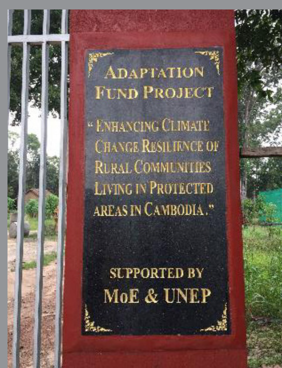
Adaptation Fund Tracking and National Adaptation Plan (NAP) Linkage

Source: Ministry of Environment



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Adaptation Fund Tracking And National Adaptation Plan (NAP) Linkage

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NGO Forum on Cambodia

The NGO Forum on Cambodia is a network of national and international organiza¬tions working for social justice and sustainable development in Cambodia. The or¬ganization encourages debate and advocacy for citizens rights and participation in development decision making.

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CONTENTS

LIST OF FIGURES

LIST OF TABLES

ACRONYMS AND ABBREVIATIONS

ADB	Asian Development Bank
CBA	Cost Benefit Analysis
CBD	Convention on Biological Diversity
CCAP	Climate Change Action Plan
CCCA	Cambodia Climate Change Alliance
CCCA-TFS	Cambodia Climate Change Alliance Trust Fund Secretariat
CCCSP	Cambodia Climate Change Strategic Plan
CDC/CRDB	Council for the Cambodia Development/Cambodia Rehabilitation and Development Board
CDP	Commune Development Plan
CPEIR	Climate Change Public Expenditure Institutional Review
CCSAP	Climate Change Strategy and Action Plan
CSOs	Civil Society Organizations
CI	Conservation International
DCC	Department of Climate Change
EU	European Union
EFI	Economic and Finance Institute
GSSD	General Secretariat of NCSD
GEF	Global Environment Facilities fund
IIED	International Institute for Environment and Development
INC	Initial National Communication
INDC	Intended Nationally Determined Contribution
IUCN	International Union for Conservation of Nature
KAP	Knowledge Attitude Practice
LDCF	Least Developed Countries Fund
MAFF	Ministry of Forestry and Fisheries
M&E	Monitoring and Evaluation
MIME	Ministry of Industry, Mine and Energy
MoE	Ministry of Environment

MoEYS	Ministry of Education, Youth and Sport
MoPWT	Ministry of Public Works and Transport
MoRD	Ministry of Rural Development
MoT	Ministry of Tourism
MoInf	Ministry of Information
MOWA	Ministry of Women Affair
MOWRAM	Ministry of Water Resource and Meteorology
MLMUPC	Ministry of Land Management, Urban Planning and Construction
MRC	Mekong River Commission
NAPA	National Action Plan for Adaptation to Climate Change
NAP	National Adaptation Plan
NCCC	National Climate Change Committee
NCDD-S	The National Committee for Sub-National Democratic Development
NCSD	National Council for Sustainable Development
NCDM	National Committee for Disaster Management
NSDP	National Strategic Development Plan
ODA	Official Development Assistance
POC	Priority Operating Cost
POPs	Stockholm Convention on Persistent Organic Pollutants
PPCR	Pilot Project for Climate Resilience
PSB	Programme Support Board
RGC	Royal Government of Cambodia
REDD+	Reducing Emissions from Deforestation and Forest Degradation
SNAs	Sub-National Administration
SNC	Second National Communication
SNIF	Sub-National Investment Fund
SBSTA	Subsidiary Body for Scientific and Technological Advice
UN	United Nation
UNCBD	United Nations Convention on Biological Diversity
UNCCD	United Nations Convention to Combat Desertification

UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNEP	United Nations Environment Programme
UNITAR	United Nations Institute for Training and Research
WOMEN	Women Organization for Modern Economy and Nursing

EXECUTIVE SUMMARY

Cambodia is consistently ranked amongst the most vulnerable countries to climate change, and one of the three most vulnerable in Asia[1]. This is because the country is exposed to frequent flooding and other unpredictable rainfall events as well as to tropical storms and sea-level rise and has a low adaptive capacity[2]. A recent vulnerability assessment found that 17.2% of communes were found to be "highly" vulnerable and 31.5% to be "quite" vulnerable to multiple climate change hazards, namely floods, storms and droughts[3]. Under the UNFCC framework, there are the global fund available such as Global Environment Facility Fund, Climate Investment Fund (CIF), Adaptation Fund, Global Climate Change Alliance (GCCA), Green Climate Fund. Those fund mechanism were established in difference aiming and thematic to support to less developing country and developing country such as Cambodia.

The researched has found that, the finance mechanism is channeled through multilateral funds – such as the Global Environment Facility and the Climate Investment Funds – as well as increasingly through bilateral channels. In addition, a growing number of recipient countries have set up national climate change funds that receive funding from multiple developed countries in an effort to coordinate and align donor interests with national priorities. The costs of the adaptation to climate change in developing countries in range USD28-67 billion per year under the UNFCCC framework till 2030 while the least development country fund and the Special Climate Change Fund have disbursed the most finance for adaptation

The cost of adaptation to climate change in developing countries are substantial. Developed countries have commitments to scale up support for adaptation in developing countries particularly in LDCs and SIDS that have little historic responsibility and will bear large relative costs of climate change. CFU data suggest that developed countries have pledged USD 3 billion cumulatively to multilateral adaptation funds. The largest sources of approved funding for adaptation projects are currently the Pilot Program for Climate Resilience (PPCR) of the World Bank's Climate Investment Funds and the Least Developed Countries Fund (LDCF) administered by the Global Environmental Facility. The Special Climate Change Fund (SCCF) and the Adaptation Fund (AF) have also increased adaptation financing in the last year. A sizeable new adaptation dedicated initiative is the USD 353 million Adaptation for Smallholder Agriculture Program (ASAP) under the International Fund for Agricultural Development (IFAD).

The need to mitigate the effects of climate change grows more urgent by the year, particularly as progress in making ambitious emission reductions has been slow. Climate finance can play a crucial role in assisting developing countries in making the transition to more environmentally sustainable systems of energy production and use, while also addressing developmental priorities of energy security and energy poverty. CFU data through October 2014 suggests that the largest sources of public finance for climate mitigation in developing countries are the World Bank administered Clean Technology Fund (CTF) and the Global Environment Facility (GEF), while the EU's Global Energy

[1] Cambodia Climate Change Financing Framework, NCSD, August 2015.
[2] Cambodia Climate Change Financing Framework (draft 2014)
[3] Cambodia's National Climate Change Monitoring & Evaluation Framework, NCSD, April 2016.

Efficiency and Renewable Energy Fund (GEEREF) and the World Bank's Scaling up Renewable Energy Program (SREP) provide mitigation financing on a smaller scale. 53% of total climate finance since 2008 has been approved in support of mitigation activities in fast growing countries, primarily for the development of renewable energy technologies. The amount of finance approved for mitigating global emissions has grown in the last year from USD 5.72 billion in 2013 to USD 6.63 billion until October 2014.
Cambodia country are readiness to access the adaptation through develop and strengthening intuitional by create the National Council for Sustainable Development (NCSD) composed of Secretaries and Under-secretaries of State and is chaired by the Minister of Environment. The NCSD has played a major role in the preparation of the Cambodian Climate Change Strategic Plan 2014-2023, the sectoral Climate Change Action Plans and the Climate Change Financing Framework.

The National Strategic Development Plan (2014-2018) roadmap for the implementation of the Rectangular Strategy the Royal Government of Cambodia pledges to "reduce the impact of climate change by strengthening the adaptation capacity and resiliency to climate change. In 2014 the national strategic plan on Cambodia Climate Change Strategic Plan 2014-2023 (CCCSP) and National Policy on Green Development and the "National Strategic Plan on Green Development 2013-2030 were approved. A Climate Change Financing Framework was developed to structure budgeting and climate finance mobilization while the road map of the National Adaptation has been consultation and preparing, At the sectoral level, Climate Change Actions Plans (CCAP) have been adopted by key line ministries and agencies.

The Climate change adaptation project are formulating and on going implementation with engagement of government ministries, NGOs including WWF, World Vision, WCS, IUCN, CDRI, MRC, FFI, WA, NTFP, RCOFT, etc. In 2015, total ODA funds to climate change as a principal sector was USD 7.1 million addressing the increase of 14.5% from 2014 while climate change mainstreaming support as 'Thematic Marker' declined of around 15% from USD 159.5 million in 2014. The agriculture, transportation and environment sectors are the largest climate change 'mainstreaming sectors' with a combined USD 100 million (70% of climate change mainstreamed funds).

Response to the requirements, general secretariat for national council for sustainable development (GSSD/NCSD) had incorporated with Cambodia Rehabilitation and Development Board of council for the development of Cambodia (CRDB/CDC) to adjust their ODA database to track climate change finance flow through existing aids. Based ODA database (available online) between2009-2014 reflect that climate change adaptation fund had been tracked. Based on analysis data, it reported that climate change financing for adaptation sector is about USD 767 million while mitigation sector is about USD 32 million. Climate Change expenditure has risen from 0.9% of GDP in 2009 to 1.3% of GDP (CR 847 billion) in 2014. This is not only the result of an increase in external support for climate change, but also higher allocations from the Government budget, which currently funds almost 25% of climate-related public expenditures (CR 211 billion).

Overall of reviewing and analysis reflected that good alignment between relevant with the Royal Government of Cambodia policies such as Cambodia Climate Change Strategy Plan, Sectoral Climate Change Action plan, and the INDC, as described in the sub-sections

below. The approved 15 CCAPs[4] contain 171 actions requiring more than USD 865.47 Million to implement for 2014-2018. Recently, work undertaken by Climate Finance Readiness Programme of GIZ assessed the minimum financing gap for CCAP implementations. It was found that there is a financing gap of 71.68% of the total estimated amount.

Through the analysis and result of the research, there are a series of recommendation are providing as following:

1. Strengthening the Ministry of Environment and National Council for Sustainable Development to better coordinate the financing-related activities for the NAP, including those related with accessing the Green Climate Fund (GCF);
2. Strengthening Ministry of Economic and Finance on the capacity to assess and monitor impacts of climate change on the economic, and to use this capacity in the management of public finance, particularly through the national budget process;
3. Mainstreaming Climate change into the national budget;
4. Customization and adjustment of ODA database on Adaptation Fund;
5. Provide new and additional climate change finance in line with commitments under the UNFCCC, but also ensure that traditional ODA projects are "climate smart";
6. For projects identified as climate relevant, ensure at the project formulation stage that technical inputs are received from NCSD and/or the climate working group in the concerned ministry, including on applicable climate-proofing standards or other required measures, and include the related costs and inputs in the project budget;
7. When providing sector or general budget support, include climate change in the results framework (in line with the CCCSP and the national M&E framework for climate change), and provide climate finance in support of these objectives;
8. Increase the levels of climate finance available at the local level through the CSF, DMF and SNIF, subject to the integration of climate change in planning and budgeting procedures for these funds;
9. Where relevant, include support for climate change related capacity development interventions, both at the individual level (skills development) and at the institutional level (definition of applicable standards, rules and procedures, research and development).

[4] MAFF, MIH, MLMUPC, MME, MOE, MOEYS, MOH, MOINFO, MOT, MOWA, MOWRAM, MPWT, MRD, NCDM, and MPTC (not yet approved)

DEFINITION

Adaptation	The process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate harm or exploit beneficial opportunities. In natural systems, human intervention may facilitate adjustment to expected climate and its effects.
Adaptation costs	Cost of planning, preparing for, facilitating, and implementing adaptation measures, including transition costs.
Adaptive capacity	The ability of systems, institutions, humans, and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences.
Carbon Accounting	The tracking of changes in carbon pools associated with human-induced sources and sinks of greenhouse gas emissions.
Carbon dioxide (CO2)	A naturally occurring gas, also a by-product of burning fossil fuels such as oil, gas and coal, of burning biomass and of land use changes and other industrial processes. It is the principal anthropogenic greenhouse gas that affects the Earth's radiative balance. It is the reference gas against which other greenhouse gases are measured and therefore has a Global Warming Potential of 1.
Climate	Climate in a narrow sense is usually defined as the average weather, or more rigorously, as the statistical description in terms of the mean and variability of relevant quantities over a period of time ranging from months to thousands or millions of years. The classical period for averaging these variables is 30 years, as defined by the World Meteorological Organization. The relevant quantities are most often surface variables such as temperature, precipitation and wind. Climate in a wider sense is the state, including a statistical description, of the climate system.
Climate Change	A change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.' Article 1, UNFCCC
Mitigation	Actions taken to reduce greenhouse gas emissions. Mitigation tends to cover clean energy, energy efficiency and fuel switching, forestry and land use, urban transport and carbon sequestration projects (Climate Finance and Markets website).

I. BACKGROUND

Cambodia is consistently ranked amongst the most vulnerable countries to climate change, and one of the three most vulnerable in Asia[5]. This is because the country is exposed to frequent flooding and other unpredictable rainfall events as well as to tropical storms and sea-level rise and has a low adaptive capacity[6]. A recent vulnerability assessment found that 17.2% of communes were found to be "highly" vulnerable and 31.5% to be "quite" vulnerable to multiple climate change hazards, namely floods, storms and droughts[7].

Analysis reported in the Cambodia Climate Financing Framework (CCFF), based on the scenario of a 2°C temperature rise by 2050 estimates that the full damage of climate change on Cambodia's GDP could be at least 1.5% in 2030, and 3.5% in 2050. In other words, if the annual growth rate of GDP without climate change was expected to be 4.5% in 2030, it would be reduced to 3% due to the impacts of climate change. By 2050, GDP growth could be almost entirely offset (reduced to 1% only) by the impacts of climate change.

A large part of the population depends on rain-fed agricultural activities and natural resources for their livelihoods; and their capacities to adapt to climate change are limited. Although Cambodia's share by total Green House Gases Emissions is extremely small – 0.1% in 2012 according to World Resources Institute – Cambodia is experiencing strong economic growth and is also at a key stage in its industrialization process.

Based on UNFCCC mechanism and climate negotiation taken over 20 years, Paris Agreement on climate change has been adopted in COP21 in Paris, France and signed by UNFCCC parties on 22 April 2016 at UN New York, USA. Royal Government of Cambodia is one of parties that has signed since 22 April 2016 and under processing to ratify on Paris Agreement while the Unite State of America and Republic of China have been ratified and signed on Paris Agreement.

As result of UNFCCC negotiation, industrial countries have pledged climate change finance to support developing countries coping with climate hazards particularly improve adaptive capacity. To achieves its goal, UNFCCC committed to a goal "of mobilizing jointly USD 100 billion per year by 2020 to address the needs of developing countries… from a wide variety of sources, public and private, bilateral and multilateral, including alternative sources".

Paris Agreement on climate change stated that developed country Parties shall provide financial resources to assist developing country Parties with respect to both mitigation and adaptation in continuation of their existing obligations under the Convention. the provision of scaled-up financial resources should aim to achieve a balance between adaptation and mitigation, taking into account country-driven strategies, and the priorities and needs of developing country Parties[8].

[5] Cambodia Climate Change Financing Framework, NCSD, August 2015.
[6] Cambodia Climate Change Financing Framework (draft 2014)
[7] Cambodia's National Climate Change Monitoring & Evaluation Framework, NCSD, April 2016.
[8] Paris Agreement, UNFCCC 2015

Recent study on climate finance in 2013-2014 and USD 100 billion goal reflects that East Asia and the Pacific remained the largest destination for climate finance, accounting for 31% of the total amount or USD 119 billion[9]. This study also mention about status of climate pledges from developed countries to support climate initiative of developing countries.

Major impact of climate change in Cambodia and region are 1) creates high temperatures and two seasons in a tropical climate 2) Average temperatures are relatively uniform across the country 3) Some areas receive more than 5000 mm of rainfall during the wet season 4) Inter-annual variations in climate result from the El Niño Southern Oscillation, which influences the nature of the monsoons in the region and generally bring warmer and drier than average winter conditions across Southeast Asia, while La Niña episodes bring cooler than average conditions.

Trend of climate risk in Cambodia in the future 1) the rate of temperature increase is most rapid in the drier seasons (December-January-February and March-April-May), increasing 0.20-0.23°C per decade, and slower in the wet seasons (June-July-August and September-October-November), increasing 0.13-0.16°C per decade 2) mean rainfall over Cambodia are unclear, with some areas experiencing increases and others decreases but these changes are not statistically significant.[10]

NGO Forum on Cambodia (NGOF) is an umbrella NGOs of local and international civil society organizations that has a mandate to coordinate NGOs group and vulnerable community to advocate government and donors for pro-poor policy. Climate Change Policy Monitoring Project is once of actively project to monitor the progress of climate change negotiation, national climate responsive planning and budgeting as well as climate finance tracking in Cambodia. NGOF had been actively working with Adaptation Fund NGO Network coordinating by Gemanwatch based in Bonn, Germany. The Adaptation Fund NGO Network (AFN) was initiated in 2010. Mandate of AFN is a social feedback mechanism, in which national civil society organizations accompany the AF project planning and implementation process to ensure positive project impacts for vulnerable groups and communities.

II. STUDY OBJECTIVE

- To analysis of the national policy on the climate change adaptation
- Understanding policy implementation at the ground level in Cambodia relate to National Adaptation Plan in Cambodia
- Track the interplay of adaptation actors that are on the ground in Cambodia mandate by MoE and other agencies
- Document the best practices on the CC adaptation mainstreaming to sub nation, CC adaptation for PA at Boeung Per, and Case study with ADB climate change adaptation project

[9] Climate Policy Initiative and OECD 2015
[10] http://sdwebx.worldbank.org/climateportalb/home.cfm?page=country_profile&CCode=KHM&ThisTab=Climate Baseline

III. METHODOLOGY

This research employs a combination approach both qualitative and quantitative data collected from desk research, key informant interviews, and case studies.

- **Desk research:** a literature review and desk research was conducted to study the global climate change financing flow, trend of climate finance to Asia and Pacific, RGC's climate change policies, local, regional and international study related to climate financing, project documents, various online database and websites.
- **Key informant interview:** stakeholders from government ministries (Department of Climate Change, Ministry of Environment, Ministry of Economic and Finance, Council for Cambodia Development (CDC), NCDDS, Donor(ADB, UNDP, SIDA, EU and JICA) , NGOs, SPCR, local authorities, experts and beneficiaries were interviewed to verify and complement the result of the desk research.
- **Case study:** Three case studies in difference donor-funded climate change projects were selected for further analysis. The objective of the case studies is to find out the success and challenges in implementing adaptation projects. In each case study, the researcher conducted fieldwork by visiting the project site and carrying out a series of interviews and consultations with intended beneficiaries and project.
- **Consultation workshop:** the primary findings present to multi stakeholders including governments concerning ministries, Development Partner, UN agencies, Development Banks, NGOs network , local communities amoung 71 participants to verify the information and provide further inputs into the report.

IV. STUDY LIMITATION

This study adopts overview of climate finance flow from developed countries to Cambodia adaptation projects. Based on ToR, study will focused on updating the status of climate finance used to support affective communities to be more resilient to climate impact. Three case studies were selected for analyst on the challenges, project intervention and benefit to community in term of adapt to climate change. Some information are restrict by the government such as the national expenditure report in 2015 and 2016 are still on the process to finalize and not release as public yet event consultant try to contact with Ministry of Economic and Finance and CDC as well, Thus, The authors try to analyze the available data were collected only.

V. OVERVIEW OF CLIMATE CHANGE FINANCING

5.1. Global Environment Facilities Fund

The Global Environment Facility (GEF)[11], established on the eve of the 1992 Rio Earth Summit, is a catalyst for action on the environment and much more. Through its strategic investments, the GEF works with partners to tackle the planet's biggest environmental issues. The funding also helps reduce poverty, strengthen governance and achieve greater equality between women and men. As such, we occupy a unique space in the global partnership for a more sustainable planet.

[11] https://www.thegef.org/about-us

i. **A unique partnership of 18 agencies**-including United Nations agencies, multilateral development banks, national entities and international NGOs — working with 183 countries to address the world's most challenging environmental issues. The GEF has a large network of civil society organizations, works closely with the private sector around the world, and receives continuous inputs from an independent evaluation office and a world-class scientific panel.
ii. **A finance mechanism** for 5 major international environmental conventions: the Minamata Convention on Mercury, the Stockholm Convention on Persistent Organic Pollutants (POPs), the United Nations Convention on Biological Diversity (UNCBD), the United Nations Convention to Combat Desertification (UNCCD) and the United Nations Framework Convention on Climate Change (UNFCCC).
iii. **An innovator and catalyst** that supports multi-stakeholder alliances to preserve threatened ecosystems on land and in the oceans, build greener cities, boost food security and promote clean energy for a more prosperous, climate-resilient world; leveraging $5.2 in additional financing for every $1 invested.

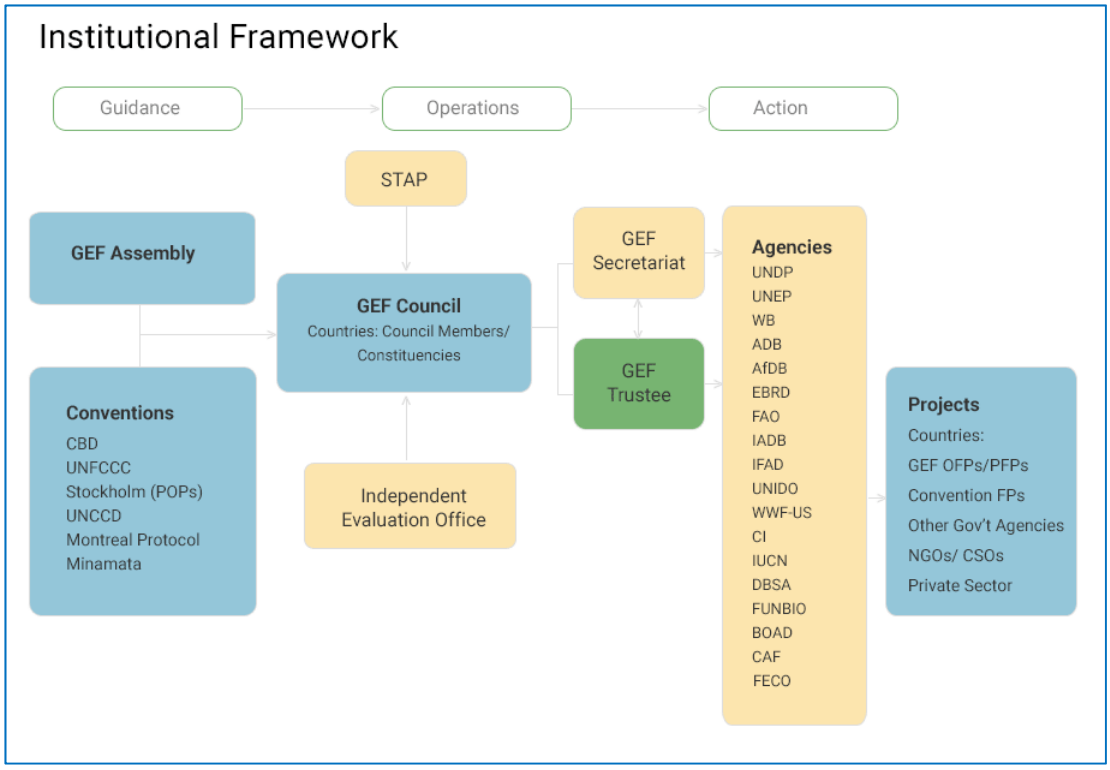

Figure 1: Institutional Framework of GEF

5.2. The Climate Investment Fund (CIF)

The Climate Investment Funds (CIF) provides developing and middle income countries with urgently needed resources to mitigate and manage the challenges of climate change. Since 2008, the CIF champions innovative country-led investments in clean technology, renewable energy, sustainable management of forests, and climate-resilient development. The CIF has two Trust Funds, the Clean Technology Fund (CTF) and the Strategic Climate Fund (SCF). These Trust Funds are managed by Trust Fund Committees and sub-committees. CIF has four key programs that help developing countries pilot low-emissions

and climate resilient development. These key programs include, (i) Clean Technology Fund (is under CTF Trust Fund), (ii) Forest Investment Program (FIP), (iii) Pilot Program for Climate Resilience (PPCR), and (iv) Scale Up Renewable Energy in Low Income Countries Program (are under SCF Trust Fund). Cambodia receives total of $91millions (55 million in grant resources and 36 million in near zero interest credit) from PPCR program of CIF through ADB for implementing 7 SPCR investment projects and one TA project. Fourteen contributor developed countries have pledged a total of $8.1 billion to the CIF, which is expected to leverage an additional $57 billion from other sources. In September, 2008, donor countries pledged over $6.1 billion to finance the two CIF Trust Funds, Clean Technology Fund (CTF) and Strategic Climate Fund (SCF). The funds are disbursed as grants, highly concessional loans, and/or risk mitigation instruments. Countries of contribution to this fund.

The organizational structure of the CIF's two trust funds, the Clean Technology Fund (CTF) and the Strategic Climate Fund (SCF), each include a Trust Fund Committee, and the SCF further designates Sub-Committees to govern each of its three targeted programs. The **Trust Fund Committees** and **Sub-Committees** are composed of equal representation by contributor and recipient countries, which approve projects and provide strategic direction.

Objective of the fund is to enhance reduction of green-house gas emission and strengthen adaptation and resilience to climate change in developing countries.

The fund focuses on mitigation and adaptation. The fund finances through four key programs including: (i) Clean Technology Fund (CTF-mitigation), (ii) Forest Investment Program (FIP-mitigation and adaptation), (iii) Pilot Program for Climate Resilience (PPCR-adaptation), and (iv) Scale Up Renewable Energy in Low Income Countries Program (mitigation).

5.3. Adaptation Fund

The Adaptation Fund (AF) was established in 2001 to finances concrete adaptation projects or programs in developing countries that are parties to the Kyoto Protocol and are particularly vulnerable to the adverse effects of climate change. The fund contributes straightly to address climate change concern in developing countries in adaptation side. The fund helps most vulnerable developing countries and communities that are increasing challenges to climate change and climate adaptation requires significantly resources beyond what is already exists. Cambodia has won a project proposal on “Enhancing Climate Resilience of Rural Communities Living in Protected Areas of Cambodia” from Adaptation Fund with total budget of almost US$5 million in late 2012. This project is implementing by Ministry of Environment and UNEP is served as implementing entity.

The fund mainly collects and receives contributions from government of countries in Europe, Australia, Switzerland, the private sector, and individual. The fund is supervised and managed by the Adaptation Fund Board (AFB). Adaptation Fund Board comprises of 16 members from contributing countries and major contributors of private sector and individual of the fund. The board members meet at least twice a year for evaluating and approving submitted project/program. The AF is daily managed and operated by Adaptation Fund Board Secretariat (AFBSEC) serves by the Global Environment Facility (GEF) and a fund trustee serves by the World Bank on an interim basis.

Objective of Adaptation Fund is to finance most vulnerable countries and communities that increased challenge to climate change and climate adaptation requires significantly resources beyond what is already existed.

Adaptation Fund focuses straightly on adaptation and resilience that contributing in addressing climate change concern in developing countries.

There are two sizes of climate change adaptation project/program can be proposed for funding support from Adaptation Fund. These are small-sized project/program (SPs) with budget up to US$1.0 million and regular-sized project/program with budget up to US$10.0 million.

The fund does not specify area or sector of adaptation to support. The fund supports all kind of reasonable priority adaptation project/program that proposed along with a high qualified proposal. The fund provides funding to developing countries through grant for project/program proposal.

5.4. Global Climate Change Alliance (GCCA)

The GCCA was established by the European Union (EU) in 2007 to strengthen dialogue and cooperation with developing countries, in particular least developed countries (LDCs) and Small Island developing States (SIDS). The GCCA has a major role to play in supporting adaptation and mitigation efforts in LDCs and SIDS. The alliance, which has moved forward to the GCCA+ to become a flagship initiative of the EU, currently supports climate change programmes in 38 countries and 8 regions and sub regions around the world. In 2014, a new phase of the GCCA, the GCCA+ flagship initiative, began in line with the European Commission's new Multiannual Financial Framework (2014-2020).

Its overall objective is to build a new alliance on climate change between the European Union and the poor developing countries that are most affected and that have the least capacity to deal with climate change. For the purpose of the GCCA initiative, five priority areas have been defined:

- Mainstreaming climate change into poverty reduction and development efforts.
- Improve knowledge about the effects of climate change and the design and implementation of appropriate adaptation actions, in particular in the water and agriculture sectors.
- Reduce Emissions from Deforestation and Forest Degradation (REDD).
- Enhancing participation in the global carbon market including Clean Development Mechanism (CDM).
- Disaster Risk Reduction (DRR).

Focuses of the GCCA Fund: there are three thematic of the fund as following

- Climate change mainstreaming and poverty reduction (policy dialogues, UNFCCC engagement, Implement Global Effort to achieve Sustainable Development, etc.)
- Sector based climate adaptation and mitigation (mainstreaming climate change into poverty reduction, improve knowledge on adaptations in the water and agriculture sectors, REDD, carbon market link to Clean Development Mechanism (CDM), disaster risk reduction (DRR)
- Increase resilience to climate change related to stresses and shock

5.5. Green Climate Fund (GCF)

The Green Climate Fund (GCF) was established by Parties to the UNFCCC at its meeting in Cancún in December 2010, and formally launched in 2011 when the Governing Instrument of the Fund was adopted and approved. The Green Climate Fund was designated as an operating entity of the financial mechanism of the UNFCCC, in accordance with Article 11 of the Convention. The Fund is set to become a main international financial institution for the delivery of climate finance in support of mitigation and adaptation activities in developing countries to limit/reduce their greenhouse gas emissions and to adapt to the impacts of climate change, taking into account the needs of those developing countries particularly vulnerable to the adverse effects of climate change. The purpose of this fund is to make a significant contribution to the global efforts and to achieve the ultimate objective of the UNFCCC towards attaining the goals set to combat climate change. The Fund is governed and supervised by a **Board** with executive management and operations supports from **Secretariat**, **Trustee, and Technical Advisory Panel of the board.** Regarding this fund, Cambodia through effort of CCD/NCSD under supported by CCCA is facilitating the establishment of a national implementing entity (NIE) for this Green Climate Fund while MOE is serving as National Designated Authority (NDA).

The Fund plays a key role in channeling financial resources to developing countries and catalyze climate finance, both public and private, and at the international and national levels. The Fund strive to maximize the impact of its funding for adaptation and mitigation, and seek a balance between the two, while promoting environmental, social, economic and development co-benefits and taking a gender-sensitive approach.

The Fund is governed and supervised by a Board that has full responsibility for funding decisions of the fund and that receives the guidance from the COP. The board members are from major countries of contributors of the fund. The major contributors of the fund are United State, Japan, United Kingdom, France, Germany, Sweden, Italy, Canada, Norway, Australia, Spain Netherlands, Finland, Korea, Switzerland, Denmark, Belgium, Austria, and Mexico. The GCF Board approved the establishment of an independent Green Climate Fund Secretariat in October 2013. The Secretariat responds for the executive management and operations of the Fund. This includes providing technical, administrative and logistical support to the Board with independence manner. The Fund also has a Trustee in charge of the management of the Fund's financial assets and financial reporting and an independent Technical Advisory Panel (the Panel) to provide an independent technical assessment and advice on funding proposals. The Panel operates as an independent technical advisory body, and be accountable to the Board.

The fund is a major mechanism to attain the ultimate objective of the United Nations Framework Convention on Climate Change (UNFCCC). **The specific objectives** of this fund are:

- To make a significant and ambitious contribution to the global efforts towards attaining the goals set by the international community to combat climate change;
- To contributes to the achievement of the ultimate objective of the United Nations Framework Convention on Climate Change (UNFCCC); and
- To promote the paradigm shift towards low-emission and climate-resilient development pathways by providing support to developing countries to limit or reduce their greenhouse gas emissions and to adapt to the impacts of climate

change, taking into account the needs of those developing countries particularly the countries of vulnerable to the adverse effects of climate change.

The funding focuses on mitigation, adaptation, and mixing of these both measure such as REDD+ to address climate change concern in developing countries. Adaptation refers to the actions made in response to both actual and expected changes in the climate that reduce vulnerability to these changes. Meeting the costs of adaptation to climate change in developing countries is a major challenge for the international community; the UNFCCC projects costs in the range of $28 – 67 billion per year for such countries by 2030. Mitigation refers to human interventions that reduce the emissions or enhance the sinks of greenhouse gases. The imperative to take action to mitigate climate change impacts has never been more urgent. Despite international efforts, greenhouse gas emissions continue to rise.

The fund categories proposed project/program size into four sizes: micro, small, medium and large proposals. Micro proposals would have a total size of up to US$ 10 million; small proposals would have a total size of above US$ 10 million and up to and including US$50million; medium proposals would have a total size of above US$ 50 million and up to and including US$ 250 million; and large proposals would have a total size of above US$ 250 million.

VI. RESEARCH FINDINGS

6.1 Climate Finance Mechanism

6.1.1. The global climate finance architecture

The global climate finance architecture is complex: finance is channeled through multilateral funds – such as the Global Environment Facility and the Climate Investment Funds – as well as increasingly through bilateral channels. In addition, a growing number of recipient countries have set up national climate change funds that receive funding from multiple developed countries in an effort to coordinate and align donor interests with national priorities.

There is generally much more transparency about the status of implementation of multilateral climate finance initiatives than of bilateral climate finance initiatives. The proliferation of climate finance mechanisms increases the challenges of coordinating and accessing finance.

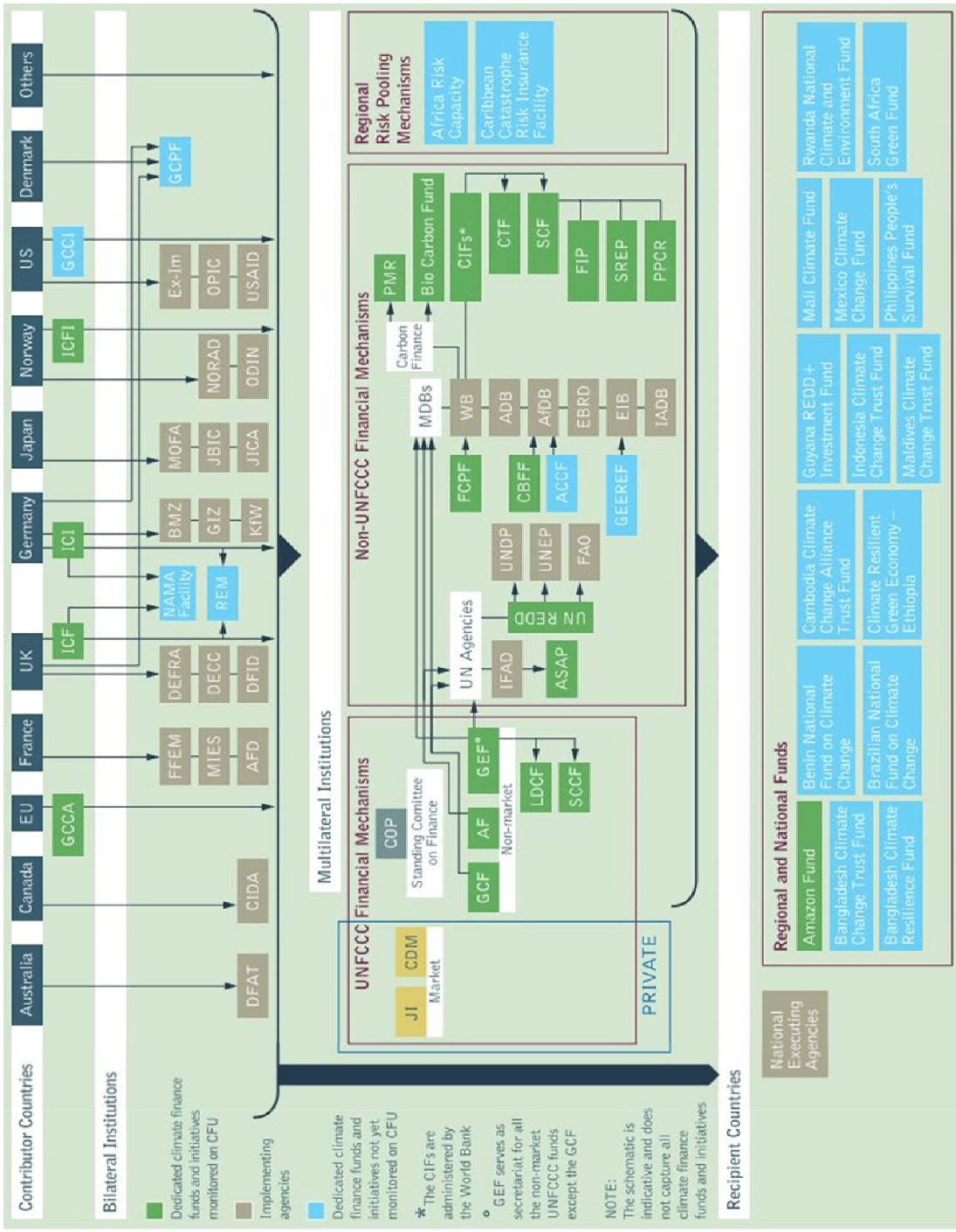

Figure 2: The global climate finance architecture (climate fund update, Oct 2016)

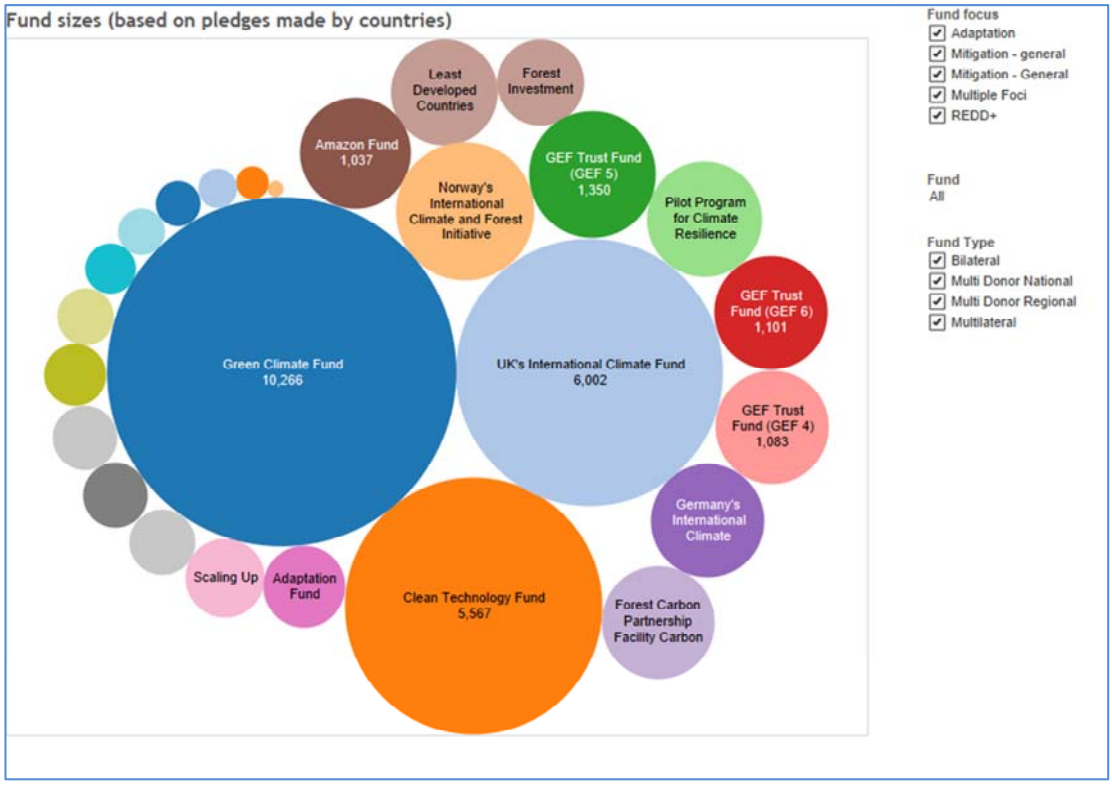

Figure 3: Global trend for climate financing in the world,
(Sources: http://www.climatefundsupdate.org/global-trends/size-spending)

6.1.2. Climate change fund for adaptation activities in global

While efforts to mitigate climate change are crucial, it is also essential to assist developing countries to adapt to the impacts of climate change already being experienced due to past and current GHG emissions. Finance is necessary to fund activities that respond to impacts such as flooding, cyclones, coastal erosion, droughts and increased variability of precipitation. Currently about 24% of the financing approved since 2003 flowing from the dedicated climate finance initiatives that CFU monitors supports adaptation. The provision of this finance is made more complex by the unequal distribution of climate change impacts with some of the poorest countries affected worst (especially Small Island Developing States (SIDS) and Least Developed Countries (LDCs)). These countries also have differing institutional capacities to respond to climate change and to ensure that financing is utilised effectively and equitably, including with attention to gender. CFU data describes a 57%1 increase in multilateral funding approved for adaptation over the last year. However, assessments of amounts disbursed are impeded by a lack of transparency and reporting on recipients.

Table 1 lists the dedicated multilateral climate funds exclusively targeting adaptation actions. The EU's Global Climate Change Alliance (GCCA) also delivers considerable adaptation funding but is not listed here as it also supports multiple objectives and activities aside from adaptation. The PPCR has approved the largest amount of adaptation finance to

date, and registered a 93% increase this year (USD 383 million), however it support only few countries with programmatic funding because of its pilot approach In contrast, he LDCF, is the fund with the highest number of projects approved (199) in 52 different countries, although individual projects are pretty small. The AF and the SCCF have approved similar amounts of funding, with increase in approvals this year of 22% and 41%. The AF, which receives part of its funding from CDM revenue, remained hampered by plummeting carbon prices and contributions. This shortfall has so far not been made up with increased grant contributions by developed countries.

Table 1: Funds exclusively supporting adaptation (2003-2014)

Fund	Pledged (USD M)	Deposited	Approved
Pilot Program for Climate Resilience	1,160.00	973.00	796.0
Least Developed Countries Fund	914.47	903.05	733.4
Adaptation for Smallholder Agriculture	352.86	300.66	149.9
Special Climate Change Fund (SCCF)	347.30	336.07	253.5
Adaptation Fund (AF)	226.33	213.71	231.5

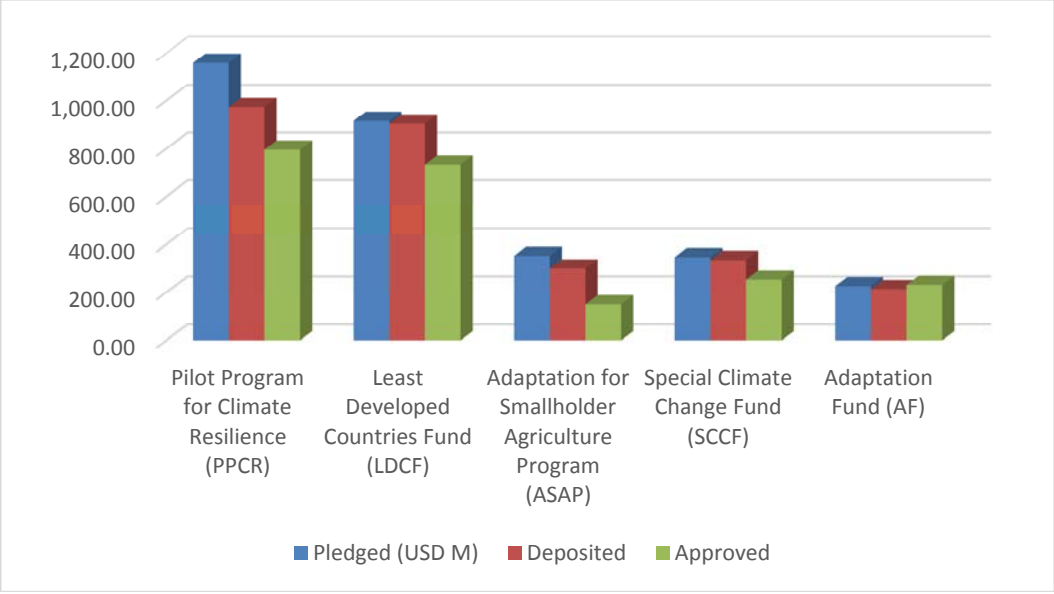

Figure 4: Pledges and deposits to adaptation fund

So far, the United Kingdom, through the International Climate Fund, Germany, the United States Sweden and Canada represent 69% of the USD 3 billion pledged to adaptation funds thus far; of this, about USD 2.72 billion has been deposited. 79% of the deposited finance has been approved to support projects and programs. The gap between amounts pledged and deposited to the funds is small, at around 9%. This suggests that adaptation finance is flowing, even if the exact amount disbursed is difficult to assess

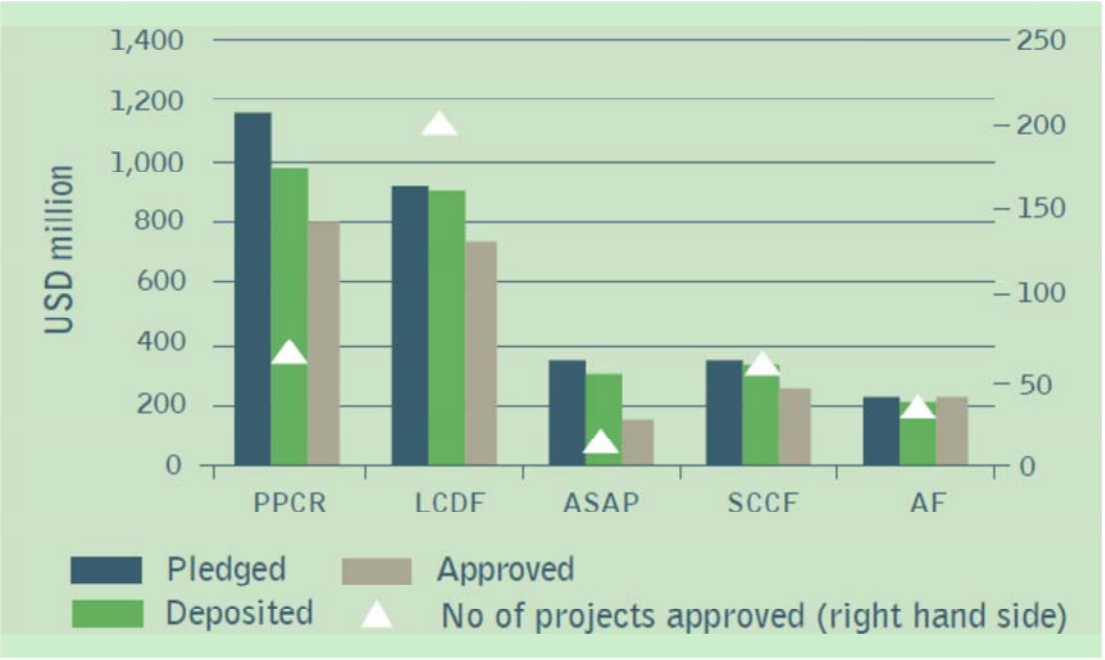

Figure 5: Fund exclusively Supporting adapation

Regionally, adaptation finance has primarily been directed to Sub-Saharan Africa and Asia and the Pacific, followed by global project and programs and activities in Latin America and the Caribbean. The top twenty recipients of adaptation finance (out of 114 countries) receive 54% of the total amount approved, which represents a much lower concentration of funding than for mitigation finance(where the top twenty recipients receive 89% of total approved finance). Top recipients Bangladesh, Mozambique, Niger, Nepal, Zambia all receive between USD 94 - 190 million each (all five are also PPCR recipient countries), with the next five top countries receiving from USD 55 to 90 million each. Some of the most vulnerable developing countries receive very little adaptation finance: for instance, Somalia and Central African Republic, both among the world's most vulnerable countries according to various vulnerability indexes3, currently receive only USD 8 and 10 million respectively from dedicated adaptation funds. This isa relative increase from last year but still far from what is needed in these fragile countries to adapt to the impacts of climate change.

The scope of what constitutes an adaptation project is wide. The largest recently approved projects are the ASAP grant for 'Adaptation for Smallholders in the Hilly Areas (ASHA)' (USD 15 million) in Nepal, which aims to strengthen the Local Adaptation Plan for Action (LAPA) development process to implement Nepal's National Adaptation Programme of Action (NAPA) at the local level; and the PPCR concessional loan 'Disaster Vulnerability Reduction Project' (USD 15 million) in St. Lucia which would benefit the country's 174,000 inhabitants by reducing the risk of failure of key infrastructure, improving the overall national understanding of risk, and rehabilitate damaged public infrastructure following a natural hazard

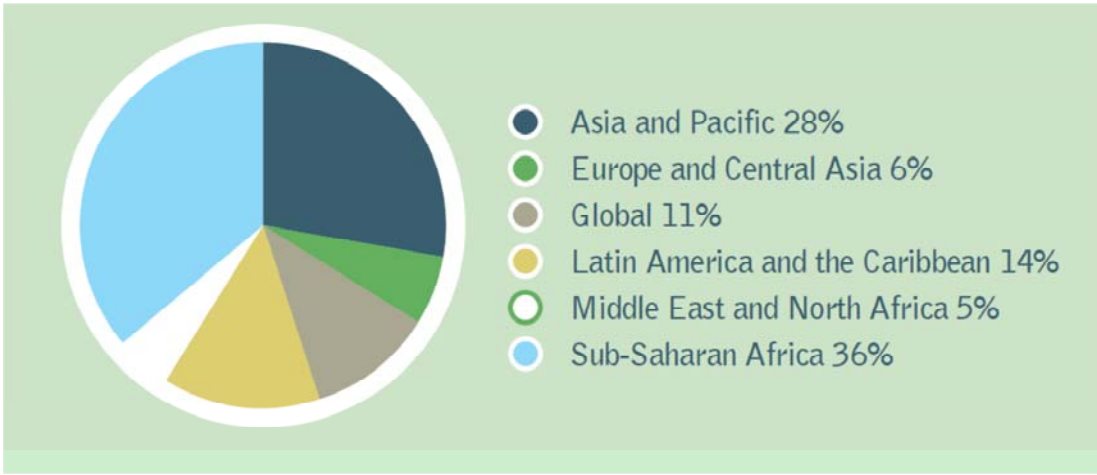

Figure 6: Regional Distribution of adaptation financing

6.1.3. Climate change fund for mitigation activities in global

There is a global consensus confirmed by the recent 5th Assessment of the Intergovernmental Panel on Climate Change (IPCC) that the temperature rise due to climate change should be restricted to two degrees Celsius if the most dangerous impacts are to be avoided, with the window of opportunity to act closing fast. It is predicted that global greenhouse gas (GHG) emissions would have to decline by 40-70% by 2050 compared to 2010 levels in order to meet this goal (IPCC, 2014). The bulk of the burden for GHG reductions rests on the shoulders of developed countries, but it is also essential that developing countries incorporate climate mitigation into their development plans by pursuing comprehensive low-carbon development strategies. International climate finance can assist developing countries in implementing priority mitigation actions including renewable energy and energy efficiency programmes, and more sustainable transport.

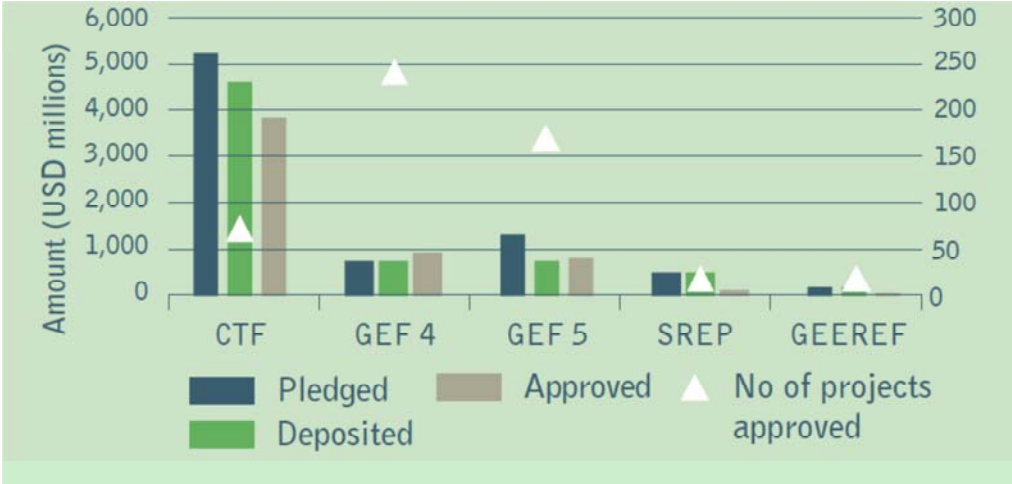

Figure 7 Funds primarily supporting mitigation

What are the main dedicated climate funds that focus on mitigation finance?

Table 2 presents the dedicated climate funds that primarily support mitigation actions in developing countries. Funds differ widely in the scale of mitigation projects and programs they can accommodate and the number of developing countries they support. For example, the 69 approved projects benefitting just a small number of emerging market economies under the Clean Technology Fund (CTF) comprise USD 3.8 billion approved finance in largely programmatic, loan funding. By contrast, the over 400 individual grant-financed projects under GEF 4 and 5, which cover most developing countries, account for less than half of this amount. The GEF-5 System for Transparent Allocation of Resources (STAR) has tripled the number of eligible countries from 50 to 144, allowing developing countries with low per capita income to access small scale mitigation grant finance from the Fund (GEF, 2011). On the other hand, the CTF aims to use the larger sum of loan funding at its disposal to achieve scaled-up action in a select group of pilot countries.

The Scaling-Up Renewable Energy Program (SREP) of the CIFs, which focuses on increasing renewable energy generation and improving energy access in poorer developing countries, has approved 14 projects as of September 2014 but has not yet started disbursing project funds.

Table 2: Funds primarily supporting mitigation

Fund	Pledged (USD	Deposited	Approved	No of projects approved
Clean Technology Fund (CTF)	5,242	4,599	3,840	69
Global Environmental Facility Trust Fund (GEF 4)	754	754	956	240
Global Environmental Facility Trust Fund (GEF 5)	1,350	777	799	232
Global Energy Efficiency Renewable Energy Fund (GEEREF)	170	164	89.07	11
Scaling-Up Renewable Energy Program for Low Income Countries (SREP)	521	506	135.99	14

To date, the USA, Japan, UK, Germany and France's pledges to the five designated funds in Table 1 account for 77% of the USD 9 billion committed in total. About USD 5.3 billion of the amount pledged by these countries has actually been deposited to the funds. USD 5.8 billion, or 86%, of the amount deposited by all donors has been approved for supporting projects or programme Mitigation finance has been distributed fairly evenly across developing country regions. Funding has been less evenly distributed at the country level, however, with twenty countries receiving 88% of total mitigation funding. Rapidly developing countries with substantial mitigation need and potential such as Morocco (USD 615.51 million), India (USD 592.08 million), Mexico (USD 570.98 million), South Africa (USD 485.81 million), and Indonesia (USD 382.86 million) are the top recipients of

approved mitigation finance. There may be tensions between realising large scale GHG mitigation opportunities in fewer countries and investing in smaller scale solutions from which all developing countries can benefit. Many GEF and SREP supported projects have sought to improve energy access for the poor by supporting rural electrification using renewable energy technologies. The majority of mitigation projects receiving finance promote renewable energy projects or energy efficiency measures, given that more than 40% of GHG emissions result from energy production and use. Morocco and India, for example, have had over USD 400 million approved between them within the last year for projects to scale up the deployment of concentrated solar power. Another emerging focus of mitigation finance is to support more sustainable low carbon transport solutions, specifically urban transport infrastructure.

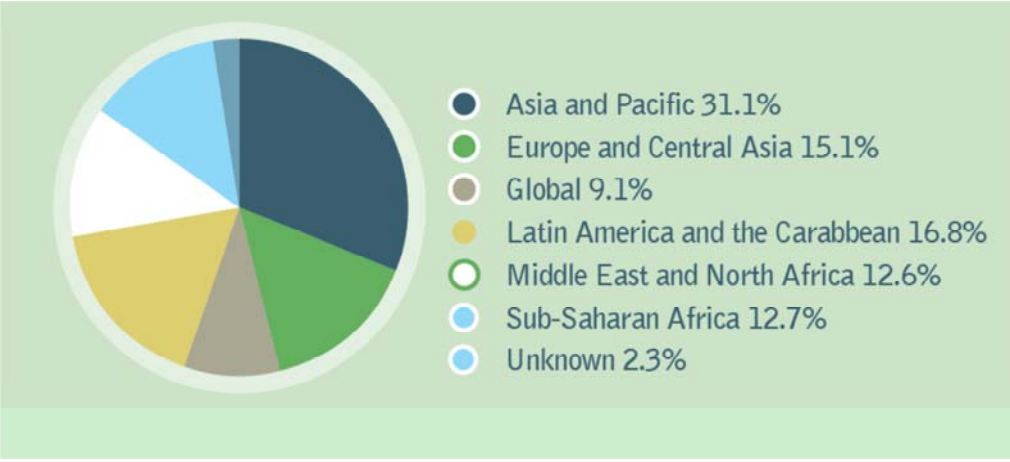

Figure 8: Regional Distribution of mitigation finance

6.2 NAP Readiness

6.2.1 Government plans and policies respond to climate change

The National Strategic Development Plan (2014-2018) roadmap for the implementation of the Rectangular Strategy the Royal Government of Cambodia pledges to "reduce the impact of climate change by strengthening the adaptation capacity and resiliency to climate change. In 2014 the national stratergy plan on Cambodia Climate Change Strategic Plan 2014-2023 (CCCSP) and National Policy on Green Development and the "National Strategic Plan on Green Development 2013-2030 were approved. The CCCSP 2014 – 2023 identifies a number of actions to be implemented in three consecutive phases:

- 2013–2014: putting in place institutional and financial arrangements for the implementation of the CCCSP, development of national monitoring and evaluation (M&E) frameworks and indicators, and development of climate change action plans (2014 – 2018) by line ministries.
- 2014–2018: continue to support the implementation Phase 1 actions, with expansion to cover other activities such as accreditation of the Adaptation Fund and GCF, research and knowledge management, capacity development, mainstreaming of climate change across sectors at different levels, operation of M&E and data management systems, and launching some high priority

projects/programmes in key sectors identified in the Climate Change Action Plans (CCAPs). Initial priority would be given to adaptation activities but gradually GHG mitigation activities will be included.

- 2019–2023: focus will be on research and learning, but its main objective will be to scale up success cases and to continue mainstreaming climate change into national and sub-national programmes. This will involve an increased use of budget support for national programmes.

The National Policy on Green Growth and National Strategic Plan on Green Growth (2013-2020) were both adopted in March 2013. The latter aims at developing a green economy by the effective use of natural resources, environmental sustainability, green jobs, green technologies, green finance, green credit, and green investment. The scope is broader than but overlaps climate change and other environmental policies. In 2006 Cambodia adopted a NAPA, which is now out of date and is of limited relevance.

In 2015, Cambodia submitted its Intended Nationally Determined Contribution (INDC) to the UNFCCC as a contribution to the COP21. For the first time, it sets a goal of reducing energy sector-emissions by 27% (3.1 MtCO2) by 2030 relative to a BAU scenario and of increasing forest cover to 60% of national land area by 2030.

Overall, mitigation is a lesser objective for Cambodia than adaptation[12]. A Climate Change Financing Framework was developed to structure budgeting and climate finance mobilization. It aims to facilitate identification, prioritization and financing of adaptation and mitigation activities. Climate financial resources identified in the CCFF are drawn from the government's regular budget or sourced from global facilities and from bilateral and multilateral donors.

At the sectoral level, Climate Change Actions Plans (CCAP) have been adopted by key line ministries and agencies[13] to identify activities in relation with strategic objectives. The sectoral CCAPs include 68 actions associated with policy, planning, capacity building, institutional strengthening, 39 actions to deliver services to beneficiaries and 10 actions involving investment in infrastructure[14]. For example, one of the actions identified in the CCAP for the Transport Sector that could have a direct impact on the private sector, consists in enhancing maintenance and inspection of vehicles, as an effort to promote GHG reductions[15].

6.2.2 Institutional framework on Climate Change

Between 2006 and 2015, the **main public body in charge of climate change** (not including REDD+ which has its own dedicated set of bodies) was the **National Climate Change Committee** (NCCC), whose role was to coordinate the response to climate change in Cambodia (e.g. preparing, coordinating and monitoring implementation of policies, strategies, legal instruments, plans and programmes related to climate change).

[12] *Cambodia Climate Change Financing Framework*
[13] Source: RGC, CCCSP 2014-23, 2013
[14] Source: Cambodia Climate Change Financing Framework
[15] Ministry of Public Work and Transports, "Climate Change Action Plan for Transport Sector 2014-2018", april 2014

In May 2015, the National Council for Sustainable Development (NCSD) took over the functions of the NCCC and other four national committees. The NCSD is composed of Secretaries and Under-secretaries of State and is chaired by the Minister of Environment. Compared to the NCCC, membership of the NCSD has increased (more ministries are included, as well as provincial governors)[16]. The NCSD has played a major role in the preparation of the Cambodian Climate Change Strategic Plan 2014-2023, the sectoral Climate Change Action Plans and the Climate Change Financing Framework.

The Ministry of Environment (MoE) plays a leading role in Cambodia's response to climate change:

- Within the MoE, the **Department of Climate Change (DCC)** was established in 2009. It is responsible for a wide range of activities related to climate change and serves as Cambodia's focal point for the UNFCCC, the Intergovernmental Panel on Climate Change (IPCC), and the Kyoto Protocol. It also coordinates working groups on climate related sectors or issues, such as energy, forestry, GHG inventories, vulnerability and adaptation, etc.
- In July 2002, the MoE was appointed as the **Designated National Authority (DNA)** for the Clean Development Mechanism (CDM). The department of climate change acts as a secretariat of the DNA.

The Climate Change Technical Team CCTT will be replace by Climate Change technical Working Group (CCTWG) in the 2016 to ensure the effectiveness of technical assistant and input to NCSD on climate change. The CCTWG provide support to the line ministries for the development of sectoral CCAPs.

[16] Source : SNC

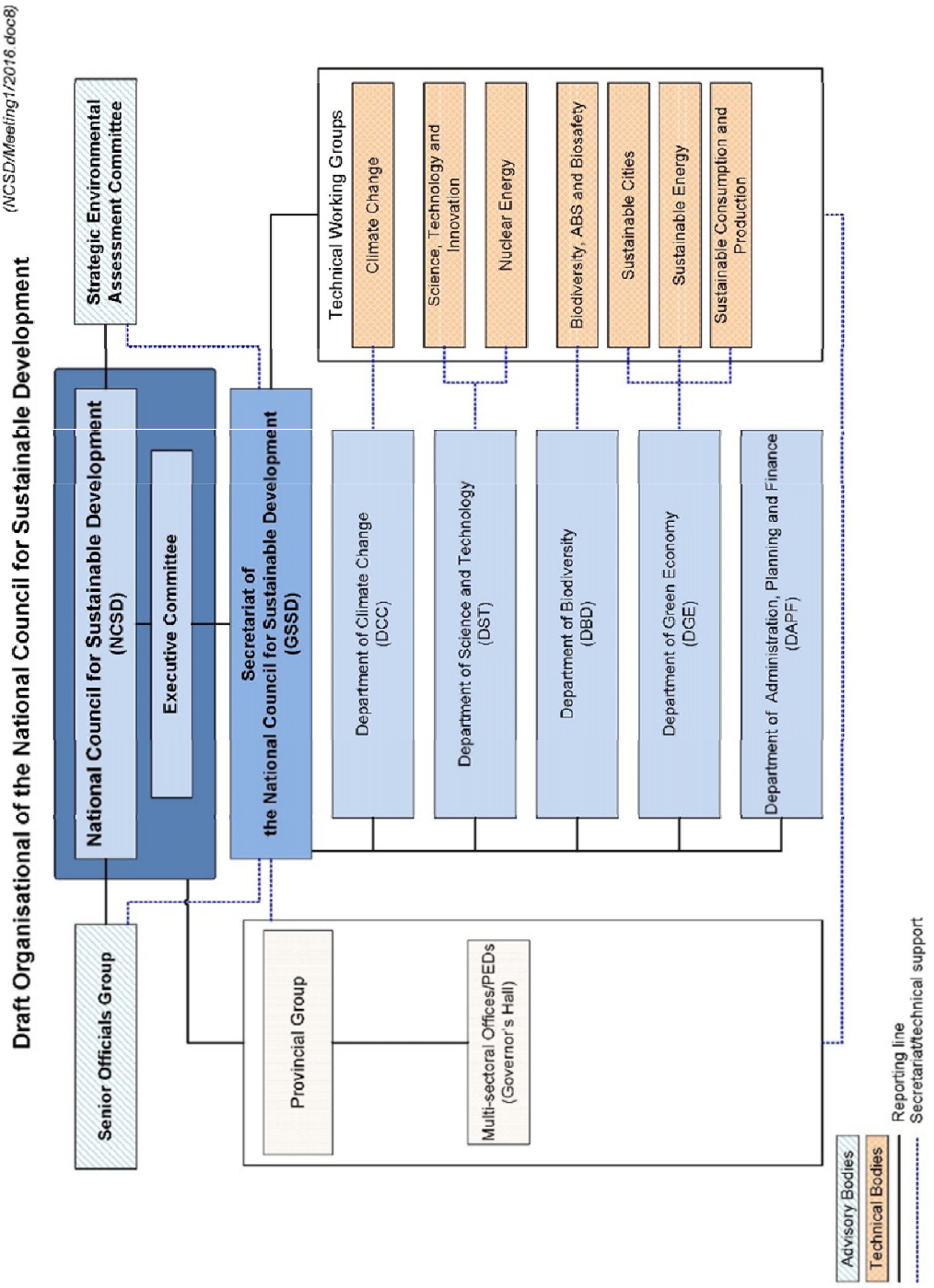

Figure 9: Organization of the National Council for Sustainable Development

6.3 NAP Implementation in Cambodia

6.3.1 Multiple stakeholder engagement and inclusiveness for adaptation project formulation

Based on result of field survey, and key informant interview shown that relevant stakeholders were consulted regarding process of project formulation particularly the adaptation interventions. They also identified vulnerability group to the impacts of climate change. Based on result of consultation, the information were generated as main inputs for project development for accessing adaptation fund such as:

- MoE, including the departments of Research and Community Protected Area Development (RCPAD), Department of Climate Change (DCC), Wildlife Sanctuary, and National Parks;
- Concerned ministries including MAFF, MoP, MoWRM, NCDM, MRD, etc
- Some NGOs including WWF, World Vision, WCS, IUCN, CDRI, MRC, FFI, WA, NTFP, RCOFT, etc.

They also conduct two survey in CPA and target province. They report that at least 364 people representative and management committees were interviewed to identifies need and priority action for climate change response. All consultative meeting or survey, they also recorded and keep it in their proposal.

6.3.2 Process Effectiveness of Adaptation Fund Utilized and Public Access

The Adaptation Fund has piloted new approaches to delivering climate finance. The Fund is partly capitalized through a 2% levy on the Clean Development Mechanism. It has played a significant role in scaling up available finance for adaptation in developing countries, albeit from a very low baseline, and operates with high levels of transparency. Early progress on a results framework helped focus the Fund's operations and foster learning. The Fund's innovative sourcing of finance through a CDM levy has generated lower revenues than hoped, however, and substantial questions remain about the predictability of funding. The Fund's pioneering "direct access" arrangements were intended to reduce the costs and complexities of accessing funds, and strengthen recipient ownership of supported programs. Accreditation processes have become more established over time, but in practice ensuring strong coordination and ownership of programs across stakeholders in country is an on-going challenge.

There is wide recognition that the impacts of climate change will be highly localized, and that there is a real need to ensure that stakeholders at sub-national level are beneficiaries of adaptation efforts and adaptation finance. Supporting activities at a diversity of scales. Engagement at difference scales is a significant focus of the Adaptation Fund. All approved programs include both national components, as well as sub-nationally focused elements.
The small program size requires a strategic choice of which local a reas in which to engage: some project proposals propose criteria against which potential sites were considered, and then stakeholder engagement resulted in a final selection of the focus of the fund. Some project proposals identify criteria that justify the choice of where the programs will work. In many cases, the choice is based on stakeholder engagement and the priorities and interests of local level implementation partners.

6.3.3 Local adaptation plans process and vulnerable community engagement

The National Adaptation Programme of Action to Climate Change (NAPA) had been followed decision # 28 of the 7th Conference of the Parties (CoP) of the United Nations Framework Convention on Climate Change (UNFCCC). The formulation of the NAPA follows a participatory process that involves those who are most affected by climatic impacts, i.e. government institution, academy, researcher, community representatives, DPs and other stakeholders.

NAPA objectives are:

- To understand the main characteristics of climate hazards in Cambodia (flood, drought, windstorm, high tide, salt water intrusion, and malaria);
- To understand coping mechanisms to climate hazards and climate change at the grassroots level;
- To improve agricultural productivity through the expansion of irrigation and the management of water resources to reduce vulnerability to natural disasters; and
- To identify and prioritize adaptation activities to climate hazards and climate change impact.

The Cambodia does not develop local adaptation plan in action (LAPA) but government encourage local authority integrate climate change into existing plan particularly commune investment plan. NCDD-S of ministry of interior has a mandates and role to take over this duties to support the process of CIP/CDP in Cambodia. Under the project of local government and climate change adaptation, NCDD-S has selected 02 target province and 08 district (30 communes) for piloting climate change mainstreaming and good governance. The process of commune investment plan and commune development plan provides an opportunity to affected community to raise their concern over climate change through VRA assessment.

6.4 Status of Adaptation Fund in Cambodia

6.4.1 Climate Fund in Cambodia

Climate change spending has steadily increased in Cambodia over the reporting period, from CR 367 billion in 2009 to CR 847 billion in 2014.

The proportion of climate expenditure to GDP also increased overall, from 0.9% of GDP in 2009 to 1.3% of GDP in 2014, with a low point in 2011 (0.8% of GDP). 2009 and 2010 were marked by relatively high levels of disaster recovery expenditures due to typhoon Ketsana and flood in the late 2009.

In 2014, one third of public expenditure was either fully or partially related to climate change (up from 28.9% in 2009). Once climate change relevance weights are applied to this expenditure, climate finance constituted 4.1% of public expenditure (up from 3.3% in 2009).

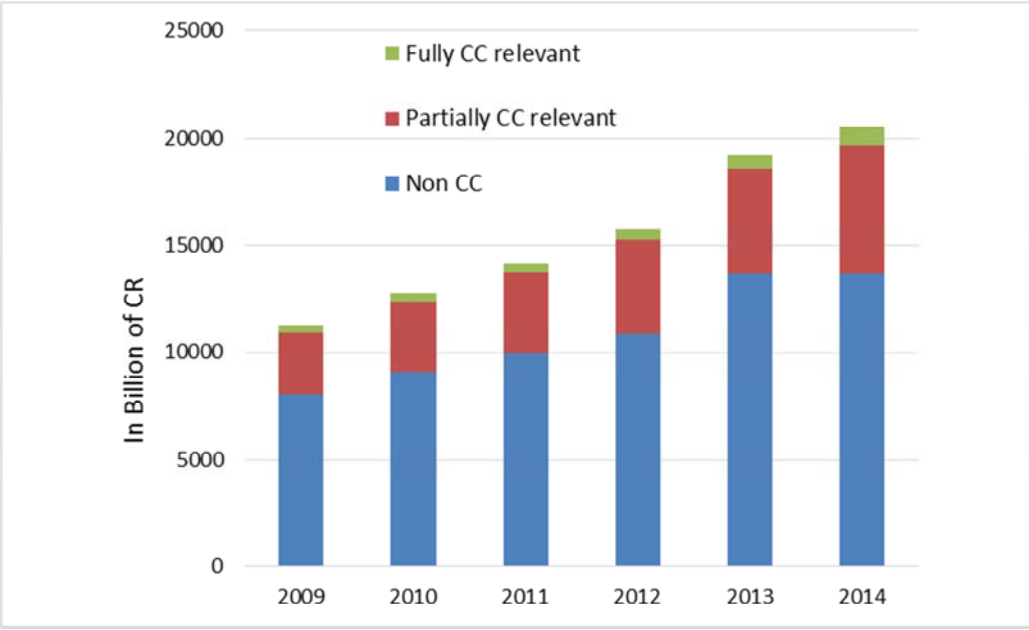

Figure 10: Public Expenditure for Climate Change (2009-2014)

Table 3: Proportion of climate change expenditure to total spending and GDP

	2009	2010	2011	2012	2013	2014
CC related spending to total spending	28.9%	28.9%	29.8%	30.9%	28.7%	33.3%
CC spending to total spending	3.3%	3.5%	2.9%	3.1%	3.3%	4.1%
CC spending to GDP	0.9%	1%	0.8%	0.9%	1%	1.3%

The amounts allocated from domestic resources (national budget) for climate-relevant expenditure increased steadily from CR 87 billion in 2009 to CR 211 billion in 2014. In 2014, almost one quarter (24.8%) of public climate expenditure was funded by national budget. External financing continues to represent the largest source of funding for climate expenditure in Cambodia. It has been more volatile than domestic funds, with a dip in 2011 probably due to the simultaneous completion of several large climate-related projects, but the overall trend is clearly positive, with a sharp increase in 2013 and 2014.

Only 41% of these externally funded programmes were channelled through the MEF's systems in 2009. The situation has changed significantly since 2011, with the majority of externally funded climate expenditures flowing through MEF systems (67% in 2014), mostly for large infrastructure and agriculture projects.

6.4.2 Source of Funding

Through the ODA database 2014 shows that Sweden, EU and UNIDO are the main resource providers to support climate change sector with disbursement accounts for 24.1%, 23.2%, and 11.7% of total climate principal source respectively. In 2015, total ODA funds

to climate change as a principal sector was USD 7.1 million addressing the increase of 14.5% from 2014 while climate change mainstreaming support as 'Thematic Marker' declined of around 15% from USD 159.5 million in 2014. The agriculture, transportation and environment sectors are the largest climate change 'mainstreaming sectors' with a combined USD 100 million (70% of climate change mainstreamed funds). The environment, climate change, urban planning, agriculture and rural development are major sectors that have mainstreamed the largest share of climate change of their own sector portfolio.

6.4.3 Climate Adaptation and Mitigation Projects

The researcher classified climate projects into adaptation and mitigation and found that the majority of the financing is allocated for adaptation projects by years. Base on the CPEIR, since 2009 to 2014 the adaptation project are increased from 88.84 million USD to 207.69 million USD.

Table 4: Public Expenditure for adaptation and mitigation activities

	2009(USD in Millions)	2010 (USD in Millions)	2011(USD in Millions)	2012(USD in Millions)	2013(USD in Millions)	2014(USD in Million)
Mitigation	3.04	5.56	5.10	6.19	7.88	4.12
Adaptation	88.84	105.04	97.47	116.11	152.15	207.69

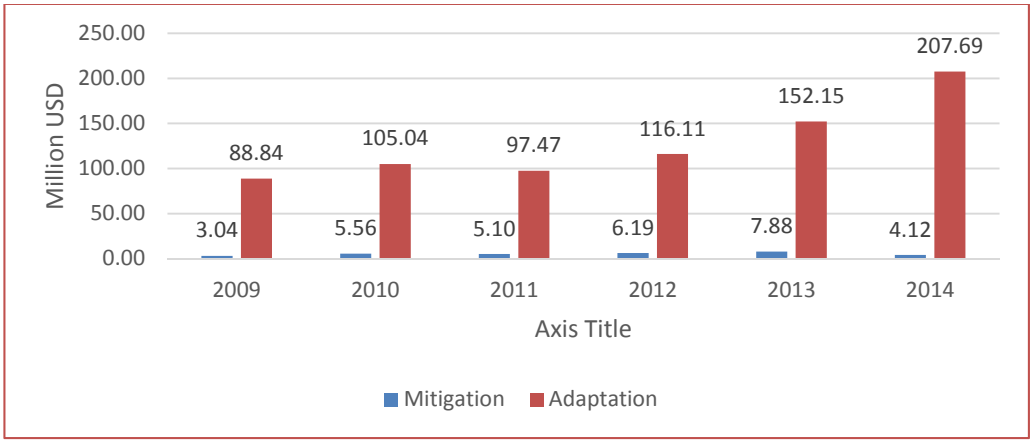

Figure 11: Total spending for Adaptation and Mitigation Activities based ODA and National Budget

Source: MEF and CCCA, 2016, CPER 2009-2014

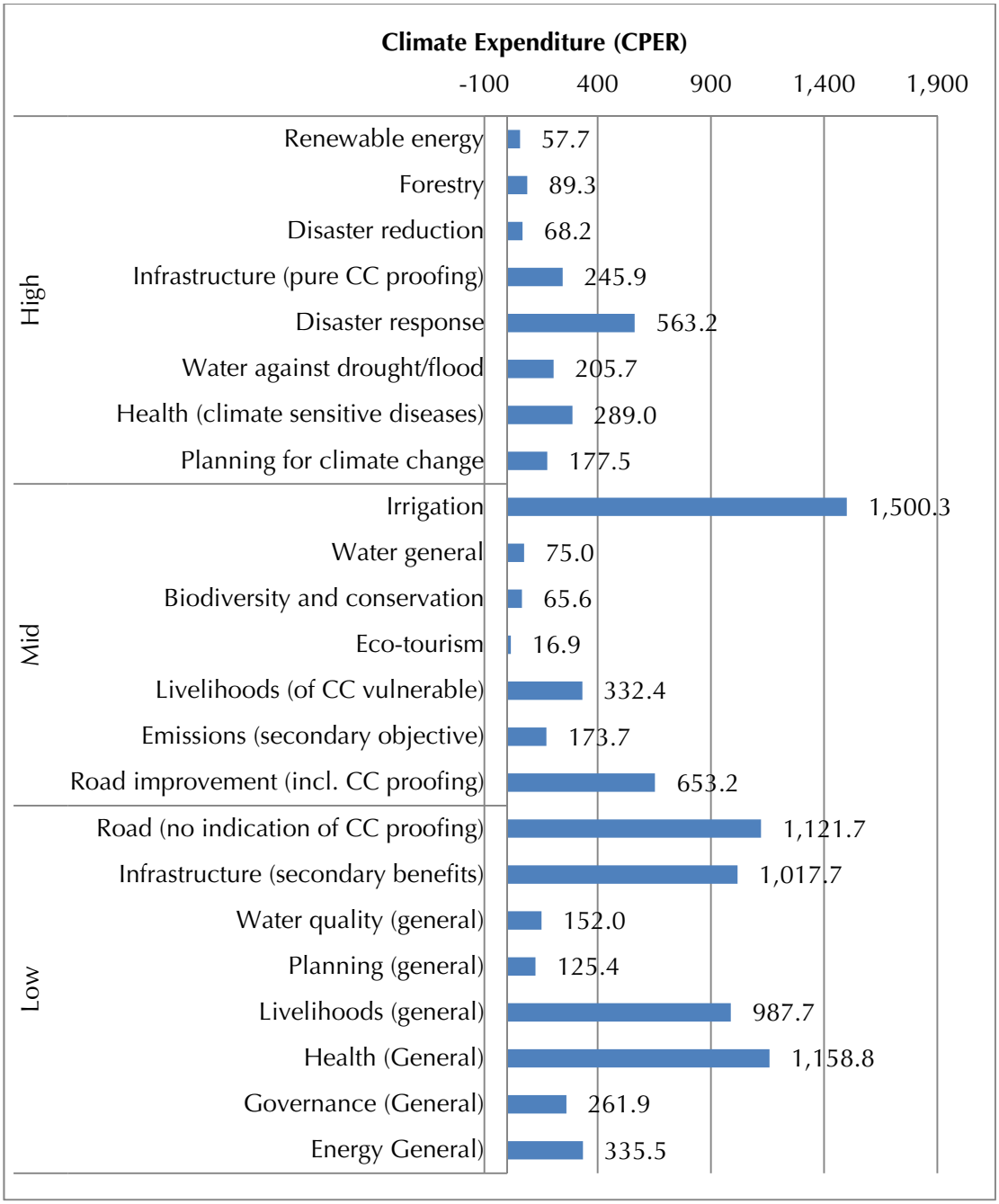

Figure 12: Climate Change Finance Expenditure by Sectors

Sources: CPER 2009-2014

6.4.4 Climate Change Adaptation by sector

Sectoral allocation shows a strong focus on irrigation, climate resilient national and rural roads, representing CR 433 billion or 51% of the total estimated climate spending, followed

by 20.7% on disaster response, 16% on climate-resilient livelihoods (including agriculture), 3.4% on health, 1.3% on the energy sector and 1% on disaster risk reduction. The largest spending ministries are Ministry of Water resources and Meteorology (MoWRAM), Ministry of Public Works and Transport (MPWT), Ministry of Rural Development (MRD), Ministry of Agriculture Forestry and Fisheries (MAFF), Ministry of Health (MoH) and Ministry of Environment (MoE).

Overall, the average annual CCAP requirement for these 15 ministries is CR 716 billion. In 2014, the estimated climate-related expenditure for these same ministries is CR 778 billion (CR 847 billion if other stakeholders are included). This demonstrates that Cambodia's financing needs as expressed in the CCAP are not unrealistic, and are actually in line with the levels of available financing. Cambodia could actually aim to mobilize resources in line with the high growth scenario presented in the Climate Change Financing Framework (CR 832 billion for 2014 vs. CR 792 billion in the low growth scenario).

However, it should be noted that most of the funds disbursed in 2014 were programmed prior to the development and launch of the CCAPs. As a result, climate-related expenditure is not fully aligned with these plans, and there are still significant funding gaps for many of the new activities included in the CCAPs.

There is also an opportunity to increase the level of climate-relevance of these expenditures. For example, while an irrigation system itself contributes to climate change adaptation by reducing reliance on rainfall patterns, its climate relevance could be even higher if it is specifically designed to be climate-proof (e.g. resist floods).

Looking at CCAP ministries only, the allocation of climate-related expenditure is broadly in line with the sectoral allocation in the CCAPs. MoWRAM (42.7%), MPWT (22.6%), MAFF (8.9%) and MRD (8%) are the ministries with the most significant portfolio of climate-related expenditure.

However, while the infrastructure ministries (MoWRAM, MPWT, MRD as well as MME and MPTC) benefit from adequate levels of funding, including both the RGC and development partner, MAFF's CCAP remains under-funded (only 45% funded in an optimistic scenario, assuming that all climate financing is aligned with the CCAP). This is also the case for MoE (only 34% funded), MoH (76% funded), MIH (61% funded) and MoEYS (7% funded), as well as other ministries with smaller climate change portfolios.

Because the first CCAPs were only adopted in 2014, it is unlikely that these plans had a strong influence on climate finance for that year. A more specific assessment at ministry level will need to be conducted as a part of the monitoring process for CCAPs. While climate finance is available and broadly in line with sectoral priorities, there are opportunities to improve the allocation of these funds to the highest potential actions identified in CCAPs.

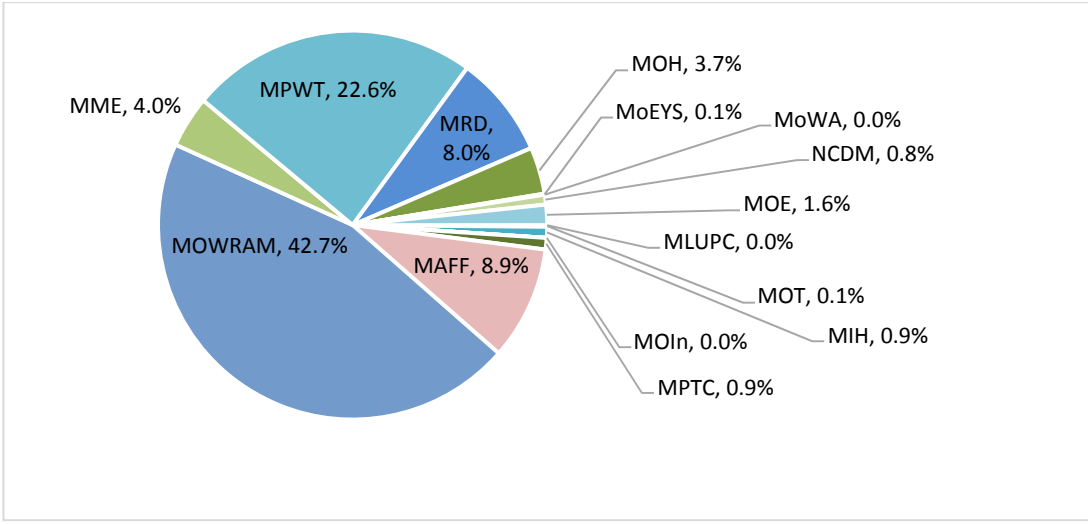

Figure 13: Allocation of 2014 Climate Expenditure Per Ministries

6.4.5 The Adaptation Fund Project in Cambodia

The Adaptation Fund Project in Cambodia titled "Enhancing Climate Change Resilience of Rural Communities Living in Protected Areas of Cambodia" is an adaptation project that target five selected protected areas (CPAs) in Cambodia. The project has an approved budget of USD 4,954,273; and it is expected to run from October 2012 until January 2017. The project received its first installment of funds (USD 1,107,231) in June 2012. The adaptation funding has been successfully implemented on components of the project such as planting trees, installing reservoirs for the communities, providing capacity building to address problem solving, etc. Project goals for 2015-onwards focus on expanding eco-agricultural throughout the CPAs (i.e. home gardening and raising livestock), establishing an eco-tourist area and further pursuing forest restoration within the regions.

The project under the implementation of the United Nations Environment Programme and Cambodia's Ministry of Environment. The project aims to increase food supply and reduce soil erosion in Chiork Beungprey, Chom Thlork, Skor Mreach (all in Beung Per Wildlife Sanctuary), Ronouk Khgeng (Phnom Prech Wildlife Sanctuary) and Chop Tasok (Phnom Kulen National Park). So far the key achievement of the project activities including the restoration of variety of plant species to at least 1,875 hectares of degraded forests; enrichment planting of rice paddy boundaries and other cultivated areas with multi-use tree species that will enhance crop productivity; trial plots of several drought-tolerant hybrid rice cultivars in order to assess their potential yield, suitability for cultivation; intensifying and diversifying the productivity of at least 1,907 family agriculture areas (including home gardens ranging in size from 0.2 hectares to 1 hectare) in communities living around the forest sites.

A vulnerable assessment in target project has been conducted with widely consultation with all stakeholders including government institution, local authority, NGOs, affected communities (beneficiary), and develop partners. Result of assessment has been convert into baseline data and strategic action to cope with impact of climate change. Community based adaptation has been applied in projects design process.

During project field visits in August 2016, community protected area members reported that they had opportunity to engage all the process of project design and implementation. One community leader said that ***"If no adaptation project, the forest and wildlife does not here".*** Community representative recognized that project has provided them an ownership on project implementation and management. Most of project beneficiaries have improved their livelihoods through changing their occupation. Before community livelihood depend on non-timber forest products and forest logging, but now they change to climate smart agriculture practices.

6.5 NAP Linkage

6.5.1 Alignment on the national level

Overall of reviewing and analysis reflected that good alignment between relevant with the Royal Government of Cambodia policies such as Cambodia Climate Change Strategy Plan, Sectoral Climate Change Action plan, and the INDC, as described in the sub-sections below.

6.5.1.1 Alignment between CCAPs and CCCSP

The actions in the Sectoral Climate Change Action Plans (CCAPs) mostly derive from sectoral priorities and are well aligned with the Cambodia Climate Change Strategic Plan (CCCSP). There are presently a total of 178 priority actions, all of which have associated budgets for the period 2014-18. Table 1 identifies how many CCAP actions support each of the 8 objectives of the CCCSP.

Table 5: Alignment between CCAPs and CCCSP

CCCSP strategic objectives	CCAP (#actions)	CCAP (%)
1. Promote climate resilience through improving food, water and energy security	37	14%
2. Reduce sectoral, regional, gender vulnerability and health risks to climate change impacts	51	20%
3. Ensure climate resilience of critical ecosystems (Tonle Sap Lake, Mekong River, coastal ecosystems, highlands, etc.), biodiversity, protected areas and cultural heritage sites	27	10%
4. Promote low-carbon planning and technologies to support sustainable development	56	22%
5. Improve capacities, knowledge and awareness for climate change responses	68	26%
6. Promote adaptive social protection and participatory approaches in reducing loss and damage due to climate change	8	3%

7. Strengthen institutions and coordination frameworks for national climate change responses	11	4%
8. Strengthen collaboration and active participation in regional and global climate change processes	2	1%
TOTAL	260	100%

The majority of CCAP actions (a total of 66%) support three strategic objectives:

- Strategic Objective 5: Improve capacities, knowledge and awareness for climate change responses
- Strategic Objective 4: Promote low-carbon planning and technologies to support sustainable development
- Strategic Objective 2: Reduce sectoral, regional, gender vulnerability and health risks to climate change impacts.

Objectives 6, 7, and 8 are less directly related to CCAP actions plan, and focus more on social protection, institutional and coordination frameworks, and international collaboration.
Nonetheless, it is not straightforward to assume that all the CCAP actions implemented together will achieve CCCSP objectives.
In particular:

- M&E: Indicators are not yet built in the CCCSP. Additionally, as explained in Section 3.4, there is not yet an integrated coordination mechanism to measure progress in CCAP implementation
- Flexibility: The CCAP actions are not designed to be rigid: many of the activities that will contribute to the fulfilment of the actions have not yet been identified, and may change in time, as there is progress in implementation and projects are negotiated with funders
- Climate change element: despite guidance provided by the CCCA, many action fiches present a low degree of climate change element.

The CCCSP focuses on vulnerable areas that are not specifically targeted in the CCAPs. The CCCSP highlights the as extremely vulnerability. However, the CCAPs do not specifically mention this (CCCA interview). Additionally, on geographic targeting:

- NCDM targets communities areas that are affected, mostly rural, and urban areas are still not priority.

6.5.1.2 Alignment between CCAPs and INDCs

There is very strong alignment on adaptation actions between the CCAPs and the INDC. As evidenced in Table 2 below, the vast majority of the INDC adaptation actions derive from the CCAPs, except one action that has been adopted from the Second National Communication (SNC) (2016).

Table 6: Alignment between INDC adaptation actions and CCAP responsibilities

INDC action No.	INDC actions	CCAP action No.	Ministry
1	Promoting and improving the adaptive capacity of communities and restoring the natural ecology system to respond to climate change	121	MOE
2	Implementing measures of management and protection of areas to adapt to climate change	120	MOE
3	Strengthening climate information and early warning systems	41	MOWRAM
4	Developing and rehabilitating the flood protection dykes for agricultural/urban development	168	MOWRAM
5	Increasing the use of mobile pumping stations and permanent stations in responding to mini-droughts, and promoting groundwater research in response to drought and climate risk	167	MOWRAM
6	Developing climate-proof tertiary-community irrigation to enhance the yields from agricultural production of paddy fields	129	MOWRAM
7	Promoting the climate resilience of agriculture through building sea dykes in coastal areas and scaling-up of climate-smart farming systems	132	MOWRAM
8	Developing crop varieties suitable to Agro-Ecological Zones (AEZ) and resilient to climate change (include coastal zones)	84	MAFF
9	Promoting aquaculture production systems and practices that are adaptive to climate change	108	MAFF
10	Repairing and rehabilitating existing road infrastructure and ensuring effective operation and maintenance, taking into account climate change impacts	169	MPWT
11	Up-scaling the Malaria Control Program towards pre-elimination status of malaria	37	MOH
12	Up-scaling of national programmes on acute respiratory infection, diarrhoeal disease and cholera in disaster-prone areas, including conducting surveillance and research on water-borne and food-borne diseases associated with climate variables	38	MOH
13	*Strengthening technical and institutional capacity to conduct climate change impact assessments, climate change projections, and mainstreaming of climate change into sector and sub-sector development plans*	*From SNC*	*MOE?*

There is not a one-to-one correspondence between the mitigation actions in the INDC and in the CCAPs. As indicated in Table 3 below, mitigation actions are all derived from the

SNC, rather than the CCAPs, but implementation is expected through the CCAPs. The SNC forms the basis of the mitigation section of the INDC because the SNC provides greenhouse gas projections, mitigation options, and a vision to 2030, which is what the INDC requires, whilst the CCAPs have a less specific focus, do not indicate projections and abatement, and their intervention period is 2014-18.

Table 7: Alignment between INDC mitigation actions and CCAP responsibilities

INDC action No.	INDC actions	CCAP action No.	CCAP action	Ministry
12	Development of a compendium of renewable energy technology for the industrial sector	14	Energy Industries: Grid connected renewable energy generation (solar energy, hydropower, biomass and biogas) and connecting decentralised renewable generation to the grid; Off-grid electricity such as solar home systems, hydro (pico, mini and micro); Promoting energy efficiency by end users	MIH
13	Promote the renewable energy generation on site and co-generation for industrial sector as well as special economic zone			
15	Pilot and documents strategies for converting industrial waste into energy			
88	Assess of the potential of renewable energy applications in the industrial sector			
95	Conduct Technology Need Assessment for GHGs emission reduction in the energy sector	15	Reducing emissions as a result of rice milling, garment, and brick works	MME
55	Enhance maintenance and inspection of vehicles	16	Motor vehicle inspection, public transport and improving efficiency of vehicles	MPWT
8	Development of best resource and energy efficiency practices for industries and SMEs	17	Efficient cookstoves, biodigesters, water filters	MIH
71	Developing and implement regulations and mechanism on	18	Increasing forest cover to 60% of national land area, and maintaining that level from	MAFF

INDC action No.	INDC actions	CCAP action No.	CCAP action	Ministry
	REDD+		2030 onwards	

Source: team analysis on CCAPs and INDC

6.5.2 Enabling Environment and government support for NAP process

The development of CCCSP is a significant step toward embedding climate change in the national development plan and sectoral development plans of relevant ministries. Right after the approval, CCCSP was integrated in the National Strategic Development Plan 2014-2018. At sectoral level, relevant ministries have started preparing Climate Change Action Plan by aligning to the CCCSP and their sectoral development plan. By the end of 2014, the first batch consisting of eight line ministries approved their CCAPs, namely Ministry of Agriculture, Forestry and Fisheries (MAFF), Ministry of Education, Youth and Sport (MOEYS), Ministry of Water Resources and Meteorology (MOWRAM), Ministry of Women's Affairs (MOWA), Ministry of Public Works and Transport (MPWT), National Committee for Disaster Management (NCDM), Ministry of Rural Development (MRD), and Ministry of Health (MOH). The second batch consisting of six line ministries approved their CCAPs in 2015. They are Ministry of Environment (MOE), Ministry of Tourism (MOT), Ministry of Information (MoINFO), Ministry of Land Management, Urban Planning and Construction (MLMUPC), Ministry of Mines and Energy (MME), and Ministry of Industry and Handicrafts (MIH). Also, the Ministry of Post and Telecommunication has prepared the CCAP but the plan has not been approved. Thus, in total, there are 14 line ministries with an approved Climate Change Action Plan. The development of CCCSP and CCAP followed the policy development guideline from the Council of Ministers (2011) with technical support from the Department of Climate Change (DCC) and Cambodia Climate Change Alliance (CCCA).

The approved 15 CCAPs[17] contain 171 actions requiring more than USD 865.47 Million to implement for 2014-2018. Recently, work undertaken by Climate Finance Readiness Programme of GIZ assessed the minimum financing gap for CCAP implementations. It was found that there is a financing gap of 71.68% of the total estimated amount. [18]

[17] MAFF, MIH, MLMUPC, MME, MOE, MOEYS, MOH, MOINFO, MOT, MOWA, MOWRAM, MPWT, MRD, NCDM, and MPTC (not yet approved)

[18] This number is based on a previous report by GIZ/Ricardo AEA (2016) and may need to be adjusted in the future to a smaller number if all CC-related CDC projects are tracked and reported against the CCAP priority actions

Table 8: CCAP financial gap for climate change implementation for approved CCAPs (Source: GIZ draft report on CCAP financial gap, 2016)

No.	Ministry	No. of actions	Cost (USD M)	No. of actions funded	Finance Received (USD M)	Gaps in (USD M)	Gaps in %
1	MAFF	29	187.55	8	54.69	132.86	70.84
2	MIH	17	11	2	11.70	-0.70	-6.39
3	MLMUPC	8	9.12	1	0.25	8.87	97.26
4	MME	9	5.02	1	0.25	4.77	95.02
5	MOE	17	27.67	11	19.29	8.38	30.28
6	MOEYS	7	10.6	1	0.35	10.25	97.70
7	MOH	11	46.8	1	0.40	46.4	99.15
8	MOINFO	5	4.33	1	0.13	4.205	97.12
9	MOT	8	3.4	1	0.13	3.28	96.79
10	MoWA	6	3.62	1	0.10	3.52	97.24
11	MoWRAM	16	272.5	3	75.20	197.3	72.40
12	MPTC (not yet approved)	6	4.61	0	0.00	4.61	100
13	MPWT	11	210.98	3	8.21	202.775	96.11
14	MRD	10	56.53	2	74.33	-17.8	-31.00
15	NCDM	11	11.75	1	0.10	11.65	99.15
TOTAL		**171**	**865.47**	**37**	**245.12**	**620.37**	**71.68**

Most of the approved CCAPs are now being implemented through various means, i.e. (1) national budgeting and planning process, (2) dedicated climate change projects usually funded by development partners, and (3) DCC/CCCA's grants to pilot implementation of priority CCAP actions.

National budgeting and planning processes require all government agencies to submit their budget requests annually (recurrent and capital expenditure) to the Ministry of Economy and Finance (MEF) through program budgeting and to Ministry of Planning through updating and/or proposing new actions in the Public Investment Programme (PIP), which will be submitted to Cambodia Development Council (CDC) to provide internal and attract external funding. The Climate Public Expenditure Review for 2013-2014 was prepared by Ministry of Economy and Finance with technical inputs from National Council for Sustainable Development (NCSD) and the Cambodia Climate Change Alliance (CCCA). The CPER 2016 report indicated that in 2014 almost one quarter (24.8%) of public climate expenditure was funded by the national budget.

Dedicated climate change projects are usually funded by external development partners. In 2014, according to CPER 2016 report two thirds (67%) of climate finance came from external finance, mostly for large infrastructure and agriculture projects. There is an increasing use of national systems, channelled through MEF, for external funded climate finance. Thus, it is important to mainstreaming climate change (CCAP) into the national and sectoral development plan. [19]

Building on the successful development of CCCSP and CCAPs, DCC/CCCA has supported 14 line ministries with approved CCAP to pilot implementation of priority CCAP actions in two rounds of grants, ranging from USD100,000 to USD450,000 for each ministry.. The first round of funding covered MAFF, MOEYS, MOWRAM, MOWA, MPWT, NCDM, MRD, and MOH, which started implementation in 2015. The second round covered the remaining ministries, namely MOE, MOT, MoINFO, MLMUPC, MME, and MIH, which started implementation recently in 2016.

6.6 GAP of NAP Development in Cambodia

Besides all ongoing efforts, the financial demand stays high as a significant amount of the financial needs determined in the CCAPs remains to be unfunded. In August 2015, the Climate Financing Framework calculated that the estimated cost of the total public response amounts to US$ l.l billion for the period 2014-18, based on existing action plans and estimates for sectors which did not yet have an action plan at the time.

An analysis conducted by the GIZ Climate Finance Readiness Programme attempted to calculate the financing gap for CCAP implementation. It concluded that roughly half of the 865 Million USD needed to implement the CC priority actions determined by line ministries for the period until 2018-2019 still remains unfunded. This gap is significant and further resource mobilisation efforts should try to close it down. The demand for finance is determined by a lot of factors, notably the absorption capacity of implementing agencies, the adaptation goal target, the degree of trade-offs between impacts of CC, the costs of adaptation and the residual costs after adaptation.
The Overall cost of adaptation in Cambodia are generally high with the financial gap from remain unfunded in sector CCAP are currently estimate at more than 400 million USD for the period up to 2018.

6.7 Resource Mobilization for Adaptation actions

The strategy to mobilise more resources will focus on several funding sources. More domestic funds are expected to be allocated to CC actions. Continued political commitment and enhanced planning and budget processes in view of mainstreaming CC are promising signs the mainstreaming efforts of the annual planning and domestic budgeting processes, as well as the Public Investment Programme (PIP). In view of international funds, the NCSD, in collaboration with GIZ, has further screened prioritised actions of the sectoral CCAPs and identified those ones that have high potential to be funded according to the screening criteria of international climate funds. These could be further developed into a limited set of bankable CC project proposals that can eventually be presented to bi-and multilateral donors.

In addition, the screening tool developed for this exercise can further be used as an adjustable tool to screen and prioritize CCAP actions for other purposes in the future. The primary source of international adaptation finance is the Green Climate Fund. Cambodia is therefore in the process of getting ready to access Significant adaptation funds from the GCF. It is applying for funding through multilateral organisations, and also preparing for direct access. The NCDO-S (National Committee for Sub-National Democratic Development Secretariat) has been selected by MoE (the National Designated Authority to the GCF) as a potential National Accredited Entity, and is now starting the accreditation application process. It is the first organisation that the GCF has pre-selected to provide funding to subnational levels.

6.8 Case Study

Case study 1: Enhancing climate change resilience of rural community living in protect area of Cambodia

Royal Government of Cambodia cooperated with UNEP have been implemented an adaptation project "ENHANCING CLIMATE CHANGE RESILIENCE OF RURAL COMMUNITIES LIVING IN PROTECTED AREAS OF CAMBODIA" funded by Adaptation Fund. Type of implementing entity is multilateral implementing entity (MIE). UNEP is implement entity while Ministry of Environment (MoE) is executing entity of the project with amount of financing 4,954,273 U.S dollars over the five year period from 2012-2017. the project aiming to address the vulnerability of rural communities living in selected protected area (PAs) in Cambodia to the climate change-induced hazard of erratic rainfall which is reducing food supplies as a result of an increased frequency of droughts and loss of topsoil during intense rainfall events and flooding. There are five CPA site has been selected for intervention are Chiork Beungprey, Chom Thlork, Skor Mreach (all in Beung Per Wildlife Sanctuary), Ronouk Khgeng (Phnom Prech Wildlife Sanctuary) and Chop Tasok (Phnom Kulen National Park). This Adaptation Fund project uses eco-agriculture to build the resilience of rural Cambodian communities living in protected areas to climate change. The project restores degraded forests by planting indigenous trees that provide food, non-timber products and helps with ecosystem services like erosion control and regulation of water flows. Crop productivity is enhanced by planting multi-use trees along rice paddy boundaries and cultivated areas. Trial plots of drought-tolerant hybrid rice cultivars are planned, along with intensification and diversification of existing agricultural areas. Conservation agricultural practices will also be introduced in the community protected area as well.

Photo by Sona LONG

Chiouk community protected area has been establish since 2002 with supported by IDRC with active participants from 1907 families of five communities and continue supported by the Adaptation fund projects since 2013.

Based on the discussion with project team and beneficiaries, there are some challenges in five Community Protected Areas (CPAs) as following: impact of damaged rice crops, killed livestock, threatened food security, caused the spread of disease in the community, increased poverty and caused community members to migrate to cities to take up work as labourers. More ever, the there a challenges are following:

- The intensity of disasters as a result of droughts, floods and storms is increasing (e.g. droughts occur annually).These impacts have affected community members, livestock and crops.
- Damages rice crop and livestock as a result of droughts, as well as crop loss due to floods.
- Forest in the CPA has been illegally cleared for farming.
- Fertile soils have been washed away (i.e. eroded) near rivers and canals.
- Farming and growing produce in home gardens is constrained by a shortage of water (the community relies on rainfall, which is increasingly irregular).
- The above-listed points have resulted in a relatively low, insecure average income of US$ 10-12.5 per person per month, and virtually no income in the wet summer months of June to August.
- Community members have a limited understanding of the PA Law and the CPA Management Plan.
- Patrolling of the CPA needs to be strengthened to prevent illegal activities.

The project was identify the impact of climate change into their community such as more heater and increase of temperature in their area, shortfall of water, insect, drought happen frequently, the low level of the undergrown water, and illegal logging at night time as well. The project have provide capacity building on the livelihood improvement and adaption options to community protected member such as build the tree nursery, agro-forestry, eco-tourism and livelihood improvement such as chicken raising 25 families, rehabilitate 30 wells, dig one pond, provide fruit seedling and cricket raising 10 families, home gardening 10 families, Moreover the project have engage with ruling provincial departments to play a rule to provide a technical support to community as well. The CPA forest management plan has been drafted for consultation with the it's members for blocking and objective to manage in each block and consumption as well.

Currently , the community protected area committee are able to strengthening their institutional and develop the five years management plan for develop their communities

and improve their livelihood by using the varies option such as eco-tourism, livestock, home gardening, cricket raising and sufficient water for agriculture and animal as well. The CPA members are very actively in participant in regularly patrolling the forest, producing the seedling and planting the seedling aiming forest restoration.

The research has some recommendation as following:

Information sharing: the project should be share widely to local authorities and communities members through provided leaflet, IEC material, poster, website about project and disseminating to community, target beneficiary and general public.

Capacity Development: CPA committees need to be more building their capacity on climate change, adaptation options, and communities based eco-tourism, institutional strengthening, agricultural technic and project information etc.

Ownership and sustainability: community protected areas should have ownership and able to involve all decision making process related to project. There are many prioritize resource and fresh natures for eco tourism. MoE and community should be considered integrated eco tourism into their conservation effort and planning. Eco tourism will be provided additional resource and funding for sustainable management of CPA in the future. Saving group also important to ensure the funding support communities activities and improve livelihood as well as reduce loan from micro finance agencies.

Community structure and management system: as result of discussion with community, they reported that community's leaders and members are changed, lower commitment and capacity. They added that all activities of communities are volunteer and without funding support. MoE should be considered allocated some grant from adaptation fund project to support their activities and building their capacity to manage those grant effectiveness.

Case Study 2: Local governance and climate change adaptation, National committees for Democracy Development at Sub National (NCDD-S)

Local Governments and Climate Change (LGCC) is a project implemented by NCDD Secretariat with technical assistance from UNCDF. LGCC is designed and implemented within the framework of the "Local Climate Adaptive Living" (LoCAL) programme being piloted by the Asia Pacific Regional Centre of UNCDF. As such, Cambodia becomes one of the first countries to pilot the LoCAL approach, together with Bhutan. Further pilots are in design phase in Laos, Bangladesh, Nepal and in the Solomon Islands and initial discussions on extending the program to the Africa region are under way and for Cambodia project was selected two provinces to implementing namely Takeo and Battambong province.

This project aim to demonstrate the role of local governments in fostering climate change resilience and to identify practical ways to mainstream climate change resilience into sub-national planning and finance systems. The project have been build a longer timescale with integration of climate change resilience activities with the sub-national investment programmes and in particular will allow the concept of performance-based grants to be more thoroughly tested; lesson learn , planning and introduce budget and state treasury account for the districts and municipalities under sub national financial law.

There are 13 communes/*Sangkats* in the three target districts/municipalities of Takeo Province and 15 communes in the five target districts of Battambang Province. VRAs tools and climate change mainstreaming have been developed with cooperation with Ministry of Environment for used in the formulation of district climate resilience strategies (DCRSs) and in the development of commune investment plans. At the provincial level, no cross-sectoral CCA strategies were prepared although workshops were organized. Instead, the workshops were used to disseminate information on climate change, including the Cambodia Climate Change Strategic Plan, to aid development of DCRSs. It was clarified that it was never the intention of the project to produce CCA strategies at the provincial level.
Government public expenditure management systems, in a fiscally sustainable manner, are proven and available for scaling up.

The discretionary budget was allocated to CCA in accordance with the procedures laid out in the Memorandum of Understanding between the NCDDS and UNCDF. All PBCRGs were allocated according to the CCA priorities identified through the VRA, prioritization and participatory evaluation processes. In each selected commune, the VRA process was undertaken with three specific groups: men, women and local authorities. The CCA priorities resulting from the VRAs were generally similar across the three groups. Based on this information and field observations of CCA investments and interactions with local communities, it can be postulated with a high degree of certainty that more than 50 percent of CCA priorities supported by PBCRGs responded to women's needs in conjunction with the needs of the community at large.

The assessment team noted that while this activity is adapting well within the NCDDS system, it has yet to be integrated in the Ministry of Planning's national planning system and process. The code for revenues earmarked for CCA investments has been developed and included in the sub-national chart of accounts.

Even there high commitment from the Government, but there are challenges and gap was indentify including lack of clear linkages between infrastructure subprojects and technical services on the climate change adaptation, inadequate focus on improving technical know-how of CCA at sub national levels, weak funds delivery coordination at the district level, and lack of institutional and knowledge resource management mechanisms to feed field experiences and results into policy making. There are a few lesson learnt and recommendation has been indent identify

- Partnerships and coordination between varies key player are critical to success, particularly when dealing with a complex subject such as CCA.
- Changing people's attitude, behavior and practices is complex, especially in the case of climate change because of the unpredictability of climate, lack of data, and the uncertainty of success of new technology and practices.
- The participation of sub-national governments and local communities is key to successful planning and implementation of CCA at the local level. However, caution must be exercised to prevent overburdening local stakeholders and creating 'planning fatigue' in them.
- Participatory planning may create community expectations beyond what a project can deliver; proper sensitization of local communities is crucial to mitigate this risk.
- An innovative and ambitious concept and approach like the PBCRG needs long term policy support. To facilitate this, an institutional mechanism and knowledge resource management are required to feed field evidence into the policy-making process.

Case Study3: Adaptive Agricultural Technology Is Piloted in Prey Veng Province

Introducing effective agricultural technologies and suitable rice varieties can help people adapt to climate change. Currently, a CCCA grant project is working closely with farmers to test the varieties in Prey Veng, which is known to be vulnerable to the negative impacts of climate change, such as extended drought period and severe floods.

The "BUILD-FARM-ADAPT" project, which is implemented by the Royal University of Agriculture in collaboration with Chea Sim University of Kamchaymear is testing the above methods in three districts of Prey Veng province namely Ba Phnom, Kamchaymear and Pea Reang. Two rice varieties, Chul' Sa and Raing Chey, and enhanced agriculture technologies were introduced to farmers in order to improve crop yields, reduce pests and the use of chemical fertilizer.

Chul' Sa and Raing Chey are among the Government's top ten rice varieties. Chul'Sa is a short

growing variety that can be harvested in less than 90 days; and farmers can plant before and after floods. Raing Chey is a long growing variety resistant to long period of drought; therefore, it is ideal for drought prone areas. Also, it can tolerate up to 7 days of flooding.

The three demonstration sites and were impressed with the positive feedback. *"It is very interesting to see farmers feel positive on these newly introduced varieties and techniques. Normally farmers are rightly reluctant to change their traditional crops overnight but these varieties have obviously taken the attention of the farmers"* said Mr. Koen Everaert, EU Delegation to Cambodia.

"I thank CCCA for introducing Chul'Sa to my village and helping us with farming technologies. Now, we can get higher yield with less fertilizer and can harvest before flooding. I wish CCCA could spread this variety to the rest of my village." said a CCCA beneficiary in a demonstration site in Phea Rieng District, Prey Veng Province.

Villagers who live nearby the beneficiary sites are also interested in these varieties and suggest further contribution of crop and technology to the rest of village. The project itself has already initiated the long term solidarity approach by having beneficiaries to share some of the amount of their first harvest to neighbors.

However, one constraint faced by beneficiaries is that market mechanism are not yet fully in place to support these two new varieties (availability of seeds and buyer interest for new varieties need to be developed).

VII. CONCLUSION

In Summary, Cambodia is climbing up the climate change readiness such as institutional arrangement the policy committeemen and development at the national and sub national level including the CCCSP, sectional CCAPs and guideline for mainstreaming CC into sub National level.

The significant of the adaptation efforts are scale up in the country and some money are spending for responding to climate change in particular for adaptation even from the development partner and national budgeting. The NAP development process and road map are in place for generate the fund source for implementation the CCAPs pipeline from all the sectors of the governments.

The capacity building, technical management, ODA trucking and fund mobilization still need to be develop both government agency, DP and NGOs to response to climate change.

VIII. RECOMMENDATION

Through the scope of researched on the Adaptation Fund Trucking and National Adaptation Funding, There many level of the recommendation:

- **Strengthening the Ministry of Environment and National Council for Sustainable Development to better coordinate the financing-related activities for the NAP, including those related with accessing the Green Climate Fund (GCF).**
  The link between the NAP process and the Green Climate Fund (GCF) is not yet established. While accessing the GCF offers a good opportunity to get additional resources for climate change adaptation measures, MoE is in a very initial stage for preparing for the coordination and access process, including for its task as a National Designated Authority (NDA) to the GCF. While MoE is appointed as NDA, no department/staff member has yet been designated as person in charge. Procedures for accessing GCF funding are not yet in place. In order to access GCF funding, a selection process for one (or possibly more) National Implementing Entity (NIE) needs to be established. The new GSSD could be the NIE but this has not been confirmed. Once the selection took place, institutional strengthening for the accreditation will be necessary in order to fulfill the comprehensive requirements.

- **Strengthening Ministry of Economic and Finance on the capacity to assess and monitor impacts of climate change on the economic, and to use this capacity in the management of public finance, particularly through the national budget process.**
  Climate change is not yet fully integrated into development planning and budgeting at national, sectoral and subnational level. The National Strategic Development Plan 2014-2018 includes some climate change specific indicators already. The Ministry of Planning is in charge of putting the NSDP together and monitoring it. A Cambodia Climate Change Strategic Plan (CCCSP) 2014-2023 has been developed. Some key line ministries have developed sector-specific Climate Change Action Plans (CCAP). However, they are mainly not mainstreamed into the overall sector strategies (with some exceptions like the National Gender Strategy of the Ministry of Women Affairs) which are the basis for line ministries' planning and also for the corresponding budget allocations. There are already activities on integrating climate change in the provinces planning and budgeting processes. There are guidelines for communes and pilot activities are ongoing in several province. Nevertheless, decentralization and deconcentration activities in general are still at an initial stage and more effort needs to be done to integrate climate change aspects comprehensively in all layers of planning and budgeting

- **Mainstreaming Climate change into the national budget**
  Due to the lack of integration into development planning and budgeting, there is no methodology for line ministries to request a reallocation from the national budget's resources for climate change adaptation measures nor is there a method for MEF or MoE to monitor implementation of climate change adaptation. A pilot is planned for the Ministry of Agriculture, Forestry and Fisheries, Ministry of Water Resource and Methodology and Ministry of Public and Transportation.

- **Customization and adjustment of ODA database on Adaptation Fund:**
  The Council for Cambodia Development (CDC) is play very important role to trucking all the investment projects in Cambodia. The climate change data capture could include a functionality to indicate, in the case of projects with multiple implementing agencies, the indicative percentage of funding assigned to each agency. This would make the estimates of spending per ministry much more robust. An analysis of the sectors and sub-sectors used in the CDC database could also be done to match them with the CPER types of activities and suggest potential improvement.

- **Climate change tracking within the FMIS**: The new FMIS (currently under development and testing in the MEF) supports functional classification from planning to execution. In the future, the FMIS should consider integrating a "tag" for cross-cutting issues such as climate change. This would make it much easier for the MEF to track climate-related investments. This type of system is already in place in many countries in the region (e.g. Indonesia, Philippines, and Nepal)

- Provide new and additional climate change finance in line with commitments under the UNFCCC, but also ensure that traditional ODA projects are "climate smart";

- For projects identified as climate relevant, ensure at the project formulation stage that technical inputs are received from NCSD and/or the climate working group in the concerned ministry, including on applicable climate-proofing standards or other required measures, and include the related costs and inputs in the project budget;

- When providing sector or general budget support, include climate change in the results framework (in line with the CCCSP and the national M&E framework for climate change), and provide climate finance in support of these objectives;

- Increase the levels of climate finance available at the local level through the CSF, DMF and SNIF, subject to the integration of climate change in planning and budgeting procedures for these funds;

- Where relevant, include support for climate change related capacity development interventions, both at the individual level (skills development) and at the institutional level (definition of applicable standards, rules and procedures, research and development).

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