (2017-2019), BSP circulars and Budget Law circulars;
- To mainstream climate change into the Public Investment Program (PIP) via relevant ministries and agencies, and to enhance the implementation of existing programs related to climate change;
- To assign officials to be in charge of climate change mainstreaming and enhance capacity building for climate change analysis at sectoral level via MEF, ministries and agencies.

Out of this process and drawing from seven key climate-sensitive ministries, a package of priority programs to address flood and drought impacts in the period (2017-2018) has been compiled and submitted to the Prime Minister (see Table 22). Following the Prime Minister's lead, the MEF has already incorporated a reference to climate change into its June 2017 Budget Circular, stating that for the preparation of the annual budget law for 2017[39], the government will "continue to invest in transportation infrastructure and hard and soft infrastructure for supporting growth, especially road, railroad, port, irrigation, electricity, clean water, school and hospital etc. At the same time, (the government) will give priority to new physical infrastructure and agricultural sector development activities, **which are resilient to climate change such as flood, droughts, storm and disease outbreak** to avoid damages from climate change and risks to economic development."

Table 22: Selected Priority Programs to Address Flood / Drought Impacts 2017-2018

Priority Action N.	Ministry	Project title	Total	2017	2018
6	MAFF	Promoting and upscaling of climate smart farming system resilient to climate change (on farm water capture and management, including drip irrigation, solar water pumps)	27.0	13.5	13.5
13	MAFF	Institutional capacity development for natural disaster coordination and intervention	4.0	2.0	2.0
No	MAFF	Mapping of agriculture production and land use	38.8	19.4	19.4
1	MAFF	Scaling up of drought and flood resilient aquaculture practices	2.5	1.3	1.3
36	MAFF	Promoting climate resilience in animal production through technical package	17.5	8.8	8.8
new action to CCAP	MOH	Climate proofing of 254 vulnerable health centers and 5 referral hospitals (access to safe water for the health center during floods and drought, through improved wells or ponds)	2.6	1.3	1.3
15	MOWRAM	Rehabilitation of irrigation systems	430.0	200.0	230.0
5	MOWRAM	Improved Early Warning System for extreme weather events through installation and operation of new weather stations	0.5	0.3	0.3
new action to CCAP	MRD	Provide 500 flood-proof latrines and organize hygiene promotion activities in vulnerable areas	2.0	1.1	1.0
4	MRD	Ensure access to water for vulnerable populations through improved source, safe water infrastructures (Mekong and Tonle Sap areas)	21.9	11.7	10.2
7	MPWT	Flood damage rehabilitation and climate –proofing of of NR7 from Kratie to Trapeang Kreal	170.8	80.0	80.0
16	MEYS	Climate-proofing of schools in vulnerable areas	8.0	4.0	4.0
39	MOE	Pilot programm for mainstreaming climate change into sub-national plans and budgets	1.0	0.5	0.5
25	MAFF/MOE	Establishment og Climate Change Knowledge Management System	0.8	0.4	0.4
Total			**727.4**	**344.1**	**372.5**

Source: NCSD list of priority actions and budget related to flood and drought submitted to PM, 2016

[39] Approximately by mid-May Ministries are requested to share inputs with MEF for the Budget Strategic Plan. Approximately by mid-July the Budget allocation requests are formalized within the Budget cycle.

3.4 Climate Change Funding at Sub-National Level[40]

3.4.1 Planning and Financing Structures at sub-national level

In the last few years, the focus of decentralization reform in Cambodia has been at the District/ Municipality (DM) level. Three main areas of progress are relevant:

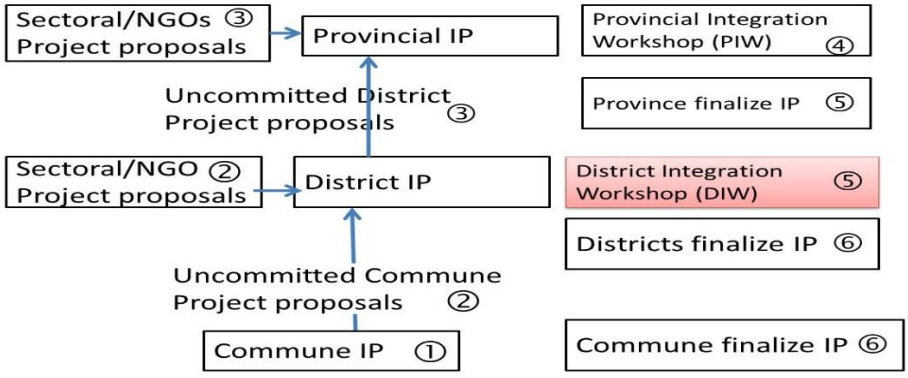
- The establishment of a new planning process for DM which are integrated with the planning of the communes, line-ministry offices, NGOs and the private sector,
- The District/Municipality Fund (DMF) which is similar to the Commune Sangkat Fund (C/SF)[41], except that its management system is yet to be fully developed, and
- A technical support system that provides assistance to both the DM and commune level in planning and implementing development projects.

3.4.2 Sub-national level Planning

According to the 2010 Technical Guidelines, a DM is expected to develop a Five Year Development Plan and a 3 Year Rolling Plan. The process is expected to be participatory, involving four key actors: (i) communes/sangkats, (ii) line departments (at provincial level) and line offices (at district level), (iii) NGOs, and (iv) the private sector. The Five Year Plan is a local development policy framework that serves as guidance for medium and long-term development. The Three Years Rolling Investment Plan is a set of priority programs translating contents of the Development Plan into actual activities or services for improvement of local development and public services delivery.

In relation to natural disasters and climate change, both plans can integrate risks, losses and damages, changes and negative impacts which have happened in the DM caused by people or by nature (such as irregular flood, drought, increased temperature, irregular levels of rain water, etc.). The plan proposes solutions to prevent, minimize and tackle negative impacts of climate change. The sub-national planning process provides an opportunity to demonstrate the role of local administrations in fostering climate change resilience by raising and integrating aspects of climate change into their sub-national planning and finance systems. Figure 4 summarizes the process.

Figure 4: Sub-national Planning Process and Linkages



Source: Climate Change Financing Framework at the Sub-National Level in Cambodia, Pak. (UNDP, 2013)

A key aspect of the DM planning process is the integration workshop at DM level, which occurs once a year to update the 3-years rolling investment plan. The objectives of the integration workshop are to:

- Coordinate and align the DM Investment program with commune/sangkat CS investment programs,
- Strengthen cooperation between the DM administration and administration as well as with CS agencies

[40] Climate Change Financing Framework at the Sub-National Level in Cambodia, Pak. (UNDP, 2013)
[41] The C/SF is a fund transferred from the government to commune councils. The fund includes a general administration component for salaries and allowances and operations, and a local development for local development expenditures.

- Mobilize resources to support investment projects raised by DM and CS, and
- Integrate projects raised by CS, civil society organizations, private sector and other relevant stakeholders into DM investment program.

However, the current planning process at the DM provincial and district level has faced a number of challenges. At the provincial level, the decisions for using their development budgets have not been based on the project prioritization that happened during the planning phase. The link between the development priorities of de-concentrated line departments (LDs) and that Sub-national Administration (SNA) plans have also been weak. At the DM level, many DM have not been able to implement any projects because of a lack of the relevant legal framework for sub-national finance and delays in the enactment of the District/Municipal Fund (DMF) coupled with the non-transferring of own source revenue mobilization to the DM. While climate change has been introduced into the planning process, limited activities have been implemented because of funding constraints and the climate change related activities remain a low priority for SNA. There is a tendency for DMs to think that implementation of climate change activities are beyond their capacity.

In response to the above challenges, NCDD is developing a SNA planning policy framework to provide policy guidance for the reform of the existing SNA planning system and to propose changes in term of planning institutions, instruments, process, timeframe and support system. The existing regulations and guidelines of planning system were put together rapidly in 2009 after the DM councils were formed, under exceptional time and political pressure. This was to ensure that the newly formed SNA councils could comply with their legal obligation to prepare a Five Year Development Plan and a Three Year Rolling Investment Plan within the first year of their mandate. NCDD-S has committed to completing the policy framework in 2017.

3.4.3 The DMF- Sub-national Level Financing

DMs started to receive resources from the DMF in 2012. In the first year, the total DMF allocated to DM was USD12.8 million, most of which was spent on monthly salary of councilors and officials. In that year, the fund was deposited in salakhet accounts[42]. In 2013, the DMF was USD18.7 million. Out the total allocated budget, USD10.8 million was for administration, and USD7.8 million was for development. Since 2013, the funds are deposited in DM own accounts, not through the salakhet.

However, for the DMF to be fully operationalized, more management structure and systems has to be in place. The Sub-decree on the DMF management is already approved, but more remains to be done, which in turn slows down the DMF implementation process. For instance, as of September 2013, only the administration component of the fund was spent (to cover monthly salaries of councilors and officials and administrative works) while the development component was not spent. This is because some DMs had experienced delays in selecting their development projects and because procurement procedures and mechanisms for the DMF have not yet been in place.

3.5 Conclusion

The challenges for climate change at the SNA level are: (i) local officials still have limited knowledge about climate change issues, (ii) most DMs still have not integrated climate change into their sector strategies and action plans, and (iii) there is a lack of connection between national climate change strategies and the process of SNA development planning.

The Green Climate Fund (GCF) may be one of the mechanisms for financing the sub-national level climate change activities where Cambodia is making some progress in accessing funding[43]. The NCSD has recently developed a proposal through UNDP for local level climate adaptation. With regard to direct access of

[42] Salakhet is the Office of the Provincial Governor.
[43] See Ricardo (2016)

Global Environmental Facility (GCF) funds, the NCDD (National Committee for Sub-National Democratic Development) has been selected by MOE (the National Designated Authority to the GCF) as a potential National Implementing Entity (NIE) in Cambodia, and is now starting its application to GCF accreditation. It is the first organization that the GCF has pre-selected to provide subnational funding.

The NCDD is implementing a national policy for climate change mainstreaming, and is planning to scale-up to the entire country, working closely with the NCSD. The pilot program on which a GCF proposal will be built has targeted eight districts through LCDF fund and UNDP. It has also received funding from IFAD (ASPIRE Program) for agriculture technical climate resilience extension in 10 provinces and 24 districts. The pilot program followed four steps:

1st: Target provinces based on community-based Vulnerability Reduction Assessment (VRA).
2nd: Consult with the local level through provincial disaster risk management committees.
3rd: Select target communes, with VRA tool, and have consultations at the village level to map out highly vulnerable areas and formulate district climate change adaptation strategy and projects.
4th: Issue a call for proposals on vulnerability of districts and VRA to all communes and districts.

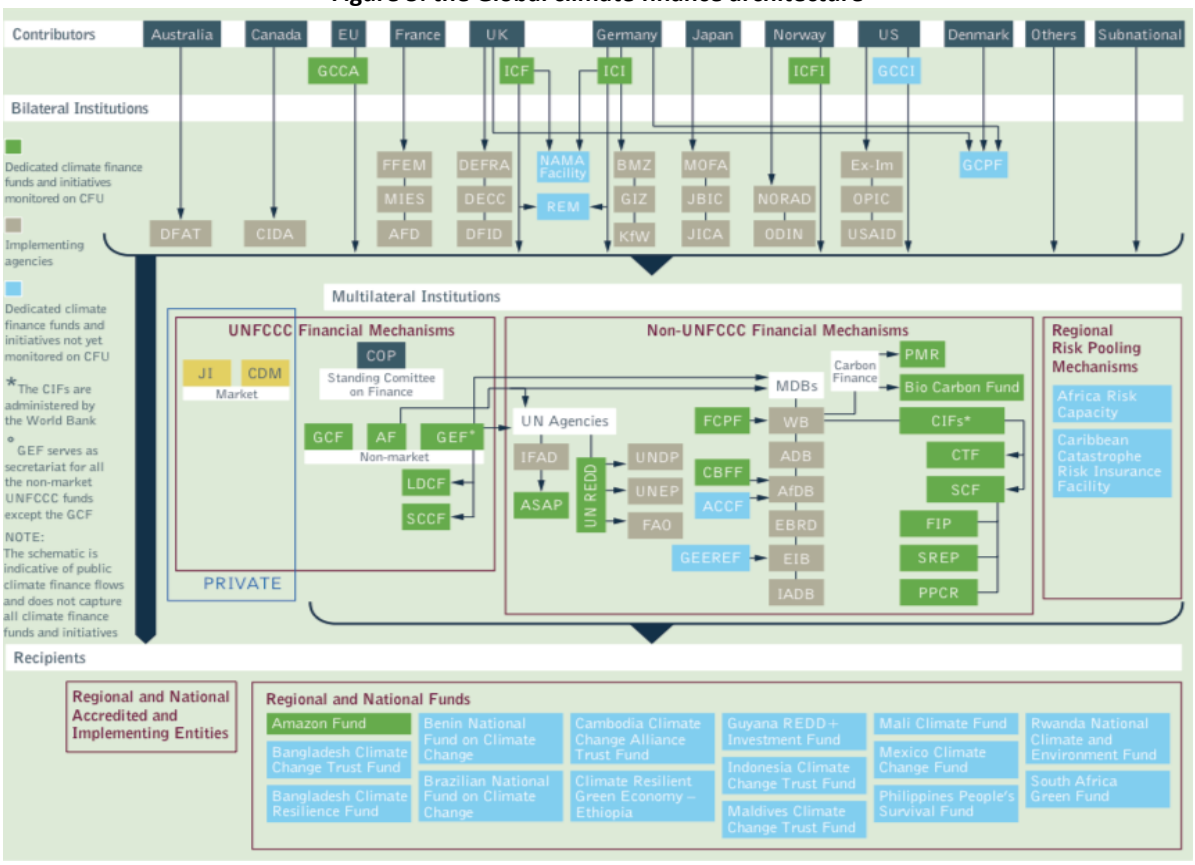
This Chapter has explored the resources and mechanisms available to tap climate finance available at national level. Chapter 4 will complete the picture by exploring international channels to access climate finance and amplify the options for NAP financing.

Chapter 4: Analysis of International Climate Funding Options

4.1 The international climate finance landscape

The global architecture of climate funds is a complex and changing picture (see Figure 5). A plethora of mechanisms exist, which multiplies the options for countries, but also makes coordination challenging for both donor and recipient countries. While bilateral climate funding initiatives are consolidating and some regional ones also exist, the bulk of public climate finance continues to be channeled through large multilateral funds, most but not all under the UNFCCC. Global climate finance tracking has been made easier through the establishment of the Climate Funds Update[44] (CFU) platform, which provides regularly updated information on the most relevant initiatives designed to support developing countries in addressing climate challenges. The information in this section draws from CFU's latest update in October 2016.

Figure 5: the Global climate finance architecture



Source: CFU, 2016

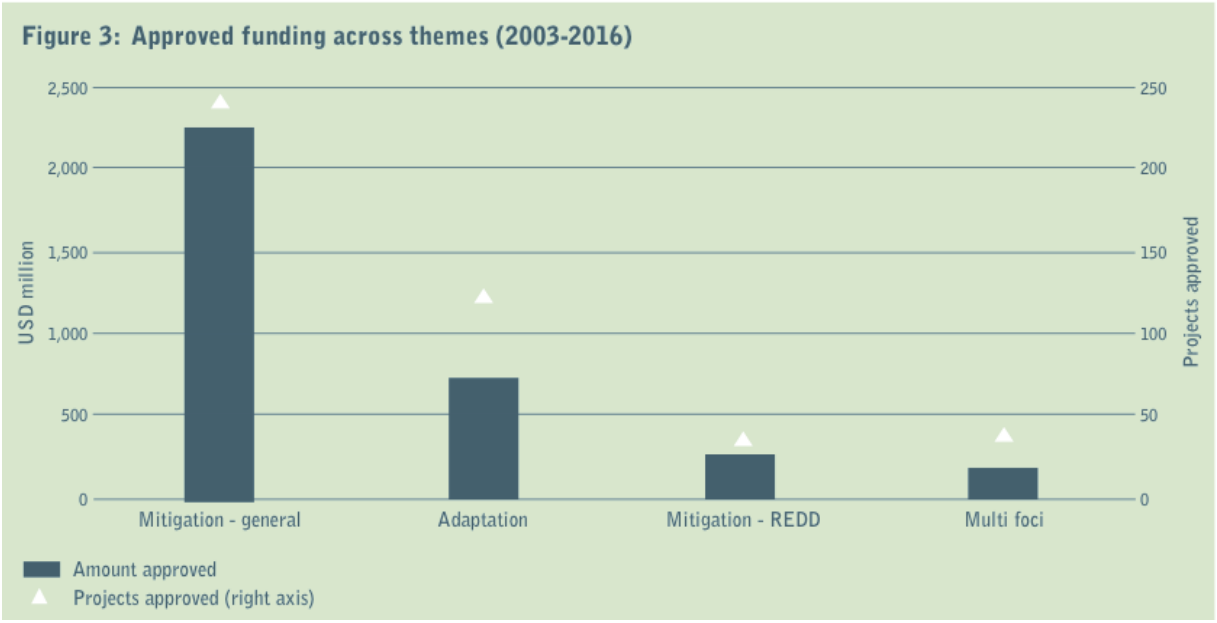
In December 2015, under the Paris climate Agreement reached at COP21, developed countries reiterated their commitment to "lead mobilizing climate finance from a wide variety of sources, instruments and channels, noting the significant role of public funds" (Paris Agreement, article 9.3[45]). At COP21, the previous commitment from COP15 *to mobilize an annual USD100 billion by 2020* was extended to 2025. Beyond that, the Paris Agreement signaled a "progression beyond previous efforts" in climate finance. Developed countries also agreed to aim "to achieve a balance between adaptation and mitigation, taking into account country-driven strategies, and the priorities and needs of developing country Parties" (Paris Agreement, article 9.4 [46]). Many developing countries highlighted in Paris the need to scale up international support to finance the implementation of National Adaptation Plans (NAPs).

At global level, adaptation still remains heavily underfunded (according to OECD/CPI, in 2013-2014 only

[44] Latest update of CFU was made available in October 2016: http://www.climatefundsupdate.org/
[45] http://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf
[46] Ibid

an estimated 16% of donors' funds for climate action were targeting adaptation programs[47]). Developed countries committed in Paris "to scale up support for adaptation in developing countries particularly in LDCs and SIDS" (Paris Agreement, article 9.4). And they further committed at COP22 (Marrakech, 2016) to double adaptation finance between 2014 and 2020. Yet, compared to mitigation initiatives, developed countries' contributions to adaptation specific funds remain very low. This is also the case in Asia, as Figure 6 below shows:

Figure 6: Imbalance between mitigation and adaptation funds in Asia.



Source: CFU, 2016

When it operates at full capacity in the future, the Green Climate Fund (GCF) is expected to provide the majority of public climate finance and it has set the target to allocate 50% of its initial resource mobilization to adaptation. Yet, so far according to the CFU 2016 data, the Pilot Program for Climate Resilience (PPCR, belonging to the Climate Investment Funds-CIF) and the Least Developed Countries Fund (LDCF, administered by the Global Environmental Facility-GEF) are the largest sources of funding for adaptation action in developing countries. The UK, Germany, and the US contribute 57% of the finance pledged to adaptation-specific funds. With other LDCs, Cambodia is among the top twenty recipients of adaptation finance.

In Asia, the bulk of international climate funds have been provided for mitigation initiatives and has heavily focused on emerging economies (India, China and Indonesia), as Figure 7 below shows. Most of the climate funds are active in Asia, with the largest multilateral source being the Climate Technology Fund (CTF, part of the CIF). The main bilateral contributors to the region are the governments of Germany, Australia, Norway and the UK (cumulatively providing most of the bilateral funds). Adaptation programs in Asia receive only about a third of the level of mitigation financing. The largest amount for adaptation finance to the region is channeled through the PPCR that provides support to programs in Bangladesh, Cambodia and Nepal. The approval by the GCF of five adaptation projects in the region could signal the potential for a more balanced adaptation/mitigation finance allocation in the future.

[47] Climate Finance in 2013-2014 and the USD100 Billion Goal": http://www.oecd.org/env/cc/Climate-Finance-in-2013-14-and-the-USD-billion-goal.pdf

Figure 7: Main recipients of international climate funds in Asia

Source: CFU, 2016

4.2 Multilateral options for climate finance

Multilateral climate funds have developed fast in the last decade and offer recipient countries a financing route that is less influenced by donor-led approaches and ways of working. Under the UNFCCC framework, the Adaptation Fund and the Green Climate Fund in particular have developed an internal governance structure that seeks to balance North/South representation and to be more permeable to alignment with the investment decisions and policy priorities of the recipient, hence attracting high-expectations from developing countries. The following review of multilateral climate funds is not exhaustive, but provides a selection that can potentially mobilize resources for Cambodia´s NAP priorities.

4.2.1 The Global Environment Facility

The Global Environment Facility (GEF) was established in 1992 to address global environmental challenges as described in the Rio Conventions. The GEF is a financial mechanism of the UNFCCC aimed to support climate action in developing counties. GEF's resources are provided by developed countries and are replenished every four years. Under the current and Sixth Replenishment cycle (2014-2018), contributors have pledged USD4,43 billion for all focal areas, but increasingly focusing on programs that target climate change, that accounted for USD1.1 million of GEF support by 2016. The first official meeting to discuss the 7th Replenishment of the GEF will be held in March 2017.

A country is eligible for GEF funding if it has ratified the Rio Conventions (including the UNFCCC), and when it complies with the eligibility criteria decided by the Conference of the Parties of each convention. GEF beneficiaries are also countries eligible to receive World Bank (IBRD and/or IDA) financing. Fundable projects typically address incremental costs to achieve global environmental benefits and must be aligned with the national priorities in supporting sustainable development. At government level, the GEF focal-point[48] is mandated to review project ideas, check against eligibility criteria and ensure coordination across GEF-funded activities before projects are submitted to the GEF Secretariat.

There are 18 GEF accredited Agencies[49] that can assist governments and NGOs to design, formulate, implement and manage execution of projects at national or regional level. The GEF provides funding through four modalities: full-sized projects (over USD2 million), medium-sized projects (under USD2 million), enabling activities such as Program Preparation Grants (PPG), and programmatic approaches, which encompass different inter-related projects in a longer-term strategic approach. Each of the modalities requires

[48] Cambodia's operational Focal Point for GEF is Mr. Lonh Heal from the Ministry of Environment

[49] https://www.thegef.org/partners/gef-agencies

a specific application process[50].

The GEF addresses different thematic priorities: Biodiversity, International Waters, Land Degradation, Chemicals and Waste, and Climate Change, as well as cross-cutting issues like sustainable forest management. There are two GEF funds that favor climate adaptation and that are most relevant for the financing of Cambodia's NAP: the LDCF and the SCCF.

The Least Developed Countries Fund

The Least Developed Countries Fund (LDCF) was set up in 2001 under the UNFCCC. It is a funding window specific for countries particularly vulnerable to climate impacts and with limited financial capacities. The LDCF relies on voluntary contributions from developed countries and is dedicated to the 48 Least Developed Countries [51] including Cambodia. Initially tasked to support the development and implementation of the NAPAs that addressed the most urgent adaptation priorities, in 2010 the Fund´s mandate was extended to support LDCs in the preparation of NAPs and to address medium-and long-term adaptation needs. The LDCF typically funds operations to reduce vulnerability in sectors that are key to development, such as water management, agriculture and food security, health, disaster risk management, infrastructure, and fragile ecosystems.

After intense advocacy efforts from developing countries, the LDCF was replenished with new pledges[52] worth USD248 million at the Paris COP21. This replenishment unblocked the list of projects in the LDCF pipeline, but the resources to finance future projects are still scarce. It is estimated an additional 35 projects, worth USD231.4 million, are waiting for financial support[53]. Since replenishment of the LDCF is on an *ad-hoc* voluntary basis by developed countries, the LDCF has difficulties in ensuring a steady and predictable flow of resources to the eligible countries in need of financial support.

The Special Climate Change Fund

The GEF also administers the Special Climate Change Fund (SCCF) under the guidance of the UNFCCC. This fund supports both technology transfer and the implementation of national adaptation priorities (short, mid or long term) in developing countries. The SCCF is also reliant on donor´s *ad-hoc* contributions and has established a country cap of USD20 million. Since its inception in 2002, the SCCF has approved an estimated USD302 million across more than 100 countries[54]. It has mostly funded operations in the fields of water resources and land management, agriculture, health, infrastructure development, fragile ecosystems including mountainous ecosystems, and integrated coastal zone management. For an overview of the active climate projects benefiting from GEF funds in Cambodia, see the box below.

Climate adaptation portfolio financed by GEF funds in Cambodia (currently under implementation)

"Reducing the Vulnerability of Cambodian Rural Livelihoods through Enhanced sub-national Climate Change Planning and Execution of Priority Actions". (USD4,6 million budget from LDC-F) https://www.thegef.org/project/reducing-vulnerability-cambodian-rural-livelihoods-through-enhanced-sub-national-climate

"Strengthening Climate Information and Early Warning Systems in Cambodia to Support Climate Resilient Development and Adaptation to Climate Change" (USD4,9 million budget from LDC-F) https://www.thegef.org /project/strengthening-climate-information-and-early-warning-systems-cambodia-support-climate

"Strengthening the Adaptive Capacity and Resilience of Rural Communities Using Micro Watershed Approaches to Climate Change and Variability to Attain Sustainable Food Security" (USD5,2 million budget from LDC-F) https://www.thegef.org/project/strengthening-adaptive-capacity-and-resilience-rural-communities-using-micro-watershed

Building Adaptive Capacity through the Scaling-up of Renewable Energy Technologies in Rural Cambodia (USD 4,6 million from SCC-F) https://www.thegef.org/project/building-adaptive-capacity-through-scaling-renewable-energy-technologies-rural-cambodia-s

[50] GEF templates for projects submission: https://www.thegef.org/documents/templates . For more details on recent updates in GEF project cycle (June 2016): http://www.thegef.org/sites/default/files/council-meeting documents/EN_GEF.C.50.08.Rev_.01_GEF_Project_and_Program_Cycle_Policy_0.pdf

[51] UN list of LDCs: http://www.un.org/en/development/desa/policy/cdp/ldc/ldc_list.pdf

[52] Contributing countries were US, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Sweden, Switzerland and the UK.

[53] http://www.climatechangenews.com/2016/12/05/did-marrakech-climate-talks-deliver-for-worlds-poorest/

[54] Capitalization data: http://www.climatefundsupdate.org/listing/special-climate-change-fund

4.2.2 The Adaptation Fund

Under the UNFCCC, the Adaptation Fund (AF) has been operational since 2009 and has constituted a pioneer funding-window for adaptation-specific actions in countries vulnerable to climate change. Therefore, AF carries a significant added value in improving the balance between adaptation and mitigation in international climate finance.

The AF is financed through a 2% levy on the sale of emission credits from the Clean Development Mechanism of the Kyoto Protocol, as well as grant contributions from donors, on which the AF has grown increasingly reliant. At November 2016, the total capitalization of the AF was USD569 million and it had committed USD358 million for 55 projects in 48 vulnerable countries (a project pipeline worth about USD230 million is under development). At the Marrakech COP22 (November 2016), new pledges[55] were made to the AF from Germany, Sweden, Italy and Belgian regions totaling USD81 million and ensuring business continuity of the Fund, which – as decided by COP22 - will also serve the Paris Agreement (following decisions on governance and operating modalities to be made at COP24[56]). As a temporary measure, the AF Board has approved a country-cap of USD10 million per by eligible country, but there is debate about an increase of the cap in the future[57].

As a means to enhance developing countries' ownership of adaptation funds from design to planning, implementation and evaluation, the AF has pioneered a direct access route to finance through National Implementing Entities (NIEs) that are able to meet agreed fiduciary standards. Funds from the AF are accessible through Regional and Multilateral Implementing Entities (MIEs) accredited institutions, i.e. Regional and Multilateral Development Banks, UN agencies, etc., but the AF actively promotes the direct access modality that it pioneered.

Direct access allows developing countries to strengthen capacity to adapt to climate change and build on local expertise, but requires a NIE to be accredited by the AF's Board. In 2014, the AF Secretariat launched the Readiness Program for Climate Finance[58], designed to assist national entities in the accreditation process and to strengthen their capacity to absorb and manage climate funds. Currently, Cambodia does not have an accredited NIE. For this to change, the National Designated Authority to the AF would need to nominate a national institution that could apply for accreditation following the process established by the AF[59].
Project funding proposals are welcomed by the AF three times a year[60]. The proposals can be developed and submitted by accredited MIEs or NIEs. They always need to be aligned with national priorities, be endorsed by the National Designated Authority and follow the AF's Policies and Guidelines[61] against which the project proposals are reviewed. The criteria applied to project's selection continue to evolve, but typically, an AF fundable project offers long-term resilience for the project area, and it responds to the adaptation priority actions and vulnerable communities' needs (tangible impacts and/or development co-benefits). Funds for capacity building activities usually represent a small component of larger projects.

To date, Cambodia has been granted USD4,9 million for the 5 years project "Enhancing Climate Resilience of Rural Communities Living in Protected Areas of Cambodia[62]", executed by MOE and implemented by UNEP. Cambodia is also one of the five countries in a regional program for "Groundwater resources in the Greater Mekong Sub-region: collaborative management to increase resilience", under implementation by UNESCO.

[55] https://www.adaptation-fund.org/adaptation-fund-surpasses-cop22-fundraising-goal-us-81-million-new-contributions/
[56] https://www.adaptation-fund.org/countries-affirm-closing-hours-cop22-adaptation-fund-serve-paris-agreement/
[57] https://www.adaptation-fund.org/wp-content/uploads/2016/02/AFB.B.27.8-Analysis-for-the-possible-modification-of-the-country-cap.pdf
[58] https://www.adaptation-fund.org/readiness/
[59] Cambodia's Designated Authority is Mr. Tin Ponlok (Deputy Director General, Ministry of Environment). For details on the NIE accreditation process, see: https://www.adaptation-fund.org/apply-funding/accreditation/
[60] https://www.adaptation-fund.org/news-and-events/events-calendar/
[61] https://www.adaptation-fund.org/apply-funding/project-funding/
[62] https://www.adaptation-fund.org/project/enhancing-climate-resilience-of-rural-communities-living-in-protected-areas-of-cambodia/

4.2.3 The Green Climate Fund

Sitting within the framework of the UNFCCC, the Green Climate Fund (GCF) was established at the Durban COP17 and became fully operational at the end of 2015 when the first GCF-funded projects were approved. The GCF is expected to become the primary channel through which the bulk of international public climate finance will flow (a commitment exists under the UNFCCC to jointly mobilize USD100 billion per year by 2020). The GCF is also expected to promote with its funding a "paradigm shift toward climate-resilient and low-carbon development in developing countries". Many developing countries have explicitly expressed expectations about the GCF channeling substantial resources to the implementation of their Nationally Determined Contributions (NDC).

The GCF aims at a 50:50 adaptation/mitigation balance in funds allocation and at targeting adaptation in the most vulnerable countries first. The GCF is also expected to promote private sector engagement through diverse financial instruments (credit lines, guarantees, equity, etc.) and a specific Private Sector Facility. The initial capitalization of the GCF in 2015 has raised USD10.3 billion. By November 2016, the GCF had accredited 48 Implementing Entities and, had approved a total of 54 projects for USD1.174 million. Developing countries can access the GCF through the international route, via accredited International Implementing Entities (MDBs, commercial banks and UN agencies); or else through the direct access route, via accredited National, Regional and Sub-National Implementing Entities (that can also be public or private). While the GCF investment policies are expected to evolve with practice, initial investment guiding criteria[63] have been set: impact potential, needs of the beneficiary country and ownership, economic efficiency and financial viability. Minimal concessional financing will be provided to make a project viable. Only financially sound revenue generating activities will be supported by loans, but there is no pre-established loans/grants balance.

The Fund seeks to ensure the adoption of a country-driven approach for its operations, to strengthen program coherence and to promote stakeholder coordination at the national level. To do so, every recipient country selects its National Designated Authority[64] (NDA), as an interlocutor between the country's national government and the Fund. These focal points communicate the country's strategic priorities for climate financing and nominate the national entities to be proposed for GCF accreditation. Entities seeking to become implementers of the GCF need to undergo a "fit-for-purpose" accreditation process[65]. Depending on the type of activity, the size of projects, the environmental and social risks attached to them and the financial instruments to be used, some standards and requirements need to be met to get accreditation from the GCF.

Different NIEs can coexist at national level for different types of climate investments. Importantly, for the period 2016-2017, the GCF has agreed to prioritize the Asia-Pacific region. National and private entities seeking accreditation in developing countries entities can apply for accreditation on a rolling basis.

The Fund provides early support to NDAs and NIEs for institutional preparedness and activities to enhance the country's ownership, accelerate access to resources and promote effective management of the Fund's resources. The GCF readiness window (USD16 million by November 2016) allocates a minimum 50% of its funds to LDCs and other particularly vulnerable countries and has a country-cap of USD1 million per year. This support may be delivered to countries directly through NDAs and though a number of expert partners. The readiness window may support preparatory work for regional, national, or sub-national entities seeking accreditation, and it may also assist Accredited Entities to develop project pipelines and formulate proposals.

Project and program proposals may be submitted to the GCF through Accredited Entities (National or International according to access route). Different implementing entities and different funding proposals

[63] http://www.greenclimate.fund/documents/20182/239759/Investment_Criteria.pdf/771ca88e-6cf2-469d-98e8-78be2b980940
[64] Cambodia's NDA is His Excellency Say Samal, Minister of Environment
[65] http://www.greenclimate.fund/documents/20182/319135/1.3-GCF_Accreditation_Introduction_November_2016.pdf/4d44997c-6ae9-4b0e-be5d-32da82e62725

can co-exist and be developed at once, but all need to seek the non-objection of the NDA. The GCF calls for proposals but also accepts spontaneous ones. The full process to apply to funds would involve the following steps: (1) A country work-program is submitted by the NDA; (2) Readiness support for the nominated implementing entities (upon request of NDA); (3) Regular calls for funding proposals from GCF/spontaneous proposals from NDA/NIE/other; (4) Development and submission of pipeline/concept notes (with optional technical assistance); (5) Feed-back and recommendations from the GCF with/without endorsement and/or re-submission options and/or rejection.

Cambodia seeking access to GCF resources
So far, Cambodia is diversifying its strategy to access GCF funds by:

- Applying for international access: NCSD has recently developed a project proposal on local level adaptation through UNDP
- Applying to direct access: the NCDD (National Committee for Sub-National Democratic Development) has been nominated by the NDA as a potential NIE and is now starting the accreditation application process, with technical assistance from the Readiness window.

4.2.4 The Climate Investment Funds

Established in 2008, the Climate Investment Funds (CIFs) are administered by the World Bank and operate in partnership with Regional Development Banks (in Asia, with the Asian Development Bank- ADB). The CIFs adopt a program-based approach to their operations, and seek to use public finance to deploy sector-wide investments and engage private co-finance. The CIFs have a total pledge of USD8.14 billion. They include a Clean Technology Fund (USD5.47 billion) and a Strategic Climate Fund, composed of the Pilot Program for Climate Resilience (PPCR) (USD1.12 billion), the Forest Investment Program (USD0.74 billion), and the Scaling-Up Renewable Energy Program for Low Income Countries (USD0.74 billion). While the CIFs were initially expected to sunset by the time the GCF would be operational, it was decided in 2016 that CIF operations would be extended through 2019. Within the CIF, the most relevant fund to promote adaptation investments and build resilience is the PPCR. In countries with high potential for mitigation/adaptation synergies in the forestry sector as is the case of Cambodia, the Forestry Investment Program offers opportunities for ecosystem-based adaptation.

The Pilot Program for Climate Resilience

The Pilot Program for Climate Resilience (PPCR) is a funding window of the CIF for climate change adaptation and resilience building. Through a programmatic approach, PPCR assists national governments in integrating climate resilience into development planning across sectors and provides funding to pilot innovative public and private sector solutions to climate risks. To date, about USD939 million (80% of PPCR funding) have been allocated to 58 projects. It is expected that around USD2 billion in co-financing resources will be mobilized.

The government of Cambodia is tapping USD86 million in grants and near-zero interest loans from the PPCR (phase II of SPCR) to support hard investments in climate resilience in key sectors: water management, agriculture and rural infrastructure. The PPCR is also channeling soft investments to enhance the capacity of Cambodia's institutions in order to effectively mainstream climate resilience into development planning. Cambodia's PPCR investment plans are implemented by the Asian Development Bank (ADB) and executed by the relevant institutions within the Cambodian government. The design and formulation phase was supported by members of the World Bank Group (IBRD, IFC), key national stakeholders, and development partners. The national PPCR strategy encompasses nine projects:

1. Climate Resilient Rural Infrastructure in Kampong Cham Province (within the Rural Roads Improvement Project)[66]. An infrastructure sector investment plan with USD16 Million public support is expected to further mobilize USD162,3 Million of co-finance.
2. Rainwater Harvesting and Drip Irrigation for High-Value Crop Production in Cambodia[67], with a USD5

[66] https://www-cif.climateinvestmentfunds.org/projects/climate-resilient-rural-infrastructure-kampong-cham-provinceas-part-rural-roads-improvement
[67] https://www-cif.climateinvestmentfunds.org/projects/rainwater-harvesting-and-drip-irrigation-high-value-crop-production-cambodia-0

Million concessional loan for private engagement.

3. Flood-resilient Infrastructure Development in Pursat and Kampong Chnang Towns as part of the Integrated Urban Environmental Management in the Tonle Sap Basin Project[68]. A USD10 million investment expected to mobilize an extra USD37 million.
4. Promoting Climate-Resilient Agriculture in Koh Kong and Mondulkiri Provinces as part of the Greater Mekong Sub-region Biodiversity Conservation Corridors Project[69]. Funded with USD8 Million and expected to mobilize USD20 Million co-finance.
5. Climate Proofing of Agricultural Infrastructure and Business-focused Adaptation[70]. A USD10 Million budget project that would mobilize USD80,5 Million co-finance.
6. Enhancement of Flood and Drought Management in Pursat Province[71]. With a USD10 Million budget and an expected USD38 Million co-finance.
7. Greater Mekong Subregion Southern Economic Corridor Towns Development Project[72]. A USD10 Million infrastructure project with a USD38,5 Million co-finance mobilization target.
8. Provincial Roads Improvement Project - Climate Proofing of Roads in Prey Veng, Svay Rieng, Kampong Chnang and Kampong Speu Provinces[73]. A USD17 Million project with USD62,1 Million co-finance.
9. Mainstreaming Climate Resilience into Development Planning[74]. With a USD7 Million budget.

Cambodia's PPCR investment projects constitute the largest international investments in climate adaptation actions at country level. The CIF approach is expected to embed investments in country-driven planning processes, thus the relevance of PPCR operations in the framework of the NAP priorities financing strategy. Despite some initial delays in the Implementation phase, PPCR investment projects have started disbursing and delivering results in Cambodia[75]. Engagement and synergies within these projects and co-financed activities should contribute to achieving the NAP's goals.

Forest Investment Program

The Forest Investment Program (FIP, USD775 million) is CIF's window to channel investments to sustainable forests management contributing to climate mitigation, and with potential adaptation and development co-benefits (poverty reduction for local communities and building resilience of rural livelihoods). Through grants and/or concessional loans channeled to national governments through multilateral development banks, FIP seeks to empower developing countries to address the drivers of deforestation and forest degradation, thus enhancing forests' potential as carbons sinks and ecosystem-based adaptation.

Cambodia is one of the pilot countries of the FIP and the Government has received a USD250.000 preparation grant[76] to draft an investment plan under the leadership of the Forestry Administration (within the MAFF) and in close partnership with the General Department of Administration for Nature Conservation and Protection (within the Ministry of Environment), with support from ADB and the World Bank. The investment plan will include a resources mobilization strategy (including seeking co-finance from GEF, GCF and others) and considers three potential scenarios ranging from *low* (USD25-30 million), to *medium* (USD40-60 million) or *high* (USD80-100 million) investment packages combining grant and loan components. The formulation process will be coordinated with Cambodia's REDD+ Taskforce Secretariat. Projects to be financed could engage bilateral development partners (JICA; USAID), UN agencies (UNDP, FAO) and NGOs (Conservation International).
As of July 2016, World Bank and ADB are jointly supporting the preparation of FIP of Cambodia, through technical assistance (scoping missions, filed research, stakeholder consultation, etc.). Based on the

[68] https://www-cif.climateinvestmentfunds.org/projects/flood-resilient-infrastructure-development-pursat-and-kampong-chhnang-towns-part-integrated
[69] https://www-cif.climateinvestmentfunds.org/projects/promoting-climate-resilient-agriculture-koh-kong-and-mondulkiri-provinces-part-greater
[70] http://www-cif.climateinvestmentfunds.org/projects/climate-proofing-agricultural-infrastructure-and-business-focused-adaptation
[71] https://www-cif.climateinvestmentfunds.org/projects/enhancement-flood-and-drought-management-pursat-province
[72] https://www-cif.climateinvestmentfunds.org/projects/gms-southern-economic-corridor-towns-development-project
[73] https://www-cif.climateinvestmentfunds.org/projects/provincial-roads-improvement-project-climate-proofing-roads-prey-veng-svay-rieng-kampong
[74] https://www-cif.climateinvestmentfunds.org/projects/mainstreaming-climate-resilience-development-planning
[75] To check status of implementation and funds' disbursement of PPCR projects as of December 2016 see: http://www-cif.climateinvestmentfunds.org/sites/default/files/meeting-documents/ppcr_19_inf_2_ppcr_country_portfolio_1.pdf
[76] For more information on current status of formulation, see:https://wwwcif.climateinvestmentfunds.org/sites/default/files/meetingdocuments/fip_cambodia_second_joint_mission_terms_of_reference_feb_6-102017.pdf

stakeholder consultation on 6th March 2017, three projects (currently at "Concept Note" stage) have been proposed in the FIP including: (1) Landscape Linkages and Biodiversity Conservation Corridor, (2) Supporting Reforestation and Production Forest through Public Private Partnership, and (3) Implement National Forest Monitoring. The overall estimated budget would be USD53.5 million, with USD24.5 million grants from the World Bank and USD29 million soft loans (under discussion with MoE and MAFF) or private sector investment. This funding proposal package is still to be presented to the FIP Sub-Committee (expected date June 2017) to seek approval and green light the formulation of full-fletched programs.

Some FIP funded-activities under consideration include an "Assessment of ecosystem system services and valuation, particularly at landscape levels to support investment planning and prioritization", the "Conceptual development of payment for ecosystem services (PES) schemes" and exploring "Cooperation with the private sector, particularly small and medium enterprises, on sustainable agribusiness value chain development". All could tap the synergies between mitigation and adaptation actions.

4.2.5 Other initiatives led by UN Agencies

Both Multilateral Development Banks and UN Agencies act as implementing entities for the GEF, SCCF, LDCF, CIF and the AF. UN agencies commonly take on the role of administrator and/or intermediary of climate finance, but some agencies have launched more specific initiatives that facilitate access to finance for adaptation and that offer opportunities to Cambodia's NAP.

The Local Climate Adaptive Living Facility

The Local Climate Adaptive Living Facility (LoCAL) is an initiative led by the United Nations Capital Development Fund (UNCDF) and funded by the EU/GCCA and the Governments of Sweden and Belgium. UNCDF assists developing countries in the development of their economies by supplementing existing sources of financial assistance with grants and/or loans. The LoCAL Facility promotes the integration of climate adaptation into local governments' planning and budgeting systems, to increase awareness and capacities to respond to climate change at the local level, and to increase the investments made available to local governments for climate adaption actions. The rationale for this program is, in LDCs, that local authorities are considered to be uniquely positioned to identify the climate change adaptation responses that best meet the needs of local communities. Further, they typically have been mandated to undertake the small- to medium-sized adaptation investments needed to build climate resilience. Yet local authorities frequently lack the resources to implement their development and climate plans or to align their actions with the decision-making processes and public planning and budgeting cycles established upstream. LoCAL aims to promote climate change–resilient communities and economies by increasing financing for and investment in climate change adaptation at the local level in LDCs. The Facility combines performance-based climate resilience grants, which ensure programming and verification of climate change expenditures at the local level, with technical and capacity-building support. It is designed to reinforce existing national and sub-national financial and fiscal delivery systems. It also uses the demonstration effect to trigger further channeling of flows for locally-led adaptation, including from national fiscal transfers and global climate finance.

The Adaptation for Small- holder Agriculture Program[77]

The Adaptation for Smallholder Agriculture Program (ASAP) is managed by the International Fund for Agriculture and Development (IFAD) and seeks to support smallholder farmers by scaling up climate change adaptation in rural development programs. Active since 2012, ASAP builds resilience in the agricultural sector in 44 countries through an overall budget of USD366 million provided by key contributors (the UK, Netherlands, Canada Belgium, Finland, Norway, Sweden, and Switzerland). New donors are currently evaluating further financial support. ASAP's works in a multi-year basis, thus providing predictability and facilitating programmatic approaches.

[77] For further information: https://www.ifad.org/documents/10180/1138fafe-4eea-4ec4-bccf-8d968e13dac7

LoCAL in Cambodia, Leading the way in local climate adaptation planning processes

A number of international and national stakeholders have contributed to LoCAL in Cambodia (UNCDF, UNDP, UNEP, CCCA Trust Fund, Adaptation Fund and the Swedish Government). Of an overall Budget for 2012-2014 of USD 1,5 million, UNCDF contributed USD700.000. Cambodia piloted the Local Governance and Climate Change (Phase 1 on LoCAL) in a limited number of districts and then moved ahead with LoCAL (Phase 2) in 2012-2014, scaling up the program in new many new districts particularly in the provinces of Takeo and Battambang. At subnational level, LOCAL with the National Committee for Democratic Development Secretariat (NCDD-S) have pioneered the use of systematic ways to mainstream climate change at local levels. This careful implementation process was developed over many years and is now bearing fruits, inspiring the national government (and many donors) along the way. This new LOCAL coverage is perfectly in tune with the government strategies to mainstream climate change at a cross-sectoral level and at sub-national level. The initiative has driven many other organizations to support the model implemented by the NCDDS. This scaling up effort is also supported by on-going climate change policies at national level: Cambodia's Climate Change Strategic Plan 2014-2023.

The program seeks to introduce climate-proofing measures to rural development and subsistence agriculture, working mostly to provide access to user-friendly climate information, tools and technologies for smallholder producers. The program has quickly become IFAD's flagship initiative to scaling-up its "multiple-benefit" approach: increasing agricultural output while diversifying livelihoods and reducing climate vulnerability. Some practical examples of ASAP funded initiatives include:

- Integration of mixed crop and livestock systems: combining the use of drought-resistant crops and manure, thus increasing agricultural yields while at the same time diversifying risks across different products.
- Crop rotation systems: considering both food and fodder crops, which can reduce exposure to climate shocks while also improving households' nutrition standards.
- Combination of agroforestry and communal ponds systems: leading to an enhancement of soil quality and an increase of water availability during dry periods, thus also contributing to sustainability of incomes.

In parallel ASAP seeks to strengthen institutional capacities at local level by:

- Empowering community-based organizations;
- Developing their capacity to manage climate risks (e.g.: through economic valuations of climate impacts that can inform more robust policy decisions);
- Facilitating access to information (e.g.: more reliable seasonal forecasts and cropping calendars;
- Innovative technologies (e.g.: Geographic Information Systems) that can help better understand and monitor land use in a changing environment).

ASAP is also seeking to function as a "multiplier" of climate-proofing investments by acting as a "supplementary" fund that can provide co-finance to introduce adaptation measures in other fund's or agencies' agriculture-oriented portfolios (e.g.: topping-up investments to climate proof the development of rural road networks). So far, ASAP has sought to apply this logic to IFAD's portfolio[78] (about USD1 billion/year) and to scale-up adaptation investments by joining as co-finance with GEF and PPCR programming.

ASAP resources are typically allocated in the form of grants ranging from USD3-15 million per country, overall size depending on the nature of the project and co-financing sources. To minimize transaction costs, ASAP uses IFAD's existing systems for quality and control. The program is implemented by the Program Management Department within IFAD's new Environment and Climate Division. At national level, it is IFAD's country program that leads identification, development and implementation of applications for ASAP co-finance, makes proposals to the Regional Division and formally enters the bidding process. A range of largely quantitative criteria are used to guide merit-based project selection, and are combined with qualitative ones, including: (i) The additionality of ASAP funds to the project seeking co-

[78] https://www.ifad.org/en/topic/asap/tags/climate_change/2782790

finance; (ii) The engagement from the beneficiary Government and alignment with national priorities and (iii) The impact potential on vulnerable communities of smallholders, women and marginalized groups[79].

4.2.6 The NDC Partnership

The global Nationally Determined Contribution (NDC) Partnership was recently launched at COP22 (November 2016) to help countries achieve their Nationally Determined Contributions (NDCs) and to ensure financial and technical assistance is delivered as efficiently as possible. Hosted by the World Resources Institute (WRI), the Partnership is a coalition of developing and developed countries and international institutions seeking to ensure the provision of technical and financial support that developing countries need to achieve ambitious climate and sustainable development goals, as captured in their NDC. So far, the main contributor to this initiative is the German Government (with a €2,7 billion allocation in 2016), but the goal is to mobilize up to €4 billion by 2020 and new donors (Denmark, Netherlands, France and the UK) are already engaging in that plan.

Depending on the source of their GHG emissions, countries orient the mitigation priorities in their NDCs towards energy (supply and distribution), urban development (cities' design, transport systems), land use management (farming systems, forest protection), etc. Yet, most of the developing countries' NDCs have a common feature: the inclusion of adaptation programs as part of their financing priorities. Across thematic areas, the NDC Partnership adopts a three-fold strategy, including:

- Working with national institutions and private sector stakeholders to boost climate-smart investments and make development finance more effective.
- Facilitating technical assistance and capacity-building at national and regional levels, and strengthening coordination between environment and development agencies to ensure that their efforts are mutually reinforcing.
- Developing and sharing knowledge products, to enhance access to support, tools and financial resources, e.g.: the NDC Funding and Initiatives Navigator is an online platform on funding opportunities and existing support to favor NDCs implementation.

An increasing number of countries (developed and developing) and international institutions are joining the NDC Partnership[80]. Adherence is open to new potential partners and collaborators, with membership defined by support for the Partnership's Guiding Principles[81], including: (i) support country-driven processes and build in-country capacity; (ii) align development and climate and advance both adaptation and mitigation; (iii) enhance efficiency, responsiveness and coordination in promoting long-term climate action.

4.3 Bilateral options for climate finance

A significant amount of public climate finance is channeled bilaterally and managed mostly by the same agencies in charge of development aid. There are no universally agreed accounting criteria for bilateral donors' climate finance, but according to reports from the OECD-DAC in 2014, USD26 billion of ODA was invested in climate related operations. A few donors have set up specific funds to channel and administer their contributions to climate action in developing countries, while most do not set up specific mechanisms. Germany's International Climate Initiative (IKI), UK's International Climate Fund (ICF) and the EU's Global Climate Change Alliance (GCCA) have been the most relevant climate-specific bilateral funds in recent years. Other bilateral donors (including Sweden and the US) are currently providing climate-related development assistance to Cambodia and could remain relevant to the financing of the country's National Adaptation Plan.

[79] For details on ASAP Financing Design Cycle, see: https://www.ifad.org/documents/10180/ab3054ad-d9f4-4c64-bd75-2dc7f9d4f97b

[80] See full list of current NDC partners: http://www.ndcpartnership.org/partners. To join the Partnership, the Secretariat can be joined at: info@ndcpartnership.org

[81] http://www.ndcpartnership.org/about-us/guiding-principles-and-how-join

4.3.1 The International Climate Initiative[82]

By 2014, the International Climate Initiative (IKI - as per its German acronym) - dependent on the German Ministry of Environment (BMUB) had approved an estimated USD1.1 billion for a total of 377 projects on mitigation, adaptation and biodiversity in developing countries and transition economies. The initial capitalization of the IKI came from emission trading schemes and was therefore additional to development assistance. Currently, the German government has assumed the funding of IKI under the regular federal budget, thus ensuring its predictability. Asia has been the region that has benefited most from the IKI. Within its adaptation portfolio, the Initiative puts emphasis on particularly vulnerable countries with limited capacities. IKI funds have been invested in exploring a number of innovative approaches to adaptation, such as mechanisms for climate risk management (insurance schemes) and ecosystem-based adaptation. Land-use and water management as well as climate risk mainstreaming across sectors are other areas where the IKI is accumulating expertise. The Initiative is also paying special attention to supporting the development and implementation of NAPs. For these reasons, the IKI may constitute a relevant funding option for Cambodia's adaptation priority actions.

The German government issues an annual *call for proposals* for IKI. The process is open to applicants worldwide, including for German federal agencies partner countries' institutions, international entities (multilateral banks and UN agencies), civil society organizations, and business and academia/research bodies. The selection process for fundable proposals has two phases[83]:

1º: As the call for proposals is issued, applicants submit a project outline (within given templates and deadlines) to IKI's Program Office. Based on funds availability and the relevant ministries' assessment, a pre-selection of proposals is made and communicated to applicants.

2º: Short-listed applicants are requested to prepare a full formal funding application form, based on which final decisions on projects to be funded, allocations and possible start date are made.

Applicants to IKI need to be aware of new cross-cutting "standard indicators" (supplementary to project-specific indicators) that, from 2015, will help the IKI program assess its overarching impacts. Among these, there is an "adaptation indicator", namely the "Number of people the project directly assists with adaptation to climate change impacts or ecosystem conservation".

In Cambodia, IKI has so far contributed funds to an ecosystem and water management initiative[84] in the Mekong region seeking to strengthen the technical capacities of the Mekong River Commission and of its associated national bodies including Cambodia's.

4.3.2 The International Climate Fund

The UK's International Climate Fund (ICF) was set up in 2011 to sustain the British government's commitment to support developing countries in addressing climate change challenges and tapping the potential benefits from low-carbon development opportunities. The initiative is jointly managed by the UK government's Department for International Development (DFID) as lead partner, the Department for Business, Energy & Industrial Strategy and the Department for Environment, Food & Rural Affairs. The ICF had a capitalization of £3.87 billion (approximately USD4,73 billion) for the period (2011-2016) and channeled a substantial share of its resources through dedicated multilateral funds (including the CIFs and the GCF). In September 2015 (ahead of the Paris COP21), the UK Government announced an increase of "at least 50% of its financial support for cleaner, greener growth and for measures to help the world's poorest adapt to climate change". Between 2016 and 2021, the UK has committed to provide £5.8 billion (approximately USD7,1 billion) from existing Official Development Assistance (ODA) to climate action in

[82] https://www.international-climate-initiative.com/en/

[83] For further information about application procedure and relevant templates, see: https://www.international-climate-initiative.com/en/project-funding/information-for-applicants/

[84] For further information on the Project see: https://www.giz.de/en/worldwide/14442.html

developing countries. The ICF is expected to leverage an equivalent amount in private finance over the lifetime of the supported projects.

The UK has also committed to spending 50% of its climate finance on adaptation and 50% on mitigation. The support delivered through ICF's portfolio is tailored to country contexts, and therefore investments are wide-ranging. Under the adaptation programming, support typically includes introduction of climate resilient crops, improved irrigation schemes, preserving water catchments, strengthening defenses against floods and storms, and ensuring that social protection mechanisms are in place to make sure that people are able to cope quickly with and recover from climate shocks.

Since ICF funds stem from ODA, projects to be funded must comply with the eligibility criteria determined by the Development Assistance Committee (DAC) of the Organization for Economic Co-operation and Development (OECD)[85]. Enquiries about ICF funding need to be channeled at country level through DFID's country offices or UK Embassies/High Commissions oversea[86]. Applications for finance are developed in partnership with a DFID country office or UK government department, as the ICF does not accept spontaneous applications. So far, no climate project in Cambodia has been reported and the fact that DFID does not operate in the country, limits the potential of the ICF at national level. Yet, support to regional interventions is not to be discarded.

4.3.3 The Global Climate Change Alliance[87]

The EU's Global Climate Change Alliance (GCCA) was initially established in 2007 to strengthen European cooperation with developing countries, in particular LDCs and SIDs (Small Island Developing States), facing major climate challenges. To date, this EU initiative has supported adaptation and mitigation measures through more than 50 programs, implemented in 38 countries, and at regional and global levels. With the European Commission's new Multiannual Financial Framework (2014-2020), the GCCA transitioned in 2014 into the "GCCA+": a flagship initiative under the EU thematic program of Global Public Goods and Challenges and with an initial envelope of over €330 million (approximately USD349 million).

The GCCA+ endeavors to deploy a flexible approach with different implementation and funding modalities adaptable to country contexts and taking advantage of the extensive presence of EU Delegations worldwide. The new program keeps its emphasis on climate policy dialogue and technical and financial support for the implementation of national climate change adaptation and mitigation policies, with a stronger knowledge management component. Continuing its focus on vulnerable countries, GCCA+ investments are expected to increase climate resilience (adaptation options) and to enhance development co-benefits of mitigation options e.g.: under REDD. Looking forward, GCCA+ will embrace some new features potentially relevant to the financing options of Cambodia's NAP:

- Concentration on resources in three areas:
  (1) Mainstreaming climate change into development planning;
  (2) Increasing resilience to climate related shocks; and
  (3) Supporting the implementation sector-wide climate adaptation and mitigation strategies;
- Focus on support to National Adaptation Plans and Nationally Determined Contribution processes;
- Cooperation and complementarity with other donors' ongoing climate initiatives and with Non–State Actors, Civil Society Organizations and the private sector.

Any LDC or SIDS country that is already receiving development assistance is eligible for GCCA+. To apply for funds, the national government needs to process an expression of interest. The country will then participate in a "needs and climate vulnerability assessment" (including assessment of risks related to floods, droughts, storms, sea level rise or glacier melting and coastal zone elevation). This assessment will

[85] http://www.oecd.org/dac/financing-sustainable-development/development-finance-standards/

[86] The ICF Secretariat can also be contacted through DFID's public enquiry point (enquiry@dfid.gov.uk)

[87] For further information see: http://www.gcca.eu/sites/default/files/gcca_concept_note.pdf

also evaluate the population put at risk by the adverse effects of climate change and will pay particular attention to the agricultural sector that is most sensitive to climate threats. The country's adaptive capacity is also assessed (partly based on the United Nations' Human Development Index) as well as eligible governments' engagement in climate change policy dialogue. Finally, GCCA+ funds are allocated based on availability of resources and on population figures.

The GCCA+ in Cambodia
In Cambodia, GCCA+ has so far focused in strengthening the capacity of the National Council for Sustainable Development (NCSD) to fulfill its mandate to address climate change, and to enable line ministries and civil society organizations to implement priority climate change actions. The Cambodia Climate Change Alliance (CCCA), set up with GCCA support, constitutes a unified engagement point for development partners, and a multi-donor financial facility to provide resources for climate change capacity building at national and local government level. It also offers a mechanism for knowledge sharing and learning about climate change, which extends beyond the government to civil society and the broader community. Under implementation by the Ministry of Environment, this initiative's overall budget is €8.35 million with different donor contributions (GCCA: €2.21m, Sweden: €3.4m, UNDP: €2.31m, Denmark: €0.43m). For further information: http://www.gcca.eu/national-programmes/asia/gcca-cambodia-climate-change-alliance

4.3.4 The Swedish International Development Agency

The Swedish government's development cooperation with Cambodia is currently regulated by its 2014-2018 Strategy. Within its end-goals, it includes "to lead to a better environment, limited climate impact and greater resilience to environmental impact, climate change and natural disasters". The Swedish International Development Agency (Sida) has played a key role in supporting the development of Cambodia's institutional and policy frameworks for climate action (at both the national and the sub-national level) while at the same time piloting adaptation projects on the ground. The support provided to Government institutions has contributed to the development of the Cambodia Climate Change Strategic Plan (CCCSP) and the Climate Change Communication Strategy, endorsed by the NCSD. Swedish cooperation has also been instrumental to the set up and functioning of the CCCA, with a mandate to coordinate with donors' climate funds and facilitate coordination of climate change efforts at national level.

Several line-Ministries have been able to pilot climate adaptation actions benefitting from Sweden's financial support. Furthermore, civil society organizations have actively engaged in pilot projects thus enhancing local capacities to implement adaptation measures. In partnership with GCCA and UNCDF-LoCAL, Sida has supported local authorities and stakeholders through trainings in climate risk management and has increased their ability to develop climate adaptation plans and investment planning. At grass-root level, projects have contributed to build resilience of local communities' livelihoods, by diversifying and climate-proofing smallholders farming systems, e.g.: introducing climate coping strategies and weather-resistant crops and rice seeds.

Through the years, Sweden has become a privilege partner to the Cambodian government in the deployment of climate actions. Taking stock of this experience, in its current strategic plan Sida remains committed to support national and sub-national institutions in the implementation of their climate change priorities. To this end, two on-going programs remain relevant to the financing needs and priority actions of the NAP:

- Continuous support to Cambodia Climate Change Alliance (CCCA, phase II)
  The overall objective aims to strengthen the capacity of Cambodia's NCSD to fulfill its mandate to address climate change and to enable government ministries and Civil Society Organizations (CSOs) to implement priority climate change actions. Sida remains committed to the second Phase of CCCA (2014-2019), as a key donor, with the EU, and UNDP and implemented under the coordination of the DCC.
- Local Governance and Climate Change (LGCC) Integration Project –LoCAL
  The LGCC Project was initially implemented by the Committee for Sub-National Democratic Development in partnership with United Nations Capital Development Fund (UNCDF). The project aims to demonstrate the role of local governments in fostering climate change adaptation and in

mainstreaming climate change in the agenda of the Committee for Sub-National Democratic Development, especially regarding planning and finance systems. This decentralized support for climate adaptation could be relevant to a number of priority actions in the NAP (LoCAL completed its Phase II in 2016 and implementation of Phase III has recently started).

4.3.5 The US Agency for International Development

The US Agency for International Development (USAID)'s climate work principles, priorities and objectives are set out in the US government's Global Climate Change and Development Strategy[88]. Within its broad mission to "end poverty and advance human prosperity", for the past 8 years USAID has paid particular attention to its climate portfolio that "safeguards USAID's mission and puts countries on a path to pursue clean energy growth and resilient, low-carbon development". Nurturing its partnerships with a network of specialized agencies (among others the US Space Agency-NASA, the US Environment Protection Agency-EPA, the US Weather Service- NOAA; and the US Forest Service), USAID has championed and brokered the management of climate data, knowledge and tools to assist a number of developing countries in their effort to predict, prepare and adapt to climate change. In low-income countries, USAID seeks to develop national capacities to use the best climate science and analysis to inform decision-making in critical sectors and to promote sound governance in investment choices.

Through its climate programing, USAID has provided support to partner countries seeking to reduce emissions and to build climate resilience in their development pathways. USAID applies a "climate integration" approach to its overall portfolio and it has integrated climate risk management in investments within key areas such as infrastructure development, disaster preparedness and food security. Through its adaptation programing [89], USAID has reached key sectors in 30 countries (infrastructure, agriculture, health, water management).

In Cambodia, USAID has invested in the conservation of biodiversity and sustainable management of ecosystems key to climate change adaptation, such as forests and mangroves. By taking an integrated mitigation/adaptation approach to forestry management, USAID has offered support to entrepreneurs who focus on non-timber forest products. Forestry programs have helped diversify local livelihoods and bolstered small businesses' development by facilitating access to productivity-enhancing expertise, technology, equipment and credit. USAID is also helping Cambodian institutions and local communities to identify and take advantage of opportunities for income generation from carbon sequestration through the establishment of Payment for Environmental Services (PES) schemes. Some of these enabling measures include: strengthening legal and policy frameworks, guiding Cambodia's compliance with environmental laws and international commitments and encouraging communities' participation in the REDD program. Beyond the synergies with the sustainable forestry portfolio, some of USAID's adaptation specific programs could bring opportunities to the priority actions from the NAP (see box below).

USAID active initiatives relevant to adaptation actions

- "Helping address rural vulnerability and ecosystem stability", HARVEST: http://www.cambodiaharvest.org/
- "Mekong adaptation and resilience to climate change", ARCC (regional program): http://www.mekongarcc.net/
- "Integrating gender considerations into community-based adaptation in agrarian communities in the Lower Mekong Basin" (see Lessons Learned Report): http://mekongarcc.net/sites/default/files/marcc_gender_and_cba_paper_formatted-8.11.2016_usaid_rev.pdf
- "Planning and implementing rural adaptation initiatives in the Lower Mekong" (see Legacy Report): http://www.preventionweb.net/publications/view/49780

4.3.6 The Climate Finance Readiness Program from GIZ

[88] https://www.usaid.gov/climate/strategy

[89] https://www.usaid.gov/climate/adaptation

The Climate Finance Readiness (aka "CF Ready") program supports countries in accessing international funds and making effective use of climate finance at national level. In Cambodia, funded by USAID and implemented by GIZ, "CF Ready" currently supports the government in accessing and making a better use of financial resources (GCF and other climate funds) to foster climate action. The GIZ typically provides advice to partner countries with the aim of enhancing their ability to access climate finance, administer the resources and use the funds effectively and efficiently. This support is tailored to the characteristics of the country context. In Cambodia, the core elements of "CF Ready" are: supporting the financial planning systems, enhancing access to international finance (including the GCF) and strengthening the capacity for implementing, monitoring and reporting on climate financing.

More specifically, "CF Ready" support in Cambodia has concentrated on four packages:

- Package 1: Provision of technical assistance to the RGC for the development of a financing framework and implementation plan for the NAP. This planning effort builds on the outputs of previous assignments such as the assessment of climate financial demand for the implementation of climate policies (namely NAP and INDC) undertaken in March 2016. So far, key results from this work-stream have been the production of an overview of financial demand of climate change actions, and the delivery of a set of recommendations to address capacity gaps in the implementation of climate finance. As a follow-up assignment, a review of the costing of adaptation projects and recommendations on mobilizing funds for them was completed in September 2016. Through this work-stream, an emphasis was put on building capacities at line-ministries' level to undertake cost-estimates for their climate plans. The priority actions for the NAP were also identified, based on their potential and preparedness to tap international climate funds. The results of this work have informed the development of the current financing framework to support Cambodia's NAP process and implementation plan.
- Package 2: Provision of financial and technical support (through specialized training) to the build the capacity of NCSD and another 10 relevant ministries and agencies to develop and manage environmental and social safeguards. Additionally, under this package, some selected activities (under the NAP financing framework implementing plan) could be supported in 2017.
- Package 3: Support to relevant ministries (including MOE and MOH) in integrating climate change into budget plans for 2018. This is an ongoing plan, expected to be completed by July 2017. Other activities planned include: undertaking cost benefit analysis (CBA) of the climate change programs from MoE and MoH, a consultation workshop on results of the CBA reports, and a training for public officials (including MoE and MoH staff) on budget negotiation with MEF in seeking to mainstream climate priorities into domestic budgets (based on CBA results). Finally, training on project budgeting and financing will also be provided.
- Package 4: Support to further develop a communication strategy for the NAP process, building on previous efforts undertaken in August 2016 that led to NAP communication products relevant to inform both national and international stakeholders. Future activities under discussion with NCSD.

4.3.7 South-South cooperation for climate action

In September 2015, in the run up to the Paris COP, President of China Xi Jinping pledged USD3.1 billion to finance a "South-South Climate Cooperation Fund"[90]. China announced its plans to launch 10 low-carbon pilots, 100 mitigation and adaptation projects and 1000 capacity building opportunities for developing countries in the coming years, with a particular focus in Asian and African countries. The fund primarily intends to contribute to capacity building in developing countries for climate change adaptation. The establishment of the USUSD3.1bn South-South Climate Fund marks China's independent contribution on global climate finance and opens a new promising scenario for alternative funding sources and approaches in climate action. At the Paris COP, other BASIC countries (namely India and Brazil) welcomed

[90] http://earthjournalism.net/stories/china-would-facilitate-south-south-cooperation-on-climate-change-as-third-party-said-former-minister-xie-zhenhua

China's leadership and showed interest in contributing to South-South cooperation schemes in climate change, yet concrete announcements or pledges are still to be made.

In parallel, the UN Executive Office of the Secretary General has set up the Southern Climate Partnership Incubator (SCPI[91]), a new initiative to foster partnerships among the Global South in the areas of renewable energy, climate resilience, smart cities and big data application. China has welcomed the Secretary-General's efforts on South-South cooperation and noted that China was ready to work with all UN Agencies and Member States in the field of South-South cooperation. While these initiatives are articulated and operationalized, the prospect of a "third way" to climate financing, benefiting from decades of experience in South-South cooperation schemes in other development areas, in a promising prospect for countries like Cambodia.

4.4 Loans versus grants for climate finance

4.4.1 Cambodia's new economic status

In July 2016, after two decades of sustained economic growth, Cambodia graduated from its "Low Income" status to become a "Lower-middle income" economy under the World Bank Group classification[92]. The country's poverty rate has dropped from 53% in 2004 to 20.5% in 2011 and 10% in 2013 and, despite persistent challenges, it has made progress towards the Millennium Development Goals.

The upgrading of Cambodia's economic status constitutes both good news and new challenges. While the Low-Income classification ensured eligibility to a set of favorable financial instruments (grants, soft loans and trade facilities), as a Low-Middle Income economy, Cambodia is now expected to gradually support its own development, mobilize investments and cope in the international trading system. Previous benefits granted by the financial institutions and development agencies as well as international aid and grant-based instruments, will scale back and the economy will become more reliant on its investment rating and its capacity to generate returns. It is also expected that domestic investors (private and public) will progressively have more recourse to lending instruments (concessional, non-concessional and/or market loans). Yet, the new conditions for the national economy are not exactly equivalent to Middle-Income countries. Cambodia is still eligible for support from the International Development Association (IDA, the WBG fund for the poorest nations that combines different eligibility criteria[93]), and it remains classified as a Least-Developed Country (LDC) by the United Nations[94], which also grants eligibility to some trade benefits and preferential access to specific funds, including some climate funds such as the LDCF or the PPCR (see previous sections of this chapter). This new economic scenario will be important for Cambodia's capacity to generate investments for its climate plans, including for adaptation.

4.4.2 Loans versus grants in climate finance

The OECD and CPI presented a special report on "Climate finance and the 100 billion goal[95]" in 2015. According to donor countries' accounting, an annual average of USD57 billion had been mobilized for climate action in developing countries in 2013-2014, with USD40,7 billion (71% of the total) reported as international public finance. The OECD and the CPI offer other data:

[91] http://www.un.org/sustainabledevelopment/blog/2016/04/the-united-nations-launches-new-partnership-initiative-to-promote-south-south-cooperation-on-climate-change

[92] The new classification is based on thresholds set by the WBG. Cambodia's GNI per capita for 2015 was USD 1,070 (according to WBG figures published on July 1, 2016); that is, above the threshold of USD1025 for low-income countries for the WBG's 2017 fiscal year. (http://data.worldbank.org/country/cambodia)

[93] http://ida.worldbank.org/about/borrowing-countries

[94] The UN reviews country's classification every three years based on GNI per capita and additional criteria to assess human assets and economic vulnerability at national level. The next reclassification is expected for 2018, so this is the earliest Cambodia may see its UN categorization change.

95 http://www.oecd.org/environment/cc/oecd-cpi-climate-finance-report.htm

- According to OECD-DAC 2013 database[96], only about USD12 billion of international public support was provided as grants, the bulk of donor-led climate finance constitutes concessional and non-concessional loans, equity and other non-grant instruments.
- Part of the rationale for the use of lending instruments (credit guarantees, de-risking instruments, etc.) for climate finance is to facilitate the mobilization of private investments. In 2013-2014, the OECD reports USD14.7bn of private "co-finance" mobilized through public international finance. Most of these investments are mitigation-oriented.
- According to OECD-CPI, in 2013-2014 only 16% of international climate finance was invested in adaptation. Since in 2009 developed countries pledged USD100 billion/year for climate finance by 2020, adaptation needs of developing countries have been seriously under-funded across countries and regions.

In conclusion, the use of loans for climate finance seems to be favored by the international community (bilateral and multilateral donors). Oxfam[97] has estimated that about three-quarters of reported public climate finance may be provided via instruments other than grants.

4.4.3 Why grants for adaptation finance?

It should be noted that the use of lending instruments in international climate finance implies that recipient countries will eventually have a debt to repay (even for low-interest loans). This has led to some criticism in the use of lending instruments for adaptation financing. First, debt problems in fragile economies risk being aggravated by the use of usually desperately needed adaptation funds. For this reason, the OECD-DAC advises against lending instruments in Low-Income Countries and Highly Indebted Poor Countries. And second, the use of debt-generating instruments as finance for adaptation would eventually imply developing countries paying the bill of climate impacts, which would be at odds with one fundamental commitment in the UNFCCC framework, stating that states developed country Parties "*shall assist the developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation to those adverse effects.*" (UNFCCC, Article 4.4).

Whereas the use of lending instruments as a significant part of public climate finance seems to deliver on some grounds such as mobilizing private investments and through them, fostering mitigation action, such instruments appear to be (in principle) less fit to finance adaptation action, particularly in the most vulnerable countries. It is for this reason that the Paris Agreement has called for "*The provision of scaled-up financial resources should aim to achieve a balance between adaptation and mitigation, taking into account country-driven strategies, and the priorities and needs of developing country Parties, especially those that are particularly vulnerable to the adverse effects of climate change and have significant capacity constraints, such as the least developed countries and small island developing States, considering the need for public and grant-based resources for adaptation*". (Paris Agreement[98], Article 9.4).

This issue has raised discussion in the context of the GCF Board[99]. While the Board has adopted decisions to strike a balance between adaptation and mitigation in its funds' allocations' and to prioritize the most vulnerable countries (such as LDCs) for adaptation funding, there is currently no directive regarding loans *versus* grants balance in the allocation of resources. There has been concern by some that the GCF would be offering low interest loans rather than grants[100]. This has led to developing countries calling for adaptation pledges from donors to be channeled preferably through the LDCF or the AF, both of which

[96] http://www.oecd.org/dac/stats/climate-change.htm
[97] Climate Finance Shadow Report. Lifting the lid on progress towards the USD100 billion commitment. Oxfam, 2016. https://www.oxfam.org/sites/www.oxfam.org/files/file_attachments/bp-climate-finance-shadow-report-031116-en.pdf
[98] https://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf
[99] The Governing Instrument of the GCF provides that the Fund will initially extend grants and concessional loans to approved climate change programs and projects through implementing entities. In February 2015, the Secretariat issued a document is to outline options for the financial terms and conditions to be adopted by the Board for grants and non-grant instruments to be initially provided by the Fund. https://www.greenclimate.fund/documents/20182/24949/GCF_B.09_08_-_Financial_Terms_and_Conditions_of_the_Fund_s_Instruments.pdf/295cd44f-1335-4213-b999-783f96c523a9
[100] http://www.climatechangenews.com/2015/10/19/loans-or-grants-for-climate-finance/

operate on a grants-basis only. In the Marrakech COP22 (November 2016), a number of developed countries have contributed to replenishment of the AF and the LDCF (see section 4.3.1).

The preference for grants over loans for adaptation actions seems to be justified by principles and practical reasons. Adaptation programs are typically less profitable in terms of financial returns and seem therefore less attractive for lenders and private investors, (see section 5.1). Yet, while grants will continue to play a major role for adaptation financing, under the right circumstances, concessional loans, equity or guarantees all have a role to play in mobilizing climate finance, including for adaptation.

4.4.4 Why loans for adaptation?

UNEP's 2016 Adaptation Gap Report [101] has provided an updated estimate of the sharp difference between adaptation financial costs in developing countries and the resources currently made available. Current adaptation costs are likely to be at least 2 to 3 times higher than international public finance for adaptation (estimated at around USD22,5 billion in 2014). Without effective mitigation action, and unless progress and innovation manage to secure new and additional finance, this gap is likely to increase dramatically in the future: by 2030 adaptation costs are likely to hit USD140-300 billion per year (UNEP, 2016).

To meet finance needs and avoid an adaptation gap, the total finance for adaptation in 2030 would have to be approximately 6 to 13 times greater than international public finance today. Climate impacts raise unparalleled challenges and associated financial needs that cannot be left to the international grants-based finance alone. In a global context of increasing pressure on ODA budgets, the international donor community and its partner recipient countries will need to articulate innovative ways to leverage funds and mobilize support from investors (public and private) to meet the financial needs of climate change adaptation at country level.

Developing countries cannot rely on grant-based instruments only to finance their adaptation needs. They need to include in their financing strategies efficient ways to leverage additional finance, notably from the private sector. The Overseas Development Institute[102] has identified some examples of how non-grants instruments can be useful to developing countries in mobilizing climate funds (see box below).

Beyond grants Climate finance in developing countries. Some examples

- Concessional loans can be used to front-load capital and leverage larger funding volumes to facilitate projects that require large up-front investments and that would otherwise be un-fundable for the Government through commercial loans. (E.g.: Top-up investments to cover the incremental cost of climate-proofing key public infrastructure such as road networks).
- Climate-related programs involve a level of uncertainty and hence financial risk. Equity investments and credit guarantees can be used as de-risking instruments that facilitate the engagement of private investors in innovative operations or under uncertain regulatory frameworks.
- Multilateral Development Banks are using lending instruments to pilot innovative approaches to climate risk management and building resilience at macro and micro levels. (E.g.1: Catastrophe Deferred Drawdown Option (CatDDO) loans have been used by the World Bank to build fiscal resilience of Governments in extreme weather events prone countries and to ensure the mainstreaming of climate risk reduction in development planning; E.g. Two credit lines to National Development Banks have facilitated the deployment of climate risk insurance schemes for small-scale agricultural producers)
- Pure grants may be best suited to the funding of specific technical assistance, capacity-building and training needs to develop an enabling environment that attracts private investments to climate change adaptation and mitigation activities.

4.4.5 A purpose and context-specific approach

There is no one-size fits all rule to determine when a grant-based or a loan-based instrument is more convenient. The best combination of grants and/or loans based funding instruments should be guided by

[101] http://web.unep.org/adaptationgapreport/sites/unep.org.adaptationgapreport/files/documents/agr2016.pdf
[102] "Climate finance in developing countries, beyond grants", (ODI, 2009) https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/5524.pdf

project-specific criteria (financial, commercial and technical profiles) and country-specific criteria (macroeconomic situation including level of indebtness, and institutional frameworks in the recipient country).

For Government-led programs, donors (bilateral and multilateral) and lenders (development or commercial banks) will need to consider the potential impact of these additional financial flows, the absorptive capacity of the recipient country, and the financial sustainability of the instruments used, to avoid the excessive exposure of recipient countries.

The international climate finance landscape is complicated and rapidly changing. While the options and mechanism seem to proliferate, different factors (the current capitalization, priority focus -thematic and geographic-, operating mechanisms, time-frameworks and adequacy of institutional arrangements in place at national level) need to inform the financing strategy of each country's NAP. For some of the 40 Priority Actions identified in Cambodia's NAP, Chapter 6 will seek to advise on the potential matches with international finding sources available to the country.

To complete the picture on financing options for the NAP, the next Chapter will explore the current and potential future engagement of private actors in the Cambodia's response to its climate challenges.

Chapter 5: Review of Private Sector Engaging Opportunities

The overview of private initiatives in economic sectors that are relevant to climate adaptation is pertinent to the identification of potential financing arrangements to implement the priority actions in Cambodia's NAP. Therefore, some of the pilot examples highlighted in this section will be captured in the implementation plan for NAP financing (see Chapter 6).

Beyond the articulation of the priority actions selected in the NAP process, the sector-wide CCAPs encompass broader programs and further ambition in the deployment of adaptation measures in Cambodia. An assessment of the extent to which private investments may be relevant in amplifying the scope of climate responses in the future is also insightful for Cambodian decision-makers. Therefore, this Chapter will combine a macro-level overview of strategic dimensions relevant to the potential engagement of private investors in adaptation plans, with a micro-level analysis of some concrete examples of current participation of private actors in adaptation- related projects at country level.

5.1 Private investments in climate action: mitigation versus adaptation potential

The Climate Policy Initiative (CPI)[103] issued its latest study of the *Global Landscape of Climate Finance Landscape* in 2015. According to this report, private investments constituted the largest source (62%) of global climate finance in 2014. In Cambodia, the most recent climate public expenditure reviews (CPER, 2016) provides up-to-date information on levels of public financing for climate action, but much less information is available on climate finance mobilized through the private actors (investors, companies, households) at national level. This information would be relevant for the Royal Government of Cambodia to make informed policy decisions to facilitate private investment in climate-smart solutions.

Thus, in 2016 the General Secretariat of the National Council for Sustainable Development (NCSD) and the Cambodia Climate Change Alliance (CCCA) commissioned a report on the current contribution of the private sector to climate change responses in Cambodia and its potential for further engagement in (see details in section 5.3). The report maps climate-relevant private interventions at country level and draws an important first conclusion: the bulk of climate initiatives that private investors are engaging with in Cambodia relate to mitigation rather than adaptation priorities. So far private actors that have engaged in climate action in Cambodia have mostly focused on spurring low-carbon development opportunities. Building resilience at national, subnational or sector level seems to have attracted less attention.

Cambodia is not unique in this *phenomenon*. CPI´s global climate finance landscape report (CPI, 2015, *ibid*) offers other interesting data: of the USD 241 billion of private funds that were mobilized for climate action in 2014, 91% were domestic funds (i.e. originated in the same country where they were spent). The report does not capture private investments specifically in adaptation since "adaptation investment data remain elusive, especially from the private sector". However, it does reflect a rapid deployment of energy investments, particularly from the private sector. According CPI, an estimated 81% of global climate funds in 2014 went toward renewable energies (solar and wind technology mostly) and "the heavy bias toward renewable energies reflects the lack of data for private investments beyond this sector". In conclusion, to date, the drive to scale-up private finance at global level has been largely domestic, 93% of which was focused on mitigation in 2014.

Beyond the expansion of private investments in renewable energy, and the issue of data gaps in adaptation finance, there is little analysis of the barriers and limits to private investment in adaptation in developing countries. In 2013, the Overseas Development Institute (ODI) undertook a study[104] on the use of public climate finance from donors to mobilize the private sector and found that 84% of investments

[103] The Climate Policy Initiative works to improve energy and land use policies around the world, with a particular focus on finance. CPI, 2015 report available here: https://climatepolicyinitiative.org/wp-content/uploads/2015/11/Global-Landscape-of-Climate-Finance-2015.pdf
[104] 'Five Early Lessons from Donors' Use of Climate Finance to Mobilize the Private Sector', (ODI, 2013): http://www.odi.org.uk/opinion/7268-climate-finance-private-sector-donor-lessons

were channeled toward middle-income countries and emerging economies. Private finance would favor richer developing countries because they are more ready to absorb private investments. Lower income countries (like Cambodia) generally tend to be less resourced by foreign private investments. They have a smaller and less established formal private sector and they experience institutional constraints to create enabling environments for investors such as adequate incentive schemes.

Oxfam has also explored the challenges for private sector investments in adaptation (Oxfam, 2013[105]) and points at some factors that create barriers especially in developing countries:

- Building climate resilience at a national scale typically requires "across-the-board" actions such as enhancing social safety nets, displaying early warning systems, adjusting ecosystem management, etc., that benefit a country's economy and society overall but that are not governed by profit-oriented principles. Hence, a private investor would rarely engage and many economy or sector-wide adaptation measures require public funds.
- Whereas market instruments (carbon markets, green bonds, emission trading schemes, etc.) are being deployed in developing countries to foster mitigation actions particularly in the energy sector, markets either don´t exist, are limited and/or function poorly in sectors that are usually key for adaptation such as water or ecosystem management. Therefore the scope to create incentives and attract private investors into adaptation action is limited.
- Adaptation plans usually require long-term investment horizons and the need to manage uncertainty of climate risks (both extreme weather and slow onset events), into which most companies' short-term profit seeking nature does not fit. In the domain of climate adaptation, risk, cost-benefit analysis, return on investments, all basic parameters for business planning, are hard to define.

All these reasons contribute to explain why adaptation in developing countries mostly relies on public climate finance, from either domestic or international sources. The extent to which private investments can be engaged in financing priorities within National Adaptation Plans is probably limited, but some scope exists and needs to be explored.

5.2 Climate impacts on the economy and the private sector

5.2.1 The national economy and climate change

Cambodia's strong economic growth over the past decade (7% on average in the last five years) has been fuelled by a strong contribution of private investments, mostly in the agriculture, garment, tourism and services sectors. The creation of Special Economic Zones, relatively low salaries and ASEAN economic integration are contributing factors which make Cambodia an attractive destination for Foreign Direct Investment (FDI). The main sectors of the national economy are services, industry and agriculture, accounting for 41%, 32% and 27% of GDP respectively in 2012.

Historically, Cambodia has been a very small contributor of greenhouse gases to the atmosphere. Yet, population growth and mounting energy demand (for both domestic and industrial use) are expected to increase emissions from private actors in the coming decades. Energy needs, land use change and deforestation (related to livestock, agriculture and forestry products) represent the major sources of emissions. As per Cambodia's INDC (2015), these sectors will therefore address the bulk of Cambodia's mitigation strategies. More importantly, Cambodia is regularly ranked as one of the top ten countries most vulnerable to climate change (Germanwatch, Global Climate Risk Index, 2014[106]). Major climate change impacts are projected to have negative effects on sectors key to human development such as agriculture, health and infrastructure (transport, irrigation, and urban). Considering the size of the challenges for the Cambodian economy and society, both public and private investment will be required

[105] Adaptation and the USD100 billion commitment: why private investment cannot replace public finance in meeting critical adaptation needs. Oxfam, 2013. https://www.oxfam.org/sites/www.oxfam.org/files/ib-adaptation-public-finance-climate-adaptation-181113-en_0.pdf
[106] https://germanwatch.org/en/download/8551.pdf

to address these threats and to minimize climate change impacts on the economy, business environment and well-being of the population.

5.2.2 Cambodia 's private sector

Cambodia's national private sector is mostly composed of Small and Medium-sized Enterprises (SMEs) that provide around two-thirds of the country's employment[107]. The informal sector accounts for more than half of Cambodia's GDP (estimates range between 62%[108] and 80%[109]) and constitutes the majority of employment. 77% of workers operate in the informal economy and most of these informal jobs are in the agriculture sector[110]. Out of 3.3 million households in Cambodia, about 2.2 million depend on agriculture for their livelihoods[111]. Between 2009 and 2014, the share of the agriculture sector in the employed population has decreased, while those of the industrial and service sectors have increased[112]. Currently, 45% work in the agriculture sector, 24% in the industry sector and 31% in the services sector.

5.3 Studying private sector contributions to climate responses in Cambodia

In 2016, the General Secretariat of the NCSD and the CCCA commissioned a national report on the current contribution of, and potential for, private sector engagement in climate change responses in Cambodia (CCCA, 2016[113]). In the absence of exhaustive and reliable data sources on private sector involvement in climate action at country level, the report presents an expert analysis from literature review, official information sharing and consultations held with key representatives from the private actors (65 companies), line Ministries, development partners and NGOs operating in Cambodia. The study maps private sector participation in climate-related investments (mitigation and adaptation) and seeks to identify policy options whereby the Royal Government of Cambodia could enhance the contribution from investors, companies and households. A clearer understanding of where investments are taking place and what their underlying drivers are sheds some light on the potential and the barriers to climate-relevant private investments.

5.3.1 Overview of private sector climate related interventions by sector

Based on the analysis of the initiatives explored by the study, here is a summary of main findings by sector:

1. **In the agriculture sector**: farmers are highly vulnerable to climate change, but cultural habits and weak climate risk profiles are slowing down adoption of resilience techniques. Economic growth led by the agriculture sector can be considered both as a threat for the environment (agriculture land expansion) and as a part of the climate response (green growth). In this context, **Climate Smart Agriculture** (CSA) is an integrative approach to address challenges of food security and climate change. Practical examples include: sustainable storage and irrigation systems, dissemination of climate-resilient seeds, organic fertilizers, etc.
2. In the **Forestry sector**, the capacity of Cambodian forests to act as a carbon sink is threatened by illegal activities and impacts of economic and human activities. Private investments in more sustainable forest management are hindered by an un-conducive institutional context (unclear legal framework on land tenure, absence of long-term visibility especially on concessions and lack of financial instruments such as incentives schemes). Some initiatives with potential for scaling

[107] RGC. (2013). *Investing in Cambodia 2013-2014*
[108] "In 2003 the informal economy accounted for 62 percent of gross domestic product (GDP) Economic Institute of Cambodia (EIC)".
[109] "Around 80 percent of the GDP in Cambodia is produced by the informal sector", (Heinonen "The hidden role of informal economy: is informal economy insignificant for Phnom Penh's development?, 2008)
[110] National Institute of Statistics - Ministry of Planning, 2007
[111] IES, "Comprehensive report outlining alternatives for power generation in the greater Mekong sub-region", 2015
[112] CSES, *ibid*
[113] The report "Promoting private sector contribution to the climate change response in Cambodia" was funded by the EU, UNDP and the Government of Sweden and is accessible here: http://portal.gms-eoc.org/uploads/resources/1026/attachment/Promoting%20Private%20Sector%20Contributions%20to%20the%20Climate%20Change%20Response%20in%20Cambodia.pdf

up include **reforestation, agro-forestry** and **sustainable agri-business.** For example, an increasing number of buyers of sensitive commodities - rubber, acacia, rattan, palm oil, mining - are putting efforts into ensuring zero deforestation within their supply chains. The study has identified a few actors active in the reforestation segment, and valuable examples of **payment for ecosystem services** (PES) schemes that can incentivize responsible investors.

3. The **Fisheries sector** is one of the first impacted by climate change (rising waters, saline intrusion, droughts and floods). Yet most identified solutions (mangrove rehabilitation, inland conservation, sustainable aquaculture) have not yet reached scale.
4. In the **Manufacturing sector**, increasing energy needs are translating into higher emissions, especially due to the widespread use of illegal and unsustainable wood consumption. Climate related interventions carried out by private actors are often concentrated on energy efficiency (high costs provide a strong rationale to reduce the use of electricity and to generate power on-site, e.g. solar and waste-based generation. Other private sector interventions focus on ensuring sustainability of supply chain and adopting quality environmental standards.
5. The **Energy sector** is facing important challenges as Cambodia's electricity demand increases. Biomass energy (mainly from wood fuel) accounts for 72% of national energy demand, contributing to the high deforestation rate in the country. Cambodia's substantial potential for large hydro projects is constrained by the adverse ecological consequences of these projects and their vulnerability to climate change. Cambodia has a vast untapped potential for sustainable renewables, particularly solar and biogas, but private sector investments in this field hinge on the adoption of a new regulatory framework or a renewable energy law.
6. With regards to **Waste and Waste Water**, there is currently no infrastructure for waste sorting, re-using and recycling (the 2015 decree on waste management has not brought changes yet). Private companies consider waste a growing concern for their sustainability plans. Waste can also be seen as an economic opportunity, as value can be created from recycled waste (in the form of energy production, construction material, etc.
7. In the **Construction sector**, most construction modes are unsustainable (low quality material, low insulation power, no use of natural light), despite sustainable architecture solutions being available in Cambodia. This has a negative ripple effect on energy needs and in turn, emissions. Low enforcement of urban planning laws contributes to this issue.
8. In the **Transport sector**, the fleet of vehicles is dominated by old, highly polluting second hand trucks and cars. Constraining factors include the import tax and duty regime which discourages the purchase of new vehicles, as well as low standards on motor vehicle fuels. This results in increasing emissions and air pollution levels. Cambodia's potential for marine, river and railway freight is high, but is largely untapped and unexplored.
9. **Tourism** is a key contributor to Cambodia's GDP. While international groups are refining their approach to climate change (environmental standards), the bulk of local players in the hotel industry lag far behind. Many climate-related initiatives (energy and waste management) could be replicated and ecotourism has a strong potential in Cambodia.
10. **Households/consumers** are important actors in the private sector's response to climate change on several fronts: (i) **Cooking and lighting**: widespread use of fuel-wood or charcoal for domestic use puts strong pressure on natural forests; (ii) **Transport** of individuals is a fast growing sector, contributing to the increase of emissions and (iii) **Responsible consumption**: the population of Cambodia is generally not aware of the potential to save energy and reduce associated costs through behavioral changes or better equipment.

Despite the bulk of engagement from private actors being directed to mitigation across sectors, some of the interventions identified in the **Agriculture, Forestry, Fisheries and Tourism** sectors are, or could become, relevant to adaptation action. It is on these sectors and initiatives that the next section will focus.

5.4 Private sector contribution to climate adaptation in Cambodia

Drawing from the DCC/NCSD/CCCA study on private sector contributions to climate responses in Cambodia, the next section provides an overview of some private sector initiatives and investments that could have potential for climate adaptation. This section presents key findings and recommendations of the report that are relevant to adaptation action in Cambodia and hence potentially relevant to the financing options for its NAP.

5.4.1 Agriculture

Agriculture is the largest and most relevant sector for Cambodia in terms of impacts of climate change on emissions and sinks, and on livelihoods and income generation for the Cambodian population living in rural areas. As of 2013, 85% of Cambodian households were engaged in some form of agricultural-related activities and amongst them, 73% are engaged in subsistence agriculture. For all of them, accessing finance to pilot and up-scale adaptation measures to climate impacts (alteration of rainfall patterns, floods and droughts affecting productivity) is critical to food security and the sustainability of livelihoods. With over 47% of emissions coming from land-use change and forestry (FAO data, 2011), the agriculture sector, and rice production in particular, offers opportunities for mitigation action. Tapping the synergies between adaptation and mitigation needs in the agriculture sector seems a wise approach in this context. In this vein, different stakeholders are piloting experiences with involvement of private actors.

Building climate resilience of smallholder producers. Changes in rainfall patterns, with a wetter wet season and a drier dry season, are leading to agricultural producers' and small-holders' reducing crop yields and economic loss. Poor soil management, increased deforestation and excessive use of chemical fertilizers is decreasing soil fertility and further increasing the farming system's vulnerability to climate impacts.

To break this vicious cycle, a wide range of actors are piloting climate smart farming techniques with support from development partners and the MAFF. More recently, private companies, particularly supported by foreign investors, have shown a growing interest in investing into bigger scale and higher productivity farming despite a risky context of inefficient market systems, unclear land tenure and natural resource management. Finally, some NGOs[114] are active in the Disaster Risk Reduction area through the Joint Climate Change Initiative with private farmers and local partners (among others CEDAC, NTFP, DPA, My Village) affected by climate shocks.

Promoting Climate Smart Agriculture (CSA). According to CGIAR[115], CSA is an integrative approach to address challenges of food security and climate change, that explicitly has three objectives:

(1) Sustainably increasing agricultural productivity, farm incomes and food security;

(2) Building the resilience of agricultural and food security systems to climate change at multiple levels; and

(3) Reducing greenhouse gas emissions from agriculture. CSA involves different elements embedded in local contexts and relates to actions both on-farm and beyond the farm, and incorporates technologies, policies, institutions and investment.

CSA has been embraced as an approach to build resilience in the Cambodian agricultural sector and efforts from the private sector are contributing to it in different domains, for example:

Improving access to information systems as a key to productivity. Access to information on new weather patterns, best time for seeding and new cultivation and harvesting techniques is key to productivity and climate resilience. Sustainable farming techniques look at providing this information to farmers, hence reducing the risks to climate impacts. These techniques have mainly been pushed by donors, as the current farming system does not provide a mature environment, the supply chain being too weak to attract large private investments. Nevertheless, there is a growing number of investors looking at

[114] DCA (DanChurch Aid), Action Aid, Oxfam, Save the Children, People in Need

[115] https://ccafs.cgiar.org/climate-smart-agriculture-0#.Vrv-BhFL6sM

changing old habits and decreasing the risk profile of farmers.

PILOT EXAMPLE
The United Cambodia Agri (UCA) is a private agriculture consultancy company that has worked with HARVEST (USAID program) to disseminate CSA practices among farmers. This includes the purchase of a weather station to collect reliable weather data that UCA and the Provincial Department of Water Resources and Meteorology office in Battambang would use for more accurate disaster forecasting for farmers. Also a partner of UCA, the Cambodian NGO IDE has worked with private and public partners (Nestlé and donors like IFAD and AUSaid) on an advisory network system that would improve risk profile of farmers.

Emerging climate risk insurance schemes. Because of their vulnerability to climate hazards, smallholder farmers pay a high price for climate change through crop and income losses. Climate risk insurance services are available in other countries, but it is an emerging *phenomenon* in Cambodia. At a national level, the Climate Insurance Fund model[116] is being explored with the objective to improve access to insurance schemes by providing finance to qualified insurance/re-insurance companies and technical assistance, e.g. for product design and development subsidies to reduce the premium payments for the end-clients. In Cambodia, the Fund is under development and managed by Blue Orchard. Other climate insurance initiatives exist at a smaller scale:

PILOT EXAMPLES:

- The **Cambodian Agriculture Cooperative Insurance Company** (CACIC, under the Cambodia Center for Study and Development in Agriculture) announced in early 2015 the start of an agriculture micro insurance service to help rice farmers better respond to climate change. Farmers have to pay an insurance fee (aprox. USD10/Ha./Season), and in return, they receive consultation on climate resilient farming methods and an insurance payout when their crop is damaged by floods or droughts. This CACIC's initiative is funded by the Netherlands' Achmea private foundation. By July 2015 about 60 farmers had enrolled, registering over 60 Has. of rice plantation.
- **RIICE** is a Public-Private Partnership funded by the Swiss Development Cooperation, with Allianz, Sarmap company, GIZ, IRRI, and has two objectives: 1. Increase the information on rice growth areas through remote sensing technology; 2. Provide access to insurance solutions for governments, agricultural intermediaries (cooperatives or rural banks) and individual farmers. The project is starting its 2nd phase and will look at developing its insurance chapter in target countries including Cambodia.

Contract farming as a way to reinforce farming communities. Contract farming links agri-businesses with small producers in a growing trust relationship, beneficial for all parties. Producers own their land and receive quality inputs and training associated with purchasing agreements that facilitate access to market. Rice millers and crop processors gain confidence in their value chains and invest in building resilience and sustainability, which in turn allows them to manage risks and advantage the company's growth. The *Agence Française de Développement* (AFD) in Cambodia has been working with private companies on contract farming for the last 10 years (particularly in the rice sector, see pilot examples' in the box below). Food processors are also gathering force. This is illustrated by the Cambodian Rice Federation which mainly represents rice millers and exporters who are willing to engage their suppliers with sustainable farming techniques, e.g. repair of damaged soils, rotation of crops to improve soil fertility, maximizing sustainable storage facilities, consolidating small plots to reach economies of scale, achieving energy efficiency through shorter and more efficient transportation, etc. to build the resilience of the supply chain.

PILOT EXAMPLES:

- Angkor Kasekam rice miller was one the first to introduce contract farming with a minimum price based on market. The company is now working with 50,000 farmers in 4 provinces (Kandal, Kampong Speu, Takeo, Kampot).
- Golden Rice miller is working with AFD on contract farming. The scheme is looking at farm mechanization and seeds-nursery. The company currently supplies high quality paddy to 50,000 farmers that produce around 100,000 tons or rice / year.
- Amru rice (largest rice miller and exporter in 2015) and Baitang, both use contract farming and farmers cooperation to ensure their supply chain grows fair and organic rice sustainably.

[116] http://www.climateinsurancefund.com

Promoting resilience through certification schemes. Under climate constraints, the use of organic fertilizers has direct positive impacts on soils and increases soil resilience to lack of water and temperatures increase. Some small-scale initiatives to promote organic production are led by research bodies and private initiatives, but institutional frameworks are missing and there is no national standard for organic production in Cambodia yet.

In parallel, commodity exporters in Cambodia have embarked on certification schemes that open the doors to a fast growing market. End-buyers and commodities traders such as Mars, Marks and Spencer, Carrefour, Olam are investing in the sustainability of their supply chain, to increase resilience to climate risks and other hazards (some pilot examples below).

PILOT EXAMPLES:

- The Sustainable Rice Platform (SRP) has launched the world's first standard for sustainable rice, which sets new and more efficient standards for rice cultivation, which should increase resilience of end-buyers supply chain. The SRP Standard for Sustainable Rice Cultivation uses environmental and socio-economic benchmarks to maintain yields, reduce the environmental footprint of rice cultivation and meet consumer needs for food safety and quality. Progress is measured against quantitative performance indicators.
- Confirel, known for its palm sugar products, is certified through a variety of schemes (AB, KH Bio 154, Jas Ecocert, USDA organic) to serve an export market that is increasingly looking at sustainable farming practices. Confirel is also using palm tree waste for gasification energy provision in its factories to reduce GHG emissions linked to deforestation.

5.4.2 Forestry

The forestry sector is a fairly modest economic sector in Cambodia (3.2% of GDP in 2011), but is relevant from a climate change point of view for its potential for both mitigation (carbon-sink) and adaptation (ecosystem-based). As in many other countries, Cambodia's forests are threatened by deforestation, mainly resulting from tree-clearance for agricultural production and infrastructure developments. Concessions for rubber, sugar-cane and biofuels have been expanded resulting in land-use changes from primary to secondary forests, erosion and loss of soil fertility and depletion of carbon sink capacity at the national level. At household level, wood remains the main and most accessible source for energy, despite the potential for renewable options (biomass or other).

From a climate adaptation perspective, healthy forests constitute a huge ecological asset. Beyond their carbon sink capacity, forests are essential for ecosystem-based adaptation. When managed sustainably they produce wood-fuels and other silviculture products that can contribute to the diversification of household livelihoods. Forests are also vital as a buffer to climate shocks and constitute a center-piece for sustainable management of soils and watersheds upon which climate-adaptation options are often reliant.

Private actors have had a secondary role in the sustainable management of natural resources, mainly driven by development agencies and conservation NGOs. Often, private companies have contributed to deforestation and natural resource depletion though large-scale land-concessions granted by government. Yet, private actors could also be a strong solution provider in a green growth and sustainable supply chain strategy, as the following examples illustrate.

The strong case for agro-forestry. Agroforestry is a land use management system in which trees or shrubs are grown around or among crops or pasture-land. It combines shrubs and trees in agricultural and forestry technologies to create more diverse, productive, profitable, healthy, and sustainable land-use systems. Agroforestry is a good alternative to land expansion and illegal activities that are threatening both the agriculture and forestry sectors. By adopting agroforestry techniques, a community of farmers can increase the range and value of their farming products, hence increasing and diversifying their revenues, while combating climate change through ecosystems conservation. The following examples are set in a protected areas context, developed in partnership with conservation NGOs and local authorities,

and engaging private actors in its up-scaling and replication.

PILOT EXAMPLES:

- IBIS rice is a typical example of agro-forestry, involving forest communities into organic rice produced near a protected area, as a way to reduce dependence on logging. The NGO project is transitioning into a social enterprise with business plans to scale up through diversification of products and cross-landscapes approach.
- Bambusa is a global and innovative initiative seeking to expand markets for bamboo products that value social impact, environmental stewardship, and balance of profits; currently working on a bamboo natural forest in the Eastern Plain Landscapes, in a forest surface of about 1,000ha that could become 12 million poles to be used for outdoor furniture, chopsticks, mat, construction poles, organic fertilizers). The company provides an alternative source of income to forest communities in the protected area of Phnom Prich Wildlife Sanctuary (in partnership with WWF) which in turn secures the conservation of the area.

Payment for Ecosystem Services. Natural capital valuation, including Payment for Ecosystem Services (PES), is a growing field of interest for corporate players active in natural resources management. Very broadly, PES is considered as any scheme that entails a monetary transfer for the purposes of ecosystem conservation. PES provides an opportunity for corporates to put a price on previously un-priced ecosystem services like climate regulation, water quality regulation and the provision of habitat for biodiversity, and hence anticipate and manage climate risks pro-actively, rather than repair damage at a higher cost. This is a strong option to make private actors contribute to conservation and support resilience to climate change of the entire country. The Reducing Emissions from Deforestation and Forest Degradation (REDD) schemes that create a financial value for carbon sink and ecosystem/land conservation functions of forests is the best-known example of results-based payment for ecosystem services. A National REDD scheme exists in Cambodia, hosted by the Forest Administration and strongly reliant on donors[117] as buyers of the verified REDD+ credits. Unlike in neighboring countries, there is no legal framework in Cambodia that explicitly defines other PES, although a variety of examples witness the growing interest and the potential for success, with at least three cases involving private actors (see pilot examples box below).

PILOT EXAMPLES:

- REDD+: Oddar Meanchey community forestry REDD+ (developed by PACT) and Seima Protection Forest REDD+ (developed by WCS) are two projects using a variety of forest management options relying on communities' alternative livelihoods and local governance capacity building. In the absence of national and international REDD+ legal framework at start-up, both were developed under voluntary carbon market methodologies, and generate carbon credits to be sold to corporate buyers willing to offset their carbon footprint by financing projects that reduce emissions of an equivalent volume.
- Biodiversity PES (community based eco-tourism, direct payment for bird nest protection, agri-environment payments). Payees in those cases are tourists, urban consumers, hotels and restaurants that are ready to pay a premium to access quality resorts that respect the environment.
- Watershed PES. In 2011-2014, Fauna & Flora International, with EU funding, explored a watershed PES scheme in the Atay River ("Stung Atay") catchment, to encourage investment in hydro-dam catchments in the Cambodian Cardamom Mountains.

Ecosystem-based adaptation and the landscape approach. Worldwide, conservation NGOs such as the World Wildlife Fund, the Wildlife Conservation Society, or Conservation International are transitioning from a pure conservation to a landscape approach, including a new drive in the fight against deforestation. Natural resources management programs increasingly involve private actors as a way to embed sustainability in the landscape and maintain ecosystem functions (carbon sink and climate buffer capacities). Some initial progress has been identified in Cambodia (see pilots box below).

[117] http://theredddesk.org/countries/cambodia

PILOT EXAMPLES:

- Conservation International has launched a Trust fund as a way to finance conservation activities through a sustainable landscape management approach. The fund is covering programs in the Cardamoms Mountains, but could also be used in the future by other protected areas in Cambodia under the management of the Forestry Administration. The activities not only involve authorities and communities but also private actors in the vicinity of the forests. The fund is managed by Blackrock, an investment broker based in Singapore and is seeking to raise up to USUSD8 millions.
- Landscape approaches may also be found within the supply chain of major international groups (such as Michelin, Marks and Spencer, Golden-Agri, Nestlé, Olam) looking for deforestation-free products. Those groups have made commitment to zero deforestation, but how to get there is still a central question. In Cambodia, Impact in the Forest initiative (a common project by WWF, Impact Hub, Ennovent and Clarmondial) provides an opportunity to climate-proof supply chains. The program consists of four building-blocks: community enhancement through cooperatives, innovation and business development support, access to finance and forestry certification schemes.

5.4.3 Fisheries

Cambodia's fisheries sector is badly impacted by climate change. Rising ocean temperatures and ocean acidification in the South-East Asian region are altering aquatic ecosystems. Climate change is modifying fish distribution and the productivity of marine and freshwater species. This has impacts on the sustainability of aquaculture and fisheries and on the livelihoods and food security of the communities that depend on them, with fisheries being the main source of income for 46% of the Cambodian population. Sea level rise is already affecting coastal fishing communities in the front-line of climate change, while changing rainfall patterns and stress on water resources impact the inland fishing communities relying on freshwater aquaculture. Additionally, there is a strong link between vulnerability of fishermen and large hydropower plants, key to domestic power supply. These carry significant environmental risks through disturbance of flood cycles, nutrient flows, sediment transport and migratory fish breeding, that risk having negative impacts on fisheries and food security. With fishing communities being responsible for nearly 90% of the fish capture in Cambodia, any program led by government, donors or the private sector needs to put communities at its core. A few climate-adaptation solutions are under development in Cambodia (mangrove restoration, inland conservation, sustainable aquaculture) but have not yet reached scale. Building the resilience of the entire supply chain (fishermen, infrastructure, processors) will be a key to success.

Mangrove and coastal restoration. Mangrove and coastal ecosystems are particularly sensitive to climate impacts, and their degradation can further intensify vulnerability since their impact-buffering function is diminished. Restoration of mangrove forests can protect shorelines from erosion and provide breeding grounds for fish. A few mangrove restoration programs are active in Cambodia and include fishermen as private actors adapting to climate change.

PILOT EXAMPLES:

- The 'Coastal Fisheries resources protection and conservation' program in Kampot is managed by the Fisheries Action Coalition Team, with technical support of GIZ and financing from the Global Nature Fund. Activities include environmental education, mangrove nursery preparation and replantation, cash crop plantation, demonstration garden, species inventory. By Dec. 2015 the program had provided 60,000 mangrove seedlings on 25 Has..
- The fishery department of the MAFF is currently considering options for REDD+ projects in Koh Kong, Kampong Som and Kampot provinces that would rehabilitate mangrove forests as a carbon sink. These on-going plans include high commitment of fishing communities.
- Through its private Foundation, the Songsaa luxury resort (in Koh Rong) is actively engaging fishing communities in the promotion of Cambodia first marine reserve. The conservation plan covers 1 million square meters, and the company is investing resources in research, monitoring and knowledge management (alliances with universities in Australia and New Zealand), environmental education, land conservation and management of the marine reserve.

Inland conservation programs. Cambodia's Tonle Sap is the largest lake in Southeast Asia. Its size more than quadruples during the monsoon season, flushing the region with water and a variety of fish. The inland water system associated with Tonle Sap and its surrounding flooded forests constitute an

important climate buffer zone: purifying waters, protecting communities from storms and other extreme weather events and providing some 500,000 tons of fish capture each year. But Cambodia's flooded forests are at risk from unsustainable human activities. Since 2008, fishermen and local communities have been working with Conservation International to ensure that Tonle Sap Lake and its floodplain remain a healthy freshwater ecosystem able to support Cambodia's people, wildlife and economy. This is a flagship adaptation project for farmers/fishermen of the Tonle Sap area that seek to diversify their livelihoods and introduce adaptation measures (sustainable fishing practices), thus putting less strain on natural resources. The NGO and its local partners lead an effort to replant and protect flooded forests in key areas in order to increase wildlife habitat and improve the fisheries' productivity, while also working with local governments and community ranger patrols to prevent illegal fishing and install artificial reefs in critically threatened habitats.

Sustainable aquaculture programs. Aquaculture in Cambodia in mostly seen as a small-scale farming system, only providing supplies to the domestic market. Yet, a few medium-sized enterprises have started to export raw fish (mainly Tilapia, Grouper and Snapper) to Vietnam and Thailand. Aquaculture can be considered as a climate adaptation strategy in itself. It favors intensification of production over expansion and it constitutes an alternative to over-fishing and depletion of marine and freshwater ecosystems. But aquaculture needs to be deployed in a sustainable manner. In Cambodia, the ASEAN Good Aquaculture Practice (GAP[118]) for food- fish guidelines are applicable. To date, the limited contract farming agreements and the lack of infrastructure (for processing, freezing and storage facilities) have constituted challenges to further expand aquaculture investments. The WorldFish's partnership with the Fisheries Department of the MAFF, is a good pilot program on sustainable aquaculture. WorldFish focuses on increasing productivity for small-scale producers while minimizing impacts on the environment by improving resource management technologies and securing access to essential inputs. With an improvement of connections to national and regional markets, this program could secure purchase agreements and higher revenues for the fishing communities and cooperatives.

5.4.4 Tourism

Tourism in Cambodia has more than quadrupled its economic weight in the last decade. In 2014, it constituted 16% of GDP and it remains one of the most promising sectors for economic growth. The industry is almost completely run by SMEs (local transporters, guesthouses, restaurants; etc.) that don´t necessarily engage in climate action. Pressured by other market forces, large international groups in the tourism sector (such as Sofitel[119] or Intercontinental) and private luxury hotels (such as Shinta Mani, Aman, Songsaa and 4 Rivers) are claiming corporate social and environmental responsibility credentials and rapidly sophisticating their approach to climate change.

The tourism sector is exposed to climate impacts in different ways. Coastal tourism infrastructure is put at risk by sea level rise and by ocean acidification compromising water supply. Natural resources and ecosystem´s biodiversity are also affected by climate impacts and could affect ecotourism resorts in the long run. The sector also faces impacts of a more general nature: more expensive insurance resulting from increasing frequency of extreme weather events, and increasing conflict over natural resources affecting communities in which companies operate.

Private climate-related investments in tourism are sprouting and have a good replication potential given the rapid growth of the industry and the multiplicity of its actors. Large hotel chains are currently leading in climate-related activities both in the area of mitigation (energy efficiency and use of renewables - encouraged by initiatives such as the Accor Planet 21 Program; and responsible management of water resources and waste and of adaptation, mainly by introducing resilience criteria in supply chains and investing in ecotourism (see below).

[118] http://www.asean.org/storage/images/2015/December/publication/Guidelines%20on%20ASEAN%20Good%20Aquaculture%20Practices%20ASEAN%20GAqP%20for%20Food%20Fish.pdf

[119] http://www.accorhotels-group.com/en/sustainable-development/the-7-pillars-of-planet-21/carbon.html

Ecotourism offers vast opportunities in Cambodia. The country has the potential to meet a growing demand for a responsible tourism supporting biodiversity and conservation. Eco-tourism, as defined by the International Ecotourism Society, is "responsible travel to natural areas that conserves the environment and improves the well-being of local people". It prioritizes conservation, communities' livelihoods and education while also allowing tourists to gain new experiences and enhance their worldview through a mind-full interaction with the ecosystem. Ecotourism certification schemes and Awards are incentivizing private investments in sustainability and resilience in the expansion of the tourism sector.

PILOT EXAMPLES

- 15-20 Community Based EcoTourism (CBET) sites are already active in Cambodia, with the most established one being the homestay and adventure tour in Chi-Pat in Kho Kong province. This CBET initiative works with communities on forestry management, diversifying income generation through silviculture associated with tourism activities, and deterring illegal logging.
- A few awards for clean hotels are in place in Cambodia such as the Eco-Award (launched by the Prime Minister in partnership with the MoE and MoT); a Cambodian Clean City Standard award, and a newly launched ASEAN Clean Tourist City award that plans to enhance the ability of ASEAN countries to address the climate change issues within the tourism sector.

5.5 Current investments, barriers and potential to scale up private engagement

5.5.1 Relevant estimations on current private investments

Based on interviews with key informants and private actors in Cambodia and on the application of CPEIR climate weighting methodology to private investments (from "climate-specific" to "marginal climate-relevant" transactions), the NCSD/CCCA (2016) study offers three figures that shed light onto the private climate finance mobilization in Cambodia:

- An estimated USUSD185 million were invested by private actors in climate related projects over the period 2013-2016. As advised by the study's authors, this figure should be treated cautiously, as typically companies in Cambodia do not account for their climate investments and the 65 stakeholders interviewed for the study is only a sample.
- The agricultural sector accounts for 71% of the private climate investments recorded, which reflects the importance of climate impacts in this sector. This also may reflect the growing awareness of the private actors on the urgency to act, as they have often been the first hit (households and local communities in particular).
- Public climate finance to support private initiatives originates for the most part from international sources that provide investment finance and/or technical assistance.

5.5.2 Barriers hindering private investments in climate action in Cambodia

After a review of each economic sector relevant to climate action, the DCC/NCSD/CCCA 2016 study has identified five generic barriers that hinder engagement of private actors in climate friendly investments in Cambodia. It is important to note that the analysis of barriers does not distinguish between mitigation or adaptation investments. And the generic barriers identified tend to focus on mitigation (for a generic analysis on challenges for private investments in adaptation actions, please see section 5.1 above). Also, most of the barriers identified by the study are connected to institutional capacity issues and many of them are cross-cutting across economic sectors. The main barriers identified are as follows:

1. **Lack of information/guidance** on innovative and low-carbon and/or climate-adaptation technologies, possibly combined with a social resistance to change. This represents a challenge for the introduction of new products that need to face behavioral changes among other costs. One example is the fact that 80% of Cambodian households continue to use charcoal or wood for domestic cooking, while raising living-standards would allow them to cook with electric stove or gas.
2. **Insufficient access to finance**.

Some climate friendly solutions do not find access to finance due to the size of the informal sector and lack of suitable financing products from banks or microfinance institutions. For a number of climate solutions, only finance from development partners allows for piloting and replication experiences. Access to adequate finance has been identified as a major barrier to the up-scaling of private sector engagement in climate responses in Cambodia. Overall, there is a rather modest level of engagement of national banks in climate action, mostly due to a lack of information and sensitization on climate change, but also to a low rate of loan financing for companies in Cambodia.

Technology innovations themselves are often not adapted to the Cambodian context and need to be imported from neighboring countries. For instance, rice millers interviewed acknowledged that rice husk gasification equipment coming from 2-3 different countries could not be assembled. This created additional costs, time and resources spent in procurement, tests, adjustment and maintenance of the different components.

3. **Human resources and skills**.
   Engineers and technical experts qualified in energy efficiency or renewable energy, climate agronomists, or green finance analysts are lacking in the Cambodian labor market, which hinders the development and implementation of climate friendly activities (or else makes them reliant on international expertise which increases costs). Educational and training facilities are scarce and do not yet meet the human resource needs of a green economy. A few vocational training centers are financed by companies that seek to nurture their pool of skilled workers, but these only feed a small portion of the job market demand. The Institute of Technology of Cambodia and the Royal University of Agriculture have recently opened new education departments, on renewable energies and climate smart agriculture respectively, but mainstreaming these topics in their education systems will require time and public investments.
4. **Lack or inadequacy of policy and regulatory frameworks**
   Cambodia has a number of national-level policies on climate change (see Chapter 1), yet concrete, time-bound targets and road maps are missing or lack ambition. Some policies exist but have not been sufficiently developed and formally adopted or are not implemented. For example, regulations on land-use are poorly enforced due to the lack of institutional capacities, but also because of land tenure issues. Some markets are either not regulated, e.g. chemical fertilizers versus organic; imported vehicles; building codes, Payment for Ecosystem Services, or experience regulation-enforcement issues, e.g. illegal logging. This in turn creates an unsecure framework for climate-friendly investors that are bound by international compliance, and experience difficulties in operating in a context of weak law enforcement.

Together, these barriers create **missed opportunities** for pro-climate investments, particularly coming from 'quality investors', which would be looking at longer-term development goals in the country where they operate.

5.5.3 Potential to scale up private investments in climate action in Cambodia

Despite the generic barriers identified, the DCC/NCSD/CCCA study signals high potential for scaling up some of the private sector led climate activities identified in Cambodia. Based on respondents' answers, the main drivers for private climate investments relevant to adaptation in Cambodia, are summarized as follows:

1. **Supply chain resilience** *(Relevant to adaptation)*: Companies face increased risks as a result of climate change (e.g.: supply chain risks such as availability/cost of materials; business continuity of suppliers, etc.). Solutions to secure a constant supply of commodities include strengthening suppliers resilience, compliance, community engagement and land management practices;
2. **New market opportunities** *(Relevant to mitigation and adaptation)*: The young, dynamic and growing domestic customers (in Cambodia, 70% under the age of 30) will soon change their purchasing habits partly influenced by social media conveying responsible consumption habits, which in turn may open markets for environmentally-friendly products/services. Export products

are also increasingly searching for green and responsible products as seen in the growing market share of organic products.

3. **Compliance** *(Relevant to mitigation and adaptation)***:** Foreign owned companies **–** or Cambodian companies with business links abroad – are expected to comply with those requirements, whether it's a "climate-friendly", a "zero-deforestation product line", etc. This trend acts as a driver for more climate investment, and can have positive spillover effects.
4. **Access to essential services** *(Relevant to mitigation and adaptation)*: Clear links between climate investment and SDGs (Sustainable Development Goals) co-benefits is an additional motivation for private investors as a way to align and match their social/development targets.
5. **Build new skills and a strong workforce** *(Relevant to mitigation and adaptation)*: There are significant gaps in technical capacity to address the demand for new skills in sustainable development. These gaps are a strong driver for private companies to invest in their own training centers to ensure supply of a skilled workforce capable of delivering new products on new markets.

The potential to scale-up private sector engagement in climate action may be found in all sectors, but from the point of view of national adaptation priorities, Agriculture and Forestry are the two most relevant sectors where success factors for up-scaling need to be identified and spurred (see box below).

Potential to up-scale investments in two adaptation key-sectors: Agriculture and Forestry

- Respondents to the NCSD/CCCA study agree there is a plethora of new business opportunities for the private sector to invest into **climate smart agriculture practices**, from ICT service provision (remote sensing yield information through drones) to climate proofing inputs to the supply chain (resilient seeds, organic fertilizer), risk coverage services (crop insurance, micro-credit through cooperatives), or sustainable farming technologies (mechanical tillage, irrigation systems). Recommendations from the Asian Development Bank are that the Cambodian agri-industry will have to endorse the change to remain competitive with neighboring countries. Respondents to the study also agreed that they would invest more (i.e.: open new factories, develop an new export line) if barriers, such as inefficient value chain, land tenure, adversity to risk, were addressed.
- In a sustainable forest management framework, **timber export** could be streamlined (ease at customs, no hidden fees), the limited number of forestry companies could grow, increasing the value of the forestry sector. According to respondents, the potential is estimated in tens of millions of dollar a year.

The engagement of private investors in the response to climate adaptation related challenges in Cambodia has been timid and difficult to scale up. However, some opportunities have been identified in climate sensitive sectors such as agriculture, fisheries, forestry and tourism. Some of the existing experience at national and regional level may provide hints and hooks for further engagement of private actors in the NAP's 40 priority actions. Some specific measures are proposed in the concrete steps of the Implementation Plan (see Chapter 6 and Annex III). The DCC/NCDS/CCCA study that has informed this Chapter includes some broader recommendations on how to enhance the engagement of private actors in general climate responses in Cambodia (see Annex I for details).

Chapter 6. Towards a NAP Financing Implementation Plan

A key tool in the NAP process is the development of its Implementation Plan. Its design should incorporate concrete actions to trigger the implementation of NAP priorities in the short-term, should facilitate potential synergies with other climate programs in the mid-term, and should enhance the country's capacity to further plan and implement adaptation measures in the longer-term. The development of a NAP requires an iterative process. A number of aspects need to be expanded to achieve a robust and complete NAP Financing Framework Implementation Plan:

- Further data-gathering (e.g. on climate risks and vulnerability),
- Further assessments (e.g. on institutional capacities), further prioritization exercises (e.g. updating and fine-tuning the selection of "Priority Actions"),
- Further coordination efforts (e.g. to be able to tap potential synergies) and
- Further capacity building (e.g. to get "climate finance ready").

The actions and recommendations captured in this Chapter are intended to provide guidance on the ways forward for mobilizing resources (mostly international, but also domestic) to allow the NAP implementation process to proceed in a swifter and more effective manner. The NCSD (with support from GIZ) has led a planning exercise to present a first iteration of the NAP implementation plan in Cambodia. The process had two phases: the first was undertaken in 2016 and led to the identification of the set of 40 Priority Actions for the NAP. The second, was undertaken in 2017 and is intended to trigger implementation of short-term actions, when possible. Further, its mid-long term recommendations can nurture a process that could facilitate a more effective planning and implementation process in the future. This three-steps approach is mirrored in this Chapter.

6.1 Prioritization of actions within the NAP process

The UNFCCC/LEG Technical Guidelines suggest steps and indicative activities for the development of NAP implementation strategies. Logically, prioritizing actions for the NAP is the first element of the plan (see Table 23).

Table 23: Suggested steps on implementation strategies for the NAP Process (LEG, 2012)

Steps	Indicative activities
Element C. Implementation strategies	
1. Prioritizing climate change adaptation in national planning	a. Define national criteria for prioritizing implementation based on, inter alia, development needs, climate vulnerability and risk and existing plans b. Identify opportunities for building on and complementing existing adaptation activities
2. Developing a (long-term) national adaptation implementation strategy	a. Define a strategy for the implementation of adaptation actions including target areas or beneficiaries, responsible authorities, timing, sequencing of activities and mobilization of resources b. Implement concrete adaptation measures based on the national adaptation plans through policies, projects and programmes
3. Enhancing capacity for planning and implementing adaptation	a. Strengthen institutional and regulatory frameworks for addressing adaptation in the long-term at national and sectoral levels b. Design and implement training on the NAP process on an ongoing basis at sectoral and subnational levels to facilitate adaptation planning at subnational levels c. Implement outreach on NAP process outputs at the national level and promote international cooperation
4. Promoting coordination and synergy at the regional level and with other multilateral environmental agreements	a. Promote coordination of adaptation planning across sectors b. Identify and promote synergy in assessment, planning and implementation of adaptation at the regional level as appropriate c. Identify and promote opportunities for synergy with other multilateral environmental agreements in the formulation of respective plans, in capacity-building and during implementation

6.1.1 Prioritization approach in Cambodia

In 2016, the NCSD (with technical assistance from GIZ) decided to assess all the CCAP actions against their potential to be funded, effectively adopting the "fundability" of actions as the first prioritization *criterion* for the NAP implementation plan. NCSD decided to focus on "Priority Actions" (identified in the ministries' CCAPs - see Chapters 2 and 3) that are not been financed or only partially financed. This first screening, led to a long-list of 148 actions[120] out of the total 171 actions in CCAPs.

To ensure country ownership and alignment with pre-existing plans, CCAP Priority Actions were pre-selected when they corresponded with:

1- Actions put forward in Cambodia's INDC, and
2- Actions identified in response to the request by the PM to respond to the recent flood and droughts in 2017/18 (see Chapter 3).

The next step was to identify the most *fundable* actions, based on selection criteria used by international climate adaptation funds (i.e.: those of the Green Climate Fund[121] and the Adaptation Fund[122]). Hence, the prioritization for the NAP implementation plan adopted the following criteria:

- Impact potential. The long-list actions were screened in terms of their direct, tangible impacts on the ground favoring vulnerable/affected population groups, as opposed to activities that require a lot of intermediate steps to generate mid-term outcomes.
- Transformation potential/ "Paradigm shift". Actions that cover significant elements of policy and strategy development and which generate climate-specific knowledge and information systems were prioritized. These have the potential to trigger systemic change as compared to more localized changes in pilot-projects.
- Sustainable development potential. Actions that have the potential to generate direct economic opportunities beyond just reducing the potential damage and loss due to climate-related impacts, and actions offering environmental co-benefits (i.e. following the paradigms of green growth) were pre-selected. Projects considering gender issues were also prioritized.
- Needs of recipients. From the long-list, actions that have: (i) a leading institution with capacities in place to successfully implement projects and with previous experience with climate-related activities; and (ii) a potential to build capacity were all prioritized.
- Effectiveness/Efficiency. In the absence of any economic analysis for most of the actions in the CCAPs' long-list, 'cost per beneficiary' was used as proxy indicator for efficiency.

Through this approach, the screening covered a good range of the criteria that are used by multi- and bilateral climate funds, thus providing a good indication of general *fundability*[123] of the Priority Actions short-listed. Yet it should be noted that for most of the selection criteria, the Priority Action "project fiches" in the CCAPs provide insufficient information (lack of basic data, vulnerability assessments, economic costing, etc.) to guide the assessment of compliance with the screening criteria. Proxy indicators and expert judgment had to be applied to overcome this problem. In the future, it is advised that all of the CCAPs be enhanced with cross-sector climate vulnerability assessments. These will not only contribute to inform strategic sectoral plans, they are also necessary to develop project proposals and detailed budgets for 40 Priority Actions included in the NAP and to be brought to implementation phase.

6.1.2 The short-list of 40 Priority Actions

From the long-list of 148 un-funded actions and in order to prioritize those that the financing framework should focus on, a score was generated combining 15 indicators with varying weights, all derived from

[120] This number is based on a previous report by Ricardo (2016) and may need to be adjusted in the future to a smaller number if all CC-related CDC projects are tracked and reported against the CCAP priority actions
[121] https://www.greenclimate.fund/documents/20182/239759/GCF_Concept_Note_User_s_Guide.pdf/64866eea-3437-4007-a0e4-01b60e6e463b
[122] https://www.adaptation-fund.org/wp-content/uploads/2015/03/Review-Criteria-5.12.pdf
[123] http://cdkn.org/2016/08/feature-climate-funds-face-tension-country-ownership-pressure-disburse-funding/?loclang=en_gb

the set of criteria above. The 40 actions ranked highest have been identified by the NCSD as Priority Actions for the NAP implementation plan. The NCSD has also sought to ensure some degree of balance across sectors in its choice. The list of 40 Priority Actions resulting from this process is captured in Annex II. An initial review of the short-list of 40 Priority Actions indicates:

- There is a mixture of actions with potential tangible impact on the ground and actions that seek to address knowledge or capacity gaps at institutional level.
- There is a clear need to further develop some gender-sensitivity of CCAPs' actions (the unavailability of gender disaggregated data may be a hindering factor).
- Most of the actions are at an infant stage of planning/formulation (e.g.: only a few CCAP "project fiches" have identified clear targets and have provided a sound cost assessment).
- Most of the implementing entities have previous experience in dealing with climate change, but few have in-house expertise in directly managing climate funds (e.g.: there is no national institution accredited to either the AF or the GCF yet).
- At least four of the actions prioritized for the NAP are actually "mitigation" oriented (e.g.: most of the priority actions in the Forestry and in the Livestock sectors), so their adaptation co-benefits will need to be explored and their relevance to the NAP confirmed.
- Some of the actions prioritized would have received international funds (at least three actions are partially under implementation with PPCR funds (SPCR phase II, and some MOE activities expecting CCCA funds in 2017), and/or are directly or indirectly benefitting from domestic budget allocations (e.g.: MOWRAM on-going plans and projects to rehabilitate irrigation infrastructure, captured as Priority Action 15 in the short-list).

Finally, while the 40 Priority Actions shortlisted encompass CCAP projects expected to be more likely to attract international funding, it should be noted that: (i) some of those Priority Actions are still not readily fundable and (ii) some of the CCAP projects that have not been shortlisted may still remain very relevant to build climate resilience at national scale.

6.2 Analysis of the 40 Priority Actions to inform the NAP implementation plan

6.2.1 Analytical framework

Once the short-list of 40 Priority Actions was cleared by the NCSD in late 2016, the second phase of the NAP implementation plan process took place in early 2017. A number of stakeholders relevant to the implementation of the NAP in Cambodia (including the 15 climate-sensitive institutions responsible for the CCAPs, development partners and civil society organizations) were invited to a Multi-stakeholder consultation organized by NCSD (with GIZ support) in Phnom Penh in February 2017. Participants to this event undertook a collaborative analysis of the 40 Priority Actions shortlisted for the NAP, based on the following analytical dimensions that shall inform the implementation plan in different ways:

ANALYTICAL DIMENSIONS INFORMING THE NAP IMPLEMENTATION PLAN

1. **TARGET- (Expected to inform the packaging of this action and the choice of potential funding sources**)

   Are the relevant beneficiaries from the Priority Action precisely identified (e.g.: groups, geographical areas, authorities - regional, national, sectoral, sub-national). How has the target been identified/prioritized? Was there a vulnerability assessment undertaken (number/type of beneficiaries)? Does it integrate gender-disaggregated data?

2. **TYPE OF INTERVENTION- (Expected to inform the sequencing, type of funding sources and packaging actions)**

   What type of investment is needed for this Priority Action: SOFT investments (e.g.: assessment, study, research, capacity building, service delivery, etc.) or HARD (capital, technology, material procurement)? Will this intervention have a GROUND-IMPACT? (e.g.: benefits for people/ households/ producers/ communities)

3. **SYNERGIES/COORDINATION- (Expected to inform the packaging, the sequencing and the financing options)**
   Is this Priority Action linked to planning documents/ Gov. mandate (8 Strategic Objectives in the CCCSP, INDC priorities, PM drought/floods response, etc.)? Identify opportunities to build on/complete other relevant initiatives (e.g.: on-going programs at Regional, National, Sectoral or Subnational level). Could there be co-finance potential with those programs (USD, in-kind inputs, risk-sharing, etc.)?
4. **IMPLEMENTING PARTNERS- (Expected to inform the financing options, choice of potential funding sources and mid-long term needs)**
   Who are the relevant actors who can contribute to the implementation? What institution is best placed to lead on implementation? Has the leading Implementing Institution managed climate funds before (e.g.: from GEF, AF, IFAD, PPCR, etc.)? Does this institution have capacity to manage grants? loans/debt? Does it have a safeguards (social/environmental) system in place?
5. **FINANCING- (Expected to inform the choice of funding sources and of financing instruments: public/private; domestic/external, grants/loans, multilateral/bilateral)**
   Have the financial needs for this activity been properly estimated (cost estimation, CBA, budget; capital investment vs recurrent costs)? Is it partially funded (by whom, for what amount)? Is it already integrated in national/sectoral budget (PIP form)? Could this activity potentially generate financial profits/returns (ROI)?
6. **PREPAREDNESS- (Expected to inform the sequencing and long-term needs within the Implementation Plan)**
   At which stage is the project? Preparation/formulation phase? Ready for implementation ("fundable" and/or "bankable"? How soon could implementation start if financial resources were allocated? Rank: PREPARATION PHASE; NEAR IMPLEMENTATION PHASE; "ENABLING ENVIRONMENT" action (Refer to project cycle diagram)
7. **TIMING- (Expected to inform the sequencing of steps to be taken in the implementation Plan**
   Identify time constraints to be taken into account for implementation of this priority and/or for the mobilization of resources (e.g.: planning processes, budget cycles, pre-requisites to comply with, political clearance, technical endorsement (e.g.: NDA, donors' calls for proposals, national institution accreditation, etc.).
8. **CROSS-CUTTING ISSUES– (Expected to inform the mid-long term plan: strategic measures that will enhance the capacity to implement priorities/further adaptation actions)**
   Is there any gap (information, knowledge, tools, institutional capacity) that is hindering (a) the project formulation, (b) the access to funds; (c) the implementation of this action? Identify common gaps/constraints encountered (e.g.: institutional capacity, portfolio development, regulatory framework, etc.) and Identify activities that could improve the enabling environment (e.g.: capacity development, training, regional exchange, accreditation, policy change, coordination mechanism, knowledge management, etc.).

6.2.2 Results from the analysis

Based on these analytical dimensions, on the information available in the CCAP "Project Fiches" for each of the 40 Priority Actions and on expert judgment (national stakeholders' knowledge of the sectors relevant to the NAP and of the institutional settings in each of the climate-sensitive-institutions), participants to the Multi-stakeholder Consultation, helped to classify the 40 Priority Actions into three different groups:

D) Priority Actions near implementation stage:
Adaptation projects at formulation stage (with different levels), hence for which implementation could be triggered in the short- term (within approximately one year time-span), if funding proposal is approved. An estimated 30% of the NAP actions fall in this group.
Some concrete next steps are identified for these projects under the *Short-term Implementation Phase of the NAP* (see next section).

E) Priority Actions under preparation stage:

Adaptation projects, concept notes or ideas that need to be further formulated and/or better sustained institutionally to be apt for implementation (in over a year time-span). An estimated 60% of the NAP actions fall in this group.
Some recommendations to facilitate further development of these projects are identified under the *Mid-term Implementation Phase of the NAP* (see next section).

F) Priority actions contributing to the NAP enabling environment:
Cross-cutting and/or sector-wide initiatives that are necessary to facilitate the implementation of the NAP. An estimated 10% of the priorities for the NAP fall in this group. Some suggestions on ways forward for these initiatives are explored under the *Continuous and Long-term Implementation Phase of the NAP*.

For a detailed analysis of the 40 Priority Actions, based on the analytical framework adopted in the Multi-stakeholder Consultation, see Annex III.

6.3 Phases of the Implementation Plan for NAP Financing

6.3.1 Short-term Implementation Phase (minimum timespan of one year)

Out of the NAP's short-list, a selection of 13 Priority Actions appear to be at an advanced stage of formulation. This is based on the information contained in the CCAP project fiches, the assessment of the experts that assisted NCSD in the "Costing of and mobilizing funds for climate adaptation projects" mission in 2016 and the extra inputs provided by the sector representatives in the Multi-stakeholder Consultation in 2017. These projects are classified as being "Near Implementation Stage", i.e.: they could be ready for implementation provided some follow-up measures are taken, which would need **a minimum time-span of one year on average**. Table 24 explores these projects, suggesting some next steps and potential funding sources and synergies to be explored.

Within the short-list of 40 Priority Actions, two projects have been identified which are not at "Near Implementation Stage" according to information in the CCAPs, but, based on expert judgment, should be fast-tracked and hence should be included in the Short Term Implementation Phase due to their critical relevance to the design and implementation of other projects in the NAP. These are:

Priority Action 28: "Improve capacity for flood and drought forecasting and modeling for technical offices at national and sub-national level". This priority action is crucial as developing climate knowledge is a pre-condition to undertake climate vulnerability assessments and guide climate action to where it is most needed. An estimated budget of USD2 million has been requested in this action's project fiche, but there is little detail about the activities' plan and institutional arrangements, e.g.: How is the information centralized and processed? How is it made accessible to end-users? An allocation of funds is expected from ADB to support the Department of Hydrology and the Department of Meteorology in strengthening the climate data collection and processing in Cambodia. Subject to the ADB allocation of funds (amount, purpose, delivery time), other complementary sources could be mobilized to expedite such a critical Priority Action for the implementation of national and sectoral adaptation priorities. For example, technical support programs from the World Meteorological Organization[124] (WMO) or assistance from the Hydromet[125] program of the Global Facility for Disaster Risk Reduction (GFDRR) have been useful to other countries in addressing similar issues. Next steps for project development: 1st, further estimate current needs to complement/expand the CamClimate service developed by CCCA under NCSD; 2nd estimate the financial support needed (based on 1); 3rd: Approaching potential donors (here: SPCR/ADB, WMO, GFDRR) and formulation of project proposal following potential donors' template.

Priority Action 40: "Conduct national and sectoral vulnerability assessments". This is a critical priority action to the future implementation of the NAP and to enhance effectiveness in the quest to build

[124] http://www.wmo.int/pages/summary/progs_struct_en.html
[125] https://www.gfdrr.org/hydromet

resilience across communities and economic sectors. So far, the NCSD has managed to secure some seed-support from CCCA grants to lead on this Priority Action, and to prepare guidelines on conducting vulnerability assessments at sectoral level. Yet, further engagement from both from line-Ministries and sub-national authorities would be necessary. The lack of vulnerability assessments is hindering the development of adaptation projects that lack data to specify and justify geographical and socio-economic targeting. Further support should be mobilized for this critical project. Potential financing sources could be: the SPCR's "Mainstreaming of Climate Resilience into Development component (encompassing a "capacity building and knowledge management" package); the EU/GCCA with an emphasis on knowledge management and sectoral approaches to NAP implementation and the UNDP/UNEP Support Programs for the development of NAPs and of National Communications that include more and more precise vulnerability assessment studies. Next steps for project development: 1st, Identify supplementary needs (e.g.: technical guidance/support, data generation, etc.) and estimate associated financial needs; 2nd: Approach potential donors (here: SPCR/ADB, GCCA/EU, UNDP/UNEP National Communications support) and formulate the project proposal according to funders' templates.

→ Detailed budgeting as a common challenge for projects at "Near Implementation Stage": A common gap in most of the 13 projects at "Near Implementation Stage" is the need to provide details on the costing of activities and to develop a detailed budget for implementation. In 2016, the "Costing and mobilizing funds for climate adaptation projects" expert mission already undertook a preliminary analysis of the costing of Priority Actions and an assessment of the institutional capacities within line-ministries to develop budgeting proposals, concluding that:

- The capacity to create a detailed budget either exists or can be developed in many ministries
- Some ministries (e.g.: MOE) have a standard costing system as part of their IT accounting system in the planning departments, enabling for an easy definition of budgets for simple activities. For more complex undertakings, external consultants are usually employed.
- Budgets for specific activities could be developed to approximate the estimates in CCAP project fiches, but these did not involve Cost-Benefit Analysis, Detailed Budgets or estimation of Return Of Investment (in cases of economic profit generating activities), which should be developed (as needed) as part of the project formulation phase.
- Many estimated costs associated with planned CCAP actions are based on 'previous experience.' Therefore, until the technical specifications have been determined, project fiches' budget provisions should be considered as "guestimates".

The institutional capacities of climate-sensitive ministries sufficed to develop CCAP plans with rough financial estimations. When national institutions enter the project development, the level of detail necessary in the budgeting phase of a project formulation to make it readily "fundable" will be higher. In order to bring the 40 Priority Actions into the implementation phase, each line Ministry and/or Implementing partner will need to expand on a sound and detailed budget estimation. External support for project development is likely to be required, either having recourse to Multilateral Entities (UN Agencies, MDBs, etc.) for project implementation and/or through applying for Project Preparation Grants (PPG).

→ Seeking support for project preparation: A PPG would facilitate the development of more robust funding proposals and would address other gaps in projects' design and formulation, including development of vulnerability studies and baselines to identify targets. It is important to recall from Chapter 4, that a number of multilateral funds (including the GEF[126], the AF[127] and the GCF[128]) offer this type of grants to applicants. In some cases, the preparation phase may need to be significantly expanded

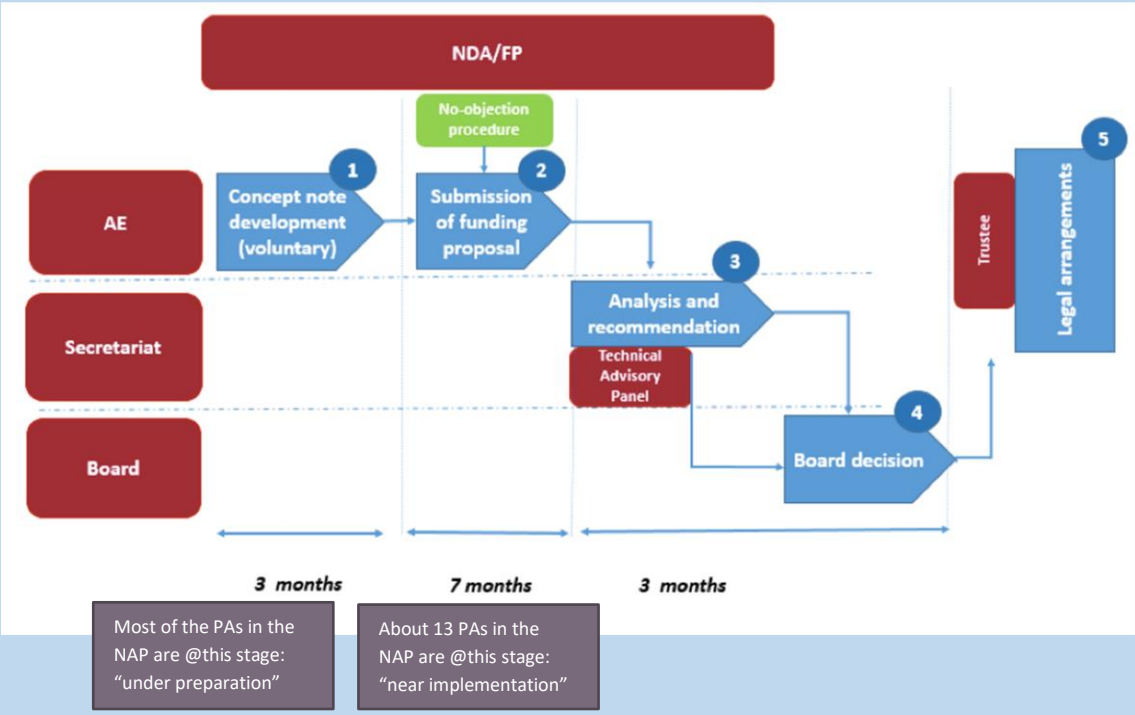
[126] GEF Project Preparation Grants: https://www.thegef.org/sites/.../PPG_Template-Dec2013_0.doc
[127] AF Project Formulation Assistance Grants: https://www.adaptation-fund.org/readiness/readiness-grants/project-formulation-assistance-grants/
[128] GCF Project Preparation Facility Guidelines: https://www.greenclimate.fund/documents/20182/466886/Project_Preparation_Facility_Guidelines.pdf/f8b62701-a9ca-4b1e-9e23-e67f1b88abd4

if the existing knowledge base is too shallow compared to requirements (technical specifications, feasibility studies, etc.)

Also, bilateral donors and development agencies that have presence at country level may be able to provide technical assistance for project formulation when national institutions apply to their climate funds, e.g.: UNDP Country Office with access to GEF Regional Advisors, EU delegations for GCCA, DFID offices for ICF, IFAD for the ASAP.

Chapter 4 has offered a review of the main bilateral and multilateral donors that could be relevant for the Cambodia's NAP financing, in light of their interests, priorities and funding requirements. Based on this, some suggestions are provided (see Table 24) to explore funding sources for those Priority Actions at "Near Implementation Stage". The next step of the process is to contact specific funders, confirm eligibility and potential interest and formulate fundable project proposals, following the selected donor's guidelines, process and templates and, when available and necessary, tapping their project preparation mechanisms and grants. The three boxes below provide some practical guidance and information on where to access guidelines and templates for project preparation and formulation to develop the Priority Actions selected in the NAP; as well as leads to explore different support lines offered by the major international funds.

Overview of the generic project management cycle for international funds (steps and actors involved)



Adapted from: Acclimatize/ IIED/ICCCAD, 2017:
https://www.acclimatise.uk.com/login/uploaded/resources/GCF%20project%20Toolkit_20.01.2017_For%20Publication.pdf
NDA/FP: National Designated Authority/Focal Point; AE: Accredited Entity (can be international, regional, national or sub-national)

Links to relevant information for the next phases leading to implementation

- **Leads t phases of project cycle/approval process:**

GEF (incl. LDCF and SCCF):
https://www.thegef.org/sites/default/files/council-meeting-documents/EN_GEF.C.50.08.Rev_.01_GEF_Project_and_Program_Cycle_Policy_0.pdf
AF:
https://unfccc.int/files/adaptation/application/pdf/project_cycle_and_approval_process.pdf
GCF: https://www.greenclimate.fund/documents/20182/239759/4.2_-_Proposal_Approval_Process.pdf/53357eae-1a4d-48da-99c5-e11c5ef7761c

- **Leads for the submission of funding proposals (includes guidelines and/or formulation templates):**

GEF: https://www.thegef.org/documents/templates;
http://www.thegef.org/sites/default/files/council-meeting-documents/EN_GEF.C.50.08.Rev_.01_GEF_Project_and_Program_Cycle_Policy_0.pdf
AF: https://www.adaptation-fund.org/apply-funding/project-funding/
GCF: http://www.greenclimate.fund/documents/20182/239759/Investment_Criteria.pdf/771ca88e-6cf2-469d-98e8-78be2b980940

- **Leads to Multilateral Accredited Entities:**

GEF: https://www.thegef.org/partners/gef-agencies
AF: https://www.adaptation-fund.org/apply-funding/implementing-entities/multilateral-implementing-entities/
GCF: http://www.greenclimate.fund/partners/accredited-entities/ae-directory

- **Leads to request project preparation grants:**

GEF: https://www.thegef.org/sites/.../PPG_Template-Dec2013_0.doc
AF: https://www.adaptation-fund.org/readiness/readiness-grants/project-formulation-assistance-grants/
GCF: http://www.greenclimate.fund/documents/20182/466886/Project_Preparation_Facility_Guidelines.pdf;
http://www.greenclimate.fund/documents/20182/466886/Project_Preparation_Funding_Application_Template.docx

- **Leads to climate finance readiness support lines:**

AF: https://www.adaptation-fund.org/readiness/readiness-grants/
GCF: http://www.greenclimate.fund/funding/readiness-support
GCF-NAP support line: http://www.greenclimate.fund/-/gcf-approves-first-grants-for-national-adaptation-planning-in-liberia-and-nepal

- **Leads to prepare and request accreditation of National Entities:**

AF: https://www.adaptation-fund.org/apply-funding/accreditation/
GCF: http://www.greenclimate.fund/documents/20182/319135/1.3_-

Important elements to take into consideration at different stages of the project cycle leading to implementation:

0) Overarching:
   a. Stakeholder engagement: involvement of key stakeholders at relevant moments of the project cycle (priorities selection, design, implementation, dissemination of results, etc.)
   b. Knowledge management and information sharing: an iterative process by which, at different stages, new projects benefit from lessons and relevant information generated by previous ones and in turn, contribute to future projects, including in other countries.
1) Project development stage (leading to *Concept note development*)
   a. Understand climate impacts:
      i. Elements: analysis of current situation, trends and projections of climate impacts and understand consequences of inaction (vulnerability assessments).
      ii. Potential sources of information: national communications, NAPAs, NAPs, sectoral climate plans, national/regional studies, IPCC data, international studies, country-specific studies undertaken within other projects, etc.
   b. Analyze policy context
      i. Elements: Existing strategies, policies, investment plans, legal and institutional frameworks, etc.
      ii. Potential sources of information: NDC, GCF country program, national and sectoral development strategies, etc.
   c. Identify potential actions
      i. Elements: identify a long-list of activities suitable to national circumstances (based on situation analysis)
      ii. Potential inputs from: needs assessments (social, technological, institutional, etc.), stakeholder consultations, technical studies, literature review, experience sharing, etc.
2) Project formulation stage (leading to *Submission of funding proposal stage*)
   a. Assess and select actions
      i. Elements: screening of actions based on multiple criteria and based on expected impact and funding source selection criteria and other considerations (feasibility, political acceptability, etc.)
      ii. Potential inputs: feasibility studies, policy dialogue, technical reports, feed-back from previous submissions, experience of other countries, etc.
   b. Detail and plan actions
      i. Elements: moving from a conceptual idea to a practical action that has clearly defined all necessary elements to enable implementation
      ii. Potential inputs: will depend on the type of action, but this typically includes financial, technical elements, resource planning, risk assessments, etc.
   c. Detail financing and costing information: Elements: estimation of costs and potential economic benefits (CBA), estimation of return of investments (ROI) when applicable, development of detailed budget, by activity and year, specification of contributions from different co-financers, type of financial instruments, sequencing, etc.
3) Implementation stage
   a. Delivery: actual delivery of activities (e.g.: procurement, construction, set up institutions, formulate policies, undertake trainings, etc.)
   b. Monitor progress, mitigate risks: track progress of implementation and resulting effects during implementation, adjust when necessary, implement risk mitigation measures, etc.
   c. Assess effects ex-post, verify and report: determine whether outcomes are achieved as planned when implementation completed and report to donors as necessary, inform and share knowledge.

Table 24: Next steps for activities considered at "Near Implementation stage"; Short Term Implementation Phase

Priority Action	Implementing lead	Next steps for the Implementing lead	Potential funding sources	Comments
3. "Promoting climate resilience of agriculture through building/maintenance sea dikes in coastal areas".	MOWRAM	1st. Breakdown of costs and detailed budget need to be developed. 2nd Develop a project proposal (formulation according to finance source's templates) 3rd Submit PIP proposal (mid-May for BSP) and follow-up in mid-July (for budget allocation) 4th. With a final Project Preparation Grant, the project could be completed and ready for implementation 5th Project formulation according to donor' s template	- The project has already been partially supported through a CCCA grant; this should be capitalized on in project proposals to donors. - The project is potentially interesting for the AF, the GCF and/or the GEF (LDCF or SCCF) and bilateral donors active in the agriculture sector (through processing and pitching of the PIP?) - IFC supports some protection infrastructure and irrigation schemes	- Despite MOWRAM's institutional capacities to execute, the project implementation would benefit from a stronger coordination mechanism b/w ministries, including on M&E (e.g.: MAFF and MOWRAM could work on joint-reporting for cross-cutting activities).
19. "Develop crop variety suitable to AEZ resilient to climate change (include coastal zone)".	MAFF (CARDI, Rice Crop Department)	1st. Characterization of the different AEZ should inform the choice of specific implement crop (adjust activity plan accordingly) 2nd Breakdown of costs and detailed budget need to be developed. 3rd Identification of local NGOs that could act as executors 4th Project formulation according to donor' s template	- Previous related activities were supported by AusAID, hence exploring potential for follow-up should be worth it - Potentially interesting for IFAD (ASAP or ASPIRE programs) - Worth exploring potential for a GEF project with FAO or IFAD as MIE. - IFC supports "climate resilient crops" programming	- Explore potential for synergies with SPCR/PPCR investment projects under the components: Climate Resilient Agriculture (incl.: climate proofing agriculture and business-focused adaptation".
20. "Climate-proof tertiary-community irrigation development to enhance agricultural production of paddy field in four communes of Mekong Delta, District Kampong Ro, Svay Rieng Province"	MoWRAM, with support from MAFF and MRD	1st. Consultation at community level to raise awareness about the project and adjust activities plan to local needs/vulnerabilities 2nd. Seek to tap synergies with SPCR investment projects (incl.: Climate proofing of agricultural infrastructure and business focused adaptation (implemented by MAFF and MEF) 3rd: Project formulation according to donor' s template	- Potential for financing from IFAD (ASAP) and or GEF/AF/GCF with FAO as MIE - Check if SPCR/PPCR investments are planned for similar activities, in which case, seek co-financing. - Potentially relevant to GCCA support to climate-resilience with mitigation co-benefits	- Lack of coordination of technical staff with relevant ministries (MRD, MAFF, NCDD) and with local communities and assets has been identified -Coordination/enhanced communication with community level would improve conditions for implementation
23. "Promote post-harvest technology for cereal crop and tuber crop and conduct the research and transfer appropriate post-harvest tech.".	MAFF (GDA, CARDI, DAI)	1st Need to engage and provide capacity development to other ministries engaged in implementation (MPWT and MRD on transportation issues; MoC for market research on equipment and machinery, and quality of products). 2nd Project formulation according to donor' s template	- Check whether this project has already been financed by ADB. - Explore IFAD/ASAP for funding potential - Potentially relevant to private investors active on "climate smart agriculture" in the rice sector (see Chapter 5)	- Potential for synergies with SPCR investment projects ("Climate proofing agriculture and business focused adaptation").
1. "Promoting aquaculture production systems and practices that more adaptive to climate change"	MAFF, (Fisheries Dep.); and local level executing agencies)	1st Lack of climate data/scenarios is hindering vulnerability assessments: request PPG to supplement research 2nd Need to explore CBA, offer a break-down of budget, and explore potential profitability (ROI) with marketing 3rd Establish and/or strengthen the institutional coordination (cross-sector) and at national/provincial/local levels. 4th Project formulation according to donor' s template	- The project has already been partially supported through a CCCA grant; this should be capitalized on in project proposals to donors. - Project potentially interesting for the AF, the GCF and/or the GEF (LDCF or SCCF) - Potential for GCCA (resilience with co-benefits)	- Potential for a programmatic approach on Fisheries; linking PAs: 1, 10 and 11 - Could have potential for GCF adaptation window support, when packaged as a program-wide approach (with potential private sector engagement and Ecosystem-based adaptation) - Could benefit from FAO support under the GCF readiness grants. - The GCCA, also favoring programmatic and sector-wide interventions to be explored - Potential link to private joint-ventures: WorldFish Partnership (fisheries' sustainability standard
10. "Promoting climate resilience of wild fishery resources"	MAFF (FIA), in coordination with MoE, MLMUPC for coordination @provincial level.	1st Need to develop institutional arrangements for implementation with provincial level and possibly with NGOs or private actors for piloting phase execution 2nd Project formulation according to donor' s template	- Good potential for an AF or GEF project (either LDCF of SCCF), with FAO as MIE - Explore potential for private investors' engagement	
11 "Enhancing the climate resilience in fishery sector" (ECRF)	MAFF (FIA) and provincial/local authority and communities	1st The project needs further formulation and detail (particularly on budget), but could be refined with a PPG -2nd Coordinate capacity building and sub-national level to enforce environmental regulations (water & nat. resources) 3rd Formulation funding proposal according to donor' s template	- Gov't budget based on the priority actions of FiA such as aquaculture production and natural fish stock increasing - Seems like a potential project for AF, the GCF (or LDCF) - Potential synergies with the WorldFish initiative	

Priority Action	Implementing entity	Next steps	Potential funding source	Comments
8. "Development and rehabilitation of flood protection dikes (Kampong Trabek, Bateay) for agricultural/ urban development"	MOWRAM (has project management capacity and experience with ADB operations)	N.B.: Tentatively Near Implementation phase (information missing in project fiche) 1st Check the extent to which activities' plan has already been taken on board in PPCR investment projects formulation (N.B.: if so, implementation may have already started) 2nd Formulate complementary funding proposal according to donor's template	- Explore potential for synergies/co-finance with SPCR investment programs o "Climate Proofing Infrastructure" (incl. "Flood resilient infrastructure development, impl. by ADB/MPWT) - Domestic budget and large SPCR/PPCR investments should be aligned to facilitate co-finance - IFC supports some Defenses/protection infrastructure	- Need for further institutional cooperation, incl. MOWRAM, MPWT, MAFF, MRD and provincial and local levels
15. " Climate risk management and rehabilitation of small, medium and large-scale irrigation infrastructure".	MOWRAM	N.B.: This priority action seems to have already entered implementation stage; with domestic and ADB/SPCR funds	- A domestic budget allocation of approximately USD35 has been pre-allocated (needs follow-up) out of a USD200Million budget. - Co-finance with SPCR/PPCR investments under "Climate resilient agric. and business focused adaptation".) - Budget (relative to maintenance of infrastructure) to be assumed by domestic budget; while further capital investment needs would require external loans potentially from ADB or China	- Need to clarify alignment between the NAP priority action, the MOWRAM on-going activities with SPCR/PPCR investments. - Need for strengthening of coordination between NCSD/SPCR and other potential donors.
25. "Promoting gender responsiveness in water management, cc impact and adaptation"	MRD (in cooperation with MOWRAM)	1st Based on CCAP fiche, the project formulation is advanced, but the budget request needs more detail. 2nd To be checked whether the detailed activities of this project are already included in PPCR investment project development or else Formulation with donor' s template	- Clear synergies and co-finance opportunities with one of SPCR investment projects (PPCR: rural roads climate-proofing in Kampong Cham and Thbong Khmon provs., MRD implemented) and the technical assistance components (for knowledge man.) - IKI focuses on climate risk mainstreaming in water man schemes	- Improving coordination btw NCSD/SPCR; between national-level institutions (MRD, MOWRAM, NCDM, et.) and between the national and the provincial /local/community levels.
22. "(Piloting) community based disaster reduction, preparedness and response plans"	NCDM	1st Identify executing partners at local level (unclear whether NCDM executes the project) 2nd Formulation advanced but needs detail on costing and budget based on the detail and scope of activities (USD6Million for piloting seems over-estimated 3rd Similar JICA financed project finishes in 2017: capitalize on the knowledge management products, trainings materials, guidelines) 4th Project formulation according to donor' s template	- CCCA seeds- grant has been provided but needs up-scaling. Explore: PPCR potential co-finance (via ADB) - Good moment to build on and scale up - Potentially relevant for the GFDRR (Global Facility for Disaster Risk Reduction)	- Tap on synergies with previous JICA /ADB projects on DRR that were executed by NCDM (check implementing capacities) - Good timing for scaling-up work at provincial level.
37. "Promoting, piloting and scaling-up rubber clones from IRRBD (International Rubber Research Development Board) member country in responding to climate change".	General Directorate of Rubber (GDR), MAFF	1st Institutional arrangements (MoUs) for coordination between MAFF and producers (Rubber Planters Association in rubber Estates) 2nd Formulation seems to be advanced but project proposal has not been produced 3rd Costing and financing needs to be refined (incl. CBA and ROI) to attract private investors 4th Project formulation according to donor' s template	- Financially profitable activity: ROI tentatively estimated (USD 20,4 million) - Co-financing has already been identified through the international research body (IRRDB) - Explore potential support from GCCA (PS engagement) - Potentially attractive for GCF adaptation window and/or private sector facility	- Could potentially attract private investors (climate proofing supply chain) - An international network exists International Rubber Research Development Board implementing similar projects in the region: learning potential and explore regional markets
14. "Capacity building and awareness raising on climate change and DRR for FWUC"	MOWRAM (national and provincial level)	1st Information in CCAP is rich but need to develop a full project proposal 2nd Project seems to be a rough estimate and details according to activity plan need to be provided 3rd Project formulation according to donor' s template	- Potentially fundable by AF, LDC-F) - Potentially relevant to the GFDRR (Global Facility for Disaster Risk Reduction)	- Need to strengthen connections to NGOs at ground level - Could possibly be a rather quick started action and good potential for replication (as training manuals are developed)
28. "Improve capacity for flood and drought forecasting and modeling for technical offices at national and sub-national level"	NCSD, Dep. Of Hydrology and Dep. of Meteorology, and others	1st Estimation of current needs to strengthen and complement the CamClimate service (web portal) under NCSD. 2nd Estimation of financial support needs based on (1) and on the existing funding sources (ADB and CCCA grants) 3rd Formulation of project proposal following potential donors' template	- The WMO may be able to provide support - The GFDRR Hydromet program offers support in this work-stream - ADB and the SPCR's TA component	-Knowledge sharing platform should be accessible to governments, researchers, media, private actors and CSOs. Facilitate integration of state-of-the-science CC knowledge into line departments and routine planning processes
40. "Conduct national and sectoral vulnerability assessments".	NCSD coord. and line ministries	1st Identify supplementary needs (guidance, technical support, data generation, etc.) and estimate financial needs 2nd Formulate funding proposal according to donor´s template.	- CCCA grants need to be supplemented, potentially with SPCR TA's support, GCCA/EU and/or UNDP/UNEP support for National Communications (vulnerability assessments)	- Considering the lack of vulnerability assessments are hindering the adequate development of the NAP's implementation plan, this is a critical activity to fast-track

6.3.2 Mid-term Implementation Phase (approximate timespan range 2-5 years)

Given the early stage of project design of the majority of the Priority Actions identified for the NAP, a significant preparation process needs to happen at institutional and technical levels for the NAP to be effectively implemented. The CCAP planning process constituted a good starting point, but for an estimated 25 Priority Actions, the CCAPs' project fiches are only at a preliminary stage of formulation (Concept Notes or Project Ideas, at best), with very little detail on the objectives, rationale, expected impact, target, cost or budget.

For these Priority Actions, classified as being at "Preparation Phase", the most common gaps are:

- Unclear definition of target/potential beneficiaries and the lack of climate vulnerability and impacts assessments has hindered the target specification (either socioeconomic groups or interventions sites). The generic formulation of targets is not sufficient to allow application to most of the international climate funds.
- Insufficient consultations and needs' assessment for a more strategic and detailed project planning
- Lack or insufficient economic/ financial analysis.

During the Multi-stakeholder consultation with key national stakeholders, a tentative analysis of the Priority Actions at "Preparation Stage" was produced based on the project fiches, when possible (see Annex III). Yet, to get this set of projects into the "Near to Implementation Stage", it is an overall improvement of institutional capacities that should be pursued. The main recommendations would be:

a. A more thorough assessment of institutional capacities of implementation leading partners should be undertaken, ideally covering the 14 climate-sensitive institutions that have approved CCAPs and that are expected to implement the NAP. Different approaches and methodologies could be applied to this undertaking: UNDP has developed a generic methodology for self - needs assessments[129], UNEP/GEF have provided assistance on national capacity self assessments for the Multilateral Environment Agreements[130], and GIZ has developed a more complete toolkit focusing on climate-finance preparedness [131] (Climate Finance Reflection Tool – CliF Reflect). These packages would be useful in developing an Institutional Capacities Development Plan focusing on the needs identified at national level.
b. Such institutional assessment is a step that both the AF and the GCF usually recommended to National Designated Authorities as part of the process to identify the national institutions best placed to apply for accreditation on a later stage. Although the exercise requires political commitment, time and some resources, it should be considered as a no-regret measure and investment. It should be noted that NCDD-S is already seeking GCF accreditation.
c. Most line-ministries would benefit from training on Project Formulation and Budgeting to be able to develop their pipeline of funding proposals. While the sectoral-level technical skills may be in place within Ministries, the methodological and managerial skills to develop, implement and monitor project execution seem to be missing in a number of institutions, based on the formulation of project fiches and the inputs gathered in the Multi-stakeholder Consultation. Considering the staff shortage and turnover within the government bodies, this training could be conceived as a periodic activity (biennial basis) in the Institutional Capacities' Development Plan. A good way forward would be to produce a context-specific training package under coordination from NCSD, with support from UNDP (that has a capacity development mandate a country level) and with inputs from GEF technical advisors experienced in this domain.
d. The development of a Project Management and Operational Manual would also contribute to strengthen technical and managerial capacities within ministries, and is also a requirement in the accreditation process for direct access to some international funds (AF and GCF).

[129] http://content-ext.undp.org/aplaws_publications/1448681/Capacity%20Assessment%20Practice%20Note.pdf
[130] https://unfccc.int/files/cooperation_and_support/capacity_building/application/pdf/gefsecncsabookeng.pdf
[131] https://www.giz.de/expertise/downloads/giz2014-en-climate-finance-cf-ready-toolbox.pdf

e. Applying for accreditation of a national institution to use the direct access route of the GCF and/or the AF is an appealing way forward for many developing countries seeking to accelerate access to international climate funds. Yet, the accreditation requirements are diverse (combining fiduciary, technical and managerial standards) and increasingly stringent. While capacities to design, formulate and implement the projects' pipeline are developed, having recourse to Multilateral Implementing Entities may be a swifter and more effective way forward to mobilize resources from international funds (GEF, AF, GCF, and other) at least until all national structures for GCF access are set up. When following this route, it is important for national institutions to claim their space in project implementation and execution and to hold MIEs accountable for their mandate to align with national climate priorities and their role to assist national stakeholders in developing institutional capacities. Access to international funds through MIEs can always be combined with access through national accredited institutions (both for the AF and the GCF).
f. In the process of analyzing the CCAP Priority Actions with national stakeholders, a coordination gap was identified between the units responsible for SPCR/PPCR investment projects implementation and the line-ministries. The SPCR formulation has brought 9 PPCR investment projects to Cambodia, amounting to approximately USD86 million (see section 4.2.4) and constituting the greatest investment in adaptation at national level. The potential for synergies between these projects (implemented by ADB through Project Implementation Units embedded within line-ministries) and the Priority Actions identified for the NAP have not been sufficiently explored or else could be more effectively tapped. This is especially relevant for hard investments in the agriculture, infrastructure and water sectors; but also for the new PPCR Investment Projects currently under development by its technical assistance unit. Soft investments comprised in the NAP Priority Actions could also partially be addressed through the Technical Assistance component of the SPCR.
g. The analysis of the 40 Priority Actions has also sought to identify potential for "packaging" of some projects. Considering that some international climate funds (e.g.: the GCCA, the GCF, the CIF) request sector-wide or programmatic approaches rather than small-sized projects, and screen proposals against such criteria, it may be strategic for some line-ministries to explore programmatic-approaches to adaptation and to explore mobilization of resources through these lenses. This may result in cutting down transaction costs and be more effective than seeking support for smaller individual projects. Some potential for sector-wide interventions have been pre-identified in three domains:

    - Fisheries: Priority Actions 1, 10 and 11 all revolve around the promotion of climate resilience in the fisheries' sector, which is key from a food security and sustainable livelihoods perspective in Cambodia. All these Priority Actions are expected to be implemented under the MAFF (Fisheries Department, FIA), with engagement from provincial/local authorities. Tentative funding sources have been suggested for each of these projects (see Table 24) yet, a programmatic approach covering the promotion of adaptation measures across the fisheries sector in Cambodia may be more advisable. The program could be formulated with technical support from FAO and prepared for GCF financial support under its adaptation window. Potential for synergies with existing private investments on sustainable fisheries at national and regional level (WorldFish Partnership) has also been identified and could constitute an extra asset for GCF financing (GCF puts an emphasis in mobilization of private co-financing). FAO has recently become one of the institutions accredited to channel GCF readiness support[132], which should facilitate the access to a PPG that would smooth the formulation process of a sector-wide program. Potential interest from UNEP to develop GCF funding proposals on fisheries is to be noted.

    - Forestry: Priority Actions 2, 17, 21 and 38 all address different dimensions within the promotion of sustainable forest management (research, land-use demarcation and

[132] http://www.fao.org/partnerships/container/news-article/en/c/453714/

mapping, awareness raising, piloting approaches, communities' engagement, regulatory frameworks and strategies, capitalization of carbon stocks, etc.). Despite these actions being conceived in the MAFF's CCAP as individual projects, a good potential to package them jointly as a programmatic approach for the forestry sector is evident. Actually, the project fiches of these Priority Actions all refer to the promotion of the REDD+ framework and roadmap in Cambodia. The Forestry Department within MAFF and the national REDD+ Secretariat should consider to develop a program on sustainable forestry at national level, to seek support from REDD+ and/or UN-REDD technical experts who would have knowledge in addressing similar challenges as the ones experienced in Cambodia. Financial support could be sought from REDD-donors and/or from the Forestry Investment Program (FIP) of the CIF, which is currently initiating its formulation phase in Cambodia[133]. Other potential financing support could come from the REDD+ program itself (financially supported by Korea and Japan in the Asia region) and/or the USAID's support to the identification of income-generating opportunities from carbon sequestration and the establishment of PES schemes (see section 4.3.5).

N.B: It should be noted though, that the focus of the forestry Priority Actions in the NAP are actually mitigation-oriented and that (at current status of formulation) their added value as adaptation measures has not been adequately justified. Exploring the Community-Based-Adaptation and the Ecosystem-Based-Adaptation potential of the forestry package would be necessary to keep these actions within the list of priorities for a NAP.

- Climate information management: the majority of the 40 Priority Actions for NAP implementation include as part of their key activities, addressing issues related to "climate data", "impact/vulnerability assessments", "research and knowledge management" and "lessons learning". Rather than addressing those needs separately within each sector (or line-ministry), it is advisable to conceive a national repository on climate science/knowledge/development that would provide information and services to national and sub-national authorities as well as development partners and other stakeholders (NGOs, private sector). The collection, processing and management of the climate-relevant information could be centralized within an existing institution (e.g.: the Department of Meteorology, the NCSD, a fit-for-purpose academic institution or research center) or else a specific body could be created to that effect. An interesting option would be to build on, strengthen and expand the official climate change web-portal [134] developed by CCCA and managed by the Department of Climate Change that aims at administering existing climate knowledge in support to the implementation of the CCCSP. A number of countries benefitting from PPCR investment projects have invested a portion of their SPCR preparation grants and technical assistance to establish similar "repositories" of climate knowledge at national level. This idea could be pursued as a follow-up to the implementation of Priority Action 39 in the NAP ("Support to line ministries to mainstream climate change into development planning and budgeting"), which has been so far implemented with support from CCCA and GIZ. However, that will need to be sustained in the mid and long run as the NAP process gets further developed and implemented. The idea of setting up a climate information management body is also relevant to Priority Actions 28 and 40 that have been identified for fast-tracking in the implementation plan for NAP financing (see section 6.3.1).

[133] https://www-cif.climateinvestmentfunds.org/country/cambodia/cambodia-fip-programming
[134] http://www.camclimate.org.kh/en/

h. As any other country with increasing demand for adaptation finance support, the RGC is rightly eager to mobilize resources under the GCF adaptation window, which is operational only since late 2015. The main features and requirements of the GCF have been explored in Chapter 4, but a closer look to its "investment criteria" is relevant in establishing next steps for the NAP financing (see box below).

Extract of GCF investment assessment criteria for adaptation programs:
- **Adaptation Impact potential:** expressed as "Contribution to increased climate-resilient sustainable development" (indicators: Number of beneficiaries relative to total population particularly the most vulnerable groups; Expected reduction in vulnerability by enhancing adaptive capacity and resilience for populations affected by the proposed activity, focusing particularly on the most vulnerable population groups and applying a gender-sensitive approach)
- **Paradigm shift potential:** expressed as "Degree to which the proposed activity can catalyze impact beyond a one-off project investment; "Contribution to the creation of an enabling environment (…) to the creation or strengthening of knowledge, collective learning processes, or institutions"
- **Sustainable development potential:** expressed as capacity to create co-benefits out of the program (environmental, social, economic); E.g.: "Potential for externalities in the form of expected improvements in areas such as expanded and enhanced job markets, job creation and poverty alleviation for women and men, increased and/or expanded involvement of local industries**"**
- **Needs of the recipient:** expressed as "Vulnerable groups and gender aspects", E.g.: extent to which program supports groups that are identified as particularly vulnerable in national climate or development strategies, with relevant sex disaggregation".
- **Country ownership:** expressed as "Capacity of accredited entities or executing entities to deliver" (Indicator: the proponent demonstrates a consistent track record and relevant experience and expertise in similar or relevant circumstances as described in the proposed program (e.g. sector, type of intervention, technology, etc.)
- **Efficiency and effectiveness**: Expressed as economic and, if appropriate, financial soundness of the program: "Proposed financial structure (funding amount, financial instrument, tenor and term) is adequate and reasonable in order to achieve the proposal's objectives, including addressing existing bottlenecks and/or barriers".
http://www.greenclimate.fund/documents/20182/239759/Investment_Criteria.pdf/771ca88e-6cf2-469d-98e8-78be2b980940

A successful funding proposal to the GCF adaptation window requires submission of a full-fledged project formulation with supporting information on all of the investment assessment criteria cited above and their indicators. Based on the assessment of current formulation stage of the Priority Actions, some projects have potential for GCF financing if analyzed against the "investment criteria" (see box above). In order to develop full GCF funding proposals, further formulation efforts will be necessary. Yet, a new support-line under the GCF specifically for NAP *formulation* is meant to enhance a country's preparedness for the effective implementation of adaptation projects and programs[135]. When benefitting from this specialized support, countries are expected to be better able to assess their climate vulnerabilities and devise plans that help them be precise in targeting interventions. The new preparedness funding can help national institutions to bring the Priority Actions in the NAP to the next stage and get funding proposals ready to access the GCF adaptation window. The new GCF support underscores the important role that the NAPs planning process plays as a vehicle for strategic investments in a country's climate-resilient development. The application procedure to the NAP formulation specific preparedness support is the same as for the GCF readiness window and requires endorsement from the NDA (see section 4.2.3 for details).

A Summary of recommended actions for the NAP financing Implementation Plan in the mid and long term Phases is provided in Table 25.

[135] http://napglobalnetwork.org/2016/10/green-climate-fund-boost-support-national-adaptation-plans/

Table 25. Summary of recommended actions for the NAP financing Implementation Plan in the mid and long term Phases

Action (what?)	Rationale (why?)	Responsibility (who?)	Potential support (how?)	Timeframe (when?)
Mid and long term actions				
1. Assessment of institutional capacities	A needs-assessment should be the basis to design and undertaken an Institutional Capacities Development Plan to improve the potential to develop and implement funding proposals to sustain the Priority Actions in the NAP. This exercise is also useful for NDAs seeking to select and prepare national institution(s) for accreditation to international Climate Funds	NCSD and/or National Designated Authorities, with active engagement from line-ministries and agencies.	UNDP, and/or UNEP/GEF, and/or GIZ's CFR program (CliF Reflect) GCF and/or AF Readiness support	Start asap. to mobilize support The needs-assessment exercise could take 3-6 months.
2. Training on Project Formulation and Budgeting	While technical skills may be in place within ministries, the methodological and managerial skills to develop, implement and monitor project execution and to be able to develop a pipeline of funding proposals are not in place in most climate-relevant institutions.	NCSD for overall organization. Line-ministries and agencies need to be actively engaged	UNDP/GEF could provide technical expertise	Ⓟ To be undertaken on a biennial basis, starting 2017
3. Development of a Project Management and Operational Manual	This tool would contribute to strengthen technical and managerial capacities within ministries, and it is also a requirement for national institution accreditation to some international funds (AF and GCF). NCDD-S (preparing to get GCF accreditation) and NCSD will both need to fine tune their manuals and line ministries would use their SOPs (if accreditation was considered, then experience in applying project manuals from MDBs would not be sufficient)	Institutions seeking to implement multilateral funds would need this tool. MOWRAM and MAFF may be front runners and develop this tool first (SOPs or similar).	MIEs operating at national level could provide technical assistance. Expert support may need to be mobilized (GEF roster)	Depending on existing in-house capacities/management tools (average 6 months)
4. Capitalize on having recourse to Multilateral Implementing Entities (MIEs)	While Cambodian institutions develop their capacities to design, formulate and implement the projects' pipeline are developed, the NAP implementation will imply having recourse to MIEs as a more effective way forward to mobilize resources from international funds.	MIEs (UN Agencies, MDBs) have role to develop institutional capacities at national level (esp. UNDP)	UNDP, UNEP, FAO, IFAD, WB, ADB (and/or GEF operating in Cambodia)	Ⓟ Next 2-5 years
5. SPCR formulation and NAP coordination	The SPCR and the 9 PPCR investment projects constitute the greatest investment in adaptation at national level. Potential for synergies between these projects (implemented by ADB through Project Implementation Units) and the 40 Priority Actions identified for the NAP could be more effectively tapped. This is especially relevant for hard investments in the agriculture, infrastructure and water sectors and new projects under development by the Technical Assistance team of the SPCR.	NCSD, SPCR coordination unit, PPCR projects PiUs (and line-ministries concerned with execution of PPCR investments)	A coordination unit/ Steering Committee should be part of the management of SPCR/PPCR and Gov. stakeholders should have decision-making capacity	Ⓟ For the duration of SPCR/PPCR projects' implementation (on-going)
6. Packaging programs sector-wide - Fisheries - Forestry - Climate knowledge	Considering that some international climate funds (E.g.: the GCCA, the GCF, the CIF) request sector-wide or programmatic approaches (rather than small-sized projects) and screen proposals against such criteria, it may be strategic for some line-ministries to explore programmatic-approaches to adaptation and to explore mobilization of resources through these lenses (which may result in cutting down transaction costs and be more effective than seeking support for smaller individual projects)	Line-Ministries: - Fisheries: MAFF (FIA) - Forestry: MAFF (Forestry Dep. and REDD+ Secretariat) - Climate knowledge: MOE/NCSD; Dep. Meteo/ University/research Center	Overall: NAP formulation GCF support; GCCA. By sector: - Fisheries: FAO (GCF readiness support) and UNEP interest noted - Forestry: REDD+ /UN-REDD/USAID - Clim. knowledge: SPCR, WMO	Formulation could take about 12 months. Programs timelines to be aligned with sectoral planning
7. Applying to GCF readiness support line for NAP formulation	The current formulation stage of most the Priority Actions and the type of interventions, the NAP process is still not quite ready to tap GCF 's adaptation funds effectively, but this GCF support line is meant to assist a country's preparedness for the effective implementation of adaptation programs	The NDA (NCSD) to apply for support from the GCF/NAP formulation and manage the implementation of it.	- GCF NAP formulation Readiness support line (new from Oct. 2016)	Ⓟ Next 2-3 years
8. Seeking accreditation for direct access @ AF &/or GCF	Once the institutional capacity development plan implemented, and the NDAs have identified best candidates and accumulated some experience in accessing funds via MIEs, Cambodia should be ready to apply successfully to direct access, with support from (AF and/or GCF) readiness programs if needed.	- The NDA from the AF and/or GCF to point at a national institution - Note: NCDD-S is already seeking GCF accreditation	- AF and/GCF readiness support for accreditation	In about 2-3 years
9. Improving mainstreaming of climate proofing into ministries' budgets	The consideration by line Ministries of CC as an integral part of budget planning and the assumption of adaptation actions is still limited in most cases. Room for improvement includes: specification of CC aspects in BSP Objectives, make explicit references to CC in the PB forms; review of MEF Guidelines for preparing budgets accommodating for climate tagging	- MEF, MOE and line ministries	- CCCA and GIZ provide technical advise in mainstreaming CC into budgets and financial analysis	As of 2018 budget cycle and onward
10. Developing legal frameworks supportive of sector-wide certification schemes for climate-friendly products/services	Opportunities have been identified in the tourism, forestry, agriculture and fisheries sector to establish, encourage and/or up-scale good practices in the private sector that could promote climate resilience at local and national level. Some examples include: sustainable tourism certification, zero deforestation supply chains, resilient fisheries (e.g.: WorldFIsh), payment for ecological services schemes, and climate risk insurance schemes.	- Line Ministries with relevant stakeholders form the private sector and potential investors.	- Under the CIF, the ICF has supported these schemes in other countries. Development and commercial banks as well as bilateral donors to be explored.	In the next 5 years

Action (what?)	Rationale (why?)	Responsibility (who?)	Potential support (how?)	Timeframe (when?)
Continuous and long term implementation phase				
11. Establish and nurture institutional coordination mechanisms	Enhanced coordination would allow a better packaging of Priority Actions, lead to a more effective knowledge sharing between climate-sensitive institutions, help avoiding duplication of efforts and tapping on potential synergies. Mechanisms to connect the provincial/local levels to the NAP coordination body, is relevant since the local authorities play a key role in building resilience at the ground level. Strengthen coordination between the donor-community and the private actors active on climate and NAP process would facilitate access to funds and reduce transaction costs of reporting for the government	NCSD "Climate Change Technical Working Group" (CCTWG)	UNCDF-LoCAL III could support coordination with local level CCCA Program Support Board may be able to provide support for coordination with donor community and private actors	Ⓟ CCTWG had its first meeting in Feb. 2017, which should trigger sustained coordination for the duration of NAP implementation
12. Addressing gender dimensions of climate responses	The NAP projects' formulation has not addressed gender considerations so far (due to the lack of gender disaggregated data?). Climate adaptation programs should take account of gender-based vulnerability. Climate funds' managers (the GCF in particular) are increasingly integrating gender indicators into their project screening and reporting requirements.	Shared responsibility of line ministries NCSD (oversight role over NAP implementation)	UNDP's Regional Modules" for in the Asia-Pacific (on gender & adapt./finance) GGCA guidance and training packs.	Long term institutional investment, needs continuity and cross-cutting engagement
13. Tagging of CC expenditures for budget tracking	Integrating a "tag" for cross-cutting issues such as CC would make it easier for MEF and Ministries generally to track climate-related investments, improve effectiveness of planning and accountability. A new Financial Management Information System is being deployed and should be rolled out at line ministries level to allow detailed assessments at activities' level.	MEF and line ministries	- CCCA and GIZ provide technical advise in mainstreaming CC into budgets and financial analysis	From next project cycle (2018) and onwards
14. Improving budget planning by Ministries	CCAP proposals should be included in the routine annual budget planning and review exercises for the national budget and the PIP. A "New Activity Template" could be developed to standardize procedures and requirements and provide supporting evidence on activities requiring additional funding (e.g.: new climate adaptation actions).	MEF and line ministries' Budget Working Groups and CC Working Groups	- CCCA and GIZ provide technical advise in mainstreaming CC into budgets and financial analysis	From next project cycle (2018) and onwards

N.B: (Ⓟ) Indicates a particularly pressing need so, even if sustained over time, these actions should be prioritized and triggered soon. Some immediate next steps are suggested:

- "2. Training on project formulation and budgeting": the syllabus for this training should be based on results from an institutional needs assessment. NCSD could approach donors sensitive to institutional capacity development (e.g.: GIZ, UNDP). A pilot training could be undertaken in 2017 to fine-tune approach and then replicated (tentatively) every 2-3 years.
- "4. Capitalize on MIE recourse": select the most appropriate MIE (according to project objective, national executor and MIE's strengths and institutional culture), have an open and continuous dialogue during project formulation and ensure national institutions' capacity development needs are articulated and funded in each project development/formulation, ensure the M&E framework includes these dimension.
- "5. SCPR formulation and NAP coordination": the SCPR coordination unit (sitting under NCSD) and the PIUs (within line ministries) should regularly meet and report progress to NCSD (e.g.: using CCCA coordination format or a SCPR specific Steering Committee). Especially during the formulation of the PPCR new project proposals (at least 2 are under way), policy dialogue and coordination should be tightened. NCSD to retain its leverage as national counterpart for the approval of project proposals to be submitted to the PPCR Sub-Committee.
- "7. Applying to the GCF readiness support line for NAP formulation": the NDA needs to approach the GCF Secretariat (readiness@gcfund.org) and explore with the corresponding regional advisor the options (see: GCF Program Overview). An initial discussion will lead to a basic concept note, including options for support delivery (by the GCF readiness team directly and/or by partner institutions, including GIZ, UNDP, FAO and others).
- "11. Establish and nurture institutional coordination mechanisms": undertake a joint needs assessment among institutions participating in the CCTWG and explore ways to involve other relevant stakeholders (e.g.: at sub-national level). Ensure that the CCTWG mandate (Terms of Reference) includes coordination of PAs under the NAP and that implementing partners are periodically invited to report on progress and share lessons learned.

6.3.3 Continuous and Long-term Implementation Phase (for the duration of NAP implementation)

In the long run, the implementation of the NAP Priority Actions will entail a continuous "learning by doing" process for national institutions, of which the financing framework is only one of the key dimensions. In seeking to identify existing gaps and measures to improve the climate finance preparedness of the national institutional framework, two other key dimensions needing strengthening have been identified: the institutional coordination mechanisms and the tackling of gender issues.

→ Institutional coordination mechanisms:

As part of the analytical framework to explore "preparedness" for implementation of the NAP Priority Actions, participants to the Multi-stakeholder Consultation were questioned about "Cross-cutting issues", gaps and other factors that may hinder effective implementation (see section 6.2). One of the recurrent constraints referred to by the representatives from national institutions was insufficient coordination, either across-ministries or between the national and the subnational levels (see results from analysis in tables within Annex III).

There seems to be a pressing need to establish and nurture institutional coordination mechanisms in driving climate action in Cambodia, and this is likely to also play a critical role for the NAP implementation, including its financing phase. Further coordination would allow a better packaging of Priority Actions at sectoral level, would lead to a more effective knowledge management (e.g.: more experienced ministries - like MAFF or MOWRAM - could share lessons with other institutions less equipped for adaptation programming), it would help avoiding duplication of efforts (e.g. in climate data generation and processing) and tapping into potential synergies (e.g.: mainstreaming climate risks into sub-national plans may improve the execution of sector-specific climate actions).

The recent establishment of the "Climate Change Technical Working Group" (CCTWG) is a promising first step to address coordination challenges. This body met for the first time on February 20th 2017[136] under the chairmanship of the NCSD's Secretary General and with active participation of 19 line-ministries and agencies. Under the CCTWG, technical focal points from key institutions[137] are expected to facilitate the review, formulation and implementation of policies, strategies, action plans and programs to enhance climate change responses.

NCSD and line-ministries may also endeavor reviving the Working Groups that led to the formulation of CCPAs (CCAPWGs) and that have been since then in a "dormant stage". This would help improve inter and intra-ministerial coordination. CCAPWGs functioned as a repository of climate knowledge and a catalyzer in planning and budget processes.

In the future, it would be important to also consider mechanisms to connect the provincial/local levels to this coordination body, since these are particularly important to build resilience at the ground level (which a number of Priority Actions seek to do).

Finally, either under the CCTWG structure or under a different one, it would also be beneficial to strengthen coordination between climate-sensitive institutions that are expected to implement the NAP and the donor-community active on climate change agendas in Cambodia (bilateral donors, UN Agencies, Multilateral Development Banks, national and international NGOs, etc.). This should contribute to ensure alignment of external resources with nationally determined climate priorities. Moreover, the coordination of climate agendas and the streamlining of reporting to development partners (usually entailing high transaction costs for the government) could be improved by using pre-existing coordination bodies and reporting mechanisms (e.g.: CCTWG, CDC). The CCCA Program Support Board, that already articulates coordination and reporting within key development partners (EU, Sida, UNDP) and relevant line-Ministries

[136] http://www.camclimate.org.kh/en/ccd/dcc-news/389-cctwg-first-meeting.html

(MOE, MEF, MOWRAM, etc.) and other relevant stakeholders could also constitute an option (if the formalities of this Steering Committee can accommodate new members and an extended mandate).

→ Addressing gender dimensions of climate responses:

Despite the awareness of the RGC of the relevance of gender mainstreaming into climate and development plans[138], and the specific attention given to it in the selection criteria (see section 6.1.1), only 2 out of the 40 Priority Actions for the NAP address to some extent gender dimensions (PA25: "Promoting gender responsiveness in water management, climate impact and adaptation" and PA31: "Develop education policy, analyses, research and planning for climate change adaptation and mitigation"). Generally, the targeting phase of the CCAP projects' formulation has not addressed gender considerations, possibly partly due to the lack of gender disaggregated data to take this issue on board within national climate responses.

Yet, women are disproportionately vulnerable to the effects of climate change, which in turn exacerbates gender disparities. Climate change policies that take account of gender-based vulnerability and the unique contribution that women can make to sustainability could help advance gender equality while fighting climate change. It is therefore important for the NAP to pay particular attention to the inter-linkages between gender and climate change and to ensure that women are engaged at all levels of the decision-making process. For these reasons, climate funds' managers (the GCF in particular) are increasingly integrating gender indicators into their project screening and reporting requirements. Mainstreaming gender into the NAP planning is therefore also important from the finance mobilization point of view. To this respect, a role should be reserved to the Ministry of Women Affairs (MoWA), which in 2013 launched a Gender and Climate Change Committee that was mandated to reduce gender vulnerability to climate impacts by mainstreaming gender into climate responses at national, sectoral (with line ministries), and decentralized levels.

Here too, technical and institutional support packages exist that could be useful to "gender-proof" the NAP process:

- UNDP's series of "Regional Thematic Policy Brief and Training Modules" for policy makers in the Asia-Pacific region[139] include guidance on gender considerations under climate change responses. The areas covered within these regional specific modules include training modules, and other knowledge products, including: "Gender and adaptation" and "Gender and climate finance".
- The Global Gender and Climate Alliance (GGCA) was launched in 2007 to ensure that climate change policies, decision-making, and initiatives at the global, regional and national levels are gender responsive. "The GGCA assists country governments in integrating gender perspectives into policy and decision-making, ensuring that financing mechanisms on mitigation and adaptation address the needs of poor women and men equitably and building capacity to design and implement gender-responsive climate change policies, strategies and programs". Methodologies to facilitate the integration of gender into policy and programming, training packages (including webinars accessible online), up-to-date research and knowledge products are easily accessible through GGCA[140].

Chapter 6 has sought to identify and build bridges between the short-list of 40 Priority Actions for NAP implementation and the most relevant options within the international climate finance landscape that were explored in Chapter 4. Although the bulk of climate funds for adaptation action are expected to come from international public sources (mostly multilateral, but also bilateral channels), NAP implementing partners should also remain attentive to existing mechanisms to tap on domestic budget oriented to climate action and to opportunities to attract private investors to their programs. Some specific recommendations on making the domestic budgeting process more conducive and on creating a more enabling environment to engage private investors in climate responses can be found in Annex I.

[138] Gender and climate change, green growth and disaster management: https://mail.google.com/mail/u/2/#inbox/15b1d0cbbaecffac?projector=1

[139] http://www.undp.org/content/undp/en/home/librarypage/womens-empowerment/gender_and_environmentenergy/gender-and-climate-change-asia-pacific.html

[140] http://gender-climate.org/learn/

Annex I

EXTRA RECOMMENDATIONS TO IMPROVE ACCESS TO DOMESTIC BUDGETS AND PRIVATE FUNDS

A) Recommendations to remove barriers limiting access to domestic finance for adaptation

- **Climate Change Knowledge.** Knowledge of climate change and its impacts and implications for Ministries is a constraint at the Ministry and Department level. Internalization of climate change information and data in most line Ministries is limited and knowledge of climate change quite superficial. Knowledge dissemination and assimilation at the line Ministry and Departmental level can be improved in the following ways:

Recommendation 1: Knowledge and Learning. Build state-of-the- science climate change knowledge including downscaled climate projections to underpin long-term development planning for the sector and associated programs. Use this knowledge as the platform for identifying effective climate change adaptation solutions to address climate change. Build both digital and human knowledge bases based on internally and externally generated information, e.g. physical and social science studies on climate change, relationships to poverty, nutrition and gender. Engage with the proposed NCSD Knowledge Management Framework and its open access CamClimate web portal which should be a primary knowledge sharing tool, accessed by government officials, researchers, academics, media and civil society. And integrate state-of-the-science climate change knowledge into line departments and routine planning processes.

- **Institutional.** At the central level, apart from some training and other efforts provided by donors, there has been very little inter-ministerial interaction on climate change. The Inter-Ministerial Working Group on Climate Change established in late 2016 under the NCSD is a useful government initiative to facilitate greater climate change discussion and cross-fertilization of climate change ideas and knowledge across Ministries.

Recommendation 2: At the Ministry level revive the Ministry **Climate Change Working Groups** as facilitators to strengthen (a) more in-depth climate change scientific knowledge and (b) the understanding of climate change impacts, risks and vulnerabilities over the next thirty years, and (c) to be a catalyzer of creative climate change adaptation solutions.

- **Planning and Budgeting Systems and Processes.** While MEF has made progress in introducing references to climate change into its 2017 BSP and Budget preparation circulars, the consideration by line Ministries of climate change as an integral part of budget planning and the conversion of climate change challenges into adaptation thinking and actions, is still limited in most cases.

Progress can be made by the MEF in consultation with MOE in the following ways.

Recommendation 3: Budget Circulars. Strengthen the references to climate change in the MEF BSP and Budget Circulars. For example, in the BSP circular, require that climate sensitive Ministries specify climate change aspects in their BSP Policy Objective and Strategic Priorities.

Recommendation 4: Program Budgeting Forms. Require climate sensitive ministries to make explicit reference to climate change in the PB forms, for example, by adjusting Program and Sub-program titles etc. where relevant.

Recommendation 5: Program Budgeting Forms. Review whether Forms P1 (Ministry Budget Summary) and P2 (Program Profile) recommended in MEF Guidelines for preparing program budgets can be revived to support Program Budget Planning and Monitoring generally, and If so, highlight these as a place where climate change can be incorporated into the budget preparation.

Recommendation 6: New Activity Template. Provide a standard template (situation analysis, rationale, technical description, relationship to other projects, institutional arrangements, timeframe. costs, benefits, potential financing) for use in providing supporting evidence for new activities or expansion of current activities such as those such as for climate change adaptation, which require additional funding.

- **Incentive Issues.** Ministries are constantly being required to carry out additional responsibilities and activities in a context of limited human and financial resources. Climate change is therefore competing

with a range of other policy areas for both time and money. Many of these also address international obligations, e.g. via the SDGs.

There is a perverse incentive issue in relation to climate change for the infrastructure ministries such as the Ministry of Public Works and Transport (MPWT) and the Ministry of Water Resources and Meteorology (MOWRAM). These high spending Ministries are assigned physical targets in the NSDP and sectoral policy and planning documents which require the expansion of various categories of roads and irrigated areas. For example, MPWT has targets set by the NSDP of 300-400 km per year for new paved road development and 700 km for all roads. Climate proofing of infrastructure commonly involves additional costs in the 5-15% range. Unless additional funding for climate change is flagged by MEF in advance through the resource ceiling allocation process, full and proper climate proofing would divert funds away from enabling these Ministries to achieve their targets, which they will be very reluctant to do.

Recommendation 7: Climate Proofing. MEF to be alert to addressing the incentive issue relating to climate change and climate proofing in infrastructure ministries. Take the additional costs of climate proofing, justified by CBA and poverty analysis, into account in setting sector resource guidelines.

- **Budget Data Recording and the FMIS.** With regard to MEF budget data recording, current spending remains difficult to analyze for non-program budgeting ministries as it is based on economic classification, not functional classification. The government under the PFM reform program is planning to get all the ministries and public entities to fully implement program budgeting by 2018, where spending is classified under a functional basis.

  A new Financial Management Information System (FMIS) has been piloted by MEF for several years as an aid to improved budgeting but has been delayed. It is still being piloted internally but it is hoped to roll it out to some line Ministries in 2017. The new FMIS supports expenditure capture based on functional classification from planning to execution. This will allow for a more detailed assessment of climate expenditure down to the levels of sub-programs and activities.

As for the domestic capital expenditure, it is sufficiently detailed, but an outstanding issue is the allocation of expenditure per implementing agency for projects with multiple agencies.

Recommendation 8: Climate Change Tagging. In the future, for the purpose of climate change expenditure tracking, the FMIS should consider integrating a "tag" for cross-cutting issues such as climate change. This would make it easier for MEF and Ministries generally to track climate-related investments.

- **Associated improvements can be made by Line Ministries** in the following aspects:

Recommendation 9: Budget Planning. Incorporate climate change and the CCAP proposals into the routine annual budget planning and review exercises for the National Budget and the PIP.

Recommendation 10: The Program Budget. Strengthen the role of the Program Budget as the integrator of climate change into Programs, Sub-programs and Activities where relevant.

Recommendation 11: Budget Pre-planning. Strengthen the incorporation of climate change into the annual Ministry BSP and budget submissions through pre-budget planning sessions which consider climate change along with other mainstreamed policies such as sustainable development, poverty and inequality reduction, gender etc. Use these sessions to screen Programs, Sub-Programs and Activities for climate change adaptation and proofing. This would involve:

a) Considering, with the help of NCSD, long-term climate change trends and vulnerability analyses likely to impact on the sector / program,
b) Determining the subsector/programs climate risk and vulnerability and capacity for adaptation and resilience actions,
c) Looking at the consequent implications of climate change for the design of programs, sub-programs and activities.
d) Screening line Departments portfolio of activities to check whether appropriate adaptations have been built in. And if not, whether actions are suitable for climate change modification or up-scaling.

Recommendation 12: Climate Proofing. Ensure that both internally and externally financed infrastructure projects are fully climate proofed taking account of the latest Cambodia climate change projections.

Recommendation 13: Ministry Working Groups. Mobilize Ministry Budget Working Groups and Climate Change Working Groups to jointly check that climate change has received due consideration in line Department budget proposals.

➢ **Other**

Recommendation 14: CDC ODA Data Base. As noted in the CCPER, the CDC database data capture could include a functionality to indicate, in the case of projects with multiple implementing agencies, the indicative percentage of funding assigned to each agency. This would make the estimates of spending per ministry much more robust. An analysis of the sectors and sub-sectors used in the CDC database could also be done to match them with the CCPER types of activities and suggest potential improvement.

B) Recommendations to strengthen private sector response to climate change in Cambodia

The NCSD/CCCA study concludes with a set of 20 recommendations to strengthen private sector response to climate change in Cambodia. These are summarized and presented by sector here below

Summary of recommendation for extension of private sector engagement in climate response

Sector	Recommendations
Energy sector	#1 Adopt a Renewable Energy Policy
	#2 Support sustainable consumption and production of solid biomass energy
Energy efficiency, companies and households	#3 Exempt solar panels and equipment from VAT and duty (households and distributed generation)
	#4 Sensitize and advise the household and business sectors about the EE opportunities and technologies
	#5 Encourage energy audits or adoption of energy management systems in business sectors
Low carbon and cleaner transport	#6 Promote the adoption of cleaner vehicles and cleaner fuels through regulations and economic instruments
	#7 Develop and implement a climate-friendly urban transport Policy in the larger cities
Low-carbon/efficient waste management	#8 Promote climate friendly waste management systems
Sustainable Construction	#9 Incentivize sustainable building and construction
Sustainable **tourism**	**#10 Support Green Hotel Certification**
Agriculture, forestry, fisheries, livestock	**#11 Create a secure framework for private investment in NRM**
	#12 Increase appeal for certified and zero deforestation supply chain
	#13 Reinforce resilience of small producers through training and market consolidation
	#14 Build a resilient agriculture/fishery supply chain
	#15 Provide framework for scaling up climate risk insurance
	#16 Support and consolidate a low carbon livestock sector
	#17 Embed PES in the legal framework
Cross-sector	**#18 Create framework for enhanced PS-RGC dialogue on Climate change**
	#19 Develop dedicated loan program for small- and medium sized EE projects
	#20 De-risk green lending to SMEs and households

Of this set of 20 recommendations, 8 (highlighted in orange) have a higher potential to contribute to the **mobilization of private investors in adaptation priorities**, they revolve around the tourism, agriculture and forestry sectors. For a more detailed review of key recommendations on short-term actions to enhance engagement of the private sector in each economic sector, please refer to the NCSD/CCCA 2016 study.

Annex II

LIST OF 40 PRIORITY ACTIONS SELECTED FOR THE NAP IMPLEMENTATION PLAN

#	Sector	Priority action
1	Fisheries	Promoting aquaculture production systems and practices that are more adaptive to climate change
2	Forestry	Developing and implement regulations and mechanism on REDD+
3	Agriculture	Promoting climate resilience of agriculture through building/maintenance sea dikes in coastal areas
4	Water and Sanitation	Carry out risk assessment and management for the improvement of water supply and sanitation (WATSAN) in the Tonle Sap Great Lake provinces
5	DRR	Strengthening climate information and Early Warning System
6	Agriculture	Promoting and up-scaling climate smart farming system that resilient to climate change
7	Infrastructure	Repair and rehabilitate existing road infrastructure and ensure effective operation and maintenance system, taking into account climate change impact
8	Cross cutting	Development and rehabilitation of flood protection dikes (Kampong Trabek, Bateay) for agricultural/ urban development
9	Water	Up-scaling mobile pumping stations (20) and permanent station (10) in responding to mini-droughts
10	Fishery	Promoting climate resilience of wild fishery resources
11	Fishery	Enhancing the climate resilience in fishery sector (ECRF)
12	Livestock	Enhancing animal waste management and climate change emission mitigation
13	Cross cutting	Institutional capacity development for natural disaster coordination and intervention
14	Cross cutting	Capacity building and awareness raising on climate change and DRR for FWUC
15	Water and Irrigation	Climate risk management and rehabilitation of small, medium and large-scale irrigation infrastructure.
16	Infrastructure	Promoting climate proofing and retrofitting of existing and planned schools and universities infrastructure
17	Forestry	Promoting sustainable forest management
18	Health	Up-scaling of National program on acute respiratory infection, diarrhea disease and cholera in disaster prone-areas, including conducting surveillance and research on water-borne and food borne diseases associated with climate variables.
19	Agriculture	Develop crop variety suitable to AEZ resilient to climate change (include coastal zone)
20	Agriculture Infrastructure	Climate-proof tertiary-community irrigation development to enhance agricultural production of paddy field in four communes of Mekong Delta, District Kampong Ro, Svay Rieng Province
21	Forestry	Promoting reforestation and afforestation to increase carbon stock
#	**Sector**	**Priority action**
22	DRR	(Piloting) community based disaster reduction, preparedness and response plans
23	Agriculture	Promote post-harvest technology for cereal crop and tuber crop and conduct the research and transfer appropriate post-harvest technology.
24	Knowledge man.	Development of knowledge and information system on climate change
25	Cross cutting	Promoting gender responsiveness in water management, cc impact and adaptation

26	Cross cutting	Build capacity on climate proofing rural infrastructure design, construction and maintenance for civil engineers (250) at national and sub-national level
27	Knowledge man.	Enhancing knowledge management related to climate change adaptation and promoting innovation that is needed based
28	Cross cutting	Improve capacity for flood and drought forecasting and modeling for technical offices at national and sub national level (ADB) GMS
29	Capacity building	Raise awareness of climate change for Village Development Committees (VDCs)
30	Tourism	Promote livelihood resilience through tourism development in Community Based Tourism and Community Based Eco-Tourism
31	Education	Develop education policy, analyses, research and planning for climate change adaptation and mitigation
32	Capacity building	Build awareness and capacity at national and sub-national level for mainstreaming climate change into rural development planning processes
33	Cross cutting	Strengthening capacity of agricultural and agro industry development entrepreneur and the agricultural cooperative in low carbon production
34	Land use	Integrate climate change respond measure to commune land use planning
35	Housing	Promote the resettlement development that adapt to natural disaster at urban and rural
36	Livestock	Promoting resilience in animal production and adaptation to climate change (technical package)
37	Rubber	Promoting, piloting and scaling-up rubber clones from IRRBD (International Rubber Research Development Board) member country in responding to climate change.
38	Forestry	Conducting capacity development, research and awareness raising on REDD+
39	Cross cutting	Support to line ministries to mainstream climate change into development planning and budgeting
40	Cross cutting	Conduct national and sectoral vulnerability assessments

Annex III

CONSOLIDATED ANALYSIS OF THE PRIORITY ACTIONS FOR THE NAP IMPLEMENTATION PLAN

ANALYTICAL FRAMEWORK ADOPTED:

a) **TARGET- This will inform the "packaging" of this action and the choice of potential funding sources**
Are the relevant beneficiaries from the Priority Action precisely identified (E.g.: groups, geographical areas, authorities -regional, national, sectorial, sub-national-). How has the target been identified/prioritized? Was there a vulnerability assessment undertaken (number/type of beneficiaries)? Does it integrate gender-disaggregated data?

b) **TYPE OF INTERVENTION- This will inform the sequencing, the type of funding sources and the "packaging" of this action**
What type of investment is needed for this Priority Action: SOFT investments (E.g.: assessment, study, research, capacity building, service delivery, etc.) or HARD (capital, technology, material procurement)? Will this intervention have a GROUND-IMPACT? (E.g.: direct/indirect benefits for people/households/producers/communities)

c) **SYNERGIES/COORDINATION- This will inform the packaging, the sequencing and the financing options**
Is this Priority Action linked to planning documents/ Gov. mandate (8 Strategic Objectives in the CCCSP, INDC priorities, PM drought/floods response, etc.)? Identify opportunities to building on/complete other relevant initiatives (E.g.: on-going programs @Regional, National, Sectoral or Subnational level). Could there be co-finance potential (USD, in-kind inputs, risk-sharing, etc.) with those programs?

d) **IMPLEMENTING PARTNERS- This will inform the financing options, the choice of potential funding sources and also inform the mid-long term implementing plan**
Who are the relevant actors who can contribute to the implementation? What institution is best placed to lead on implementation? Has the leading Implementing Institution managed climate funds before (e.g.: from GEF, AF, ADB, etc.)? Does this institution have capacity to manage grants? Capacity to manage loans/debt? Does it have a safeguards (social/environmental) system in place?

e) **FINANCING- This will inform the choice of funding sources and of financing instruments (E.g.: public/private; domestic/external, grants/loans, multilateral/bilateral).**
Have the financial needs for this activity been properly estimated (cost estimation, CBA, budget; capital investment vs recurrent costs)? Is it partially funded (by whom, for what amount)? Is it already integrated in national/sectoral budget (PIP form)? Could this activity potentially generate financial profits/returns? Have the Returns Of Investment been assessed?

f) **PREPAREDNESS- This will inform the sequencing and long-term needs within the Implementation Plan**
At which stage is the project? Preparation/formulation phase? Ready for implementation ("fundable" and/or "bankable"? How soon could implementation start if financial resources were allocated? Rank: PREPARATION PHASE; "NEAR IMPLEMENTATION"; "ENABLING ENVIRONMENT" action (Refer to project cycle diagram)

g) **TIMING- This will inform the sequencing of steps to be taken in the implementation plan.**
Identify time constraints to be taken into account for implementation of this priority and/or for the mobilization of resources (E.g.: planning processes, budget cycles, pre-conditions to comply with, political clearance, technical endorsement (e.g.: NDA), donors' calls for proposals, accreditation, etc.).

h) **CROSS-CUTTING ISSUES– This will inform the mid-long term plan: strategic measures that will enhance the capacity to implement priorities/further adaptation actions**
Is there any gap (information, knowledge, tools, institutional capacity) that is hindering (a) the project formulation, (b) the access funds; (c) the implementation of this action? We will assess common gaps/constraints that need to be addressed (E.g.: institutional capacity, portfolio development, regulatory framework, etc.) and Identify activities that could improve the enabling environment (E.g.: capacity development, training, regional exchange, accreditation, policy change, coordination mechanism, knowledge management, etc.).

REVIEW OF PRIORITY ACTIONS (sorted by sector)

1. Agriculture, DRR, Agriculture Infrastructure and Agriculture Technology

#	Sect.	Priority action	TARGET ID.	TYPE INVESTMENT	SYNERGY/COORD.	IMPLEMENTERS	FINANCING	STAGE	TIMING	X-CUTTING ISSUES	COMMENTS
3	Agriculture	Promoting climate resilience of agriculture through building/maintenance sea dikes in coastal areas	Targeting is precise (both geographically and #beneficiaries) and based on existing vulnerability assessments. No identification of gender impacts as data lacking: • Areas: coastal areas; • 10000 farmers, 10000 ha from vulnerable areas affected by salt water • Vulnerable assessment: Vulnerability Assessment and adaption (2006), 2nd Nat. Comm.	The project is a combination of investments and has a clear potential for impact on the ground: • **Soft**: (i) explanation on benefits, investment process details; (ii) Pilot on community farming system; (iii) Ag. Extension; (iv) maintenance and operations; • **Hard**: dikes • **Ground Impact**: 10000 ha, and 10000 farmers	Project well aligned with national climate policies and sector ones. • INDC and Floods and drought focus (PM mandate) • CCSP for water resources; • Contribution to NAPA (2006), agriculture in coastal zone; Categories: (i) capacity building, (ii) awareness/Education, (iii) infrastructure development	MOWRAM will be the implementing lead, with engagement from MAFF and subnational entities • MOWRAM (5 departments); • MAFF, Ag. Extension and PDA; • MOWRAM has experience managing large operations from ADB, including PPCR investment projects	The project needs further developing on costing and budgeting. • **Cost method estimate**: each project should consider in details. • Partially funded by CCCA. • Budget Process integrated: PIP (following up MoWRAM) • MOWRAM has managed large investments before, through ADB PIUs and developed some capacity to manage int.funds	Near Impl. Phase The project (USD3M) has advanced the project formulation but needs working on the breakdown of costing and components. With some project preparation support (PIF/PPG?) the project could be ready for implementation	Time constraints: Scheduling, Agreement on implementing, output report; EIA (Environmental Impact Assessment): Required	• Need to strengthen coordination mechanism btw ministries as well as MRV at Min level (e.g.: collaborative progress reports)	
6	Agriculture	Promoting and up-scaling climate smart farming system that resilient to climate change	• Area: 23 provinces (1000 communes), 11000 ha. • Vul. assessment: None • Gender: None	• Soft: farming system, technical package, crop tolerance • Hard: infrastructure to store water • Ground Impacts: Income of rural households increased by >50%; and Improve practices	• CCCSP, and CCSP Strategic Objective • Showcase and attract duplication,	• MAFF • CARDI, GDA, PDA • Local NGOs • EIA (like fertilizers)	• Cost method estimate: No ideas • Budget Process integrated: PIP (don't know) • Capacity to manage loan or grant: exist, replenishment approved MEF depend on the projects (3 months, account opening at Central Bank)	• Phase: Preparation	• Time constraints: timeframe on money released for periods and action plan; Replenishment and financial and output report; and processing document MEF;	• Common Gaps • Enabling environment: (i) Coordination with MRD/institutions for food securities; (ii) Hard to change the mentality or customs of farming system. => Capacity dev. on cc, scientific on farming system, and market availability (post-harvest).	• Not know on PIP and costing • Explore potential links with SPCR investment projects on "Climate resilient Agriculture", with 2 components: (I) Koh Kong and Mondulkiri Provinces and (II) business-oriented climate-proofing of Ag. infrastructure.

13	DRR/Agriculture	Institutional capacity development for natural disaster coordination and intervention	• Areas: • Vulnerable assessment: None • Gender: None	• Soft: Regulation development and guidelines • Dev of Technical guidelines on post-harvest, processing and packaging; • Hard: None • Ground Impacts: reduce losses in quantity and quality of agricultural product.	• CCCSP and CCSP strategic objective: Agr. and agro-industry development;	• MAFF (GDA, DAI)	• Cost method estimate: no details • Budget Process integrated: no ideas on PIP • Implementing institutions: Capacity to manage loan or grant. • In kind contribution from MAFF.	• Phase: Preparation	• Time constraints: Drafting supported by technical experts and consultation process (need for technical inputs from other ministries and agencies).	• Enable environment: (i) Guideline, prakas and regulation to support adaptation and mitigation on agriculture and agro-culture (ii) Ministry of Commerce: Costing, target areas of products to be delivered, and quality of packaging;	
19	Agriculture	Develop crop variety suitable to AEZ resilient to climate change (include coastal zone)	• Areas: 4 AEZs (Tonle Sap region, Mekong Plain, Costal region, North-Northeastern mountainous region) • 68% of rural farmer (6-7 million people) • Hundred of researcher and extension worker in 23 provinces; • Vul assessment: None. • Gender: None	• Soft: Research and Capacity. • Hard: 4 crop varieties development; • Ground Impacts: (i) 4 crop varieties, (ii) capacity on bio-tech research, (iii) crop yield improved	• CCCSP and CCSP strategic objectives: Agr. and agro-industry development; • Potential to scale up results from pre-existing project (ACIAR ACCA, funded by Australian cooperation)	• CARDI, Rice Crop department of GDA, PDA, MAFF • Local NGOs	• Estimated cost: USD13.380 (over 5 y) • Cost to beneficiaries estimated at USD 1,82 • Budget Process integrated: no ideas on IPO • Implementing institutions: • Capacity to manage loan or grant: yes.	• Phase: Near Impl.	• Time constraints: Specificities to different areas to implement crop.	• Gaps: • Common Gaps : Climatic areas, water or drought. • Enable environment: Cooperation with MoWRAM.	• Potential for funding through IFAD (ASPIRE or ASAP), and maybe EU. • Also, possible to seek potential with pre-existing Australia investments, ADB operations and potentially SPCR investment projects (PPCR)
33	Agriculture	Strengthening capacity of agricultural and agro industry development entrepreneur and the agricultural cooperative in low carbon production	• Areas: training of trainers, M&E official, technical staff of stakeholders; • TOT expected impact: (i) 50 (training of trainer)*10 times technical staff of MAFF. Replication: farmer group, entrepreneurs, and private sector.	• Soft: Capacity building •	• No clear connection to strategic priorities in climate/development plans.	• MAFF (GDA, DAI, CARDI) supported by MEF and NGOs, and donors.	• USD 1,5 million • Cost method estimate: details. • Budget Process integrated: PIP (no ideas) • Capacity to manage loan or grant: yes • MAFF in-kind-contribution.	• Phase: Preparation	• Time constraints: selecting other stakeholders, joint meeting institutions/inter-ministry, or private sector	• Common Gaps: Capacity building. • Enable environment: Capacity Development with relevant stakeholders	• The budget seems rather high for a soft investment (TOT trainings). • There is an expectation about UNDP/GEF funding, but this may need to be integrated into a better defined project formulation

20	Agriculture Infrastructure	Climate-proof tertiary-community irrigation development to enhance agricultural production of paddy field in four communes of Mekong Delta, District Kampong Ro, Svay Rieng Province	• Areas: Kampong Ror, Svay Rieng Province; Command areas: 100,000 ha • Vulnerable assessment: None • Gender: None •	• Soft: Community Development; • Hard: tertiary irrigation system; • Ground Impacts: (i) 5 community-based irrigation system, (ii) yield increase, (iii) Capacity on project implementation; (iv) income of local communities are enhanced.	• CCSP 3 and 4	• MoWRAM supported MAFF, MRD, and donors	• Cost method estimate: detailed budget and estimation of CBA and ROI • Budget Process integrated: no ideas on PIP; • Implementing institutions: MRD, MAFF, NCDD, donors; • Capacity to manage loan or grant: yes. • Budgeted: USD 530000	• Phase: Near Impl	• Time constraints: procurement on supply.	• Common Gaps: MRD, MAFF, NCDD, local communities in understanding the climate resilient for local assets and technical staff; • Enable environment: coordination with community.	• Potential for financing from IFAD. • Also seek to tap synergies with SPCR investment projects (incl.: Climate proofing of agricultural infrastructure and business focused adaptation; implemented by MAFF and MEF)
23	Agriculture technology	Promote post-harvest technology for cereal crop and tuber crop and conduct the research and transfer appropriate post-harvest technology.	• Areas: General • Vulnerable assessment: None • Gender: None	• Soft: Capacity, research; • Hard: Develop technologies for harvesting and post-harvesting (machinery and equipment) • Ground Impacts: (i) reduced loss of 10%, (ii) better technology for farmers	• Rice policy 2010, ASDP 2010-2013, NSDP goal 6	• GDA, CARDI, DAI for implementation	• USD 3,5 million • Cost method estimate: not know details. • Budget Process integrated: PIP (no ideas), • Funding: MAFF contribution in Kind; and ADB financing expected • Funding: loans or banks or implemented by private sector;	• Phase: Near Impl	• Time constraints: infrastructure for transportation, drying crop, quality/standard, and storage constraints.	• Common Gaps: Capacity development and research • Enable environment: (i) MPWT and MRD on transportation issues. (ii) MoC on market of equipment and machinery, and quality of products.	• Check whether this project has already been financed by ADB. • Potential for financing/synergies with SPCR investment projects (Climate proofing agriculture an d business focused adaptation”). • Potential engagement from private sector (CSA) • Explore IFAD/ASAP co-fin

2. Fishery, Forestry and Livestock

#	Sect.	Priority action	TARGET ID.	TYPE INVESTMENT	SYNERGY/COORD.	IMPLEMENTERS	FINANCING	STAGE	TIMING	X-CUTTING ISSUES	COMMENTS
1	Fishery	Promoting aquaculture production systems and practices that more adaptive to climate change	• Locations selected • Type of beneficiary identified (85.000 farmers, authorities, admin staff)	• Mostly SOFT (vuln. Ass, research) and KM, training • Small HARD for piloting (testing field) • GROUND-IMPACT (as pilot)	• Alignment with National CCSP (3 Obj.) and 2 CCAPs • Build on previous seeds-funds from CCCA • Links with ASEAN Good Aquaculture Practice (at regional level)	• MAFF, Fisheries Dep. (and local level executing agencies) • Funds management capacity within MAFF	• Budget exist (USD3.4 million) • No CBA or break-down of cots and budget • May avoid future costs (unlikely to generate financial profits) • May generate return but ROI not estimated	• Advanced preparation Phase (Impl. with a PPG?) • Still needs: targeting, budgeting/financing (AF?)	•	• Lack of data on climate scenarios hindering vulnerability assessment • Institutional coordination (cross-sector) and Nat-Local	• Has received a CCCA grant • Potential for Adaptation Fund, LDCF • Potential link to private ventures, e.g.: WorldFish Partnership • Potential for programmatic approach with PAs 10 and 11
10	Fishery	Promoting climate resilience of wild fishery resources	• Geographical sites have been identified (Tonle Sap, and upper Mekong: Kratie and Stung Treng) based on potential fish stock (studies on fisheries and climate vulnerability in place) • Fisheries communities in mangrove and watershed areas: 1621 communes, targeted (TBD)	• Mostly Soft (assessments, trainings) with some hard investment for the piloting activities (digging, zoning and introduction of species)	• Clear alignment with CCCSP and INDC and with sectoral priorities (Fishery Strategic Development Plan 2017-2021) • Potential synergies with PA 1 and with private ventures (e.g.: WorldFish investments)	• FIA (under MAFF as leading partner, in coordination with MoE, MLMUPC for coordination with provincial level).	• USD 1,3 Million • Some financial support from Gov sources, and seeking external support (grants) • FIA has some project management experience, but little exposure to international climate funds.	• Project at concept note stage and needing more formulation • With a Project Preparation Grant, could enter Near Impl. phase.	• Need to develop implementation arrangements with provincial level and possibly with NGOs or private actors for piloting phase execution	• Research and knowledge management • Capacity building on conservation, awareness raising • Need to strengthen coordination between Gov. stakeholders (including National-Provincial coordination)	• Good potential for an AF or GEF project (either LDCF of SCCF), with FAO, UNDP or UNEP as MIE • Potential for programmatic approach with PAs 1 and 11
38	Forestry	Conducting capacity development, research and awareness raising on REDD+	• No vulnerability assessment and no identification of the target (communities or location) to be involved in the CBA activities. • No estimation of potential beneficiaries	•	• Explore synergies with PA 2, 17 and 21 (packageable potential?)	• REDD Secretariat and Institute of Forest and Wildlife Research and Development (MAFF link?)	• 1,6 Million • Over-estimation of budget considering the type of investment (soft, research and publications) and no detail on costing.	• Preparation phase (at best, since link with adaptation is still to be established)	•	• Institutional coordination	• LINK to (PA 2, 17 and 21)→ packaging potential • Belongs more to a mitigation than an adaptation portfolio • Potentially fundable as a REDD+ activity. • Potential for FIP (CIF) support (currently under formulation in Cambodia)

11	Fishery	Enhancing the climate resilience in fishery sector (ECRF)	• Fairly precise target/geographical id. • Focus on 560 fishery communities (esp. Mondulkiri, Ratanakiri, Takeo, Prey Veng, Svay Rieng facing food security issues (vulnerability proxy) • 360 community fisheries are officially registered • Site TBD (Kratie, Mondulkiri?)	• Demonstration of adaptation approaches and (climate resilient and highly productive species selection) • Some hard investment (piloting) with ground impact and clear development co-benefits • Soft: KM, inventories, vulnerability studies	• Good alignment with INDC, CCCSP and sectoral plans (Fisheries Strategic Development Plan 2017-2021) • Mainstream in Strategic Plan of Fisheries sector from 2017-2022, but not yet implement and will be translated into annual action plan	• FIA and provincial department of MAFF, local authority and communities • New reforming structure of fisheries to be under provincial agriculture	• USD3 Million • Gov't budget based on the priority actions of FiA such as aquaculture production and natural fish stock increasing	• Near Impl. phase: the project needs further formulation and detail (particularly on budget), but could be brought to implementation phase with a project Preparation Grant	• FIA strategic plan not ready yet • Several studies conducted but results required to establish baseline • Key success is the role of sub-national/provincial level in protecting fisheries resources, which would required completion of decentralization process	• Training, capacity building and sub national level to enforce environmental regulations (resources) • Need coordination between national/prov./local levels.	• This action focus more general aspect of fisheries with climate resilience • Seems like a potential project for AF (or LDCF) • Potential for programmatic approach with PA 1 and PA 10 • Potential for synergies with WorldFish initiative (fisheries' sustainability standards)
2	Forestry	Developing and implement regulations and mechanism on REDD+	• Generic target: Indigenous people and communities in forested areas • Geographical target areas in Cambodia implemented REDD+ including: 1. Keo Sima, Moundul Kiri and 2. Oudor Meanchey (Search comunty?) • Kulen Promtep wildlife Sanctuary is a potential areas for REDD+	Soft: awareness raising on REDD+, coordination and capacity development (provincial, authority and community), communities' participation Services/recurrent investments: - land use demarcation (for REDD) -tree planting - Increase number of rangers in protected areas •	• Alignment with Forestry Strategic Plan, CCCSP, INDC • Links to REDD+ Roadmap and Strategy	• Doubts about the leading (MOE, MAFF forestry department?) • Implementing partner • Provincial authorities, under coordination from relevant ministries (Important MoE and MAFF)	• USD2,25 million • CBA undertaken for flooded forests • No detail about budget breakdown (CBA, ROI: e.g.: on benefits from carbon credits),	• Project preparation phase: needs further design/clarification budget and on institutional arrangements	• Gov't support and high commitment to REDD+	• Hindering factor: land tenure issues and conflict, land concession issues to be resolved for REDD demarcation • Coordination from national to ground level (FA coordinates with provincial level and local authority, while MoE does same with line departments NGOs, DP and Local communities)	This is mostly a Mitigation action (REDD+ Implementation) Support from Forest Carbon Partnership in Fisheries (FCPF) Potential financial from UNDP, FAO, UNEP support (UN-REDD?) Potentially relevant to FIP (currently under formulation in Cambodia)
12	Livestock	Enhancing animal waste management and climate change emission **mitigation**	•	•	•	•	•	•	•	•	• This is a MITIGATION action. • Could potentially be funded by CTF or by GEF/UNIDO programing

17	Forestry	Promoting sustainable forest management	• Geographical location has been pre-identified (Preah Vihear, Mondulkiri, Kratie, Kampong Thom, Stung Treng), but • Need for vulnerability assessment to define most vulnerable groups	• Soft: • Law enforcement; mapping of forest cover data, promoting communities integration in planning • Dissemination • Sustainable Livelihood intervention	• Alignment with CCCSP, INDC and sectoral plans, but mostly related to mitigation agendas	• Unclear (Dept. Forest Management • MoE, FA, sub-national level, community forestry → improvement is to strengthening quality of work and providing USD, they have capacity to develop funding • FA has good experience of project implementation	• USD2,25 Million (expectation to pilot carbon credit marketing, but no market study undertaken)	• Project preparation: Concept note stage, needs project formulation: • No budget breakdown (e.g.: need for market products prospective work?)	•	• Decentralization functions/resources from national to provincial level still pending • Conflict over land-use; forest concessions: needs clarification to allow participation from local communities/authorities • Need for coordination (FA/ MAFF, MoE, provincial level, local authority)	• This is a MITIGATION oriented activity; clear links with adaptation potential are still to be clarified for inclusion in NAP. • Explore options to engage private sector on forest management, conservation • Packageable with PA 2 and possibly 21 • Potentially fundable through REDD+. FIP and/or USAID
21	Forestry	Promoting reforestation and afforestation to increase **carbon stock**	• No clarity about targets and connection to adaptation benefits from this action • Potentially linked to Community based adaptation, but not established	•	• Potential synergies with "Ecosystem Based Adaptation" approaches with involvement from communities	•	•	• USD 8,2 million • No CBA is reported, no analysis of potential ROI or potential market-value for this operation (potential benefit from carbon trading)	•	•	• This is mostly a MITIGATION oriented (packageable with PA 2 and 17). Links w/ NAP unclear. • Potential for REDD+(Korea) or FIP (under formulation in Cambodia)
36	Livestock	Promoting resilience in animal production and adaptation to climate change (technical package)	• Food security taken as a proxy to vulnerability for targeting purposes (Takeo, SR) or based on assessment needs of farmers in animal raising/livestock • Group: Vulnerable group/marginalized ppl to have, farmer groups	• Combination of soft (technical guidelines, capacity building), and hard (intro. of new breeds, forages and techno. for water management and animal health) and ground impact at long-term (expansion of integrated farming systems)	• Align with existing CCCSP, INDC and Strategic Plan for livestock extension • Already mainstreaming this action in PIP, Strategic Plan of livestock	• Technology and techniques by private sector • General Directorate of Livestock, MAFF	• USD8 Million • Some Gov't funds allocation has been done • Development of PIP underway	• Preparation phase: more studies needed; as well as budget details (no CBA)	•	• Capacity building to official and farmers	• Potential for private sector and NGOs joint work: strong interest in introducing new technologies in livestock (E.g.: introduce resilience in supply chain) • Development of PIP to attract external donors. • Potential funding from IFAD, FAO, and/or AF, LDCF

3. Water sanitation, Infrastructure, Water Irrigation

#	Sect.	PA	TARGET ID.	TYPE INVESTMENT	SYNERGY/COORD.	IMPLEMENTERS	FINANCING	STAGE	TIMING	X-CUTTING ISSUES	COMMENTS
4	Water and Sanitation	Carry out risk assessment and management for the improvement of water supply and sanitation (WATSAN) in the Tonle Sap Great Lake provinces	• Location identified (6 provinces, Tonle Sap Lake) • Number of beneficiaries identified (farmers, wells committees)	• Mostly HARD (latrines, wells, ponds) • With GROUND-IMPACT • Little SOFT (baseline, training)	• Clearly aligned with nat. planning docs and sectoral priorities (and contribution to indicators identified)	• MRD or Water? • What capacity to implement?	• Budgeted 4Mil; (current prices); • Cost per beneficiary/ year exists • Economic return explored (but unlikely) •	• Near Impl. as long as project document is formulated • Does a project document exist? • If so, ready to fish funds and implement	• Project formulation (if doc. Non existent)- • Could seek AF or LDCF funds • IF direct access AF (accreditation)	• Coordination btw Nat/Local authority needs strengthening. • Could benefit from national accreditation to AF • Does the IP have project formulation skills?	• Could be formulated as a project for AF funds. • Assess capacity to Implement from partners (MRD- water supply). • Bad choice of title… •
7	Infrastructure	Repair and rehabilitate existing road infrastructure and ensure effective operation and maintenance system, taking into account climate change impact	• Unclear id. Of geographical areas in CCAP project fiche • Gov. informants assessment: Provinces around the Tonle Sap Lake; Provinces along the Mekong	• Soft: capacity development • Hard: Road and bridges constructions • Some services: road maintenance	• Link to MPWT's BSP 2017-19 • Recommendation from PM • National and sub-national	• MPWT to lead • BSP of MPWT • Partially funded (but don't know how much?) • Established Social and Environment Office in the department of planning	• Very large budget for project: USD170 million • Conduct CBA for all projects funded by ADB • CBA conducted to support integration the action into BSP	• In the preparation stage, but some parts of project are going on implementation. • Integrated in the BSP 2017-19	• Time constraint in budget preparation and allocation from the government • Negotiation on bilateral funding with potential sources. • Advisable to consider mix of domestic/ext. sources	• Lack of capacity and information on climate risk (future climate scenarios and related vuln. Assessments) • Institutional arrangement and coordination with other ministries	• Potential synergy/co-finance with of SPCR investments package (Roads climate-proofing component) • Potential programmatic loan from ADB (or grant from JICA?)
8	Infrastructure	Development and rehabilitation of flood protection dikes (Kampong Trabek, Bateay) for agricultural/ urban development	• Geographical location clearly identified (from Kampong Cham to the border with Vietnam (PrevyVeng and SvayRieng)	• Mostly hard investments in infrastructure and little soft (baseline study, guidelines); with impact on the ground (farmers, dwellers' settlement)	• Directly aligned with the PM mandate to foster response to drought/floods and aligned with sector-wide plans	• MOWRAM • Institution with project management capacity and experience with ADB operations/investment programs	• USD 4 Million • Domestic budget allocation to be checked for co-finance	• Tentatively at Near Impl. phase (if domestic budget and large SPCR/PPCR investments were aligned)	•	• Need to strengthening the alignment with SPCR/PPCR inv. projects • Need for institutional cooperation, incl. MOWRAM, MPWT, MAFF, MRD and provincial and local levels	• Explore potential for synergies/co-finance with SPCR investment programs o "Climate Proofing Infrastructure" (incl. "Flood resilient infrastructure development, impl. by ADB/MPWT)

9	Water	Up-scaling mobile pumping stations (20) and permanent station (10) in responding to mini-droughts	• Geographical locations identified (Prey Veng and SvayRieng) for up-scaling of existing technology (10 stations, pumping machines to combat mini-drought)	• Mostly HARD (extension of pumping machinery) • Soft: capacity development	• Links with PM mandate to focus on droughts and floods; links to MOWRAM sectoral priorities	• MOWRAM, provincial level, Dept. of Irrigated Agri.)	• The budget estimation is unclear in the project fiche (USD20K or USD20 million?). Needs clarification and detailed budgeting • The implementer expects domestic/ext. funds with PIP development	• May be ready for PIP development in the short term • Requires project formulation if seeking international climate funds • Near Impl.?	• Needs clarification of budget • Would need market prospecting if PPP was to be sought.	• Needs engagement from Provincial/Local governments and ideally NGOs/local communities	• The development of the PIP should be developed asap (mid-May for BSP and mid-July for budget provision). • Potentially "fundable" through adaptation (possibly LDCF, AF, ICF, ASAP) or DRR (GFDRR) funds (?)
15	Water and Irrigation	Climate risk management and rehabilitation of small, medium and large-scale irrigation infrastructure.	• Good geographical identification of target provinces (Siem Reap, Banteay/Meanchey; Pursay, Battambang, Kg Thom, Kg. Chhnang, Prey Veng) • Potentially benefiting 6-8 million people.	• HARD: rehabilitation of irrigation infrastructure • SOFT: capacity development of engineers	• Clear alignment with floods/droughts response mandate from the PM.	• MOWRAM	• USD200 Million • Some of the budget (relative to maintenance of infrastructure) to be assumed by domestic budget (in long run) • Further capital investment needing external support (loans?), potentially from ADB, China, India	• Near Impl phase (actually this priority action seems to have entered implementation stage already; with domestic and SPCR funds)	• Priority action would already be at implementation phase (at least partially)	• Need to clarify alignment between the NAP priority action, the MOWRAM on-going activity and the SPCR investments. • Need for strengthening of coordination between NCSD/SPCR and potential donors.	• A domestic budget allocation of aprox. USD35 has been pre-allocated (needs follow up) • Co-finance with SPCR/PPCR investments under "Clim. resilient agric. and business focused adaptation".)
16	Infrastructure	Promoting climate proofing and retrofitting of existing and planned schools and universities infrastructure	Only target "category" (vulnerable schools and Universities) has been decided No vulnerability assessment and no clear identification of target (N., site)	• Soft: maps, guidelines, building codes • Hard: retrofitting of existing infrastructure (buildings)	• Alignment with CCCSP and SCCSP	• MOEYS • No clear experience in project management • No clear experience in accessing climate funds	• An estimated budget of USD1,95 Million, with no detail on budget and no cost estimations at all.	• Preparation phase	• Regulatory framework development (adoption of climate-proofing building code)	•	• Could be of interest for DRR financing sources (E.g.: GFDRR, UNHabitat or other) once adequately formulated.

25	Water	Promoting gender responsiveness in water management, cc impact and adaptation	• 150 Farmer Water User Communities (FWUCs) selected at national level, 30 staff ToT-trained and expansion to about 500 members benefiting (70% women)	• Soft: development of manuals and policy guidelines, delivery of trainings, capacity development, knowledge management	• Alignment with CCCSP cross-cutting issues (gender mainstreaming)	• MOWRAM's Department of Farmer Water User Community to lead the implementation and its provincial departments with supports from department of Gender and women affair and water supply and sanitation	• USD1,5 million budget estimation, seems over-budgeted for technical assistance and soft investments (need for clarification and detail)	• Near Impl. phase, but need budget revision and detailing.	• Need clarification of demand (ToR for technical assistance) and revision/detail of budget		• Potential for co-finance from the Technical Assistance/mainstreaming components of the SPCR (some relative to Knowledge management and gender) • Potential for UNDP/GEF support?
26	Infrastructure	Build capacity on climate proofing rural infrastructure design, construction and maintenance for civil engineers (250) at national and sub-national level	•	• Soft investments: KM mechanisms, guidelines, vulnerability assessments and mapping, etc.	• Alignment with sectoral plans	• MRD (in cooperation with MOWRAM)	• USD400.000 for 2 y. • To be checked whether the detailed activities of this project are already included in PPCR investment project development. • Gov in-kind contribution of 5-10%	• Based on CCAP fiche, the project formulation is advanced, but the budget request needs more detail.	• Implementation (as components of PPCR) may have started. This needs checking.	• Improving coordination btw NCSD/SPCR; between national-level institutions (MRD, MOWRAM, NCDM, et.) and between the national and the provincial /local/community levels.	• Clear synergies and co-finance opps. with one of SPCR investment projects (PPCR: rural roads climate-proofing in Kampong Cham and Thbong Khmon provs., MRD implemented) and the TA components (KM)
28	Water	Improve capacity for flood and drought forecasting and modeling for technical offices at national and sub national level (ADB) GMS	• Institutional targets clearly identified (for Soft investments), but geographical location for infrastructure undefined in project fiche	• Aligns with PM's mandate to respond to floods/droughts risk; as well as with CCSP strategies.	• Mostly soft (training, information management systems, coordination) and some hard (reservoirs, river banks' protection)	• Department of Hydrology and Department of Meteorology	• USD2 million, but very little detail on budget allocation needed	• Project preparation. • Seems like the institution has a clear plan but needs project formulation (eg: budget, indicators, detail of activities, etc.)	• Seems like a PA very necessary for the others (related to climate data) to be implemented. • Should probably be expedited	• Needs clarity on how the climate data are centralized, processed and shared. • Is there a clear mandate (from Hydro and/or Meteo.) and a coord. Mechanism with end-users?	• Funds from ADB are expected by the Department of hydrology and the Dep. of meteorology. • Explore support programs from WMO (for early warning systems, and climate data management).

4. DRR, Health, Tourism, Land Use, Rubber

#	Sect.	PA	TARGET ID.	TYPE INVESTMENT	SYNERGY/COORD.	IMPLEMENTERS	FINANCING	STAGE	TIMING	X-CUTTING ISSUES	COMMENTS
5	DRR	Strengthening climate information and Early Warning System	• Gov institutions and indirectly society-wide • No id. Of beneficiaries (number of) • Whole Meteo network, no vulnerability analysis on those that need more inv. • No assessment has been done on current status of the meteo and hydro stations' network • Coverage is too large (at national level and prov level they know the shape but not at the district level)	• Mostly SOFT with some Hard for retrofitting and equipment (?). It is mostly capacity building. •	• UNDP is providing equipment to repair some stations (hydrol.), with Min of Water. • UNDP has a Study on hydro network, but hey are working more on hard • It is complementary project. • Short project , equip station • Meto investment in retrofting atation too (one!)	• Min of Water Resources • 2 institutions (METEO and HYDRO) who´s implementer?? • At nat. and at provincial level • The hydrology inst. Is working with UNDP/GEF in the other project management • Hydr and Meteo have focal points at provincial. • Meteo is a big investment (one station concentrates most of the country), they are getting French equipment to retrofit the station	• Guestimate: 5,5 Mil. • No CBA of cost effectiveness • No idea • Budget estimation came from the CCAP • Not much detail on budget	• Preparation Phase, still things to figure out before they can proceed.	• 2 years (still relevant?) •	• They need a training on project formulation • Needs to have a coordinating mechanism in place, eg: bird flu and risk of epidemic, there is a lack of inter-ministerial ccordination and coordination woth the provincial level. • The plan is not only for NCDM but for others too • This activity would benefit other activities	• Expected to be financed by UNDP/GEF • NCDM had only one project (CCCA grant)
18	Health	Up-scaling of National program on acute respiratory infection, diarrhea disease and cholera in disaster prone-areas, including conducting surveillance and research on water-borne and food borne diseases associated with climate variables.	• Focus on rural population • No baseline • No study on impact of climate change in the disease distribution • 5 provinces are selected, focus on Great –Sub-Mekong region • Unclear if based on a vulnerab. assessment, but it´s areas that are most prone to vector-borne diseases. • No info about % or number of beneficiaries.	• SOFT investments, capacity building, Prevention policy development • Infrastructure? (Renovation of health acilities in disaster prone areas). • HARD equipment is only office equipment	• WB project focusing, only starting, focusing on Env/Soc safeguards and indigenous people • ADB project focusing on capacity building • WHO initiative about climate change (capacity building) and planning on impact assessment of CC into Health • CC concept is very new, a lot of mainstreaming	• 2 IPs: malaria center, and preventive medicine dep. within the MoH • PIU in those departments. •	• Financial support so far has been mainly technical assistance, but for the country nly capacity buiging, ToT sub-national level implementation. • Expect international funds… • Budget definition unclear, and potentially over-estimated for the activities described (USD8M) • Different sources are merged (WHO and CCCA grant)	• Preparation phase			

22	DRR	(Piloting) community based disaster reduction, preparedness and response plans	• Location not identified. • Type of target identified • Vulnerability assessment needs to happen • TBD • Need baseline, decision about where the piloting takes place	• Soft investment • Hard investments (small)	• JICA funded project synergy Cap Building DRR project ADB implemented and NCDM executed. • Province level, community level. Very few communities. (Preveng, punian, Lower Mekong)	• **NCDM**; mostly and some other Min need to cooperate (NCDD, coordinates with the subnational level and with communities	• Not funded at all yet. • USD6Mil: assessment done, expert judgment, studies exist based on the detail of actions. • Only rough budget estimations.	• Advanced preparation, Near Impl, phase • NCDM executes other programs? • CCA grant only • Near to ready to go, may be a low hanging fruit	• Capitalize on ADB investment project JICA project finishing in 2017 and they could capitalize on the KM materials, trainings, guidelines, etc.) •	•	• PPCR potential? • Explore to ADB potential co-finance. • Explore GFDRR • Good moment to build on and scale up
30	Tourism	Promote livelihood resilience through tourism development in Community Based Tourism and Community Based Eco-Tourism	• Target pre-identified: 10 Communities (phase 1) and 56 (phase 2 up-scaling) • Khmer Coast line • Indirectly benefiting 10.000 local communities • No vulnerability assessment is reported	• Soft investment (promotion of Eco-tourism schemes, CBET, ASEAN Certification?)	• Conservation International Ecotourim pilots. • Existing CBET in Chi-Pat (Kho Kong province)	• Department of Planning and development • Unclear project implementation capacity • Unlikely experience with climate funds	• Estimated USD700.000 • No clarity on how the cost was estimated (no CBA or other approach reported) • The activity could generate income to communities • Could attract Dev. Partners (develop PIP?)	• At preparation phase. • Needs extensive project development • Project fiche little more than presentation of an idea	• Vulnerability and economic viability assessments will be needed at the very least		• Explore potential synergies at regional level (ASEAN Eco-tourism certification Schemes).
34	Land use	Integrate climate change respond measure to commune land use planning	• 120 communes in provinces along the Mekong River and the Tonle Sap • Geo area: low stream of the Mekong river basin • Specific targets, 5 provinces TBD (great sub Mekong region) • 120 communes are considered (only a selection will engage in this activity)	• SOFT investments (capacity building, mapping, dev. plans, etc.)	• DRR activities (E.g.: in Mekong rivers) • Hydro dam in Vietnam, key for control flooding • Link to Drought and Floods response mandate from the PM.	• Ministry of Land Use would be the implementing partner • No experience in managing climate funds. • GIZ supported the Min with land registration • Coastal Zone committee in plane and may be part of the CC project. (EWS in connection with CC)	Estimated total cost: 1000 USD???? MISTAKE?? Expect funds from ADB: why? Ministry is in a funds mobilization strategy…	• Preparation phase: needs substantial project development • Ministry trying to collect data to integrate in the land use plans • Coordination mechanisms? Btw Nat/local: staff from national level go to provinces and btw MAFF, MoE and Min of Land Use (ad-hoc)	• PM order to prioritize (30K USD /per project) fixed allocation		• A number of activities are concentrating in the great lower Mekong Region → programmatic approach to this geographical area? This could elevate potential for GCF eligibility

35	Housing	Promote the resettlement development that adapt to natural disaster at urban and rural	• Targets for the piloting phase un-identified. • Needs a vulnerability assessment •	• SOFT (inventory, guidelines, training, prototype, policy development) • Expected impact of pilots (500 households in 100 communities)	• The SPCR component on "Mainstreaming climate resilience into Dev planning", includes TA for risk screening tools in urban settings	• MLMUPC (Gnal dept of Housing) • Seeking partnerships with local authorities •	• USD 2 million • No costing, no detailed budget	• Preparation Phase	•	• Needs substantial development of knowledge and access to climate risk screening data and tools.	• Could benefit from support from UN-Habitat • Could explore appetite from private sector investors (climate-proofing housing techniques, e.g. Bamboo Indus)
37	Rubber	Promoting, piloting and scaling-up rubber clones from IRRBD (International Rubber Research Development Board) member country in responding to climate change.	• Target has been clearly identified: pilot (Kampong Cham); trial replication network in 5 AEZ (2 provinces, 10 sites: Kg. Thom, Koh Kong, RKR, etc.) • Training of 1750 rubber planters	• Mostly hard (introduction of resilient clones for rubber production): piloting, replication and up-scaling • And some soft (KM, training, guidelines)	• Yes, an international network exists International Rubber Research Development Board implementing similar projects in the region	• Rubber research Institute (RRIC) • General Directorate of Rubber (GDR), MAFF • Provincial authorities	• USD1,97 million over 5 years • Financially profitable activitiy: ROI estimated (USD 20,4 million) • Cost-estimation provides some detail • Co-financing has already been identified (IRRDB)	• Near Impl. Phase	• Coordination between MAFF and producers (Rubber Planters Association in rubber Estates) • Staff in place	• Need to develop coordination mechanisms (MAFF, MEF, liaison with CSO, etc.)	• Could potentially attract private investors.

5. Education, Capacity Building and Cross-cutting

#	Sector	PA	• TARGET ID.	• TYPE INVESTMENT	• SYNERGY/COORD.	• IMPLEMENTERS	• FINANCING	• STAGE	• TIMING
31	Education/MEYS	Develop education policy, analyses, research adn planning of climate change adaptation adn mitigation	• Direct target is policy level and decision-makers. Follow the implement. Indirect target are schools, teacher students communities • No number of beneficiaries (whole education sector) • Gender policy exists within the sector	• 100% soft • No ground impact (except if there was a pilot as part of the action)	• Aligned with CCCSP (SO5) and education SCCSP (SO1) • Similar to MOWA support to for integration of gender in education. • Support from NCSD on CC technical issues.	• Experience of CCCA grants. • Dep. of current development is in lead of CC • MoEYS generally have long-term experience in handling donor funds.	• USD 800.000 • Not the type of activity where we expect a RoI or financial study • No detailed budget developed	• Preparation phase • Work done on curriculum but more or less project dev stage.	• Curriculum under Development currently (to be finalized during 2018.)
32	Capacity building	Build awareness and capacity at national and sub-national level for mainstreaming climate change into rural development planning processes	• Target is engineers (100) and X planners on national and SN-level. Training also of Communities expected (VDCs) • Probably no gender or vulnerable assessment made.	• Soft (capacity development/trainings)	• Aligned with the MRD CC strategic plan (2012 outdated?) • NP SNDD aligned (?) • Clear links to PA40 (vulnerability assessment) •	• MRD to lead (engineers) but for communities it could include schools, NCDD/ SN-level, NGOs etc • For water MoWRAM and for vulnerable assessment NCSD • Also MPWT, possibly MoEYS	• USD 2,5 Million (4 years) • Rough cost estimate exists but detailed budget needed • Financial benefit analyses indicated in fiche but based on rough estimate. • Partly implemented (Kampong Thom w/CCCA 2017)	• Preparation phase • Partially financed (CCCA grant) and under implementation • Would need specific formulation (of selected components) to apply for co-finance.	• No time constraint but could be rolled out rather quickly pending coordination with other stakeholders.
39	Cross cutting/MoE	Support to line ministries to mainstream climate change into development planning and budgeting	• Direct target: ministries working on CC (14+1). CCAP development and mainstreaming CC in budget processes	• Mostly soft • Some ground impact through grant mechanism	• Fully aligned with CCCSP (being the "engine" to implement the 8 priority's) • Synergies with PA 40…	•	• Looking on current CCCA and CF Ready (GIZ) budget, estimations can easily be made	Mostly financed and under implementation phase	
40	Cross cutting/MoE	Conduct national and sectoral vulnerability assessments	• First target is policy and decision-makers. • The action in itself is to develop and produce vuln assessments. • Nationwide. • Gender is planned to be part of the assessments in cooperation with MoWA.	• 100% soft • No ground impact in the first case.	• Aligned with CCCSP obj 2 • Important for all international obligations such as the communications to UNFCCC	• MoE/NCSD to lead but engagement of all ministries needed as well as SN-level • NCSD is currently managing direct funds from CCCA, GCF Readiness, UNDP. • ESS is part of the NCSD operational manual	• SPCR said they would fund but have only done for sector/province where SPCR is active. • Need to make a cost analysis. • Not the type of activity where you would do RoI or CBA	• Preparation phase (needs further formulation and budgeting) • Small part being implemented by SPCR- for the rest, project development is needed.	• 3rd national communication to be submitted in 2019 – activity should take place 2018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