Cambodia's National Adaptation Plan Process

Stocktaking report and recommendations for a road map for advancing Cambodia's NAP process

Authors: Mission team

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Acronyms and Abbreviations

ADB	Asian Development Bank
CC	Climate Change
CCA	Climate Change Adaptation
CCAP	Climate Change Action Plan
CCBAP	Cambodia Community-Based Adaptation Program
CCC	Chamber of Commerce
CCCA	Cambodia Climate Change Alliance
CCCAP	Cambodia Climate Change Action Plan
CCCD	Cambodian Climate Change Department
CCSP	Climate Change Strategic Plan
CCCSP	Cambodia Climate Change Strategic Plan
CCD	Climate Change Department (within Ministry of Environment)
CCFF	Climate Change Financing Framework
CCTT	Climate Change Technical Team
CDC	Council for Development of Cambodia
CDCD	Communicable Diseases Control Department
CDM	Clean Development Mechanism
CGCM	Core Group for Climate Change Mainstreaming
CIF	Climate Investment Funds
CNM	National Center for Parasitology, Entomology and Malaria Control
COP	Conference of the Parties
CPEIR	Climate Public Expenditure and Institutional Review
CSOs	Civil Society Organizations
DHRW	Department of Hydrology and River Works
DOM	Department of Meteorology
DPA	Department of Political Affairs
DPHI	Department of Planning and Health Information
DRR	Disaster Risk Reduction
EIA	Environmental Impact Assessment
FWUC	Farmer Water User Community
GCCC	Gender and Climate Change Committee (within Ministry of Women's Affairs)
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	Greenhouse gas
GIS	Geographic Information System
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
IIED	International Institute for Environment and Development
IPC	Pasteur Institute of Cambodia
IPCC	International Panel on Climate Change
IPCC5th	International Panel on Climate Change Fifth Assessment Report
LDCs	Least Developed Countries
LEG	Least Developed Countries Expert Group
LG-CC	Local Governments and Climate Change project
M&E	Monitoring and Evaluation
MAFF	Ministry of Agriculture, Forestry and Fishery
MCA	Multi-criteria Analysis
MEF	Ministry of Economy and Finance
MIME	Ministry of Industry, Mines and Energy
MLMUPC	Ministry of Land Management, Urban Planning and Construction
MOE	Ministry of Environment
MOH	Ministry of Health
MOI	Ministry of Interior
MoP	Ministry of Planning
MORD	Ministry of Rural Development
MOWA	Ministry of Women's Affairs

MOWRAM	Ministry of Water Resource and Meteorology
MOYES	Ministry of Education, Youth and Sport
MPWT	Ministry of Public Works and Transport
MRD	Ministry of Rural Development
NAMA	Nationally Appropriate Mitigation Actions
NAP	National Adaptation Plan
NAPA	National Adaptation Programme of Action to Climate Change
NAPA FU	Promoting Climate Resilience in Agriculture and Water Resources Management for Rural Livelihoods in Cambodia Programme
NAP-GSP	National Adaptation Plan – Global Support Programme (UNDP-UNEP)
NCCC	National Climate Change Committee
NCDD	National Committee for Sub-National Democratic Development
NCDDS	National Committee for Sub-national Democratic Development Secretariat
NCDM	National Committee for Disaster Management
NCF	National Climate Fund
NCFP	National Climate Funding Programme
NCHP	National Center for Health Promotion
NGO	Non-governmental Organization
NIPH	National Institute of Public Health
NIS	National Institute of Statistics
NMCHC	National Maternal and Child Health Center
NP-SNDD	National Programme for Sub-National Democratic Development
NSDP	National Strategic Development Plan
PCDM	Provincial Committee for Disaster Management
PDA	Provincial Department of Agriculture
PPCR	Pilot Program for Climate Resilience
R&D	Research and Development
REDD+	Reducing Emissions from Deforestation and Forest Degradation
RGC	Royal Government of Cambodia
SCCP	Sectoral Climate Change Plans
SIDA	Swedish International Development Cooperation Agency
SNAP	Strategic National Action Plan for Disaster Risk Reduction
SNEC	Supreme National Economic Council
SOA	Special Operating Agency
SPCR	Strategic Program for Climate Resilience
SPCR/CIF	Strategic Program for Climate Resilience / Climate Investment Fund
SWOT	Strengths, Weaknesses, Opportunities, Threats
TAMD	Tracking Adaptation and Measuring Development
TOT	Training of Trainers
UHS	University of Health Sciences
UNCDF	United Nations Capital Development Fund
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
VA	Vulnerability Analysis
VDMT	Village Disaster Management Teams
WHO	World Health Organisation

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Executive Summary

The Ministry of Environment (MOE) of the Royal Government of Cambodia requested support from the UNDP, UNEP and Gesellschaft für Internationale Zusammenarbeit (GIZ) to identify entry points for the Government to institutionalize Cambodia's National Adaptation Plan (NAP) process.

In response, and recognizing a history of work undertaken in country on integrating climate change into planning at the national and sectoral level, the UNDP-UNEP led Global Support Programme on NAPs1 and GIZ agreed to jointly support the Government to conduct a stocktaking of Cambodia's activities relevant to the NAP process.

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 (CCA), in a coherent manner, into relevant new and existing policies, programmes and activities, in particular development planning processes and strategies, within all relevant sectors and at different levels, as appropriate.

Within this framework, the mission team suggests that the National Adaptation Plan (NAP) process for Cambodia has several building blocks already in place that can be enhanced to meet these two objectives. These include the Cambodia Climate Change Strategic Plan (CCCSP), climate change financing framework and several climate mainstreaming initiatives at the sub-national levels.

But there are also gaps that need to be addressed. These gaps are significant for Cambodia, but are also found in other countries, as planned approaches to climate change adaptation are still relatively recent. These include lack of inventories of existing climate information, fragmented and outdated vulnerability assessments, lack of consistent climate scenarios, and limited cross-sectoral collaboration on climate adaptation programming at national and sub-national levels. Monitoring processes also need greater support. Institutional capacity constraints exist in all these areas. Addressing these gaps through the NAP process in Cambodia, could in turn inform future climate change strategies, financing frameworks and national development planning and budgeting.

In this context, the mission team suggests that the goal of the NAP process in Cambodia could be defined as 'Ongoing Climate Change Adaptation processes are strengthened through cross-sectoral programming and implementation at national and sub-national level' This overall objective of the NAP process is derived from the interviews during the mission, and presented in the debriefing session with the MOE.

The goal of the NAP process does not modify other objectives set by the NSDP and the CCCSP. Rather, it builds on their objectives with a focus on strengthening and better integrating on-going processes. It further identifies cross-sectoral programming and implementation at national and sub-national level as key principles for process strengthening.

To operationalize this goal, the following **strategic intervention areas are suggested**. A NAP process that responds with activities in these strategic intervention areas will generate added value to existing CCA initiatives.

1) **Intersectoral coordinated implementation**
   Fields of activity based on Sector Climate Change Action Plans which offer synergies through joint collaboration between sectors. A few activities should be selected as pilot intersectoral

[1] Financed by the Global Environment Facility (GEF) Least Developed Countries Fund (LDCF).

coordinated implementation programmes, particularly in climate hot-spots, which can then be scaled up. Some key opportunities for coordinated implementation include: capacity development on climate change adaptation and financing on national level; adaptation in land-use planning; and development and implementation of data management system on health outcomes arising from natural disasters and other man-made disasters.

2) **Data systems and analyses**
Harmonize/standardize data processing, modelling, projections, vulnerability assessments, and use of Geographical Information Systems (GIS).

3) **Support financing systematically**
MOE might adopt a 'finance brokering' function to match financing needs with sources.

4) **Capacity development and vertical mainstreaming linking national and sub-national levels:**
Support measures such as capacity development, advisory services, up-scaling mechanisms, and enhanced ownership at the local level.

5) **Overall steering of implementation and evaluating effectiveness (M&E):**
Priortise the establishment and running of an overall M&E system at MOE to ensure learning process for Climate Change Adaptation.

6) **Qualitative mainstreaming:**
Including integrating climate risks into Environmental Impact Assessment and climate proofing larger projects.

Implementing the strategic intervention areas requires a series of activities; some of them are iterative throughout the process. The six strategic interventions areas are also interrelated. For instance, vulnerability information (areas 2) can also be used for the M&E system (area 5), and capacity development (areas 4) will support qualitative mainstreaming (area 6). Some intervention areas will also be beneficial for already existing CCA initiatives.

In order to achieve the best benefit from these synergies, the six areas should ideally be implemented in synchrony. To do so, a NAP roadmap is provided in this document. Specific institutional roles and responsibilities need to be earmarked for successfully rolling out the interventions suggested in the road-map and are indicated appropriately.

The road-map is divided into three work-streams which occur in parallel over the time frame 2014-2019 - short, medium and beyond.

Workstream I: Planning, establishing and steering the NAP process. This requires an overall steering of the NAP process. Many activities from the six strategic intervention areas will be launched within this workstream.

Workstream II: Implementing the NAP process / the CCCSP and Sector CCAPs. The second workstream will deal with the implementation of the strategic intervention areas 1 to 5. The different activities, such as the detailed vulnerability assessment, will also inform and thus assist the implementation of the existing strategies and actions plans.

Workstream III: Review and learning. The third workstream deals with the implementation of an effective M&E system. It thus implements the strategic intervention area 6. From here, lessons learned will also be fed back into the steering of the NAP process and provide lessons to the international community.

As outlined above, the final objective is to strengthen on-going climate change adaptation processes through cross-sectoral programming and implementation at national and sub-national level. Detailed planning and lessons learnt from implementation will probably reveal the necessity to adjust the roadmap during the implementation phase.

Introduction

The Ministry of Environment (MOE) of the Royal Government of Cambodia requested support from the UNDP, UNEP and Gesellschaft für Internationale Zusammenarbeit (GIZ) in 2013 to identify entry points for the Government to institutionalize Cambodia's National Adaptation Plan (NAP) process. In response, and recognizing a history of work undertaken in country on integrating climate change into planning at the national and sectoral level, the UNDP-UNEP led Global Support Programme on NAPs[2] and GIZ agreed to jointly support the Government to conduct a stocktaking of Cambodia's activities relevant this process. It was further agreed that based on the findings of the stocktaking, UNDP and GIZ will assist the Government to develop a roadmap for Cambodia's NAP process including defining entry points. Following preparatory consultations with Government and local representation of both development agencies, a mission took place from 24th to 28th February 2014 comprising of staff from UNDP that are part of the NAP-GSP, UNDP Country Office and GIZ.

The mission objectives were to provide recommendations to the Government of Cambodia on:

- Joint activities and programming across sectors and themes that would integrate climate change into national planning
- To improve the existing planning and implementation framework to include climate change considerations

The result of the mission was the development of a suggested roadmap for operationalizing the NAP process in Cambodia. The main areas under the road-map were presented to the MoE, and this report develops the suggested road-map in greater detail. The roadmap takes into account already existing projects, programmes and initiatives that are contributing towards supporting Cambodia to integrate climate change into planning, and aims to respond to specific needs that will support the NAP process. Six strategic intervention areas were identified with suggested steps for the Government of Cambodia to advance its NAP process.

Overview of National Adaptation Plan (NAP) process

The National Adaptation Plan (NAP) process was established in 2010 as part of the Cancun Adaptation Framework to complement the existing short-term orientated, "urgent and immediate" focused, National Adaptation Programmes of Action (NAPAs). The NAP process is to support all developing countries, especially the least developed countries (LDCs), in meeting their medium- and long-term adaptation needs. The NAP process is meant to play a critical role in reducing vulnerability and, building adaptive capacity by mainstreaming adaptation into all sector-specific and national development planning. The Least Developed Countries Expert Group (LEG) has published the NAP Technical Guidelines to help countries put in place a system to implement their NAP process.

The main objectives of a NAP process according to 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, programmes and activities, in particular development planning processes and strategies, within all relevant sectors and at different levels, as appropriate.

Added value of a NAP process to Cambodia

As suggested by the UNFCCC and the Technical Guidelines provided by the LEG, there are some characteristics that the NAP process in any country should fulfil.

The NAP process should:

- Follow a country-driven fully transparent approach;

[2] Financed by the Global Environment Facility (GEF) Least Developed Countries Fund (LDCF).

- Be based and guided by the best available science and, as appropriate, traditional and indigenous knowledge;
- Not be prescriptive, nor result in the duplication of efforts undertaken in-country, but rather facilitate country-owned, country-driven action.

The National Adaptation Plan (NAP) process for Cambodia seeks to build upon the foundation laid by the Cambodia Climate Change Strategic Plan (CCCSP). The CCCSP seeks to address climate risk and reduce vulnerability over a ten year period by defining a set of objectives and priority actions. Within this policy context, the NAP process can add value by identifying gaps and areas for greater strengthening, and tap opportunities for more effective climate responsive planning and budgeting.

This stocktaking exercise carried out by UNDP and GIZ identifies areas of potential added value of the NAP process for Cambodia as follows:

Provide a comprehensive picture of the status of climate adaptation in Cambodia, which is useful for multiple decision-makers and to build awareness amongst national and sub-national stakeholders beyond the "specialized climate community." Information about ongoing climate adaptation initiatives is scattered in different institutions both at national and sub-national levels. The NAP process can assist Cambodia to obtain and provide a complete picture of the climate change adaptation landscape for multiple stakeholders not typically working in climate change. This includes stakeholders in national planning units, finance departments, sectoral ministries, donors, civil society, specialized institutions and citizens. It can help build greater awareness of climate risks to Cambodia.

Improved institutional coordination. This is an integral aspect of the value added of the NAP process. There are already several climate adaptation initiatives existing in Cambodia as well as existing coordination mechanisms which can be better linked to optimize benefits. Improved coordination of climate adaptation initiatives will promote synergies and multiply benefits.

Strengthened capacity and evidence base for addressing climate risk. Climate information is of varying quality and includes various data gaps. While these issues are not unique to Cambodia, national capacity constraints in addressing climate risks are considerable. The NAP process emphasizes that a system will need to be in place at the country level for the provision of reliable data and information on risks and vulnerabilities (that are also comparably) usable for different sectors and stakeholders. This will support the evidence base for planning, budgeting and implementing.

Transitioning from project based to programme based approaches for more effective CCA mainstreaming. The NAP process is a comprehensive approach that places more emphasis on evidence based policymaking, greater coordination, a systematic approach to prioritizing adaptation options, building longer term capacity and the iterative nature of adaptation planning. It also emphasizes greater integration and alignment with national planning processes. These measures support the transition from project-oriented to programme-oriented implementation of adaptation measures, thus supporting long-term mainstreaming, which is important for adaptation benefits to be sustainable.

Adoption of a comprehensive framework for Monitoring & Evaluation (M&E). Assessing resilience and evaluating the effectiveness of adaptation initiatives, learning from ongoing initiatives and feeding back into adaptation strategies and programmes is part of transitioning to a more systematic and longer term approach to adaptation. The NAP process focuses on establishing M&E systems to support greater coherence in all planned future adaptation initiatives.

Access to additional climate finance for the NAP process. The NAP process will promote more systematic approaches for addressing climate risk in the medium term. It also promotes a more holistic architecture for attracting climate finance including climate finance from domestic public sources as well as external public and private sources such as multilateral, bilateral, public and private finance for addressing identification of medium term needs.

In addition, and following experiences from the implementation of National Adaptation Programmes of Action (NAPA), the Technical Guidelines strongly suggest:

- To use locally defined criteria for ranking vulnerabilities and prioritizing project activities, which will built confidence and buy-in across all stakeholders;
- To use already collected data and initial assessments as a basis for more comprehensive assessments; and
- To engage national experts, as it will also enhance the experience and capacity of the country.

Following these suggestions will support the realization of the above mentioned added value of the NAP process.

Aligning mitigation objectives and activities with the NAP process:
The suggestions for implementing the NAP process made in this report are meant to build on existing and on-going adaptation initiatives and processes. This includes the CCCSP. The CCCSP, however, does not only focus on climate change adaptation but on objectives and activities for mitigating greenhouse gas emissions. This is not a contradiction. Firstly, because there are many adaptation measures that accomplish both adaptation and mitigation objectives. Secondly, looking at the process of developing the CCCSP and the suggestions made in this report, the additional interventions build on the CCCSP process. They can be integrated through different channels, e.g. amendments to the CCCSP, annexes, revised versions, etc.

Analysing the NAP-relevant setting, processes and actors in Cambodia

a. Vulnerability of Cambodia to Climate Change

Cambodia is highly vulnerable to the impacts of climate change. The Global Climate Risk Index 2013[3] shows that Cambodia was the second most affected country by extreme weather events in 2011, with an estimated GDP loss of 3.1per cent. The agriculture, forestry and fisheries sector, which are highly dependent on climate, accounted for 28per cent of the GDP in 2009, with crops representing nearly 54per cent of this contribution.[4] The impact would therefore be significant as crop yield is estimated to decrease between 7 and 10 per cent due to climate change (without adaptation) or 6 to 8 per cent (with adaptation)[5].

Climate change is expected to compound and amplify development challenges, stresses and problems. Like other countries in Southeast Asia, Cambodia is expected to experience higher and more intense rainfall. The effects are likely to include more severe water scarcity and more frequent floods, resulting in crop failures and food shortages. Accelerated loss of biodiversity may cause a decline in ecosystem services. Coastal communities and ecosystems are likely to be affected by sea level rise. Higher temperatures and humidity will create conditions for increased incidence of malaria and dengue fever. The poor and marginalized, particularly women and children, will be the worst affected. Therefore, strengthening Cambodia's adaptive capacity and adaptation to climate change should become a component of development planning at all levels.

b. Policy and Planning entry points for Climate Change Adaptation

National Planning Framework: The current development policy framework is defined by the Government's Rectangular Strategy for Growth, Employment, Equity and Efficiency 2008–2013, and the National Strategic Development Plan (NSDP) 2009–2013. The forthcoming NSDP cycle (see figure 1) will come into place for the period of 2014-2018 and provides entry points for CCA mainstreaming. It includes a focus on environmental protection, conservation and climate change. The NSDP is also expected to comprise four annual programmatic climate indicators for monitoring.

[3] Global Climate Risk Report 2013, S. Harmeling & D. Eckstein, 2012
[4] IMF Annual Report, 2009
[5] Cambodia Agriculture. Adaptation to Climate Change Impact. IFPRI, 2013

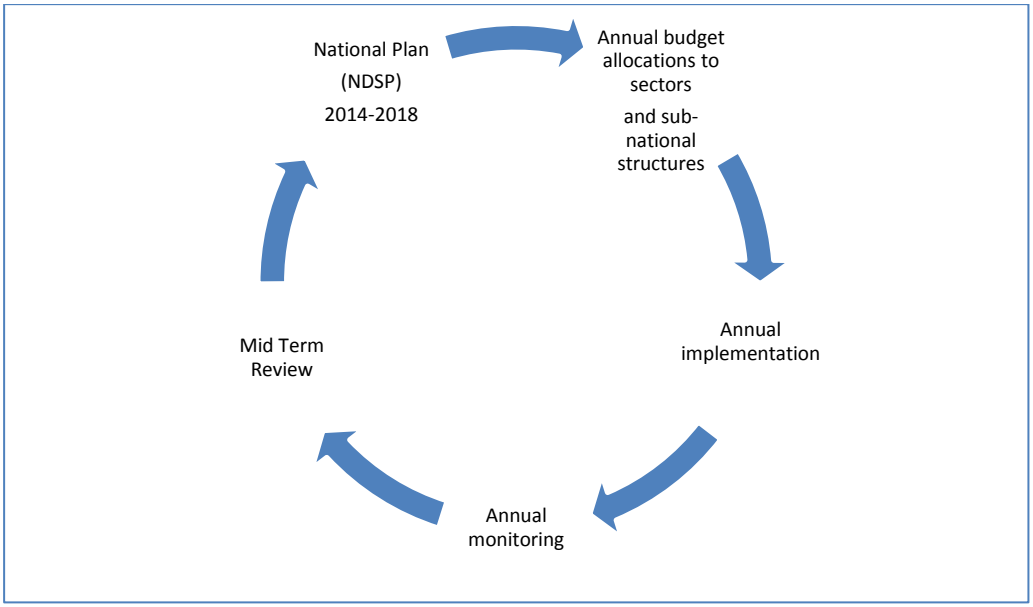

Figure 1: Stages in the planning cycle: Entry points for mainstreaming climate change adaptation

With respect to climate change, the performance update of the NSDP 2009-2013 observes progress in strengthening institutions working on climate change, capacity-building and networking, developing strategic plans to respond to climate change in line ministries and mobilizing resources for implementing priority projects in response to climate change. It underscores, the role of both the central government and local government forums on climate change that have begun educating and disseminating climate change-related knowledge.

Challenges outlined in the NSDP performance update include:

- Lack of data and data management mechanisms to support responses to climate change;
- Limited inter-ministerial/institutional cooperation for coordinating activities, including provision of funds, as well as monitoring and evaluation, to respond to climate change;
- Absence of action plans and detailed studies stipulated under the adopted policies and strategies for supporting climate change adaptation activities and reduce greenhouse gas emissions.

Cambodia Climate Change Strategic Plan and Climate Change Action Plan:
In 2014, the Ministry of Environment with the support of CCCA leads the process to develop the Cambodia Climate Change Strategic Plan (CCCSP) 2014 – 2023, which determines the strategies for adaptation and mitigation. The CCCSP includes sectoral climate change action plans (CCCAP) with priority actions for nine ministries (see overview on different planning levels in figure 2).[6]

[6] The sector ministries with CCCAPs include MOWRAM, MOH, MOYS, MOWA, MPWT, MAFF, MOE (Coastal Coordination Unit), MIME and MORD.

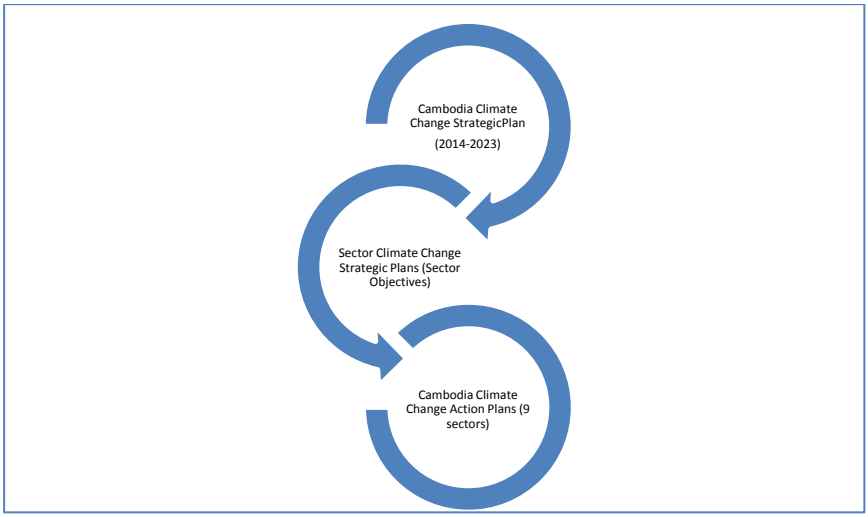

Figure 2: Cambodia Climate Change Strategic Plan

In line with the NSDP, the CCCSP is scheduled for a revision after five years. The CCCSP also aims at establishing a national Climate Change Monitoring and Evaluation framework as well a climate change financing framework. Each sector CCCSP has sector objectives and a corresponding series of project actions suggested in the CCCAP.

Sector strategies

Existing and emerging strategies and work-plans of line ministries and cross-cutting coordination mechanisms which are *not* specific to climate change, provide entry points for mainstreaming adaptation. A snap-shot of some relevant sector strategies is shown below.

Table 1: Selected sector strategies providing entry points for mainstreaming adaptation

Strategy/Plan	Lead Institution/Coordination	Potential Role
Development at sub-national level The Strategic Framework and Plan for Decentralization and De-concentration (NP-SNDD) 2010–2019. National Programme for Sub-National Democratic Development (NP-SNDD) 2010-2019	NCDD	Mainstream climate change at sub-national and local levels.
Disaster Risk Reduction The Strategic National Action Plan for Disaster Risk Reduction 2008–2013 (SNAP)	National Committee for Disaster Management (NCDM) ASEAN Coordinating Centre for Humanitarian Assistance on Disaster Management (AHA Centre) to be set up.	Reforming disaster management mechanisms at all levels. Complementary areas between CCA and disaster management need to be identified. Village Disaster Management Teams (VDMT) have been setup in local communities. Sangkat/Commune Development Plans are yet not in place. Organizational structure at the Municipal/ Province, Town, Khan/District, and Sangkat/Commune levels

		has not been established.
Gender and Women Neary Rattanak 3 (5-year strategic plan for gender mainstreaming) Gender mainstreaming action plan Forthcoming national policy on gender	Gender and Climate Change Committee, Gender Mainstreaming Action Group, MoWA	Research on gender and climate impact Policy interventions Capacity building national and sub-national

c. Institutional Mechanisms

National Climate Change Committee (NCCC): In 2006, the Government established the National Climate Change Committee (NCCC), which comprises representatives of 19 ministries and government agencies. The honorary chairman of the NCCC is the Prime Minister. The Climate Change Department within the Ministry of Environment provides Secretariat services to the NCCC.

Cambodian Climate Change Alliance: The CCCA, jointly implemented by the Ministry of the Environment with the support from UNDP and funded by UNDP, the EU, Denmark and Sweden, provides support to the Climate Change Department, MOE, for policy development and coordination, and awareness-raising. It also funds 21 grants implemented by government institutions, NGOs and civil society in sectors such as water and agriculture and disaster risk reduction, as well as in fisheries, livestock, human health, and water and sanitation. Two key coordination structures under the CCCA are the **Climate Change Technical Team (CCTT**) **and Climate Finance Sub-group of the CCTT**.

Core Group for Climate Change Mainstreaming (CGCM): This is proposed to be established and responsible for the development of the Operational Guideline on the Mainstreaming of Climate Change into the sub-national planning process. The CGCM is a multi-stakeholder group coordinated by the NCDD's decision.

d. Existing Climate Change Adaptation Initiatives of Relevance to NAP

The National Adaptation Programme of Action to Climate Change (NAPA): Based on Decision 28 of the 7th Conference of the Parties (CoP) of the United Nations Framework Convention on Climate Change (UNFCCC) and preceding the CCCSP, the NAPA was published in October 2006. Most NAPA projects relate to agriculture, water resources, rural development and human health.

National Communication: Cambodia provided its Initial National Communication to the UNFCCC in 2002 and is now finalizing its Second National Communication.

Nationally Appropriate Mitigation Actions (NAMA): Cambodia is making preparations towards its NAMA framework. Areas such as GHG Inventories, transport and energy are specific to mitigation, but areas such as land-use, agriculture and forestry have both mitigation and adaptation aspects.

Climate Public Expenditure and Institutional Review (CPEIR): Conducted in 2012, it identified a range of climate expenditures, which were seen to have grown from 15 per cent in 2009 to nearly 17 per cent in 2011. The Ministries of Public Works and Transport, Water Resources and Meteorology, Health, and Agriculture, Forestry and Fisheries were estimated to be spending the bulk of climate-related expenditures. The Cambodia CPEIR was undertaken under the guidance of the Climate Finance Sub-group of the Climate Change Technical Team (CCTT).

The Strategic Program for Climate Resilience (SPCR): It focuses on mainstreaming climate resilience at national and sub-national levels and was launched during 2013–2014, the SPCR has a package of seven investment programmes in agriculture, water and infrastructure, and technical assistance for climate change mainstreaming. Managed by the Asian Development Bank, the total financial envelope is US$390 million (of which US$91 million will come from SPCR/CIF), including both grants and loans. This includes an agreement by ADB to devote US$1.6 million to the NAP process.[7]

Community based adaptation initiatives. Initiatives that have adaptation at their centre and focus on the implementation of concrete adaptation initiatives at the community level are also relatively new. The SIDA-UNDP Cambodia Community-Based Adaptation Program (CCBAP) has extensively tested, with promising results, a micro-grant approach, aimed at reducing climate vulnerability at the community level. It promotes NGOs role in mainstreaming. Promoting Climate Resilience in Agriculture and Water Resources Management for Rural Livelihoods in Cambodia Programme (NAPA follow up) financed by the Least Developed Countries Fund, and supported by UNDP) promotes sectoral climate change mainstreaming. The UNCDF model under the Local Governments and Climate Change (LG-CC) project promotes climate change mainstreaming through sub-national planning and budgetary processes. Other large initiatives include the Harvest Project funded by USAID and the Mekong River Commission's Climate Change and Adaptation Initiative.

Climate Change Financing Framework (CCFF): Under development in 2014, the national CCFF aims to guide future climate financing, both from domestic and international sources. It promotes a common approach to defining climate financing and assesses the current levels as well as the prospects for future financing. The CCFF builds on the National Climate Funding Programme (NCFP), a coordinated programme for improved management of climate change funding for adaptation and mitigation that includes a strengthened role for the NCCC and will guide government and donors. While in the past, the scores to define climate change relevance were based on the extent to which adaptation or mitigation are declared as the primary or secondary objective in projects, the CCFF approach considers the benefits generated by public expenditure and the extent to which these are affected by climate change.

The scenarios for future financing identified by the CCFF suggest that climate financing will account for an increasing share of public finance, from both domestic and international sources. The private sector is expected to take on more responsibility for investment in climate resilience. The CCFF further presents the expected national benefits from climate financing by drawing on a cost-benefit analysis. Comparing the damage and loss that are expected to be caused by climate change with the additional benefits from climate finance, the framework estimates the proportion of climate damage that is offset by climate finance.

Climate change monitoring and evaluation framework. A climate change monitoring and evaluation framework[8] is being developed by the CCD of the MoE and the CCCA with the support of the International Institute for Environment and Development (IIED). This framework will be integrated into national and sub-national development planning processes and will facilitate the tracking of the impacts of climate change interventions in reducing vulnerabilities and ensuring effectiveness in keeping national development on track. The methodology will be based on the IIED's evaluative framework which was recently developed and called "Tracking Adaptation and Measuring Development (TAMD)". Preparatory work for the development of the national M&E framework of climate change response has been conducted in 2012 and 2013 with the support of the CCCA Project. The National Framework for Monitoring and Evaluation of climate change response will be developed in accordance with the national M&E system, and build on existing tools managed by NIS (National Institute of Statistics) and MoP.

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[7] Endorsement of Revised SPCR for Cambodia (PPCR), online available at https://www.climateinvestmentfunds.org/cif/sites/climateinvestmentfunds.org/files/Approval_by_mail_PPCR_Cambodia_Endorsement_of_Revised_SPCR_for_Cambodia_Response_ADB.pdf.

[8] Ponlok T, Thy S.,Kamal U. Baroda N.,Nkem J., Chevillard J., Reaksmey N., Tin D.,Vuthy V., Cuccillato E., Cambodia National Climate Change Monitoring and Evaluation Workshop; Summary report and follow-up actions. Preah Sihanouk, 12-13 December 2013, Rai N.

e. Stakeholder Mapping

For an overview of the different actors relevant for the NAP process, the mission team has conducted a stakeholder mapping (see figure 3). The mapping is divided into four types of actors that are highly relevant for a successful NAP process: (i) non-state actors, (ii) technical actors or actors working in specific sectors, (iii) actors responsible for and influencing the development planning in the country, and (iv) actors relevant for the budgeting in the country.

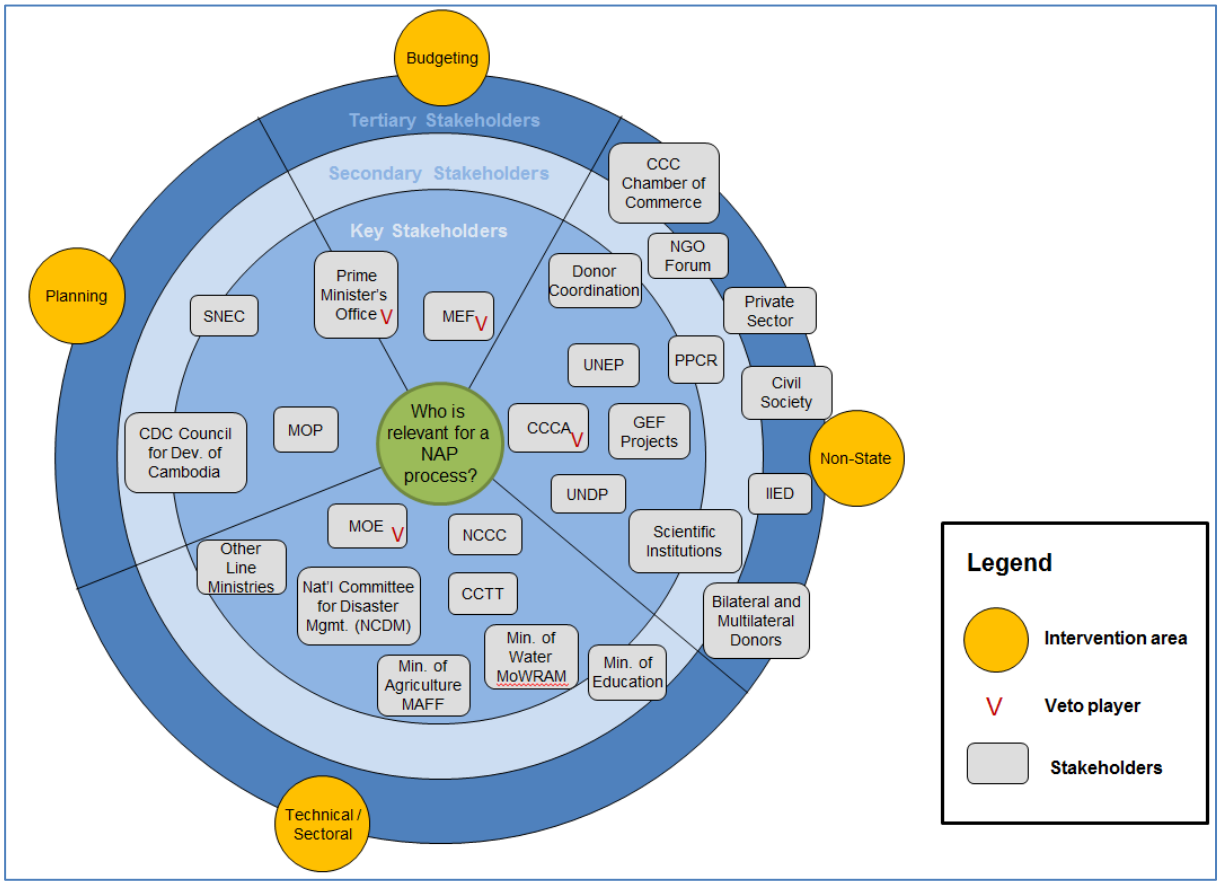

Figure 3: Stakeholder map for the NAP process in Cambodia (the mapping reflects the view of the mission team).

f. SWOT Analysis of existing CCA processes

Existing national planning processes including the NSDP, the CCCSP and the CCSAP provide an already well-articulated planning framework that can be used to integrate climate change adaptation further. They include coverage of priority sectors and are connected to institutional coordination structures. However, this national planning framework needs to be better connected with sub-national planning and budgeting frameworks. Currently, there is a two-track planning process – i.e. mainly development priorities through the NSDP and for climate change through the CCCSP.

Systems for gathering climate and vulnerability data remain scattered and require a systemic approach that includes data collection, analysis, management, storage and use. Climate data integrated with hydrological and socio-economic data will enable the generation of improved climate change scenarios and projections to facilitate/guide the prioritization and application of climate change adaptation needs on the ground.

Budget allocation is opaque and not sufficiently clarified which is a threat to the implementation of the CCCSP and CCAPs. Improved coordination, tracking, management between allocation of public national and international (donor) funds, and private funds will better support the implementation of CCA through the planning frameworks and institutional mechanisms established. Figure 4 summarizes the key issues of the SWOT analysis.

Table 2: SWOT-Analysis of existing CCA processes in Cambodia

Strengths	**Weaknesses**
• Well established planning framework for CCA • Key issues addressed • Well established institutional setting • Good ownership • Various programmes and projects financed	• Weak vertical integration • Lack of capacities at sub-national level • Inadequate financing • Scattered data collection and use • Limited sectoral cooperation on joint programmes • No sustainability in project like approaches
Opportunities	**Threats**
• Openness to continue CCA mainstreaming among most actors • Broadly accepted coordinating role by MOE • Cambodia well integrated into international networks • Sub-national cooperation structures existing	• Limited culture of cross-sectoral implementation • Financial system scattered and opaque budget allocation • Still quite centralized policy making • Project rather than programme approach

g. GAP Analysis comparing existing CCA initiatives in Cambodia with the LEG Technical Guidelines

The existing planning processes for climate change adaptation are in line with the NAP Guidelines on adopting medium- and long-term approaches for reducing vulnerability and integration of climate change adaptation into relevant new and existing policies, programmes and development planning processes. However, comparing process elements envisaged in the four steps of the NAP Guidelines with the situation in Cambodia, the mission team identified short-comings and gaps as specified in the red arrows of Figure 4.

The value added of the NAP process for Cambodia would be to address the key gaps as analysed in the diagram. For example, a stocktaking of existing climate information and data is required. This could be part of the development of the climate change monitoring and evaluation framework. By adopting a comprehensive approach to systematically produce climate information and vulnerability assessments through the NAP process, existing systems can be better prepared to address medium term climate adaptation issues in Cambodia.

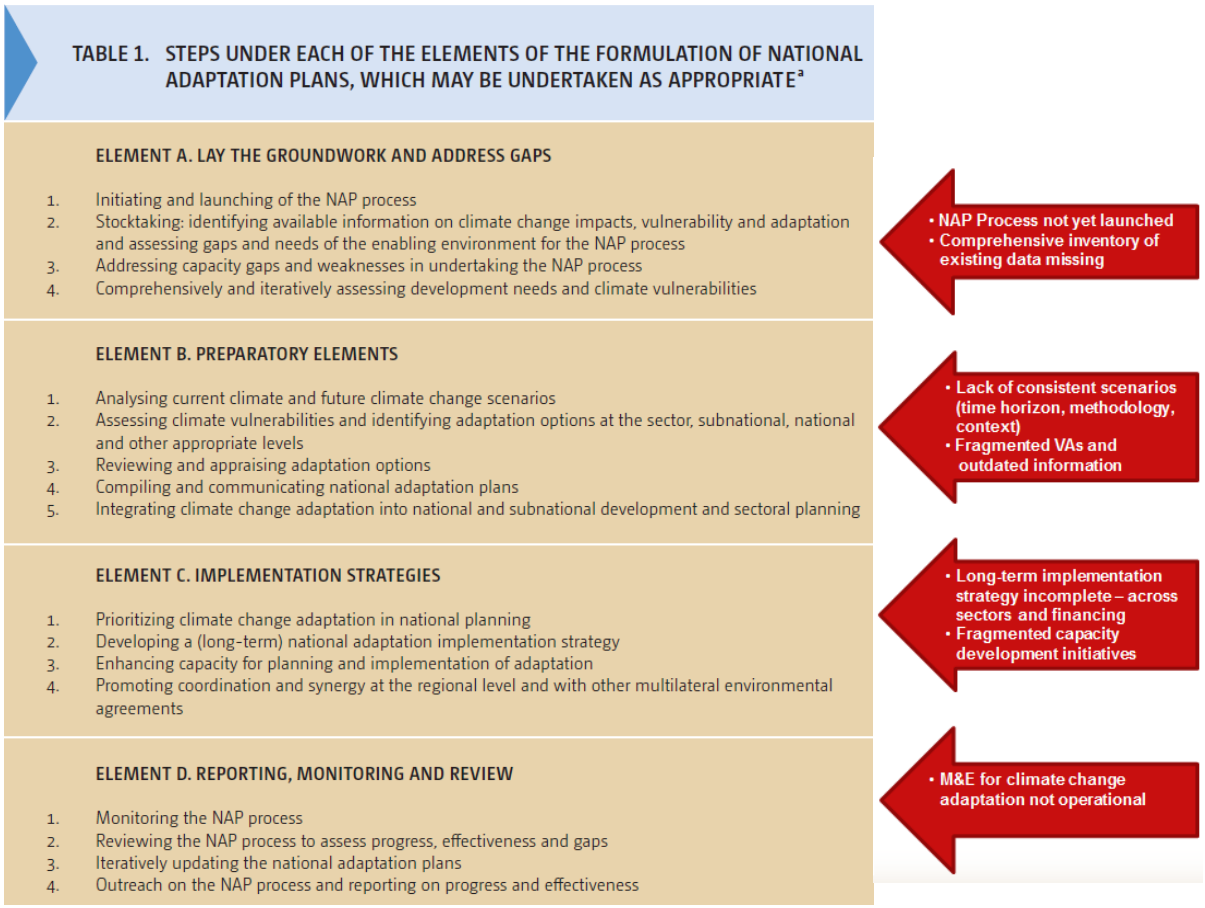

Figure 4: Gaps to be addressed in the NAP process for Cambodia using the framework of the LEG NAP Guidelines

Overall strategic recommendations for the NAP process in Cambodia

As analysed in previous chapters, the ongoing CCA processes with their diverse mechanisms already cover many elements of a NAP process as defined in the NAP Technical Guidelines prepared by the LDC Expert Group. An effective NAP process for Cambodia should focus on interventions, that advance existing activities in a way that

- Additional interventions generate an added value ;
- Overarching mechanisms for steering and coordination are strengthened; and
- Effectiveness of adaptation is increased.

In order to further specify strategic intervention areas that will provide added value, CCA processes in Cambodia are analysed using GIZ's 'process landscape' tool.[9] Figure 5 illustrates this landscape.

The overall objective of the NAP process was derived from the interviews during the mission and confirmed in the debriefing session with the MOE. It is defined as: **Ongoing Climate Change**

[9] The "process landscape" tool assists in defining the strategic context in which a project, programme or initiative operates. All processes are symbolised by arrows. It is crucial to distinguish between key processes that are essential for achieving the intended results (and the main objective) and the support and steering processes that facilitate and support the core processes. The "process landscape" is one of the tools from GIZ's management model Capacity WORKS, which is used for steering complex interventions in settings with multiple actors. Capacity WORKS embraces contexts in a multi-organisational and multi-institutional landscape and analyses complex situations with different tools and is based on five factors: strategy, cooperation, steering, processes and learning.

Adaptation processes are strengthened through cross-sectoral programming and implementation at national and sub-national level.

The objective of the NAP process does not modify other objectives set by the NSDP and the CCCSP. Rather, it builds on their objectives with a focus on strengthening and better integrating ongoing processes. It further identifies cross-sectoral programming and implementation at national and sub-national level as key principles for process strengthening.

Three 'key processes' are essential to achieving this objective: Planning/programming, Implementation, and Financing. Each key process consists of several elements. For instance the key process 'planning' needs reliable **data sources** and **quality control** to ensure effectiveness. Key processes are supported and facilitated by the 'steering' and 'support' processes. For instance, financial brokering services as a support process, could provide access to funds and matching - financial needs and sources of funding for implementation.

Many of these processes are well established and working successfully. However, there is also potential for improvement. The areas that need support are marked with a yellow flash symbol. Potential entry points for areas in which the NAP process could generate an added value are marked with a blue dot.

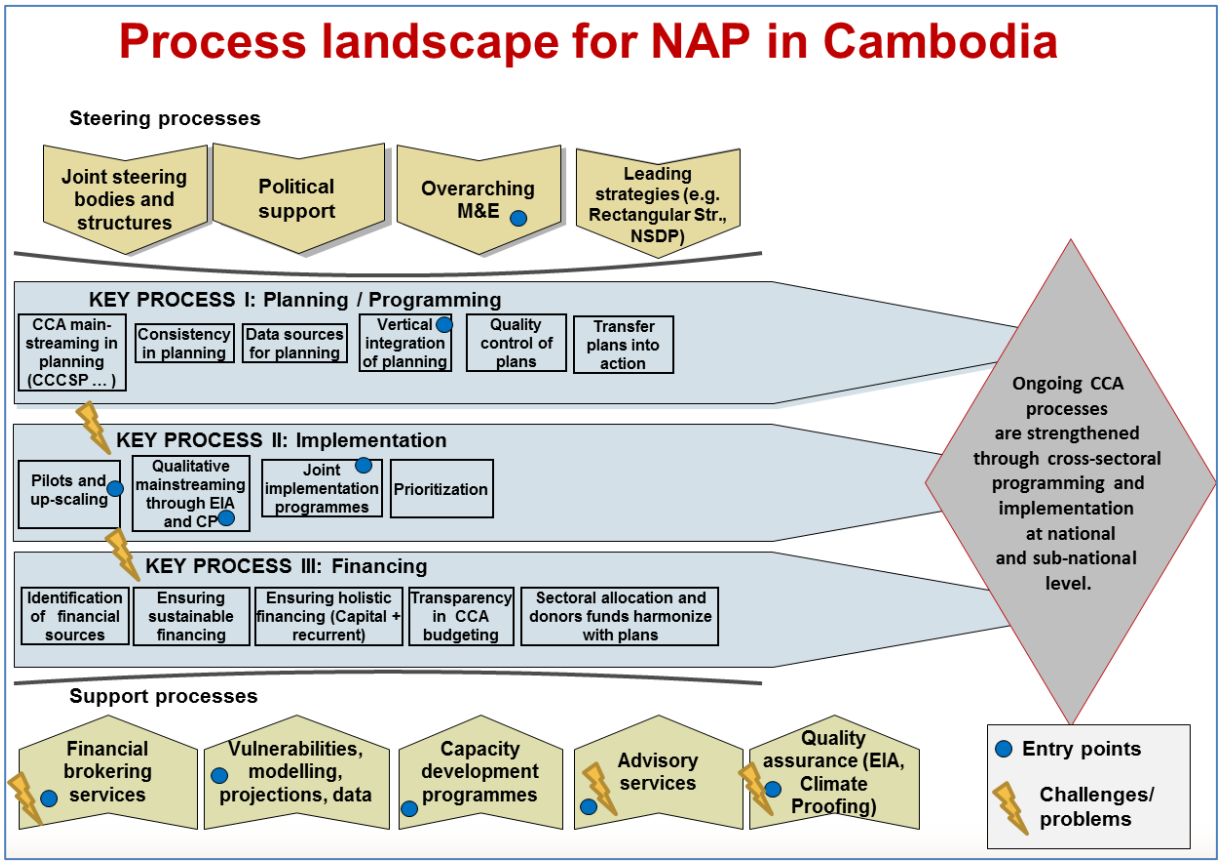

Figure 5: Process landscape for NAP in Cambodia

Deriving entry points for the NAP process from the 'process landscape'

As elaborated in the SWOT analysis, the current planning and programming processes are fairly strong. An exception would be the vertical integration of planning from the national level to down to the sub-national levels provincial and local level. In this particular area, the NAP process should envisage interventions of added value.

In contrast, implementation and financing are crucial processes requiring strengthening through the NAP process. Although various projects are being implemented on the ground and considerable funds are used already for CCA[10], the CCA process is still far from being fully mainstreamed. Pilots are not systematically up-scaled to broaden the impact.

As illustrated in figure 5, the key processes are supported through steering and support functions. The SWOT analysis showed that the steering mechanisms are well established. The existing steering bodies and mechanisms might still offer a potential means for streamlining and better coordination, because by and large they are playing a useful role in the CCA process and are accepted by all involved actors. MOE is broadly respected in its leading role. This role could still be strengthened through an overarching M&E system.

Besides implementation and financing, the supportive processes offer key entry points for added value from a NAP process. This is in line with the supportive role strived for by the NAP. The specific intervention areas of added support through NAP are specified in chapter 6.

Strategic intervention areas for the NAP process

Based on an analysis of existing relevant CCA processes in previous chapters, the mission team identified gaps that should be addressed by a successful NAP process. To fill these gaps, the mission team has formulated **strategic intervention areas**. A NAP process that responds with activities in these strategic intervention areas will generate added value to existing CCA initiatives.

Strategic intervention areas that respond to these gaps are as follows:

1) **Intersectoral coordinated implementation**
   Fields of activity based on Sector Climate Change Action Plans which offer synergies through joint collaboration between sectors. A few activities should be selected as pilot intersectoral coordinated implementation programmes, particularly in climate hot-spots, which can then be scaled up. Some key opportunities for coordinated implementation include: capacity development on climate change adaptation and financing on national level; adaptation in land-use planning; and development and implementation of data management system on health outcomes arising from natural disasters and other man-made disasters.

2) **Data systems and analyses**
   Harmonize/standardize data processing, modelling, projections, vulnerability assessments, and use of Geographical Information Systems (GIS).

3) **Support financing systematically**
   MOE might adopt a ‘finance brokering’ function to match financing needs with sources.

4) **Capacity development and vertical mainstreaming linking national and sub-national levels:**
   Support measures such as capacity development, advisory services, up-scaling mechanisms, and enhanced ownership at the local level.

5) **Overall steering of implementation and evaluating effectiveness (M&E):**
   Priortise the establishment and running of an overall M&E system at MOE to ensure learning process for Climate Change Adaptation.

6) **Qualitative mainstreaming:**
   Including integrating climate risks into Environmental Impact Assessment with and climate proofing larger projects.

Implementing the strategic intervention areas requires a series of activities, some of them are iterative throughout the process. The six strategic interventions areas are also interrelated. For instance,

[10] See analysis of the CPEIR Report

vulnerability information (areas 2) can also be used for the M&E system (area 5), and capacity development (areas 4) will support qualitative mainstreaming (area 6). Some intervention areas will also be beneficial for already existing CCA initiatives.

In order to best benefit from the synergies, the six areas should ideally be implemented in synchrony. To do so, a NAP roadmap is developed in chapter 7. Details on the six intervention areas, including concrete tasks and steps, can also be found in annex 1.

To implement the strategic intervention areas, MOE may wish to make use of contributions from a diverse range of actors and stakeholders and their individual responsibilities and expertise. Details for each strategic intervention area are provided in annex 1. It should be emphasized however, that the activity areas will need greater specification by MOE in discussion with key sector ministries using existing coordination mechanisms.

Suggestions for a roadmap for Cambodia's NAP process

Implementing the strategic intervention areas requires a series of interventions; some of them are iterative throughout the process.

This requires an overall steering of the NAP process, which is represented in **Workstream I: Planning, Establishing and Steering the NAP process**. Many activities from the six strategic intervention areas will be launched within this workstream.

The second workstream will deal with the implementation of the strategic intervention areas 1 to 5. The different activities, such as the detailed vulnerability assessment, will also inform and thus assist the implementation of the existing strategies and actions plans. Therefore, the second workstream is called: **Workstream II: Implementing the NAP Process/the CCCSP and Sector CCAPs**.

The third workstream deals with the implementation of an effective M&E system. It thus implements the strategic intervention area 6. From here, lessons learned will also be fed back into the steering of the NAP process and provide lessons to the international community. This workstream is therefore called: **Workstream III: Review and Learning**.

Specific institutional roles and responsibilities need to be earmarked to successfully roll out the interventions suggested in the road-map. A timeframe of short to medium term and beyond is suggested in the time period from 2014-2019.

As outlined above, the final objective of the NAP process is to strengthen ongoing climate change adaptation processes through cross-sectoral programming and implementation at national and sub-national level. Detailed planning and lessons learnt from implementation will probably reveal the necessity to adjust to the roadmap during the implementation phase.

Table 3: Suggested Road-Map Matrix

Time frame	**Workstream I** Planning, Establishing and Steering the NAP process	**Workstream I** Milestones	**Workstream II** Implementing the NAP process	**Workstream II** Milestones	**Workstream III** Review and Learning	**Workstream III** Milestones
Short term (2014-2015)						
	Preparing to launch the NAP process	• Further details for six strategic intervention areas[11] outlined to be ready for bilateral discussions with stakeholders • Consultations with stakeholders of six strategic intervention areas (see chapter 6) have been held and led to agreements • Conducted initial coordination meetings on intersectoral implementation with vulnerable sectors (health, water, agriculture and others)	Providing mechanisms and standards for overarching vulnerability assessments and mainstreaming	• Agreement on key joint vulnerability assessments needed by sectors • Standards and mechanisms for the provision of VA related climate information, data processing, modelling, projections, and vulnerability assessments agreed with providers and users (combined with workstream III) • Defined processes for the vulnerability assessments • Existing mainstreaming guidelines updated or new guidelines jointly developed, taking into account gender concepts	Setting up M&E system for adaptation to climate change	• Taken stock of existing monitoring and data system in respect to their usability for a NAP M&E • Connected to the National Communications preparation and finalisation process • Data collection systems set up • Data collection connected to climate information and vulnerability assessments provided in Workstream II / Strategic intervention area 2 • Baseline provided • Staff trained to collect and analyse • Vertically integrated provincial and

[11] The six strategic intervention areas are suggested by this stocktaking to be value added actions for advancing the NAP process.

						communal data
	Launching the NAP process at the national level, e.g. through an inception workshop with stakeholders from national and sub-national level, research institutions, multilateral and bilateral agencies, etc. where the participants are gender-balanced (Workshop jointly convened by Ministry of Finance, Planning and Environment)	• Agreement on what NAP means for Cambodia • Specified areas and activities that add value to the existing initiatives (including CCAPs) and projects • Confirmed official mandate for NAP process, including endorsement of road-map and strategic areas for intervention.	Start implementing activities, such as • Conducting in-depth Technology Needs Assessment for sectors • Analyse synergies between mitigation and adaptation in sectors • Link to NAMA process to identify co-benefits • Conduct in-depth studies on access to finance • Estimate the costs/benefits of climate change impacts in key sectors • Mobilise resources for strategic intervention areas	Finalize studies on • Technology needs Assessment for sectors • Synergies between mitigation and adaptation in sectors • Access to climate finance • Results of the studies made available to stakeholders and used to further convince stakeholders and advance the NAP process • NAP process documented	Setting up review (or M&E) system for the NAP process (continued in workstream I)	• Jointly agree (e.g. during NAP inception workshop) on how to review the NAP process, i.e. which indicators or participatory method to use • Baseline provided
	Communicate to UNFCCC, to LEG and internationally	• NAP process development acknowleged by UNFCCC / LEG	Start conducting comprehensive vulnerability assessments in	• First vulnerability assessments conducted for most pressing regions or sectors, such as		

		• Facilitated funding to support the NAP process from a range of different partners	view of users' needs and identify hot-spots	agriculture or health • Results disseminated and users trained • Lessons learnt documented and fed back into standards and mechanisms		
			Start implementing **intersectoral coordinated implementation** programmes in hot-spots	• Select pilot regions for **intersectoral coordinated implementation** programmes for which planning is concluded and funding is secured		
Medium-term (2016-2018)						
	Convene 2nd NAP Workshop for a mid-term review, with stakeholders (gender-balanced) from national and sub-national level, research institutions, multilateral and bilateral agencies, etc.	• Showcasing results from the six strategic implementation areas (see chapter 6) • Conduct review on overall NAP process • Conduct review of intersectoral coordinated implementation programmes including lessons learnt and initiate feedback into NAP process • Mid-term review of NSDP reflects CCCSP review findings	Continue with vulnerability assessments	• Vulnerability assessments conducted for other sectors and regions • Results disseminated and users trained in applying vulnerability assessment data into their planning procedures • Lessons learnt documented and fed back to standards and mechanisms	Monitoring adaptation to climate change	• Analyse monitoring results from sectors (e.g. from CCAPs) and **Intersectoral coordinated implementation** programmes, from national and sub-national level • Publish monitoring results in 2nd NAP workshop, including recommendation for improvements • Disseminate to all stakeholders concerned
	Reflection in National	• NAP process and lessons learnt	Continue implementing	• Asses pilots quickly and feed back into NAP		

	Communication and other appropriate channels to communicate results internationally	described in National Communication to UNFCCC • NAP process and lessons learnt described at international conferences and in discussion papers	**Intersectoral coordinated implementation** programmes in hot-spots	process • Upscale pilots to new regions • Implement additional **Intersectoral coordinated implementation** programmes for which planning is concluded and funding is secured		
Long-term (2019 and beyond)						
			Mainstreaming adaptation into long-term development planning, budgeting and monitoring systems	• Systematic mainstreaming of CCA during development of NSDP 2019-2024.	Review and revise (and adjust) the NAP process	• Conclusions from the 2nd NAP review on steering and cooperation mechanisms within the NAP process.

The role of the Ministry of Environment in the NAP process

From the above chapters it becomes clear that the NAP process cannot be designed, organized and implemented by MOE alone. Many other actors play roles in the respective fields of expertise or power. However, having the overall expertise in adaptation to climate change as well as access to the international discussion on NAP, the MOE should take a facilitating role within the NAP process, which includes:

- Campaign for a mandate to further develop the NAP process with important decision makers (e.g. Minister of Environment, Minister of Finance, Minister of Planning);
- Gain and maintain oversight/overview on ongoing and new adaptation initiatives and the actors involved;
- Consolidate existing adaptation related information and experiences;
- Disseminate gained knowledge and expertise to stakeholders;
- Connect relevant stakeholders and support joint implementation of adaptation activities and programmes;
- Collect, process experiences and lessons learnt, feed back into NAP process and mechanisms;
- Provide stakeholders with information on access to NAP/climate change adaptation financing;
- Be the intermediary between discussions on the NAP process and NAP financing on international level and the national stakeholders in collaboration with Ministry of Finance (especially in context of finance channelled through direct budget support and/or large climate funded programmes

Annex 1 Strategic intervention area fiches

Table 4: Strategic intervention area fiche 1: Intersectoral coordinated implementation

Strategic intervention area (1) Intersectoral coordinated implementation	**Process element addressed** Steering processes
Existing situation on which the intervention area builds on There is little intersectoral cooperation between ministries in terms of climate change adaptation. Many adaptation interventions would benefit from synergies, if they were implemented jointly by different actors, especially in vulnerable hot-spots. Many ministries have recognized this deficit and MOE has encouraged all ministries, to outline possible activities in their CCAPs that can be implemented jointly with other ministries.	
Rationale Many adaptation interventions need the expertise and resources from various stakeholders in order to be most effective. This includes stakeholders along a 'horizontal' axis, such as different line ministries at the national level, and stakeholders along a 'vertical' axis, going down from the national level to the province and even local level.	
Substantial elements of the intervention area Line ministries have started to develop ideas and suggestions for intersectoral coordinated implementation in their SCCPs and CCAPs. Many activities already include very detailed outlines with concrete descriptions of the activity, including expected results, responsibilities and supporting actors. A list of these detailed suggestions can be found in Annex 2. Nevertheless, there are more than 30 suggestions, and keeping in mind, that implementation is so far done only with limited cooperation between line ministries, a few activities should be selected as pilot intersectoral coordinated implementation programmes, particularly in climate hot-spots. More should be realized after successful implementation and learning of lessons. The pilot intersectoral coordinated implementation programmes selected below are derived from discussions with several ministries as well as reviewing the SCCPs and CCSPs. They are selected in view of recurrent topics mentioned by the ministries. Possible intersectoral coordinated implementation programmes: • **Capacity development on climate change adaptation and financing at the national level** This programme includes (i) surveying (during a multi-stakeholder workshop) what kind of staff positions from different agencies should attend trainings on each planning activity; specific training topics, (ii) planning and organizing trainings, taking into account that an important part of the training is to learn and experience intersectoral and vertical coordination, cooperation and intersectoral implementation of adaptation activities, (iii) conduct the training(s), (iv) document and publish results of this joint activity to motivate future cooperation. Moderation: MOE and MOYES Responsible agencies: MOYES, NGO and bilateral agencies Other essential agencies: All line ministries with CCAPs • **Adaptation in land-use planning (piloting in priority districts)** This programme includes (i) selection of one to three pilot districts, (ii) convene relevant national and sub-national agencies, discuss vulnerability hotspots (see also strategic intervention area 2), select appropriate adaptation measures using a climate-proofing methodology on the standard land-use planning technique, (iii) plan the implementation of selected adaptation measures taking into account the duties and responsibilities of different actors, (iv) monitor and review the implementation process Moderation: MOE and MAFF Responsible agencies: MAFF Other essential agencies: MLMUPC, NCDM, MRD • **Development and implementation of a data management system on health outcomes arising from natural disasters and other man-made disasters** (adapted from MOH Action Fiche No 6) The programme includes (i) developing a database system and guidelines for data collection on disaster and health impacts in coordination with NCDM, MOWA, MOE, NGO and other bilateral agencies, (ii) trainings for staff at the national and provincial level to use the	

database and guidelines, (iii) consultations with sub-national committees and provincial health departments for planning of data collection and reporting on health impacts of disasters, (iv) monitor and review the implementation process.
Moderation: MOH (Department of Health Planning and Information, Department of Preventive Medicine and Hospital Services Department) and MOE
Responsible agencies: MOH, NGO, and bilateral agencies
Other essential agencies: NCDM, MOWA, NIS

Other recurrent topics were the provision of climate information and vulnerability assessments, infrastructure improvement and water-related issues. Climate information and vulnerability are covered in strategic intervention area 2 and should, similar to the intersectoral coordinated implementation programmes, be planned together with the concerned stakeholders. Water-related issues will certainly appear during the land-use planning programme. Successful cooperation and implementation should be up-scaled from here.

Requirements:
This strategic intervention area requires the **willingness** of involved actors to jointly coordinate, cooperate and implement activities. As many actors are involved, the process needs **facilitation**, ideally by an actor, that is perceived as neutral or as the leading agency in the field. In addition, jointly implementing activities also involves financing. One way to stimulate this is for MOE to show how **funds for implementation** could be provided either from international or national funds or from multilateral or bilateral agencies.

Key actors involved	**Steps and timelines**
Depending on the type of programme different actors may be involved, ranging from the national to the district level. See suggestions above. MOE could play the role of a moderator between different parties and provide background information and knowledge on expected climate changes and vulnerabilities as described in strategic intervention area 2.	• Discuss suggested ideas for intersectoral coordinated implementation programmes with concerned actors bilaterally (short-term) • Convene a stakeholder workshop, e.g. as part of a larger NAP inception workshop, in which actors **discuss** and **plan** intersectoral programmes in working groups. Planning should also include the questions of providing resources (short-term) • Provide access to information on financing intersectoral programmes through international and national funds or bilateral agencies (short-term) • Survey and review the experiences with cooperation and coordination (medium-term)

Table 5: Strategic intervention area fiche 2: Data systems and vulnerability analyses

Strategic intervention area	**Process element addressed**
(2) Data systems and vulnerability analyses	Support process
Existing situation on which the intervention area builds on Adaptation planning, especially longer-term adaptation planning, should be based on and guided by the best available science. For Cambodia, there are currently only limited up-to-date climate information and/or vulnerability assessments available. Few ministries are using such data and assessments, of which most are outdated or focussing only on limited geographical areas, others do not have any comprehensive information to use for their planning exercises.	
Rationale A vulnerability analysis (VA) is the basis for the identification of current climate variability as well as future climate change risks at the national, subnational and/or sectoral level. In addition, the information generated, e.g. in the form of indicators, as well as the results of a VA can be used for the operationalization of the monitoring and evaluation system (M&E) of the CCCSP and for analyzing the effectiveness of specific adaptation measures in the sectors by using the VAs as a baseline analysis.	

Substantial elements of the intervention area

The development of the comprehensive VA process will pursue several steps. First, there is the development of national climate change projections and impact models, and secondly, the development of the VAs actors and in particular for the M&E system.

1) Modeling/projections

Development of national climate projections and impact models is based on the latest, available regional emission scenarios, climate models and multi-model ensembles and of the new generation (IPCC 5th Assessment Report) models. The results and outputs from the models and projections shall be made available for use by other actors.

2) Vulnerability Assessments

Development of a national vulnerability assessment on the basis of current climate variability and future climate projections, current and future land and water resource use and socio-economic development. The assessment includes the identification of particularly vulnerable regions (hot-spots) at the national level and more detailed assessments for the local level or sectors (to be specified with concerned stakeholders).

Requirements:

The projections and the VAs should include (subject to specification by stakeholders):

- Different time horizons: climate projections for current time horizon (2014-2020), and projections and impact modelling for the future (2021-2060) and until the end of the century (2061-2099)
- Different exposure units such as sectors (agriculture, forestry, fisheries, infrastructure, water) or geographical areas (to be defined)
- Relevant biophysical factors, such as topography, erosion, land cover and land-use,
- Relevant socio-economic factors, such as population density, use of water resources, income distribution, access to safe water, etc.
- Review and use of already existing data on global, regional, national or sub-national scale, e.g. water models, land-use maps, risk mapping, NAPA, National Communication, meteorological data, etc.
- Review of adaptation options for different sectors.
- Weighting and aggregation of vulnerability-indicators.
- The VA should be based on the generally accepted concept of vulnerability provided by IPCC (2007), where vulnerability is defined as a function of exposure, sensitivity and adaptive capacity and for which relevant methodologies already exist.
- Instructions on how to deal with uncertainties.

The main target groups for the use of the projections and VAs are: **Decision-makers and planners at the national, provincial and local level** as well as the private sector. Nevertheless, other users are:

- Science and research institutions at national and regional level;
- Bilateral and multilateral development cooperation; and
- Civil society organizations (NGOs) and local user groups.

The results should be processed and **visualized** in a way that they can **be easily understood** by a non-specialist and that they correspond to the needs of their users. Therefore, the following preparatory steps should be carried out before the process is started:

- **Needs assessment with concerned line ministries** on the type of vulnerability information needed and the way it should be presented. This needs assessment could be based on a problem identification survey that is carried out during consultations with stakeholders.
- Detailed study/in-depth **review of existing VAs** in view of needed information; and
- Review of **available climate and meteorological information** sources at the national and subnational level.

All interventions should be carried out in close **consultation** with the users of the information, i.e. decision makers and planners in line ministries, Ministry of Planning, academia, NGOs and CSOs. It should also be coordinated with the development of the M&E system, as VAs may generate relevant

information and indicators for the M&E system. Results should be disseminated through existing platforms, such as the commune online database (db.ncdd.gov.kh) or the Cambodia Atlas GIS database (www.cambodiaatlas.com/map).	
Key actors involved • MOE • CCCA • MOP • MoWRAM • MAFF • Other line ministries	**Steps and timelines** • Needs assessment for vulnerability information (consultant): short-term • Review of existing VAs (consultant): short-term • Review of available (climate) information sources on national and sub-national level (consultant): short-term • Modeling/projections: short-term • Vulnerability Assessments (consultant): short-term

Table 6: Strategic intervention area 3: Supporting CCA finance

Strategic intervention area (3) Supporting CCA financing	**Process element addressed** Support matching financing needs and sources
Existing situation on which the intervention area builds on Adequate financing mechanisms for CCA receive considerable attention in ongoing adaptation processes. The 2012 CPEIR contributed to enhancing the transparency of existing and needed financing for CCA. It applied a classification approach to assess CCA relevant expenditures and explored options for improving funding, e.g. through a National Climate Fund (NCF). As a matter of fact, funding sources are highly diverse and include the general budget, programme based approaches/budget support as well as bilateral cooperation and larger external investments (e.g. in infrastructure development). The **Climate Financing Framework** Study, supported by UNDP will be expected to provide proposals for enhancing CCA financing mechanisms.	
Rationale Due to the disparity of CCA financing mechanisms and the opacity of some financial sources, systematic mechanisms should support matching adequate sources with needs. The whole CCA implementation process will crucially depend on the targeted provision of adequate finances. An increased transparency of CCA relevant finances will support steering mechanisms for an efficient CCA process.	
Substantial elements of the intervention area A systematic support process for climate financing might encompass the following elements: • **Brokering role** of MOE for matching needs and adequate sources for CCA finances. This should be established as a regular advisory function (not an isolated study). A support function of this kind is not new to the mandate of MOE since the Designated National Authority function involves individual clearances for needed finances. In providing advice, MOE can benefit from its international and bilateral contacts resulting from international climate negotiations and from its cooperation with international and bilateral agencies. The diverse character of different sources of CCA finances will require a detailed concept development. • **Regular CPEIR:** The pilot CPEIR of 2012 should be repeated periodically in order to monitor CCA relevant expenditures and, thereby, enhance budget transparency. The ex-post classification might serve as an important source of information in this respect. • **Assessing economic costs from climate change and benefits of adaptation:** Adding to the applied tools of prioritization such as MCA, cost-benefit analysis studies can help to select CCA measures with highest efficiency rates, which can avoid the largest damages. Cost-benefit studies should be applied to pilot sectors and start with high-cost infrastructure investments (e.g. road construction). The interventions as mentioned should be fine-tuned and adjusted based on the recommendations of the Climate Financing Framework Study upon its release.	
Key actors involved	**Steps and timelines**

• MOE • MEF • CCCA • ADB	• Concept development for a finance brokering function of MOE: Short-term • Establishment of the brokering function: Medium-term • Regular annual CPEIR: Starting short-term

Table 7: Strategic intervention area fiche 4: Vertical mainstreaming

Intervention area of added value (4) Vertical mainstreaming	**Process element addressed** Support process for ensuring consistent programming and implementation at local level.
Existing situation on which the intervention area builds on NCDD envisages revising the guidelines for the local planning processes to better integrate CCA. Ministries such as MORD cooperate with local committees for mainstreaming CCA into local decision-making. Capacity development is identified in several sectoral CCAPs as key challenge of CCA. Various training activities are being pursued, often in the context of specific projects and programmes. Recent reforms to expand the role of provinces and districts provide opportunities for strengthening vertical mainstreaming.	
Rationale The local/ground level is crucial for effective implementation of many CCA measures. In general, the existing capacities and working mechanisms at the local level are not sufficient for an effective CCA process. Ongoing activities such as training as well as programming and implementation with local bodies can be strengthened through interconnected approaches of capacity development, advisory services, and up-scaling mechanisms.	
Substantial elements of the intervention area A programmatic approach of supporting vertical mainstreaming should comprise the following elements: • **Integrated capacity development and advisory services:** Training is necessary but not sufficient for effective CCA processes at local level. Training courses are often general and not directly applicable to the working situation of local stakeholders and decision makers. Therefore, trainings should be connected to advisory services such as hotlines and extension services, which support local counterparts in concrete day-to-day work challenges. MAFF has planned a first example of these types of services through the 'Quick Response Centre' for the agricultural sector. They should be also be envisaged for other sectors. • **More effective training provision:** Training activities should be continued. They could be made more consistent and efficient by identifying cross-cutting elements (e.g. on general rationale and concepts of CCA and on the existing CCA framework for Cambodia), which can be offered by all training providers. • **Up-scaling mechanisms:** Sector-based pilot measures will only lead to broadly mainstreamed resilience, if systematically up-scaled. This requires systematic up-scaling mechanisms such as networking among front-runners and followers, supportive framework conditions such as regulations and incentives, as well as advisory services (see above).	
Key actors involved • MOE (NCDD, MORD) as process leader • Sector ministries involved in local processes • Representatives of local bodies • Provinces • Local training institutes, if exist	**Steps and timelines** • Inventory of existing and planned trainings (consultant): Short-term • Concept development for cross-cutting 'standard elements' of training (consultant): Short-term • Working Group on vertical mainstreaming: Short-term • Training development and application: Medium-term • Revision of regulations, incentive systems, guidelines etc.: Medium-term.

Table 8: Strategic intervention area fiche 5: M&E for CC

Strategic intervention area	**Process element addressed**
(5) M&E System for climate change in place and connected to mechanism for VA, data collection systems and training of staff for analysis at MOE and sectors.	Steering and support processes **Workstream addressed** Workstream III: Review and learning

Existing situation on which the intervention area builds:

There are several entry points relevant to the M&E System for climate change, which can be built upon to operationalize the M&E system.

The M&E Policy Framework for the NSDP 2014-2018 cycle is being rolled out and includes core and additional indicators for monitoring across all social and economic sectors. Steps identified below should build on work already ongoing from the 2013 December workshop led by IIED with the MoE and CCCA

(1) Climate Change indicators for annual monitoring are included as additional indicators, as well as some sector specific indicators. For example:
- Ratio of climate related expenditure to total public spending
- Mainstreaming climate change issues into national and subnational planning
- Percentage of households vulnerable to climate change
- Carbon credit from CDM and other mechanisms (REDD+ and voluntary markets)
- Female-headed households benefitting from Climate Change Program
- Number of families having access to usable water year-round

(2) The CCCSP also recognizes the importance of establishing a National Framework for M&E of climate change responses, with the vision of integrating the framework for M&E into the national and sub-national development planning processes. The CCCAP suggests specific climate change responses which will also require monitoring and reporting.

(3) Cambodia is part of the "Tracking Adaptation and Measuring Development (TAMD)" initiative.

Rationale

The M&E policy framework for NSDP is for all sectors and already includes selected climate indicators. A well-functioning and institutionalized M&E system, including data and information sharing processes, will provide the Ministry of Planning and sector Ministries with appropriate information to monitor climate change impacts, to identify effective adaptation measures as well as gaps in planning and implementation.

Building capacity on monitoring and evaluation of climate responses and establishing a National M&E framework for climate change should be seen as complementary to the higher level monitoring required for NSDP. The system is expected to provide relevant information for development and adaptation planning alike. Building on the CCCSP/CCCAP M&E at this level will focus on both national and sub-national M&E.

Specific interventions are required to support and strengthen indicator development, data collection, data sharing and other processes at sector, national and sub-national levels.

The operational M&E system, building on intervention area 2, will provide a better idea of whether and to what extent the level of vulnerability changes over time and whether adaptation interventions are effective in reducing vulnerability. It will support evidence-based decision-making of the different actors at national and sub-national levels. Through the learning's generated by the system, planning and implementation can be steered to become more effective.

It is important that M&E for NSDP and M&E for climate response are well integrated and complementary avoiding a two-track system which could lead to fragmentation.

Substantial elements of the intervention area

The M&E system as it relates to several climate issues and adaptation programmes at different levels needs to address multiple agencies that are collecting and using relevant information. These agencies include sectoral ministries, Bureau of Statistics, sub-national databases and administrations, NGOs and other agencies implementing related projects. Ongoing and completed vulnerability assessments done by geographical area, or sector or climatic zones provide a baseline and relevant indicators for the M&E of climate programmes.

To this end, and for the final development and operationalization of the M&E policy framework, the following elements are required:

- Identify the needs of producers and users of data. In general, these tend to work in silos – for example statistics departments rarely interact with sector ministries or provincial administrators which need the data to make decisions. A structured mechanism for this interaction at periodic intervals is required to know what kind of data is required, in what form and when, to be of greatest use to decision-makers. Training of users is essential to be able to interpret information coming from climate indicators and multi-sector vulnerability assessments.
- 'Operationalize climate change indicators included in the NSDP, for example the definition of vulnerable households and the definition of indicators for mainstreaming climate change. The indicators should be measurable but also be relevant and provide relevant information for decision-making. For instance, the definition of vulnerability would need to consider household income and exposure to climate risks and the ability to adapt to climate change. This indicator would be best measured by repeating vulnerability assessments over time.
  Other process indicators such as mainstreaming climate change issues would need a definition that includes resources allocated in budget documents of sectoral plans and provincial plans for CCA rather than only identifying if plans mention CCA priorities.
- Operationalize CCCSP Indicators, once the indicators have been selected.
- Finalize the M&E framework, including and institutional mechanism for data sharing and use of information
- Integration of NSDP and CCCSP indicators into the M&E framework/system.
- Identification of additional indicators to monitor adaptation and the NAP process.
- Stocktaking of relevant data sources, frequency of data collection and data provider for each indicator. An analysis of the quality and coverage of the data needs is required. How often is data collected, by whom and what are the gaps in quality and coverage? Some indicators may need to be aggregated by different sources, for example, female-headed households benefitting from the climate change programme may require information that is collected from several sources including ministries, provinces and communities.
- Institutional coordination for Climate M&E – training and technical guidelines need to be developed for the National M&E Group providing information on definitions, methodologies and standards, as well as systems and management organograms required to use and analyse data by managers and M&E Units. The M&E Group has the capacity to ensure an effective coordination mechanism for climate indicators between different agencies needs to insure that indicators can be tracked regularly and analysed.
- The M&E function in line ministries needs to be backed by a budget to develop administrative systems and surveys for tracking. Administrative systems and surveys should routinely incorporate collecting climate relevant information from relevant data providers linked to the ministries or other agencies such as the Bureau of Statistics and the Meteorological Department in MOWRAM.
- Capacity development for M&E for quantifying and using climate indicators at sub-national level and vertical integration of provincial and commune databases with relevant sector M&E systems in line ministries and/or Central Bureau of Statistics.
- Build on the findings of the TAMD consultations and identify a timeline of relevant interventions to roll out over the CCCSP period.

Key actors involved	**Steps**
• MOE • CCCA • NCCC • CCTT • NIS • CDC • MOP • Line ministries – Planning Departments and M&E departments, where exist or focal points. • MEF	• Selecting 2-3 key adaptation relevant sectors and assessing user needs and producers of data. (consultancy – medium term) • Convene with Ministry of Environment focal point for M&E • Operationalize existing indicators (short term consultant) • Define additional indicators for the M&E system (based on interaction area 2) • Stocktake of available data sources for

• NCCD • NCDM • Province/Commune focal points for commune databases	NSDP and CCCSP indicators and issues regarding quality and frequency (short term consultant) • Finalize the M&E framework, including and institutional mechanism for data sharing and use of information • Training and guidelines developed for National M&E Group to understand M&E specific challenges and recent methodological advances on climate related M&E (short term consultant) • Training modules for data producers on tools and methods for collecting climate relevant information (consultant • Training modules prepared for data users on interpreting climate information (consultant) • Convene with National M&E group and discuss institutional cooperation for climate aspects. • Establish agreements on mode of cooperation.

Table 9: Strategic intervention area fiche 6: Qualitative mainstreaming

Intervention area of added value (6) Qualitative mainstreaming	**Process element addressed** Support process for CCA mainstreaming in infrastructure development
Existing situation on which the intervention area builds on Especially larger infrastructure projects are subject to EIA. According to the existing EIA provisions in the Law on Environmental Protection and Resource Management, CCA is not considered a mandatory part of the assessment. Standards for house construction are partially improved with a view to CCA for some public buildings, e.g. for schools by the MOEYS.	
Rationale Mainstreaming implies a quantitative component (amount of funds provided for adaptation) and qualitative aspects (resilient design of projects). Especially infrastructure projects such as roads, railways, canals, irrigation systems, and larger building complexes are relevant for qualitative mainstreaming. The existing planning, assessment and decision-making processes for infrastructure projects should be adjusted in a way that project sustainability is strengthened with the view to a changing climate.	
Substantial elements of the intervention area Standard tools like Climate Proofing and CCA inclusive EIA are available which should be assessed regarding their applicability to Cambodia. MOE and sector ministries responsible for infrastructure should develop a concept for CCA assessment within regular approval procedures. The tool(s) should be pilot tested. The best suited approaches should be reflected in a revision of the EIA regulations. A second avenue for qualitative CCA mainstreaming into infrastructure investments are building codes, which reflect CCA requirements. This might include road construction standards in flood prone areas or building codes.	
Key actors involved • MOE as the institution responsible for the Law on Environmental Protection and Resource Management and for project clearance. • Ministry responsible for building codes. • Key proponent ministries such as the MPWT.	**Steps and timelines** • Concept development (potentially by a consultant) and negotiations with sector ministries: Short-term • Test applications: Medium-term • Review of EIA regulation and building codes: Medium-term

Annex 2: List of detailed suggestions for intersectoral coordinated implementation

This is a collection of activities that are suitable for intersectoral coordinated implementation by various actors within the NAP process. They are taken from the Action Plans of the Ministries and partially amended with additional details. Many of these activities would need vulnerability data, often at a sectoral level. Therefore, the actions should be linked to the above outlined "strategic intervention areas," especially on vulnerability assessments and M&E, but also to others.

a) Suggested actions for health related adaptation issues

MOH ACTION FICHE No 2

Action: Up-scaling communicable disease control across the country through conducting surveillance and research on malaria and dengue fever in the context of climate change, including other emerging and remerging climate change related diseases

Short description of the action: Activities may include a review of the existing climate-related surveillance and research, upgrading existing communicable control activities, planning the surveillance and research, and setting up the surveillance plan, including procurement of necessary equipment such as mobile weather stations, transportation, computers, laboratory kits etc. and training additional staff to conduct surveillance, administration and logistics.

Expected results and benefits: This action can benefit vulnerable groups, especially in the rural areas of high malaria and dengue incidents, by expanding and improving communicable control programs and better surveillance of climate change related diseases.

Responsible department(s): Department of Preventive Medicine, the National Center for Parasitology, Entomology and Malaria Control, National Institute of Public Health, University of Health Science, Department of Hospital Services and Communicable Disease Control Department.

Other Government and external stakeholders involved in implementation: WHO, NGOs, IPC, and MOE.

MOH ACTION FICHE No 3

Action: Development and implementation of dengue control program in provinces with high climate change risk

Short description of the action: Procurement of insecticide and larvicide and spraying equipment, planning field missions and transport, administration and logistical arrangements, including the reduction of breeding sites close to households as a preventive measure.

For the field missions, data on the most vulnerable areas to dengue would be needed and should be requested within "strategic intervention area 2."

Expected results and benefits: This action would further reduce dengue fever contracting cases.

Responsible department(s): Department of Preventive Medicine, the National Center for Parasitology, Entomology and Malaria Control, and Communicable Disease Control Department, NIPH and Department of Hospital Services.

Other Government and external stakeholders involved in implementation: WHO, NGO, IPC and MOE.

MOH ACTION FICHE No 5

Action: 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

Short description of the action: Review the existing climate related surveillance and research, review existing control activities related to food-borne and water-borne diseases, planning the surveillance and research, and updating the communicable disease control, procurement of necessary equipment such as mobile weather station, transportation, computers, laboratory kits etc. and recruitment of staff, administration and logistics.

Expected results and benefits: The rural population in the areas of climate change risks such as in flood prone, disaster-prone and drought prone areas would have access to better prevention and treatment of the water-borne and food-borne diseases.

Responsible department(s): The Department of Preventive Medicine would play a key role in cooperation with National Center for Health Promotion, Communicable Diseases Control Department (CDCD), Hospital Services Department, NMCHC, NIPH, UHS, and the Department of Drugs, Food and Cosmetics.

Other Government and external stakeholders involved in implementation: WHO, NGOs, IPC and MOE.

MOH ACTION FICHE No 6

Action: Development and implementation of data management 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, MOWA, MOE and other relevant agencies

Short description of the action: Developing database system and guidelines for data collection on disaster and health impacts in coordination with NCDM, Cambodian Red Cross, MOWA and MOE, organizing training of staff at national and provincial level, holding consultation with sub-national committees and provincial health departments for planning of data collection and reporting on health impacts of disasters, administration and logistics.

Responsible department(s): Department of Health Planning and Information, Department of Preventive Medicine and Hospital Services Department.

Other Government and external stakeholders involved in implementation: MOE, NCDM, MOWA, NIS.

MOH ACTION FICHE No 8

Action: Updating health database with inclusion of climate change variables and associated diseases

Short description of the action: Reviewing the existing health database; developing additional indicators on climate variables and associated health outcomes to complement existing data (effects of slow onset events on health should also be integrated in the database); training of technical staff on data collection, analysis, and modelling; procurement of additional equipment (computer hardware and software); setting up data transfer system and report from sub-national levels; administration and logistic arrangement.

Expected results and benefits: Time series data relating to climate change impacts on health will be improved which serve as a knowledge base for climate change planning and response in health sector. This would result in better coverage of climate response across the country where vulnerable groups will benefit most.

Responsible department(s): Department of Preventive Medicine, Department of Health Planning and Information, Hospital Services Department and district referral hospitals (SOA).

Other Government and external stakeholders involved in implementation: MOE, WHO and NIS.

MOH ACTION FICHE No 9

Action: 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

Short description of the action: Review of existing guidelines, models and indicators; development and update of guidelines for research and vulnerability assessment; conducting training need assessment; development of training materials and planning training workshop; testing vulnerability assessment and modelling in areas of high malaria incidents, administration and logistic arrangement.

Expected results and benefits: About 2000 medical personnel will be trained on vulnerability assessment and modelling concerning the health impacts of climate change.

Responsible department(s): Department of Preventive Medicine, Department of Health Planning and Information, Hospital Services Department and district referral hospitals (SOA).

Other Government and external stakeholders involved in implementation: MOE, WHO.

MOH ACTION FICHE No 10

Action: 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;

Short description of the action: Development of mass media campaign (TV, radio, video spots, posters), organizing TV debate and forum, development of awareness materials, and procurement of awareness equipment, administration and logistics.

Expected results and benefits: About 100,000 households or villagers will be targeted for education and awareness building.

Responsible department(s): Department of Preventive Medicine, Department of Health Planning and Information, Hospital Services Department, CNM, NMCHC, NCHP and district referral hospitals (SOA).

Other Government and external stakeholders involved in implementation: MOE, WHO.

MOH ACTION FICHE No 11

Action: Capacity development for mainstreaming climate change in annual operation plans of Special Operating Agencies (SOA) as part of the Service Delivery Grant (Pooled Funding Modality)

Short description of the action: Conducting training needs assessment for planning, mapping of health vulnerability in SOA areas, preparation of training materials, organizing training workshop, and developing annual workplan by SOAs, administration and logistics.

Expected results and benefits: Increased budget allocation from pooled funding to address climate change related diseases will benefit rural population that are most vulnerable to climate change impacts.

Responsible department(s): Department of Preventive Medicine, Department of Planning and Health Information (DPHI), Hospital Services Department and district referral hospitals (SOA).

Other Government and external stakeholders involved in implementation: MOE, WHO.

b) Suggested actions in the area of energy and industry

MIME ACTION FICHE No 6

Action: Strengthen human resource capacity, skills, experience and institutions

Short description of the action: Training needs assessment, develop training material, implement training programmes for 40 ministry staff, 15 university lecturers and 25 industrial association staff

Expected results and benefits: The result would be the availability of training material related to climate change in ministry and selected university. The above number of ministry staff, university lecturers and industrial association staff would be trained on climate change topics.

Preconditions needed for successful implementation: The key decision to implement this action would be taken by MIME in coordination with relevant universities and industrial association. The executing agent would be the Department of Industry associated with Department of Energy in MIME.

Responsible department(s): Department of Industry in association with Department of Energy in MIME.

MIME ACTION FICHE No 7

Action: Promote strategies and information sharing on environmentally sound and green strategies for energy and industry

Short description of the action:

- Create a data centre for environmental and green strategies
- Develop communication materials
- Mass media promotion of environmental and green issues

Expected results and benefits: The data centre for environmental and green strategies would be created and serve as a platform for information sharing to promote environmental and green issues. The ultimate beneficiaries would be public which would receive more reliable/available information on environmental and green issues.

Responsible department(s): Department of Industry in association with Department of Energy in MIME.

Other Government and external stakeholders involved in implementation: Ministry of Information.

MIME ACTION FICHE No 8

Action: Promote climate change research and technology for energy and industry

Short description of the action:

- Identification/review of joint R&D mechanism
- Establish joint R&D mechanism between the ministry, university, private firms or/and development partners
- Found and pilot joint R&D projects targeting to address climate change issues

Expected results and benefits: The result would be the availability of a joint R&D mechanism and increasing the involvement of different stakeholders (especially, university researchers, government staffs and private firms' staff) to develop low-cost/local technology to address climate change issues.

Responsible department(s): Department of Industry in association with Department of Energy in MIME.

c) Suggested actions in the area of capacity development and education

MOEYS ACTION FICHE No 6

Action: Upgrading curriculums and training methodologies, including libraries, to include climate change subjects for primary and secondary schools

Short description of the action: Review current curriculums, training methodologies, facilities, supporting climate change communication and teaching for formal (primary and secondary) and non-formal education; upgrading curriculum and facilities for climate change teaching where appropriate, organizing training of new curriculum for teachers, integration of upgraded curriculums in school program, and publication of curriculum.

Expected results and benefits: The end result and benefits would be better curriculum and training methodologies on the subject of climate change for primary and secondary schools and non-formal education. Beneficiaries would be MOEYS's education officers, teachers and students.

Responsible department(s): MOEYS/Curriculum Development Department

Other Government and external stakeholders involved in implementation: MOE and MOEYS concerned departments and concerned agencies.

MOEYS ACTION FICHE No 9

Action: Upgrading curriculum to include climate change for non-formal education and Buddhist schools

Short description of the action: Assessment of climate change curriculums for non-formal education and Buddhist schools, improving or integration of climate change curriculum in non-formal education and Buddhist schools, training of teachers and monks to use updated curriculum, establishing non-formal education networks for climate change; and piloting community/youth best practices for communication of climate change.

Expected results and benefits: The end result and benefits would be that non-formal school children and monk students gain knowledge on climate change adaptation and mitigation. Beneficiaries would be MOEYS's education officers, community facilitators, and school students.

Responsible department(s): MOEYS/ Department of Curriculum Development

Other Government and external stakeholders involved in implementation: MOE and MOEYS concerned departments and concerned agencies.

MOEYS ACTION FICHE No 12

Action: Promoting climate proofing and retrofitting of existing and planned schools and universities

Short description of the action: Vulnerability mapping of schools and universities affected by severe floods, droughts and extreme weather; development of cost-effective climate proofing and retrofitting of existing schools and universities affected by floods, droughts and storms; development of design guidelines and building codes for specific areas of climate risks in cooperation with Ministry of Land Management, Urban Planning and Construction for building new schools and universities.

Expected results and benefits: School and universities are climate proofed to withstand natural disasters, floods, storm surges, and extreme weather. Beneficiaries would be school children and students who will be able to complete their studies without interruption from climate change.

Responsible department(s): MOEYS/ Department of School Construction, Planning Department

Other Government and external stakeholders involved in implementation: Ministry of Land Management, Urban Planning and Construction.

d) Suggested actions related to women's affairs

MoWA ACTION FICHE No 1

Action: Developing and implementing a training program on gender and climate change at all levels, especially at the sub-national levels in partnership with all stakeholders.

Short description of the action: a) Conducting TNA and develop training and learning materials on gender and climate change, b) TOT/echo/refresher trainings for relevant stakeholders in 5 target provinces followed by an evaluation.

Expected results and benefits: The end result would be enhanced capacity of relevant MOWA staff in promoting the concept of gender and climate change into planning and budgeting processes to reduce the vulnerability of women and vulnerable groups to climate change impacts. The benefits would be (a) sector agencies/stakeholders integrate gender and climate change into their planning and budgeting processes and (b) improve coordination between MOWA and line ministries. Beneficiaries would be MOWA and line ministries staff and a large proportion of vulnerable groups, especially women and children.

Preconditions needed for successful implementation: a) Commitment of line ministries/stakeholders to incorporate gender and climate change in their sector planning, b) Coordination of the line ministries and stakeholders, c) Knowledge on gender and climate change in line ministries and MOWA.

Responsible department(s): MOWA/GCCC

Other Government and external stakeholders involved in implementation: MOE

MOWA ACTION FICHE No 2

Action: Integrating gender responsiveness in NSDP and sector plans at national and sub-national levels to increase resilience of women to cope with climate change impacts in cooperation with agencies concerned.

Short description of the action and expected results and benefits: The end result would be the incorporation of the concept of gender and climate change into planning and budgeting processes by relevant sectors to reduce the vulnerability of women and vulnerable groups to climate change impacts.

Expected results and benefits: The end result would be the incorporation of the concept of gender and climate change into planning and budgeting processes by relevant sectors to reduce the vulnerability of women and vulnerable groups to climate change impacts. The benefits would be (a) sector agencies/stakeholders integrate gender and climate change into their planning and budgeting processes and (b) improve coordination between MOWA, line ministries and sub-national development agencies. Beneficiaries would be MOWA and line ministries staff and a large proportion of vulnerable groups, especially women and children.

Responsible department(s): MOWA, MOE and MOP.

Other Government and external stakeholders involved in implementation: MoEYS, MOH, MAFF, MOWRAM, MRD, MIME, MPWT, MEF, NCDDS

MOWA ACTION FICHE No 3

Action: Increasing women's participation in public decision making on climate change responses at all levels.

Short description of the action:

- Training and awareness raising for women in effective decision making
- Conducting research on women and climate change related decision making
- Conducting orientation and participation of women in decision making at national and sub-national levels

Expected results and benefits: The end result would be more active participation of women in climate change discussion/initiatives, planning and budgeting processes for the benefits of women and vulnerable groups to climate change impacts both at the national and subnational levels. Beneficiaries would be MOWA (national and subnational), women, development agencies and vulnerable groups, especially children.

Preconditions needed for successful implementation: Coordination of line ministries, MoE and stakeholders. Knowledge on gender and climate change in line ministries and MOWA and public speaking skills.

Responsible department(s): MOWA/GCCC.

Other Government and external stakeholders involved in implementation: MoE, MOI, NCDD.

MOWA ACTION FICHE No 4

Action: Conducting vulnerability assessment of women and girls to climate change impacts, including developing database and Monitoring and Evaluation Framework on climate change gender responsiveness with line ministries.

Short description of the action:

- Developing questionnaires and guidelines for vulnerability assessment in cooperation with line ministries
- Conducting vulnerability assessments
- Developing a disaggregated data system for the collection and analysis of climate change impacts on women and men
- Developing gender indicators as part of a national monitoring and evaluation framework on climate change

Expected results and benefits: The end result would be up-to-date data on the vulnerability of women and girls and men to climate change impacts, role of women and men in coping with climate change, public access to reports on gender and climate change. Beneficiaries would be MOWA (national and subnational), women, development agencies working with women and children.

Preconditions needed for successful implementation: a) Commitments of MOWA and concerned ministries, b) Coordination of MOWA, MoE and stakeholders, c) Knowledge on gender and climate change in line ministries and MOWA.

Responsible department(s): MOWA/GCCC.

Other Government and external stakeholders involved in implementation: MoE

MOWA ACTION FICHE No 5

Action: Increasing education and awareness on gender-specific roles in coping with impacts related to climate change.

Short description of the action:

- Conducting public forums/trainings on gender and climate change impacts for communities and development workers
- Conducting media campaigns on the difference between men's and women's vulnerability to the impacts of climate change and men and women's different needs and roles in dealing with climate change

Expected results and benefits: The end result would be the enhanced capacity and awareness of gender and climate change among women who can play proactive role in implementation of climate change activities. Beneficiaries would be MOWA (national and subnational), women, and development agencies.

Preconditions needed for successful implementation: a) Commitments and coordination of MOWA, MoE and concerned ministries and stakeholders. b) Knowledge on gender and climate change in line ministries and MOWA.

Responsible department(s): MOWA/GCCC.

Other Government and external stakeholders involved in implementation: MoE, MoEYS and concerned ministries and agencies.

MOWA ACTION FICHE No 6

Action: Developing and piloting gender-based climate change adaptation and mitigation projects or initiatives in cooperation with sector ministries and other stakeholders.

Short description of the action:

- Reviewing best practices of gender-based climate change interventions (mitigation and adaptation) in Cambodia and elsewhere
- Identifying and piloting gender based win-win solutions to climate change adaptation and mitigation that can also benefit livelihoods
- Engaging the private sector in promoting climate-friendly technologies that can enhance food-energy-water security based on gender considerations
- Promoting public education and awareness on climate-friendly technologies and lessons learnt from the pilot project

Expected results and benefits: The end result would be an increased participation of women in the identification and implementation of pilot projects that benefit climate change mitigation and adaptation and livelihoods.

Preconditions needed for successful implementation: a) Commitments and coordination of MOWA, MOE and concerned ministries and stakeholders. b) Knowledge on specific gender-based climate change projects in line ministries and MOWA.

Responsible department(s): MOWA/GCCC.

Other Government and external stakeholders involved in implementation: MoE, MAFF, MOWRAM, MIME, MOH and NCDM.

e) Suggested actions in the area of public works and transport

MPWT ACTION FICHE No 1

Action: Develop national road construction and maintenance design standards for national and provincial roads

Short description of the action:

- Data collection and analysis, review and risk assessment of climate change impacts on transport infrastructure
- Development of an infrastructure construction design and maintenance standard addressing climate change impacts

Expected results and benefits: A national infrastructure construction and maintenance design standard will be available and put in use for climate proofed transport infrastructure.

Preconditions needed for successful implementation: The key decision to implement this action would be taken by MPWT in coordination with MoE and MoWRAM. The executing agency would be the General Department of Public Works and a university (with expertise on civil engineering and water resources engineering).

Responsible department(s): General Department of Public Works in MPWT and a university in coordination with MoE and MoWRAM.

MPWT ACTION FICHE No 2

Action: Repair and rehabilitate existing road infrastructure and ensure effective operation and maintenance system to cope with floods

Short description of the action:

- Assess the capacity of responsible institutions at central and provincial levels with respect to road maintenance works
- Cost-effective annual road maintenance plans
- Repair broken bridges and improve flood-prone areas
- Promote private sector participation in road maintenance to lower Government's costs
- Introduce new technologies to improve the quality of maintenance activities to enhance the quality of roads
- Improve human resources of government agencies at all levels in road/bridge maintenance standards and road and bridge construction standards;
- Rehabilitation of national and provincial road pavement

Expected results and benefits: The result would be cost-effective maintenance and rehabilitation of transport infrastructure including climate proofed national and provincial roads in vulnerable areas. The beneficiary would be the whole population.

Preconditions needed for successful implementation: The key decision to implement this action would be taken by MPWT in coordination with MEF, MRD and MoWRAM. The executing agency would be the General Department of Public Works.

Responsible department(s): General Department of Public Works in MPWT.

MPWT ACTION FICHE No 3

Action: Capacity building and institutional strengthening for climate change

Short description of the action:

- Develop human resources of government agencies in the field of road, bridge and drainage system standards, climate change and transport, and environmental assessment
- Capacity building on monitoring the impact of climate change on transport infrastructure
- Review and revise, where appropriate, all government policies in the transport sector
- Mainstream climate change into national, sectoral and spatial development planning

Expected results and benefits: The result would be mainstreaming climate change in national and sectoral development planning. Staff of government agencies are aware of climate change impacts on transport infrastructure and are able to address climate change issues.

Preconditions needed for successful implementation: The key decision to implement this action would be taken by MPWT in coordination with MoE and MoWRAM. The executing agency would be the General Department of Administration.

Responsible department(s): General Department of Administration in MPWT in coordination with MoWRAM and MoE.

f) Suggested actions related to water

MOWRAM ACTION FICHE No 1

Action: Strengthening climate change information and early warning system

Short description of the action: Key activities of this action are improving existing hydro-meteorology observation network and early warning to support climate resilient development, adaptation and mitigation to climate change.

Expected results and benefits: Expected results include:

- Water resources infrastructure development to climate change

- Water use and adaptation
- Disaster reduction and mitigation from extreme weather and climate risk

The action is also expected to provide benefits to both government and public as the whole country.

Responsible department(s): DHRW, DOM and relevant departments of MOWRAM.

MOWRAM ACTION FICHE 7

Action: Capacity building and awareness raising on climate change and disaster risk reduction for FWUC

Short description of the action and expected results and benefits: Farmer Water User Communities (FWUC) will take over the operation and maintenance of irrigation schemes after scheme renovation and construction. From 2004-2011, there were 350 FWUCs [12] established nationally comprising 305,550 households, covering 245,100 hectares of rainy season cultivation and 105,200 hectares in the dry season, with major involvement of women in their leadership (MOWRAM 2009, RGC 2010a).

Flood and drought as well as insect outbreaks remain key issues in recent climate change impact. It is envisaged that FWUC members will play a key role in capacity development, planning and awareness raising for all farmers within the targeted FWUC throughout the country.

Key activities:

- Conduct TOTs and training manual development on DRR and climate change impact on water and agriculture to all national staff within FWUC department (5 TOTs to 30 staffs)
- Conduct an extended training services on the training manuals to provincial departments at least two times per year for 2 years (200 staff from provinces)
- Conduct trainings to 150 FWUCs members on DRR, agro-ecological analysis and climate change impacts on irrigation scheme and water productivity (around 750 members from 150 FWUCs received trainings with better knowledge).
- Conduct awareness raising to at least 750,000 farmers within 150 FWUCs receive mass media educations (poster, video spots) on DRR and impact of climate change to irrigation and water resources.

Target provinces: National staffs and provincial staff as well as member of 150 FWUCs officially registered with MOWRAM.

Responsible department(s): Department of Farmer Water User Community (FWUC)**,** Department of Gender and Women Affairs of MOWRAM, all provincial departments of MOWRAM

Other Government and external stakeholders involved in implementation: Department of Agricultural Extension and DPA throughout the country**,** Provincial Committee for Disaster Management (PCDM)

MOWRAM ACTION FICHE 10

Action: Development and rehabilitation of flood protection dikes (Kampong, Trabek, Bateay) for agricultural/urban development

Short description of the action and expected results and benefits: This action is to build up from existing work on the Diversion Canal from Neak Loung to West Vaico River (through Stung Slot and Prek Trabek) canal construction.

The proposed target areas is rather high of hill chains with an elevations of 8-14 m along the Mekong River in northeast areas while in southeast areas is a low area of old alluvial soil with elevation of 2-4 m. Water from the Mekong starts to rise in May and arrives in peaks in September or October and is

[12] Up to late 2011, there are only 150 are officially registered to MOWRAM due to legal and criteria requirements.

inundated from 3-6 months. Floods often come from Mekong River from Kampong Cham destroying agricultural production and current urbanisation areas at Neak Loung, Kampong Trabek and Bateay.

Key activities include:

- Conduct baseline assessment for potential impact of climate extreme events such as flood and drought on infrastructure assets, people livelihoods, water supply and quality and agricultural production
- Additional modification in some section of the canals is helping to protect current urbanisation and new town development in the proposed areas

Responsible department(s): Department of Water Resources Management and Conservation**,** Department of Farmer Water User Community**,** Department of Water Supply and Sanitation, Provincial Department in Kampong Cham, Prey Veng and Svay Rieng

Others include: Ministry of Public Work and Transport and Ministry of Agriculture, Forestry and Fisheries (MAFF).

MOWRAM ACTION FICHE 14

Action: Promoting climate resilience of agriculture through building sea dikes in coastal areas

Short description of the action and expected results and benefits: This action is to rehabilitate selected canals and dikes, which were built mostly in 1970s to irrigate the rice fields, against salt water intrusion in coastal provinces . The dikes have been used as a road and a flood refuge, while the canals have been used for irrigation, navigation, and to provide freshwater for household use and livestock raising. The canals, which are also affected by seawater intrusion and high tide, require rehabilitation; the water gates also need repair. However, rules governing the use of the gates and canals need to be established. Its objective is to enhance water storage capacity for general use in the village during both the dry and wet seasons for farmers.

Key activities:

- Three critical infrastructures vulnerable to climate change impact will be protection, rehabilitation or construction of infrastructure.
- Provide water availability and accessibility for target farmers and establish water utilization groups and fee collection for maintenance and operations.
- Piloting Community Based integrated farming system Koh Kong, Sihanouk Vill and Kam Pot.

Target provinces: Koh Kong, Kam Pot, Kep and Sihanouk Ville

Responsible department(s): Department of Water Resources Management and Conservation**,** Department of Farmer Water User Community**,** Department of Water Supply and Sanitation**,** Department of Irrigated Agriculture**,** Department of Engineering

Others include: Department of Agricultural Extension of MAFF and PDA provincial office, in particular extension offices from the four provinces. Provincial department in Kampot, Koh Kong, Sihanouk Vill and Kep.

g) Suggested actions in the area of agriculture, forestry and fisheries

- Land-use modeling and vulnerability mapping for important agricultural production (e.g. rubber, livestock, forestry and fisheries)
- Capacity building
- Scaling up resilient farming systems and community resilience
- Promote marginalized groups and women participation to climate change adaptation and mitigation strategy

- Enhance knowledge management related to climate change adaptation and promote innovation that is needed based.
- Creating sample ‘climate smart’ villages

Annex 3: List of ministries, departments and institutions met

Cambodian Climate Change Alliance (CCCA)

Cambodian Rehabilitation and Development Board (CRDB)

Commission for Development of Cambodia (CDC)

Food and Agriculture Organisation (FAO)

Global Water Partnership (GWP)

Gesellschaft für Internationale Zusammen-arbeit (GIZ)

Ministry of Agriculture, Forestry and Fisheries (MAFF)

Ministry of Economy and Finance (MEF)

Ministry of Education, Youth and Sports (MOEYS)

Ministry of Environment (MOE), Climate Change Department (CCD)

Ministry of Environment – Coastal Zone Management

Ministry of Interior (MOI) – National Commission for Democratic Development (NCDD)

Ministry of Industry and Handicrafts

Ministry of Public Works and Transport (MPWT)

Ministry of Rural Development (MRD)

Ministry of Water Resources and Meteorology (MOWRAM)

National Commission for Disaster Management (NCDM)

United Nations Development Programme (UNDP)