



វេទិកាសេដ្ឋកិច្ចសម្រាប់សង្គមកម្ពុជា ស្តីពីកម្ពុជា
The NGO Forum on Cambodia

ធ្វើការរួមគ្នាដើម្បីការប្រែប្រួលវិជ្ជមាន
Working Together for Positive Change

Climate Change Adaptation (CCA)/Disaster Risk Reduction (DRR) Mainstreaming into Commune Investment Programme (CIP)/ Commune Development Plan (CDP) with Reflecting to Joint Principle for Adaptation (JPA)

Phnom Penh, Cambodia
October 2018

**Climate Change Adaptation (CCA) / Disaster Risk Reduction (DRR)
Mainstreaming into Commune Investment Programme (CIP)/Commune
Development Plan (CDP) with Reflecting to Joint Principle for Adaptation (JPA)**

Printed Date: October 2018

Published by: The NGO Forum on Cambodia, Environment and Agriculture Program,
The NGOs Environment and Climate Change Alliance (NECA)

Researched by: Royal University of Phnom Penh

Layout Designed by: Mr. Phourn Yu, Media and Communication Coordinator

DISCLAIMER: The views expressed in this report are those solely of the author and do not necessarily represent the views of The NGO Forum on Cambodia, Royal University of Phnom Penh, DanChurchAid (DCA), Caritas Switzerland, Southern Voices and NTFP-EP Cambodia. While the content of this report may be quoted and reproduced, acknowledgement and authorization of the report's author and publisher would be appreciated.

© **The NGO Forum on Cambodia, October 2018**

CONTENTS

Acknowledgement.....	ii
Executive Summary	iii
List of Figures	iv
List of Tables	iv
List of Abbreviation and Acronyms	v
1.Introduction.....	1
2.Objective and Expected Outputs	2
3.Methodology	2
4.Findings.....	8
4.1 Legal Framework on CCA/DRR, and CIP/CDP in Cambodia.....	8
4.2 Mainstreaming CCA/DRR into CIP and CDP	14
4.3 Financing CCA/DRR into CIP/CDP	22
4.4 Responsibilities and appropriate resources by stakeholders.....	26
4.5 Building local adaptation and resilience systems.....	28
4.6 Capacity building and evidence-based planning.....	31
4.7 Problems and Constraints of CIP implementation.....	37
5.Conclusion	39
6.Recommendations.....	40
7.References.....	44
Appendices	48
Appendix 1: Sample of Checklist for Interview with Key Informants and Focus Group Discussion.....	48
Appendix 2: Checklist of scorecard of JPA principle	50
Appendix 3: List of People Interviewed and Discussed, including Government Officials and Local NGOs	64

ACKNOWLEDGEMENTS

The research team would like to extend the heartfelt gratitude to the following people and officials who have provided the support to made this assignment possible. These include key informants from relevant ministries (MOE, MAFF, MOWRAM, NCDDS, CCCA), concerned local NGOs who are working with CCA/DRR such as NGOs Environment and Climate Change Alliance (NECA) members, partners, heads of communes, villages and communities in NECA target area, Royal University of Phnom Penh, DanChurchAid (DCA), Caritas Switzerland, Southern Voices on Climate Change and NTFP-EP Cambodia. The research is very much grateful for their technical/financial support and for providing valuable information during the interview, and participants of the consultation workshop for their constructive inputs on this report.

The research team also acknowledges and appreciates the support and collaboration of all NGOs Forum management team and staff, especially to Mr. Hok Menghoin and Mr. Sey Peou, who provided helpful guidance during project implementation and critical inputs to the design of assignment activities. Our appreciation extends to all participants at the meetings for preliminary findings and recommendations, other consultation meetings, and other events for their constructive feedback and practical comments.

The NGO Forum on Cambodia (NGOF)

The NGO Forum on Cambodia is a network of national and international organizations working for social justice and sustainable development in Cambodia. The organization encourages debate and advocacy for citizen rights and participation in development decision making.

Royal University of Phnom Penh (RUPP)

Faculty of Development Study of RUPP envisions to produce qualified human resources who are critical about development issues and innovative in solutions for development challenges. These people will perform a crucial role in the development industry at national, regional and global levels. The faculty is committed to advance the quality research in the field of development, climate change, and community enterprise, and natural resource management.

Research team:

Lead by Dr. Seak Sophat

Team members: Dr. Sok Serey, Mr. Phat Chandara, and Mr. Khan Lyna

Executive Summary

When Cambodia is considered as one of the most vulnerable to climate change and natural hazards due to its low adaptation capacity and weak resilience system; mainstreaming the activities into Commune Investment Plan (CIP)/Commune Development Plan (CDP) with reflecting to Joint Principle Adaptation (JPA) are very crucial efforts made by both Commune Councils (CoCs), and Non-Governmental Organizations (NGOs). This paper aims to investigate how CoCs play role in mainstreaming Climate Change Adaptation (CCA)/Disaster Risk Reduction (DRR). Two communes: (1) Baray commune of Daunkeo district in Takeo province and (2) Seang Khveang Commune of Kamchhay Mear District of Prey Veng Province were selected as case studies for this qualitative analysis. The study reveals that (1) CIP/CDP was mainly developed by raising local priorities with the presence of local people. Yet, the implementation of CIP/CDP was less likely to be fully achieved because there was no internal funding. Main sources from central government and NGOs were small-scale and uncertain which could not respond to the local need. (2) Physical infrastructure remained a key development agenda prioritized by both central government and local people. However, the local people also raised their needs for improving their socio-economics as well as CCA/DRR in the CIP/CDP; they were mostly expected to be responsible by NGOs. (3) The mainstreaming of CCA/DRR were relatively low in the two studied communes; the available funds for road construction could not so far been allocated for CCA/DRR mainstreaming at all. The development agenda of the central government, NGOs and CoCs were likely different at the movement. (4) The scope of work done by CoCs was also limited due to their human capacity and financial availability. In most cases, CoCs could not operate the projects well if there were no capacity building or technical support from the provincial/district officers as well as NGOs staff. (5) There were four main problems faced by the two communes; they consisted of limited decision authority, not autonomous operation, lack of accountability; and, poor responsiveness. In the future, CCA/DRR mainstreaming could be probably improved through: capacity building, more effective resource mobilization and the grant of technical support. In particular, the central government, NGOs and CoCs should have a single development agenda.

List of Figures

Figure 1: Joint Principles for Adaptation (JPA).....	3
Figure 2: Sub-grants transferred from district to commune	24
Figure 3: Challenges of CIP implementation	38

List of Tables

Table 1: Joint Principles for Adaptation Version 3, November 2015 National frameworks for climate change adaptation are more equitable and more effective	3
Table 2: The application of Joint Principle of Adaptation (JPA) at commune level.....	16
Table 3: The formulation, implementation and monitoring of adaptation policies and plans are participatory and inclusive	18
Table 4: Example of priorities raised in Seang Khveang CIP, 2015.....	19
Table 5: State and processes of mainstreaming CCA/DRR into CIP/CDP.....	21
Table 6: Funds for adaptation are utilized efficiently, managed transparently and with integrity	23
Table 7: Examples of infrastructure project for CCA/DRR projects.....	25
Table 8: All government sectors and levels of administration have defied responsibilities and appropriate resources to fulfill them	27
Table 9: Local adaptation plans are developed through approaches that build resilience of communities and ecosystems	30
Table 10: The resilience of groups who are most vulnerable to climate change is promoted.....	31
Table 11: Investment in capacity building and policies related to CCA	32
Table 12: CIP of Baray and Seang Kveang Communes	34

List of Abbreviation and Acronyms

CBO	Community based Organizations
CCA	Climate Change Adaptation
CCCSP	Cambodia Climate Change Strategic Plan
CCFF	Climate Change Financing Framework
CCTT	Climate Change Technical Team
CDP	Commune Development Plan
CIP	Commune Investment Plan
CoC	Commune Council
CSF	Commune/Sangkat Fund
CSO	Civil Society Organization
D&D	Decentralization and Deconcentration
DANIDA	Danish International Development Agency
DPA	Development and Partnership in Action
DRR	Disaster Risk Reeducation
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
HVCA	Hazard, Vulnerability and Capacity Assessment
IFAD	International Fund for Agricultural Development
IOs	International Organization
IP	Implementation Plan
ISF	Social Accountability Framework
JPA	Joint Principle Adaptation
MAFF	Ministry of Agriculture, Forestry and Fisheries
MLMUPC	Ministry of Land Management, Urban Planning and Construction
MoE	Ministry of Environment
MoI	Ministry of Interior
MoP	Ministry of Planning
NAPA	Cambodia National Adaptation Programme of Action

NCCC	National Climate Change Committee
NCDM	National Committee for Disaster Management
NCGG	National Council for Green Growth
NECA	NGOs Environment and Climate Change Alliance
NGO	Non-governmental Organization
NGOF	The NGO Forum on Cambodia
NTFP-EP	Non-Timber Forest Products-Exchange Programme
NP-SNDD	National Programme for Sub-National Democratic Development
CCCSP	National Climate Change Strategic Plan
NSDP	National Strategic Development Plan
RGC	Royal Government of Cambodia
SIDA	Swedish International Development Cooperation Agency
SNAP	Strategic National Action Plan
SVA	Southern Voice on Adaptation
UN	United Nations
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
VRA	Vulnerability Reduction Assessment

1. Introduction

Cambodia is considered as a vulnerable country in Southeast Asia, and the vulnerability is stemmed from low adaptive capacity of their inhabitants (MoE, 2013; MoE, 2005; Yusuf, 2010). The most recent study of vulnerability shows that commune or household with relatively high incidence of poverty, with large areas devoted for agricultural activity, and with poor infrastructure facilities were identified as highly vulnerable to Climate Change Adaptation (CCA)/Disaster Risk Reduction (DRR). However, household characteristics, such as household income, types of livelihood, family size, education of household head, and the level of exposure to identified hazard are also attributed to vulnerability to climate change (Maria & Mendoza, 2014). In the same time, the study conducted by Thuon (2009) and Sumaylo (2009) in relation to a mapping vulnerability to natural hazard in Mondulkiri and Ratanakiri state that the two provinces are vulnerable to three major climate hazards, especially flood, drought, and insect disturbing.

In addition, a study conducted by MoE (2005) indicates that Cambodia experiences annual flood, and occasional drought, windstorm, insect outbreak, underground water salinization, and sea water intrusion, compounding the country's vulnerability. In fact, floods and droughts have penitential impact on agricultural production in Cambodia which leads to decline its annual yield. Consequently, people are pushed further towards poverty, and the duration of 20-year period between 1987 to 2007, the total cost of floods in Cambodia amounted to US\$327.1 million and damages of drought amounted to US\$138 million (MoE & UNDP, 2011). Therefore, Cambodia is exactly impacted by climate change and variability through climate-related hazard such as flood, drought, and windstorm.

Cambodia is an agrarian country which is highly vulnerable to the impact of climate change, and the human system of its country have been affected by extreme climate events such as flood and drought (MoE, 2005). Climate change is the real challenge for the country, and the economy and livelihood are interfered by its effects in which frequently occurs in the country. Due to its low adaptive capacity in adapting to climate change effects and high dependency on climate-sensitive sectors of rural people, Cambodia becomes vulnerable to climate change (MoE, 2013). However, there are only few existing studies in Cambodia that assess climate change adaptation and disaster risk in accordance with the Joint Principle Adaptation (JPA). In this light, this comprehensive study of the possibility of integrating CCA/DRR into Joint Principle Adaptation (JPA) is remaining possible for the study.

2. Objectives and Expected Outputs

The objective of this assignment is based on the following:

The assignment will produce the results of how good CIP/CDP developed herewith two case studies of NGOs Environment and Climate Change Alliance (NECA) members who mainstreaming the CCA into Commune Development Planning (CIP/CDP).

The objective of the case study is to show two successful examples of community based adaptation project through capturing good practices and lessons learnt on community based adaptation measures that enhance community resilience to climate risks such as flood and drought in Cambodia with reflection to JPA Principles to be used effectively.

Expected Outputs

- The concrete recommendations to Southern Voice on Adaptation (SVA) and NGO Forum on Cambodia (NGOF) regarding to influence CCA mainstreaming into CIP/CDP through JPA principles.
- The findings will also be used for better implementation.

3. Methodology

In this assignment, two main approaches for field work and data collection: 1) desk review for secondary data, and 2) field work for primary data were applied in order to review in detail about how to integrate CCA/DRR into JPA principle. Many others literatures on CCA/DRR assessment have been reviewed in order to enrich our assessment methods. Those are like: Mainstreaming Disaster Risk Reduction into Development: Challenges and Experience in the Philippines (Benson, 2009), Tools for Mainstreaming Disaster Risk Reduction: Guidance Notes for Development Organizations (Benson, et al., 2007), and Cambodia Community Based Adaptation Programme (Carter and Sok, 2013).

Firstly, desk review was applied and it–was very important for this assignment to review all the existing publication related policies on CCA/DRR and CIP/CDP in

Cambodia. Moreover, the review also helped this assignment to understand the previous successful and failed case studies of integrating CCA/DRR into sub-national plans based on JPA principle from other countries (Table 1). Understanding challenges and threats was also identified by using the desk review and participatory tools. For example, several sources of the review of the data were also identified such as the NGOs Environment and Climate Change Alliance (NECA), the NGO Forum on Cambodia, National Committee for Subnational Democratic Development Secretariat (NCDDS) and related government agencies. The review looked at several condition of implementing effective CCA/DRR in Cambodia as shown in Figure 1.

Figure 1: Joint Principles for Adaptation (JPA)



Source: Southern Voices (2013)

Table 1: Joint Principles for Adaptation Version 3, November 2015 National frameworks for climate change adaptation are more equitable and more effective

<p>A. The formulation, implementation and monitoring of adaptation policies and plans is participatory and inclusive</p>	<ol style="list-style-type: none"> 1. Multiple stakeholders (including, but not limited to civil society, sub-national governments, research institutes, academia, private sector, and indigenous peoples) participate in defining options and priorities as well as in implementation and monitoring 2. The knowledge and experience of local communities and indigenous peoples is incorporated 3. Plans and policies are publicized in ways that local people can understand and engage with.
<p>B. Funds for adaptation are utilized efficiently, and managed</p>	<ol style="list-style-type: none"> 1. The implementation and financing of plans is periodically monitored by a body on which civil society is represented

transparently and with integrity	<ol style="list-style-type: none"> 2. Adaptation funding is made available through a transparent process of allocation 3. There is full and free access to information on how adaptation funds are being spent (finances and processes) 4. There is a mechanism in place to safeguard against initiatives that might have negative impacts 5. A secure mechanism for expressing grievances and seeking redress is available
C. All government sectors and levels of administration have defined responsibilities and appropriate resources to fulfill them	<ol style="list-style-type: none"> 1. National adaptation plans carry the authority to enable different government sectors to work in a coordinated way 2. Existing initiatives and sector plans are enhanced to take climate change and disaster risk into account 3. Funding for adaptation is explicitly provided for within the national budget and respective sectorial allocations 4. Local level adaptation plans are guided by mechanisms to ensure coherence with national adaptation policies
D. Local adaptation plans are developed through approaches that build resilience of communities and ecosystems	<ol style="list-style-type: none"> 1. Communities affected by climate change participate in defining adaptation options and priorities 2. Local adaptation plans are formalized and integrated into the development priorities of local administrations. 3. Significant resources are allocated towards implementation of local adaptation plans 4. Financing arrangements make commitments for multi-year programs of support to vulnerable communities
E. The resilience of groups who are most vulnerable to climate change is promoted	<ol style="list-style-type: none"> 1. Plans and policies address the issues affecting different groups of women, men, boys and girls 2. Groups of people who are vulnerable to social, cultural, economic and environmental conditions are identified, targeted 3. Initiatives take into account the differentiated needs and capacities of women and men in different age groups 4. Initiatives promote social equity and cohesion while protecting people's livelihoods
F. There is appropriate investment in the building of skills and capacities for adaptation, as well as in physical infrastructure	<ol style="list-style-type: none"> 1. Adequate resources are made available to improve the effectiveness of institutions responsible for managing climate change adaptation 2. Adequate resources are made available for raising public awareness and education about climate change 3. Investment plans contain targets for developing human capacities, natural capital, and physical infrastructure

	4. The capacities of local people and their structures are developed in ways that contribute to the empowerment of individuals and communities
G. Plans and policies respond to evidence of the current and future manifestations and impacts of climate change	<ol style="list-style-type: none"> 1. Adaptation plans consider how exposure to climate-related stresses and extremes is affecting existing vulnerabilities 2. Vulnerability, exposure and adaptation scenarios are based on the best available science and evidence from the ground 3. Interventions are modified as new information becomes available 4. Climate information is made accessible to enable adaptive decision making by all stakeholders

Source: <http://www.southernvoices.net/en/documents/key-documents/57-joint-principles-for-adaptation-version-3/file.html>

Secondly, key informant interview (KII) and Focus Group Discussion (FGD) were employed during the field work in order to collect qualitative data and information.

Key Informant Interviews (KII) were used to interview related stakeholders. During the field work, the research team approached officials from relevant government agencies and staff of NGOs working on CCA/DRR for interview to understand key success, challenge and opportunity for improvement of integrating CCA/DRR into CDP/CIP; they are as follows:

- Ministry of Environment,
- Ministry of Agriculture Forestry and Fisheries
- NGO Forum on Cambodia
- NGOs members of NGOs Environment and Climate Change Alliance (NECA)
- Seang Khveang Commune of Kamchay Mea District in Prey Veng Province;
- Baray Commune of Daunkeo District in Takeo Province.

Focused Group Discussions (FGD) were employed to comprehend the JPA framework. During the FGD, the president of Commune Councilors (CoCs), village header and community leaders to understand overall and common issues concerning mainstreaming of CCA and DRR into CDP/CIP, challenges, lessons learnt, failure, opportunity for upscaling the CCA practices. Appendix 3 is attached with checklists used in KII and FGD.

The two communes were selected as the cases for this assignment identified as most vulnerable to CCA/DRR and they are represented from different ecozones of Cambodia in the context of the Mekong Delta and floodplain. The results from desk review, key informant interview, and focused group discussion were useful for this assignment to provide overall and obvious experience and situation of

mainstreaming CCA/DRR into CDP/CIP in accordance with JPA principle in Cambodia. In order to prepare this case study, the scorecard by using JPA materials was prepared as guiding questions. The scorecard was rated with five scales. For example, 'multiple stakeholders', it was rated as 0 = No stakeholders identified as target stakeholders are allowed in project, 1 = 20% of the identified target stakeholders involved in project, 2 = 40% of the identified target stakeholders involved in project, 3 = 60% of the identified target stakeholders involved in project, 4 = 80% of the identified target stakeholders involved in project, 5 = 100% of the identified target stakeholders involved in project. The detail of scorecard by using JPA to analyze National Frameworks for CCA is attached in Appendix 2.

Conceptualizing JPA, CCA, DRR, CIP/CDP

Cambodia has been considered one of the most vulnerable countries to climate change impacts in terms of floods and droughts. Of the four top economic sectors - garment, tourism, construction and agriculture - the latter accounted for 57.6% of rural labour force, and for over 30% of Gross Domestic Product (GDP) in 2011 (NCCC, 2013). It is the fact that Cambodia's economic development is deeply reliant upon natural resources, with agriculture representing about one-third of GDP. Moreover, economic growth and poverty alleviation are dependent on sustainable management of natural resources, which are endangered by over-utilization and contamination and inappropriate development. In Cambodia, the livelihoods of poor rural residents are derived from agriculture, fisheries and forestry. As the result, the poor are tolerating a disproportionate burden of the negative impact of climate change. In the same time, the poorest and marginalized people have the least adaptive capacity to contend with, and manage, climate risks (IFAD, 2010). According to the Ministry of Environment (2002), the largest concerns are flooding (communities along the Mekong and the Tonle Sap Lake) and drought across the country (MoE, 2012). When flooding is devastating, drought is considered as one of the most significant natural hazards (World Bank and UN, 2010). Today, higher temperature is getting higher pressure causing three major climatic events: storms, drought, and flooding. Coupling with shorter duration of wet season, drought and flooding are more pronounced in Cambodia (MoE and UNDP, 2011).

Between 1997 and 2001, the Ministry of Environment in 2001 reveals that rice production loss in Cambodia was associated with flood (about 70 %) and drought (about 20 %). There has been flooding every year from 1998 to 2017 in Cambodia. In term of affected population, the most severe flooding disasters existed in 2000, 2013, 2011, 2001, and 2002 respectively of its severity. In term of agricultural calendar, the most severe floods happened in 2000-01 recorded over the last 70 years due to the average level of flooding. A cost of the 2000-01 floods was equivalent to US \$160 million and damaged social infrastructure

systems, properties and agricultural plantations and during the wet season affected both people and animals in 22 provinces. In the same time, drought has not been well investigated in Cambodia (Koun and Chea, 2007). While Cambodia has abundant water in its rivers, lakes and aquifers, the livelihoods and food security of its people remained suffered from drought (Turner, et al., 2009). Between 2001 and 2005, a sharp decline in agricultural production was also constituted to consecutive flood and drought events (Fitzgerald et al., 2007). During the last El Niño in 2015-16, drought attracted very hard in countries of west Pacific Ocean. Cambodia was one of the countries that had declared their national drought disaster. For Cambodia, there were many drought-impacted-related reactions such as distribution of water to household in rural areas (FAO, 2017).

In order to flight with the negative impact of climate change and natural hazards, the Cambodia Climate Change Strategic Plan 2014 – 2023 and (NCCC, 2013) and *Law on Disaster Management* (the National Assembly, 2015) have been developed as legal framework. Legal framework also adopted experience; lesson learned and practices in order to support the intervention to reduce the negative impacts of CCA/DRR. In order to discuss CCA/DRR mainstreaming into CIP/CDP with reflecting to JPA; some key definitions are provided as follows:

Climate change adaptation is a response to global warming (also known as climate change or anthropogenic climate change), that seeks to reduce the vulnerability of social and biological systems to relatively sudden change and thus offset the effects of global warming (UNFCCC, 2010).

Key disciplines of Disaster risk reduction (DRR) are disaster management, disaster mitigation and disaster preparedness, and it is also part of sustainable development. In this light, development activities to be sustainable they must also reduce disaster risk. In the same time, DRR involves every part of society, every part of government, and every part of the professional and private sector. Disaster Risk reduction (DRR) can be defined as follow :

“The concept and practice of reducing disaster risks through systematic efforts to analyze and manage the causal actors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events (UNISDR, 2009)”

Both Disaster risk reduction (DRR) and Climate change adaptation (CCA) focus on reducing people’s vulnerability to hazards. This is done by improving methods to anticipate, resist, cope with and recover from the impact of hazards. CCA considers the consequences of permanent change in climate and its longer-

term consequences while DRR focuses on providing a set of practices and tools to help the communities cope with an extreme event. CCA concentrates on climate-related hazards, whereas DRR also addresses other types of hazards like the risks associated with geophysical hazards such as earthquakes and volcanoes (Solidarités International, 2011).

In Cambodia, civil society has played very crucial roles in supporting the efforts to reduce the negative impacts from CCA/DRR in Cambodia through awareness raising and related programme intervention. The JPA were developed over 2014 and 2015 by civil society networks working on climate change from Africa, Asia and Latin America, under a project known as Southern Voices on Adaptation (SVA). The JPA have evolved over time, having undergone several revisions after testing in twelve countries and feedback from different stakeholders. The present version 3 was finalized in November 2015. According to the Southern Voices (2015), the Joint Principles for Adaptation (JPA) is defined:

“The Joint Principles for Adaptation are a statement by civil society organizations from across the world on what they consider to be a benchmark for good adaptation planning and implementation. They are a tool for ensuring that national policies and plans meet the needs and fulfil the rights of the most vulnerable people to adapt to climate change” (p. 2).

Since 2002 Commune Councils (CoCs) and Non-governmental government Organization (NGOs) have worked to enhance sustainability of livelihoods and social development based on a bottom-up approach. In addition, detailed duties and tasks of CoCs regarding development were described in the 2001 Law of the Administration of Commune and decentralized powers and functions from the central government were officially started with the first local elections in 2002 (MLMUPC, 2001). According Cho (2010), CoCs are presided over by a commune councilor and its members to formulate and implement small-scale projects as well as deliver social services. Moreover, CoCs head the commune development plan (CDP) and commune investment plan (CIP) to raise priorities of local development for resource mobilization. Every year, a 5-year CDP has been reviewed to update the 3-year rolling CIP and to prepare the annual budget for the commune (Romeo and Spyckerelle, 2003). The introduction of JPA has targeted the mainstreaming of CCA/DRR into CIP/CDP in order to reduce the negative impacts of climate change and natural hazards.

4. Findings

4.1 Legal Framework on CCA/DRR, and CIP/CDP in Cambodia

In order to mainstream CCA/DRR into national, provincial and district development plans as well as into CDP/CIP, several legal framework and policies

i.e., National Action Plan for Disaster Risk Reduction (NAP-DRR) 2014-2018, Law on Disaster Management in Cambodia, National Climate Change Strategic Plan (2014-2023), National Democratic for Sub-national Development Programme (2010-2019), Implementation Programme First Phase (2010-2013), Implementation Programme Second Phase (2014-2016), and Implementation Programme Third Phase (2010-2013). In addition, the Annual Operation Plan and Climate Change Strategic Advocacy have been formulated by the civil society including NGO and members of NGOs Environment and Climate Change Alliance (NECA); the meetings were regularly organized to share and to discuss sensitive information concerning on climate change and advocacy activities. At the sub-national level, CIP/CDP is a key for integration of CCA/DRR into activities in the communities.

- National Action Plan for Disaster Risk Reduction (NAP-DRR) 2014-2018 is established on the current Strategic National Action Plan (SNAP), and its main purpose is to pursue proactive and integrated way to reduce risk to hazards through sustainable, innovative and realistic strategies with stronger partnership of all stakeholders. The National Strategic Plan is aligned with the planning cycle of National Strategic Development Plan (NSDP) and it describes a roadmap to DRR for 2014-2018. The effort of the Government is to continue the effective actions and interventions currently in place, proposes actions to challenge new risks and suggests foundational investment in next five years for dealing with long term risks in relation to climate change, urbanization and industrialization. Considering the long term nature of disaster risks, it has carefully balanced between what *must* be done and what *can* be done, given the institutional capacity and resource availability (The Royal Government of Cambodia, 2013).
- Law on Disaster Management is developed to formalize the National Committee for Disaster Management (NCDM) as the main authority of the Royal Government of Cambodia (RGC) on disaster management. The NCDM has its mandate to lead the administration and coordination of all disaster-related management activities. In addition, the law also formalizes the expenditure mechanism to maintain a sufficient reserve to resource disaster management for the functioning of NCDM which is allocated by the national budget in the budget plan of the Office of the Council of Ministers. The NCDM has worked with line government ministries and Sub-National Committees for Disaster Management as focal points. This law also provides, for the first time, a strong legal basis for the NCDM to coordinate international assistance during major disasters, including provisions to clarify the country's needs in the case of an appeal for assistance, and then facilitate tax exemption entry of humanitarian relief supplies, and coordination of assisting international institutions (NCDM, 2015).

- National Climate Change Strategic Plan (CCCSP) (2014-2023) was prepared under a coordination of MoE with active participation of the Climate Change Technical Team (CCTT) and a guidance from the National Climate Change Committee (NCCC). The mission of this strategic plan is to establish a national framework for engaging the public, private sector, civil society organizations and development partners in a participatory process for responding to climate change to support sustainable development. The participation of all the relevant agencies made the strategic plan more coherent and aligned to other existing sectoral plans of the line ministries and agencies CCCSP (MoE, 2013).
- The National Programme for Sub-National Democratic Development (NP-SNDD) 2010-2019 is the government's framework for providing technical and financial guidance to implement the Decentralization and Deconcentration (D&D). The NP-SNDD provides strategic directions for mainstreaming climate change as well as disaster risk management at sub-national levels. The NP-SNDD has been formulated while the RGC is strengthening the roles and responsibilities of institutions at all levels towards achieving good governance, development and poverty reduction. In this respect, the RGC's goals for sub-national democratic development are to create a culture of local participatory democracy, accountable to the citizens, to improve public services and infrastructures, to bring about social and economic development; and to contribute to poverty reduction (NCDD, 2010).
- The Strategic National Action Plan for Disaster Risk Reduction (SNAP) (2008-2013) aims to address disaster risk reduction at the national and local levels under the Hyogo Framework for Action. The objectives of the Action Plan contribute to a common understanding, knowledge and awareness of disaster risk reduction, provide a comprehensive framework to guide and monitor the implementation of disaster risk reduction initiatives in Cambodia, to create a conducive environment for the mainstreaming of disaster risk reduction into development plans, policies and projects of the government, to enhance coordination and cooperation between disaster management and development stakeholders, to improve the efficiency of resource allocation and utilization in disaster reduction, and orient donor support in disaster risk reduction to government-identified priorities. The SNAP has provided directions for mainstreaming climate change as well as disaster risk management at sub-national levels, a comprehensive guideline is required to guide SNAs to deal with technical aspect of the mainstreaming (NCDD and MoP, 2008).
- The National Program is divided into three phases, coordinated by the National Committee for Sub-National Democratic Development (NCDD).

The IP3 was firmly embedded in national development priorities according to the NSDP. The strategy to strengthen SNAs described in the National Program aims to enhance and sustain democratic development based on key principles: public representation, local autonomy, consultation and participation, responsiveness and accountability, promotion of quality of life of local residents, promotion of equity; transparency and integrity, and measures to fight corruption and abuse of power. The first phase, the 3-Year Implementation Plan (IP3, 2010-14) focused on developing SNA operational systems and procedures and ends in December 2014. In the second IP3, it strengthened ownership across government while facilitating program coordination which will present a considerable challenge to the NCDDS. Third, a three-year plan for Implementation of the Social Accountability Framework (ISAF) 2015-2017 was designed as field tested and ready to be rolled out under the IP3-II (NCDD, 2011).

- The Ministry of Environment (MOE), the National Climate Change Committee (NCCC), and National Council for Green Growth (NCGG) have developed the NCCSP (2014-2028), and the National Policy on Green Growth Development and National Strategic Plan on Green Growth Development (2013-2030), Cambodia's National Strategic Development Plan (2014-2018) explicitly acknowledge climate change and disaster management issues. However mainstreaming CCA/DRR into CIP/CDP has been well recognized; many constraints were challenging to support the efforts in reducing the negative impacts from CCA/DRR (Lassa and Sembiring, 2017).

Adaptation is very important for CCA/DRR to have better migration in reducing its impacts for sustainable livelihood. Yet, the adaptation capacity has been challenged with many problems and issues to maintain effectiveness of the interventions. First, the adaptive capacities require greater efforts given the growing salinization of cultivation lands in Cambodia. Innovative efforts to increase adaptive capacities of the local people who are at risk must be informed by climate-related risks and the evolving scientific research which is seeking to unravel these future scenarios. On the other hand, communities and local leaders have limited adaption capacities to cope with the negative impacts of CCA and DRR (Dator-Bercilla et al., 2013). Second, the National Climate Change Committee (NCCC) is responsible for coordinating efforts and for overseeing the implementation of Cambodia National Adaptation Programme of Action (NAPA); but most of the key adaptation activities have been implemented by NGOs at both national and local levels (Lassa and Sembiring, 2017). Third, however, if a proportion of the national budget is allocated to DRR, it can be transferred to each ministry's total budget. Today, the Provincial Committees on Disaster Management (PCDM) and Provincial governments only have a certain amount of budget assigned to disaster response. There was no specific amount under this budget is specifically allocated to DRR. The budget is most likely to be spent on humanitarian interventions, for example food distribution, or repairing roads and

other infrastructure post-flood. At the commune level, there are two main financing mechanisms: the Commune Investment Plan (CIP) and the Commune Development Plan (CDP). The current CDPs and CIPs are spent is restricted by the Ministry of the Interior (MOI), and sometimes DRR planning is not well-considered (JA, 2015). As the result, activities for CCA/ DRR are then left for NGOs to pick up in the district integration workshops, meaning the NGOs may serve as gap-fillers for government (DCA/CA, 2015). Although NGOs has contributed important role in supporting community development; cooperation with the government agencies at sub-national level remained very limited (JAG, 2015).

Fourth, one aspect of mainstreaming of climate change adaptation at the commune level is still quite weak in terms of its internal monitoring system. A critical aspect of effective local level planning is knowing what exactly is the target for change and then correctly measuring the change that may be occurring as a result of a specific intervention (Carter and Sok, 2013). Communes/Sangkats have low levels of their own-sources of revenue; they rely almost entire on the Commune/Sangkat Fund (CSF) resources from the central government. The funds transferred, a general administration component cannot be more than 33.0% of the total and a development component not less than 67.0% of the total budget (ADB, 2017). In addition, social activities proposed by local people and their community based organization (CBOs) may make it into the commune development plan, but invariably are dropped in the investment plan, in which funds almost exclusively goes towards infrastructure. In particular, it is difficult to organize communities and provide them with sustainable income. It's a tough challenge to advocate duty bearers to assist vulnerable communities in disaster risk reduction and adaptation to climate change (Mom, 2011).

Since the late 1990s, there has been increasing recognition of this demand to mainstream CCA/DRR into development projects which is to address risks emanating from natural hazards in medium-term strategic frameworks and institutional structures, in country and sectoral strategies and policies and in the design of individual projects in hazard-prone countries. As a result, the government agencies as well as a number of national and international NGOs have put their efforts to mainstream disaster risk reduction into their work, undertaking various related institutional, policy and procedural changes and adjusting operational practice (Benson et al., 2007). In order to reduce the negative impacts from CCA and DRR, various development projects have been implemented; they came up with both successful and failed cases:

The Philippines is widely known as one of the world's most disaster-prone countries from typhoons, floods, landslides, droughts, volcanic eruptions, and earthquakes and tsunamis. Every year, the Philippines have experienced an average of 20 typhoons alone. Moreover, climate change looks set to exacerbate this cycle, causing more frequent and more intense typhoons, floods and

droughts. In this light, the Philippines would appear a good candidate for mainstreaming; the government has, thus, made a significant degree of devolution which has been deemed to have worked in principle implying a close reflection of the needs of communities, such as DRR. The efforts include the development of a local development policies and plans and a long-established medium-term planning process at the national level. In helping to ensure longer-term concerns such as risk reduction, it is not entirely overshadowed by more immediately pressing issues; and is relative political stability, implying the potential ability to sustain the funding and impetus for long-term programs and initiatives (Benson, 2009). As for Uganda, it is a very important country to focus on and more attention to conflict, as a looming threat, is encouraged. While DRR is as important as education, education is an easy entry point for DRR. Good practice holds that DRR is most impactful or efficient when it is not a stand-alone project or sector. This is because the sustainability and success of crisis prevention and preparedness actions are dependent on a host of other dynamics within and beyond communities. While national and international NGOs currently favours education as an entry-point for good reasons, multiple entry points for DRR should be allowed and encouraged on a case-by-case basis depending on the context; some commonalities exist (Morinière and Turnbull, 2016)

In Vietnam, challenge is to move beyond technical ministerial language and information access: language limits understanding by general public. Yet, rural people, particularly those in the remote areas, ethnic minority people are not aware of this source of information nor be able to access due to internet limit. Moreover, there is no mechanism for communities to involve in the planning process and implementation and very few communities, for example Can Tho, Ben Tre, and Quang Nam have opportunities for feedback and input to the program's implementation (Southern Vice for Adaptation, 2018). In ignoring hazards hurts, the city of Hue in Vietnam, expansion of infrastructure, i.e., bridges, railway lines and roads, has established a barrier across the valley within which the city is located. Thus, an access to rainfall may no longer soak away quickly and problems of flooding have become more severe. Similar problems have occurred in several villages in Gujarat, India, following the construction of a donor-funded highway. In the Caribbean island of Montserrat, after a widespread devastation caused by Hurricane Hugo in 1989, a new aid-funded hospital was constructed at the foot of a volcano. Unfortunately, this hospital was subsequently destroyed by pyroclastic flows after the volcano began eruptive activity again in mid-1995. In Aceh, Indonesia, some houses were reconstructed following the devastating 2004 Indian Ocean tsunami; those families who were living in the flood-prone areas remained vulnerable to further hazard events (Benson et al., 2007).

In Nicaragua, the integration of CCA/DRR into practices in urban contexts is at an early stage; the DRR practitioners had limited knowledge, know little about

the importance of adapting cities to climate change. In particular, CCA is poorly integrated into urban planning. Gaps in urban planning policies and instruments are the main problems and short-coming. The revision and improvement of urban planning tools to include DRR and CCA as an integral part are crucial to form mutual integration in order to protect existing urban societies and design resilient cities in the future (Rivera, 2014). In the Pacific, community based projects have impediments to integrating CCA and DRR via donor requirements, partner organizations and underlying policy frameworks. Opportunities do exist, however, to assist in bringing together these two often overlapping fields. Developing an awareness of both DRR and CCA related initiatives, organizations and policy arrangements will reduce duplications of efforts, and thus contribute to aid effectiveness. By sharing lessons learned and best practice, as well as sharing practices that perhaps were not successful, organizations can better utilize the funds that are available to achieve advances in development in the Pacific (Gero et al., 2011).

4.2 Mainstreaming CCA/DRR into CIP and CDP

As the main local government at sub-national level, CoCs are presided over by a commune councilor (CoCs) and its members to develop and implement small-scale development projects. CoCs head the commune development plan (CDP) and commune investment plan (CIP) to raise priorities of local development for resource mobilization. Every year, a 5-year CDP has been reviewed to update the 3-year rolling CIP and to prepare the annual budget for the commune (Romeo and Spyckerelle, 2003). During the development of CDP, 5 steps are applied: step 1: draft of Development Framework and Budget, step 2: public meeting on C/S Development, step 3: draft of C/S Development Plan, step 4: the approval of C/S Development Plan, and step 5: The Evaluation on Implementation of C/S Development Plan. In the same time, the CIP cycle includes: step 1: reviewing the problem or needs with citizens, step 2: the preparation of C/S Investment Projects, step 3: District Integrated Workshop (DIW), step 4: the approval of C/S Investment Program; and, step 5: Monitoring and Evaluation on implementation of CIP (Inter-ministerial Working Group, 2007). The main objective of the first step of CIP is to review the problem, location of the problem, cause of problem, needs, constraints, and solutions in order to prepare C/S annual investment projects; the villagers may raise their issues and propose activities to reduce the negative impacts from CCA/DRR faced in their communities. In general, NGOs worked in the communities to raise awareness and to build capacity of the villagers about CCA/ DRR. When there were meetings for the development of CDP/CIP; the villagers shared their concerns about the negative impacts of climate change and natural disaster. In the same time, CoCs committee members were also well aware of the negative impacts; they also facilitate the activities into the CDP and CIP.

At national level, Cambodia has applied a key decision making body on climate change and adaptation which is a part of including parts of Joint Principle of Adaptation (JPA) into development planning (Salamanca and Nguyen, 2016). Within this context, the Royal Government of Cambodia has engaged in all relevant sub-national government agencies, civil society organizations, research institutes, academia, private sector, and indigenous people for collecting comprehensive inputs for decision making. In particular, an action plan of MoE has included activities in relation to climate change adaptation; the entire stakeholder has been provided with ownership (MoE, 2016). Moreover, all the relevant stakeholders inclusively enable to participate in JPA. From the 7 prioritized actions implemented by Climate Change National Action Plan (2016-2018) have been required with additional information such as rationale, expected outputs, indicators and conditions for success, institutional arrangements for implementation, cost and potential sources of funding. At sub-national level, climate change adaptation and planning are integrated into development and investment plans.

As stated in sub-national climate change adaptation mainstreaming, various activities were included in action plans, i.e., community-based disaster risk reduction, reducing the vulnerability of Cambodian rural livelihoods, and mainstreaming climate resilience into development planning (Kong, 2016). In order to respond to climate change issue in Cambodia - the Royal Government of Cambodia has formulated a policy in response to climate change *called* Cambodia Climate Change Strategic Plan (CCCSP) (2014-2023) which is the first comprehensive plan for Cambodia. There were 14 line ministries and agencies¹ operationalizing the CCCSP into their sectors suggested in Climate Change Action Plan (CCAP). Therefore, CCCA (Cambodia Climate Change Alliance) has provided trainings on Climate Change to all provincial offices working to support Climate Change, and Commune Council (CoCs) officials; and youths in the communities. Maling (2012) has mentioned that the CCA/DRR has been integrated into the CIP/CDP and shared information to CoCs officials within the following activities:

- Develop materials that use picture to convey information so that people with low literacy levels can understand the message.
- Tell the story as a way of explaining a need, or to illustrate a point.
- Produce a video that gives local people a chance to tell their story.

¹ 1) Ministry of Environment, 2) Ministry of Agriculture Forestry and Fisheries, 3) Ministry of Water Resource and Meteorology, 4) Ministry of Rural Development, 5) Ministry of Public Work and Transport, 6) Ministry of Education Youth and Sport, 7) Ministry of Woman's Affairs, 8) Ministry of Planning, 9) Ministry of Industry and Handicraft, 10) Ministry of Health, 11) Ministry of Land Management Urban Planning and Construction, 12) National Council for Disaster Management, 13) National Committee for Sub-national Democratic Development, and 14) Ministry of Economy and Finance.

- This allows for people who have low literacy levels to see and hear about the successful projects in other communities.
- Engage the media with press releases and photos in order to raise awareness about the project.
- Create an agricultural or water management demonstration project in an accessible place so people can visit and observe successful implementation.
- Educate and train community members about the science behind the changes in weather and climate. Share experiences and materials at national and international events such as Farmer’s Forum and the Adaptation Forum.

Since 2002, the decentralization process has empowered with ownership to CoCs and the communities over development based on bottom-up governance at the commune level (Romeo and Spycerelle, 2003). Every year, the central government has allocated a specific amount of Commune/Sangkat funds to each CoCs throughout Cambodia, empowering them to implement the CIP plans mooted by villagers under participatory approaches to development. During this assignment, all the 7 principles of JPA were found in the two communes; but the degree of integration remained low and poorly made in all the items (Table 2).

Table 2: The application of Joint Principle of Adaptation (JPA) at commune level

No.	Principle	Description
1	The formulation, implementation and monitoring of adaptation policies and plans is participatory and inclusive.	Before implementing any project, the president of CoCs hosted the meetings with its committee member internally as well as with its relevant stakeholders for dissemination of activities and budget of the project. This meeting helps to ensure the project is accountable and integrate with indigenous knowledge and local perception.
2	Funds for adaptation are utilized efficiently, and managed transparently and with integrity.	All of the infrastructure projects are made through bidding processes. However, the two communes do not have its own monitoring system; they applied a tools developed by development partners. As the result, the application this principle is relatively low and poorly made by the two communes.
3	All government sectors and levels of administration have defined responsibilities and appropriate resources to fulfill them.	In reality, the two communes have no specific roles and responsibilities for the implementation of development projects; they were mainly supporting activities implemented by provincial offices as well as NGOs.
4	Local adaptation plans are developed through approaches	Although climate change and natural disaster has been integrated into CIP; the two

	that build resilience of communities and ecosystems.	communes had not yet specific classification of the effected people.
5	The resilience of groups who are most vulnerable to climate change is promoted.	Construction of physical infrastructure, i.e., road and canal are targeted to all people in the commune. Yet, there was no certain classification in relation to social, environmental, and economic impact. This principle is lowly and poorly integrated.
6	There is appropriate investment in the building of skills and capacities for adaptation, as well as in physical infrastructure.	Under the support of sub-national level, the two communes provided trainings and capacity buildings to CoCs members and local people. The training manual related to climate change adaptation and mitigation includes VRA framework provided by NCDD. This principle is lowly and poorly integrated.
7	Plans and policies respond to evidence of the current and future manifestations and impacts of climate change.	At the national level, policies and plans are developed to respond the negative impacts of climate change and natural disaster. Yet, there was no certain policy and plan of climate change and natural disaster at commune level. This principle is lowly and poorly integrated.

Source: Southern Voices (2013)

Table 3 shows adaptation policies and plans are participatory and inclusively formulated, implemented and monitored. Overall, the identified target stakeholders were moderately involved in the integration of development-related activities into CDP/CIP. During the development of annual CDP/CIP, the local people were invited to raise priorities while representatives from NGOs and government agencies participated in an integration workshop for resource mobilization. The integration workshop has played a very important role to mobilize resources for the development projects proposed by the local people and compiled by CoCs. But, the CoC could not mobilize sufficient resources and funds to implement all the activities especially social services. The largest proportion of funds for implementation of CDP/CIP has been allocated by the central government for mainly infrastructure development. As the result, planned activities proposed by local people and CoCs in relation to CCA/DRR could not mobilize sufficient financial and human resources. Each year, there were only few projects proposed for example rural road construction have funds for the implementation.

Table 3: The formulation, implementation and monitoring of adaptation policies and plans are participatory and inclusive

No.	Indicators	Scoring
1	Multiple stakeholders (including, but not limited to civil society, sub-national governments, research institutes, academia, private sector, and indigenous peoples) participate in defining options and priorities as well as in implementation and monitoring	4
2	The knowledge and experience of local communities and indigenous peoples is incorporated.	3
3	Plans and policies are publicized in ways that local people can understand and engage with.	3

Note: Scoring Level: 0 = N/A, 1 = Very low, 2 = Low, 3 = Moderate, 4 = High, 5 = Very high

It is the fact that the principle purpose of Climate Change Adaptation Project is to determine the key role of local governments in fostering Climate Change resilience at community level and to support their access to CCA funds. Institutions which are responsible for the integration including National Committee for Sub-National Democratic Development Secretariat (NCDDS, provincial administration and technical line departments at provincial level, district/municipal administration and technical line offices and Commune/Sangkat (C/S) Councilor and community People (Kong, 2016). According to the Trimester Report on the implementation of the 1st 3-year implementation plan (2011-2013) of National Programs for Sub- National Democratic Development (IP3) of the Planning and Investment Office, Commune/Sangkat councilors have learned on how to develop 5-year commune development plans (CDP) and 3 year rolling commune investment plan (CIP) and properly implement them. Every year, each C/S has its own budget. In order to utilize this budget effectively, C/S councilors consider to following key points: (1) what are the most prioritized needs for C/S? (2) What C/S wants to achieve within the next 5 years? (3) what C/S expects to achieve with the resources available in next 5 years? (4) What kind of service that C/S want line departments/sectors to provide for their people? (5) What C/S could do in order to ensure the good management and implementation of the projects? What citizens could contribute to the project and how? (Tan, 2016; Inter-ministerial Working Group, 2017).

According to a 5-year commune investment plan in Seang Khveang Commune (2012-2017), the local people participated in various meetings organized by CoCs to develop the plan; they prioritized 12 activities needed by their community development as stated in Table 4. However, the local people seemed to pay and to select more attention on economic activities rather than environmental problems and climate change. At the first cycle of CIP development, the president of CoCs facilitated among local people to reviewing

the problem or to raise their needs. The local people are able to raise issues and problem which are affected on their livelihood. Since many problems and issues were raised and annual C/S budget was as limited as US\$ 20,000 allocated from the Mol; the problems and issues were prioritized for the implementation of CIP. In most cases, projects related to social development and capacity building to raise awareness of climate change and natural disaster are implemented or integrated by NGOs. The local people have learned well about better environment in their communities. But they believed that socio-economic improvement, social welfare and education were more useful for their livelihood development. Projects such as physical infrastructure, health care and education for children have been the priorities for the local people because they are facilitating their income generation activities and transportation and employment. Many local people still consider that climate change is a long-term effect. In the rural communities, the Provincial Departments of Environment and NGOs were working to raise awareness and provide services to help the local people cope with negative impacts from climate change. While NGOs were mainly providing social services; physical infrastructure development has been the most popular projects delivered by CoCs and government agencies.

Table 4: Example of priorities raised in Seang Khveang CIP, 2015

Priorities raised by local people for commune investment plan in Seang Khveang Commune for activities in 2015 :

1. Sustainable livelihood development with sufficient rice consumption and surplus
2. All the residents have profession and good income
3. Good condition of roads
4. Good health condition
5. Reduced traffic accidents
6. Enrollment at pre-school by children aged between 3 and 5 years
7. Increase illiteracy rate
8. Reduced land disputes
9. Happy families
10. Socializing gangsters to good residents
11. Life with dignity for disable people
12. Better environment

Source: 5-years investment plan in Seang Khveang Commune (2012-2017)



Stages and tools for mainstreaming CCA/DRR into CIP plan have been useful to develop practical development projects in order to improve socio-economic development of the communities. Therefore, the Provincial Departments of Environment and NGOs have worked with CoCs to mainstream CCA/DRR into CIP/CDP. The Provincial Departments and NGOs identified the climate-related issues based on the results from the Vulnerability Reduction Assessment (VRA) and Hazard, Vulnerability and Capacity Assessment (HVCA) were used; those research findings were very useful for CC/DRR mainstreaming. The awareness of the VRA and HVCA tools has been conducted by provincial offices and NGOs in two communes since 2012. NGOs (List of respondents like NGOs and government officials in Appendix 3) worked with governmental agencies and NGOs to conduct the VRA in a form of Participatory Impact Assessment by focusing on community perceptions of vulnerability to climate change, and capacity to adapt. All of the community-based adaptation projects are designed to implement community-based projects that enhance the resiliency of communities to climate change impacts, through local-level climate risk management projects. During each project, 3 or 4 community meetings are organized over the period of the project and 4 indicators tailored (physical asset, community structure, socio-economics, and attitude) to capture locally-relevant issues are at the heart of understanding vulnerability to climate change.

In addition, the Provincial Department of Environment and NGOs built capacity of the CoCs and raised the awareness of local people on the negative impacts of climate change as well as provide some lessons learned and best practices for preventing from the risks and hazards from climate change. Capacity building and awareness raising conducted by the provincial



Photos 1. Key Informant with consultant team and commune head on the effectiveness of the integration of CCA/DRR into CIP/CDP at Baray Commune, Takeo Province

department of environment and NGOs have aimed to mainstream climate change related interventions as proposed in CIP as well as to provide them with knowledge for better adaptation and resilience to climate change. Moreover, both provincial government officers and NGOs staff have worked with CoCs to enhance adaptive capacity and build up resilience system through the implementation of development projects, infrastructure development and service provision in the communities. During the assignment, officers of CCCA/MOE provided various sample activities of mainstreaming CCA/DRR into CIP/CDP across Cambodia (Table 5). All those activities have played very important roles to reduce the negative impacts from climate change and disaster risks in Cambodia.

Table 5: State and processes of mainstreaming CCA/DRR into CIP/CDP

Stage	Tools
<ul style="list-style-type: none"> • Capacity development on CCA/DRR and adaptation planning for CoCs, and officials from District and Provincial Department of Environment • Follow-up with CoCs on integration of CCA/DRR projects into CIP at district Integration workshop (District DP/IP), and identify projects with committed fund, and not committed fund. • Farmers were directly support by NGOs such as Development and Partnership in Action (DPA), when communes need involvement from farmers to plan for CCA/DRR 	<ul style="list-style-type: none"> • <i>Vulnerability Reduction Assessment (VRA)</i> is an essential component of their monitoring and evaluation framework for climate change adaption projects. It is designed to measure the changing climate vulnerabilities of communities and to be comparable across vastly different projects, regions, and contexts, making it possible to determine if a given project is successful or unsuccessful in reducing climate change risks). This tool is trained by the CRID among the CoCs and national officials and used in the targeted communes of CCCA and the Provincial DOE. • <i>Hazard, Vulnerability and Capacity Assessment (HVCA)</i> is a critical, scientific process that serves as the foundation for every component of the Disaster Risk Management (DRM) planning and programming. HVCA is conducted to provide the parameters that can guide policymakers and DRM professionals in developing strategies and operational plans to mitigate and prepare for disaster risks. This entails the use of geographic information system (GIS) to produce baseline data and information-hazards, vulnerability and capacity-for risk analysis. Running several scenarios and understanding the impact in terms of losses (physical, social, environmental, and institutional) could provide the planning elements to develop the strategies and the action plans aimed at reducing future losses. The tool was used to support CoCs to develop the CCA/DRR annual plans.

4.3 Financing CCA/DRR into CIP/CDP

According to Enrich Institute for Sustainable Development (2013), climate change financing in Cambodia mainly comes through two main sources: bilateral and multilateral donors. Those funds have been granted in the forms of both grants and loans. The bilateral funds have accounted for 48% or US\$ 317.7 million while multilateral financing is 58% or US\$ 337.8 million. Funds of climate change projects are channeled to both government agencies and NGOs for operation. NGOs have been fully operated based on the external funds from international donors. In particular, they were more accountable for donors and communities where they were working. It is the fact that they want to prove that organizations have good governance and are able to produce impacts for the local people (Touch, 2015). In general, NGOs has played their important role in supporting the communities in terms of awareness raising, while the government agencies are involving in infrastructure development such as irrigations and roads.

In the rural communities of Cambodia, many related climate change projects have been implemented and funded by NGOs and development partners. The most common projects implemented by CoCs were infrastructure, particularly road construction; but, there have been delays in the transfer of commune funds and they have proven insufficient (Mansfield et al., 2004). Therefore, CoCs have worked with provincial office and NGOs to mobilize funds for their proposed projects. At the commune, information about proposed activities and budget were available as required; the involved agencies were able to collect those CIP/CDP plans for the purposes of funding, research and planning. In addition, the infrastructure projects implemented by CoCs were required to take bids in order to ensure accountability and transparency. Yet, the availability of funds for adaption to climate change remained limited available in CIP/CDP; CoCs mainly expected funds for other activities (except infrastructure construction) for example mainstreaming climate change and disaster risk management were mainly integrated and/or implemented by NGOs. The CoCs could not yet allocate their fund for climate change because most of them were used for infrastructure construction. As the result, CoCs have acted as agencies to support provincial department of environment and NGOs to deal with the issues. On the other hand, the capacity of CoCs was very limited; they could not carry out mega project as NGOs.

According to the CoC Head at Sean Khveang commune, Kamchay Mear district, Prey Veng Province, lacks of internal fund has caused insufficient fund to implement the CIP/CDP as well as heavily dependent upon external funds.

“In our commune, we need to appropriate physical infrastructures such as rehabilitation, appropriate use of water for dry season to adapt to climate change. Also, we need some projects such as portable water and ponds to promote health condition of the local people. Also, growing more trees is important to protect our environment. Yet, we could not raise sufficient funds to work out those projects.”

Both CoCs have mentioned that the funding support for CCA/DRR project into CIP/CDP majority supported to physical infrastructure development such as road construction and rehabilitation existing irrigation systems. Rural roads which were built under CCA/DRR project helped to maintain transportation even during heavy rain. Due to flood – during the wet season, physical infrastructure in every commune is easily to be destroyed; the funds for CoCs helped to repair and maintain the commune’s infrastructure to be resilient to climate extreme events like floods. Rehabilitation of the existing irrigation is also supporting local farmers to well manage sufficient water in both dry and wet seasons. With its significance, new construction of water-way or new irrigation that connected to main water body for long-term provisioning of water-use were also needed to build up stronger resilient communities (Table 6).

Table 6: Funds for adaptation are utilized efficiently, and managed transparently and with integrity

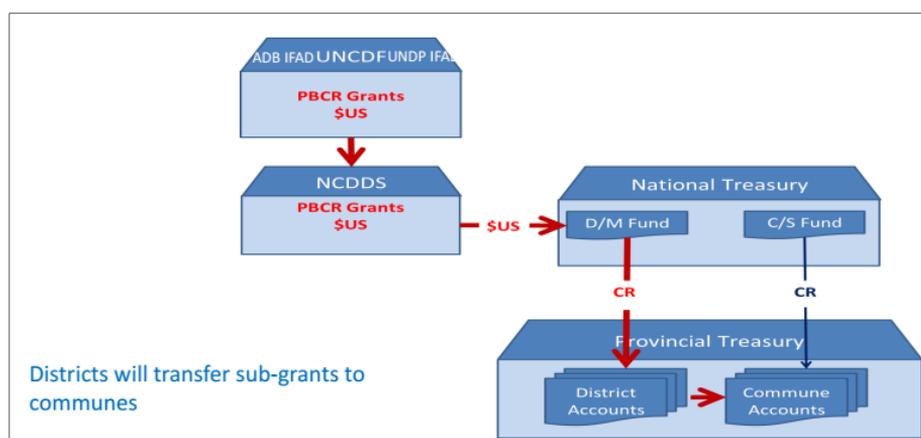
No.	Indicators	Scoring
1	The implementation and financing of plans is periodically monitored by a body on which civil society is represented	3
2	Adaptation funding is made available through a transparent process of allocation	3
3	There is full and free access to information on how adaptation funds are being spent (finances and processes)	4
4	There is a mechanism in place to safeguard against initiatives that might have negative impacts	3
5	A secure mechanism for expressing grievances and seeking redress is available	3

Note: Scoring Level: 0 = N/A, 1= Very low, 2 = Low, 3 = Moderate, 4 = High, 5 = Very high

The Royal Government of Cambodia has also prepared for mainstreaming climate change resilience into the development plan in commune level. Since climate change is a global issue; Cambodia has received much support from development partners in order to reduce its negative impacts. From the Rectangular strategy for growth, employment, equity and efficiency phase III announced in September 2013, the National Strategic Development Plan (NSDP) (2014-2018) was formulated to highlight activities to be done for social economic development in Cambodia. International donors such as World Bank, Asian Development Bank and the United States Agency for International Development (USAID) have sponsored the Royal Government of Cambodia to implement the NSDP ((2014-2018) to meet the national priorities. For national response to the negative impacts of climate change and natural disaster; the National Committee for Sub-National Democratic Development Secretariat (NCDDS) is a coordinating and transfer funds to line Ministries, Provincial

Administration and Technical Line Departments, and District/Municipal Administration and Technical Line Offices. At Commune/Sangkat Level, NGOs and the Provincial Administration and Technical Line Departments worked with CoCs member and local people to raise awareness and build capacity in relation to climate change and disaster risk management. With this regards, community-based disaster risk reduction has been established and granted for funding support of the implementation of this project. From above figure - the budget transfer will be flowed from the Sub-grant (district level) to communes throughout the climate change risk reduction projects in the commune level. Moreover, in this program - Hip Pocket on CCA mainstreaming into Commune/Sangkat plan is also established (Figure 1).

Figure 2: Sub-grants transferred from district to commune



Source: NCDD (2016)

In During the interview with Mr. Men Chhim, the Head of Baray commune, Daunkeo district, Takeo province, he mentioned many change of planning process in his commune towards the integration of CCA/DRR into CIP/CDP (Baray Commune Investment Plan, 2017)

“Under the decentralization process, the CoCs has started to work with the communities to set up priorities for local development. In addition, CoCs has worked to mobilize resources form its partners such as NGOs, and communities to implement the project. Before, we only planned for infrastructure to fit with the government budget but now we include activities for intervening and mainstreaming the awareness of CCA/DRR into the communities. However, our Commune does not have its own funds to implement those proposed projects but our partners from NGOs are doing. As the result, some local people have changed their habits of traditional farming practices into new techniques to be resilient to CC.”

Table 7 lists infrastructure projects in Cambodia to reduce risks and hazards from climate change. Those projects have been funded by international organizations, bilateral and multilateral agencies, World Banks and bilateral agencies such as the government of Japan, China and Korea. Infrastructure projects were considered as one of the most important elements to improve resilience system and increase adaptation capacity of the rural communities. For CIP budget, CoCs mainly used for building rural roads or small-scale infrastructures like irrigation system and dykes in the communities. Every CoCs has also proposed some mega projects such as renovation of the existing irrigations and dykes; but the amounts of CIP budget allocated by MoI were not sufficient. For many cases, the local people were disappointed with the process of CIP planning because the proposed activities and the availability of funds for the CIP implementation were not matched.

Table 7: Examples of infrastructure project for CCA/DRR projects

- Kampot-rehabilitate Watergate in sea protection dyke
- Pursat-water gate to increase irrigation area in Kampong Kor commune
- Takeo-climate friendly school (Rainwater harvesting, solar power)
- Oudor Meanchey- climate friendly school (Rainwater harvesting, solar power)
- Projects in Tboung Khmum- climate friendly school (Rainwater harvesting, solar power, tree planting)
- Eco-funded project, DPA and Banteay Srey (Livelihood, food security and gender)
- Banteay Srey: focus on gender and market access, food security, climate change and woman leadership (Battambang, Siem Reap)
- DPA: organic farming link to market, support Agricultural cooperative (Battambang)
- LWD: Community empowerment, food security, CCA and DRR and humanitarian in Kampong Speu, Kampong Chhnang, Pursat and Battambang
- ASPIRE (Agriculture services program for innovation, resilience and extension) of IFAD (International Fund for Agricultural Development) covering 8 provinces: Kampong Chhnang, Pursat, Battambang, Kratie, Preah Vihear, Prey Veng, Svay Rieng, and Kampot
- SRL (Sustainable Rural Livelihoods) of UNDP, covering Kampong Thom and Siem Reap
- LGCC (Local government and climate change) financed by UNCDF (UN Capital Development Fund), covering two provinces: Battambang and Takeo
- CBDRR (Community Based Disaster Risk Reduction) funded by ADB/JP (Japan) in Battambang, Banteay Meanchey, Kampong Cham, Prey Veng, and Kampong Thom
- SPCR Package C of TA8179- coordination and capacity building of mainstreaming climate resilience into sub-national level in 17 provinces (Battambang, Prey Veng, Kampong Thom, Ratanakiri, Takeo, etc.)
- Irrigation rehabilitation: canal construction carried out by commune councils and local NGOs, for instance in Pursat, Battambang

All the projects have been granted by bilateral and multilateral agencies where relevant government agencies and NGOs. The government agencies such as the

Ministry of Rural Development have worked to construct rural roads. The Ministry of Public Works and Transport are constructing national roads and large-scale irrigation. All of those physical infrastructures have been built in order to facilitate transportation and to provide sufficient water for agricultural activities of the local people in the project areas. In dealing with CCA/DRR, most of infrastructure including schools and toilets has been built to be resilient to climate change and natural hazards.

4.4 Responsibilities and appropriate resources by stakeholders

Cambodia Climate Change Strategic Plan 2014 – 2023 (CCCSP) published in 2013 has been the first ever comprehensive national policy document responding to the climate change issues our nation is facing. The CCCSP has reflected the government’s political will, firm commitment and readiness for reducing climate change impacts on national development, and contributing, with the international community, to global efforts for mitigating GHG emissions under the United Nations Framework Convention on Climate Change (UNFCCC). The integration of climate change into national and sub-national level planning, and the development of climate change strategies, action plans and financing frameworks are among the priority actions undertaken as defined in the National Strategic Development Plan (NSDP) Update (2009–2013). The development and the implementation of legal framework such as the CCCSP, Cambodia Climate Change Strategic Plan and CSOs’ Joint Principle for Adaptation and Climate Change Response in Cambodia are significant step towards embedding climate change in the NSDP (2014–2018) and in sector development plans of all relevant ministries. For example, the CCCSP has guided national entities and assist non-governmental organizations and development partners in developing concrete and appropriate measures and actions related to adaptation and GHG mitigation, which are the supportive pillars for the achievement of the Rectangular Strategy Phase III and Cambodia Millennium Development Goals. In the same time, Cambodia Climate Change Strategic Plan and CSOs’ Joint Principle for Adaptation and Climate Change Response in Cambodia is also applied to promoting effective and equitable adaptation, Southern Voices has developed Joint Principles of Adaptation (JPA) which promotes multi-stakeholder participation in the shaping of policies on climate change adaptation.

The CCCSP was prepared under the overall coordination and facilitation of MoE, with the active participation of the Climate Change Technical Team (CCTT) and invaluable guidance from the National Climate Change Committee (NCCC). Their participation made the strategic plan more coherent and aligned to other existing sectoral plans of the line ministries and agencies. The suggestions and comments received from peer reviews and all key stakeholders provided strategic guidance for development of the CCCSP. A wide range of technical support was provided by several national and international experts for the development of the

CCCSP. The development of the CCCSP was made possible with financial support from development partners, namely the European Union, the Swedish International Development Cooperation Agency (Sida), the Danish International Development Agency (DANIDA), and the United Nations Development Programme (UNDP), through the Cambodia Climate Change Alliance (CCCA).

Since 2002, the CoCs in Cambodia have played important roles in community development including preparing commune plans and implementing social services. As regards creating accountable local institutions, decentralization should paradoxically be entwined with a strong central government or other committed national institutions such as NGOs. Today, NGOs were among the most important non-profit agencies that provide several types of free social services to fill the gaps of the communities. Over the last decade, NGOs have become increasingly important agents of the development process. They aid local governments by providing both financial and technical support. According to Stromquist (2002), NGOs have three major functions: service delivery, educational provision, and policy advocacy. Their work focuses on capacity building, participation enhancement, and local empowerment; as well, they promote community self-reliance through participatory processes. In rural communities of Cambodia, the public and social services have been delivered by governments at central, provincial, and district levels, international donors, International Organizations (IOs), NGOs, CoCs, and CBOs, organizations whose services have been playing a very important role in reducing the negative impact from climate change and in enhancing the sustainable livelihoods of villagers.

Table 8: All government sectors and levels of administration have defied responsibilities and appropriate resources to fulfill them

No.	Indicators	Scoring
9	National adaptation plans carry the authority to enable different government sectors to work in a coordinated way.	3
10	Existing initiatives and sector plans are enhanced to take climate change and disaster risk into account	3
11	Funding for adaptation is explicitly provided for within the national budget and respective sectorial allocations	1
12	Local level adaptation plans are guided by mechanisms to ensure coherence with national adaptation policies	3

Note: Scoring Level: 0 = N/A, 1= Very low, 2 = Low, 3 = Moderate, 4 = High, 5 = Very high

CoCs and NGOs had conducted several community-based participatory projects designed to address health care, environmental conservation, resources management, livelihood development, food security and poverty reduction. In the process of supporting these development-related projects, the villagers

participated in the following five different key activities: workshop, community meeting, campaign for advocacy, CIP plan, and voluntary work. Meetings to raise or to discuss the issues happening in their communities were the most popular events. In particular, NGOs and CoCs organized the community meetings in order to collect issues and priorities for their planning purposes.

4.5 Building local adaptation and resilience systems

In Cambodia, climate change - one of its natural hazards - manifests mainly in the form of flooding and drought that seriously affect the country's socio-economic development and environment (CNMC, 2010, MoE, 2016). Adaptation to climate change has drawn the attention of the United Nations Framework Convention on Climate Change, practitioners, and disaster experts. Some anticipate that the pace of the current climate change will surpass the limits of adaption in many countries (Adger and Vincent, 2005). The focus of the current research into adaption is on reducing vulnerability to the impacts of climate change and the negative impact of low capacity. This is because people's adaptive capacity directly correlates to the status of natural resources and the level of socio-economic development. Perez et al. (2007) suggested that an adequate approach to climate change adaption be based on the determinants of development. The Cambodia Climate Change Strategic Plan (CCCSP) 2014–2023 was recently launched; the Climate Change Department (CCD) has coordinated the development of CCCSP which formulates the overall national strategy for Climate Change, including adaptation and mitigation. Moreover, the Climate Change Financing Framework (CCFF) was prepared for efficiently managing the financial aspects of the Climate Change Action Plans CCAP planning process and to allocate funds effectively among various sectors (MoE, 2016). In developing countries, low adaptive capacity and high levels of vulnerability have been linked to reliance on natural resources; limited ability to adapt financially and institutionally; high rate of poverty; and lack of safety nets (Beg *et al.*, 2002). In support of an adaption initiative, community development is increasingly associating adaption to climate change with poverty alleviation. The adaption approach is becoming more reactive at the local level, while policy-driven adaptations tend to be planned (Smit *et al.*, 1996).

Maling (2012) has indicated that DRR is an opportunity to introduce techniques that can build the adjustment needed to withstand climate change impacts. Experiencing from Chey Odom Commune in the Ratanakiri Province, building adaptive capacity of responding to climate change impacts and disaster risk reduction needed the following strategies:

- Developing a community-based agreement on the risks and hazards.
- Developing a plan for disaster/risk response for ensuring that the most vulnerable members of the community have extra-support during a severe weather event, including flash flood and storm.

- Raising awareness among community members and others about the disaster plan.
- Establishing a committee to be responsible for the public assets, such as emergency supplies and equipment, which are dedicated to managing natural disasters.

The issues of climate change were not yet the most prioritized activities raised by the local people because their urgent needs have been socio-economic development. In addition, CoCs have learned that NGOs were very active in raising awareness and in building capacity for reducing the impact of climate change (Table 7). However, some intervention of climate change has integrated in the CDP/CIP; CoCs did not receive fund from the central government and NGOs for implementing the activities. The proposed activities for mitigating climate change integrated into CIP have not been implemented due to lack of funds. During the priority setting, the local people also raised the issues like the floods, drought, water shortage, and storms; these incidents are believed to be negative impacts from climate change. Yet, the local people preferred to list their need for roads, bridge and irrigation systems as the prioritized activities for the CIP implementation. Infrastructure development remained the first priority raised by local people to be included in CDP/CIP. It is the fact that they have been directly affected to the socio-economics and livelihood development. The poverty and lacks of necessary services have led the local people paid more attention on income generation activities and social services. Obviously, the CoCs have been well known to be more concentration of infrastructure development and the delivery of social services. Yet, development projects and infrastructure were also reversing negative impacts from climate change. In the rural communities of Cambodia, activities to build adaptation capacity were mainly implementing by government agencies and NGOs.

The natural resource-dependent communities in Cambodia are facing increased pressure in the forms of global climate change and socio-economic threat to the regional infrastructure development. Resilience is explored beyond the impacts of climate change to resource change. Clearly, both climate change and regional infrastructure development have caused a decline of water-related resources, and natural hazards (floods and droughts) which are the most vulnerable to the current status of their livelihoods and future uncertainties. In this sense, strengthening the adaption capacity of the villagers to future uncertainties and building resilience to resource change are fundamentally indispensable. To build up a resilience system in the rural communities, CIP plan has promoted social equity and cohesion while protecting people's livelihoods (Table 9). The activities were implemented to reduce vulnerable to social, cultural, economic and environmental conditions. The villagers are in the main resilient. They invariably evince positive adaption in the face of serious threat to development in their communities (Masten and Reed 2002).

Today, CDP and CIP have been more and more comprehensively developed and include all the aspect of community need and development to accomplish sustainability in terms of social, economic and environmental aspects. With support from provincial and district office as well as NGOs, CoCs had very long-term vision and applied participatory approach to collect issues and problem as well as to set priorities with local people. According to prospective of CoCs committees, infrastructure projects are not only aligned to the government priority; but also support various interventions including socio-economic development, transportation and road safety as well as contribution to the effort to reduce negative impacts from climate change and disaster risk through building local adaptation and resilience of communities and ecosystems. Yet, CoCs have faced challenge to implement their CDP and CIP because they could not generate internal revenues; all of the budgets planned are deeply dependent on the allocation of the MoI and NGOs. In the same time, NGOs and provincial offices also developed their own plans and implemented activities with their own addenda.

Table 9: Local adaptation plans are developed through approaches that build resilience of communities and ecosystems

No.	Indicators	Scoring
13	Communities affected by climate change participate in defining adaptation options and priorities	4
14	Local adaptation plans are formalized and integrated into the development priorities of local administrations	4
15	Significant resources are allocated towards implementation of local adaptation plans	3
16	Financing arrangements make commitments for multi-year programmes of support to vulnerable communities	3

Note: Scoring Level: 0 = N/A, 1= Very low, 2 = Low, 3 = Moderate, 4 = High, 5 = Very high

Both CoCs heads in the study communes confirmed their struggles and limitations in building local adaptation and establishment of resilience system in their communities due to the existing human and financial capacity. In order to build resilience system, the CoCs head confessed that it is beyond their capacity because of insufficient human resources and funds to operate mega projects such as physical infrastructure construction of irrigation system. In addition, natural resource management such as fishery and water are already responsible by MoE and the Ministry of Agriculture, Forestry and Fishery (MAFF). In general, CoCs shared similar roles and tasks to implement de-factor small-scale development projects and acted as local agents to support central, provincial and district government agencies as well as NGOs to carry out activities and projects. During the field work, the two studied CoCs were found to be facilitator rather than

frontier developers in building local adaptation and establishing resilience system.

Moreover, resilience is seen as a desirable property of natural and human systems in the face of a range of potential stresses, including weather-related hazards (ISDR, 2002). The resilience perspective emerged from ecology in the 1960s and early 1970s through studies of interacting populations like predators and prey. In the community, resilience is refocusing attention on the social and ecological processes that predict a person will do well despite exposure to natural and human-made catastrophic events. The effective management of resilience will enhance the likelihood of sustaining desirable pathways in changing environments where the future is unpredictable and surprise is likely (Walker *et al.* 2006).

According to the discussion with head of both communes, the CCA/DRR program has been targeted to difference types of vulnerable groups such as women, men, boys, and girls marginalized and disable groups. Moreover, the program has targeted diverse groups of people who are vulnerable to social, culture, economic and environmental condition. The survey suggested that the initiation of the integration of CCA/DRR program be potentially promoting social equity and cohesion while protecting people’s livelihoods (see table 10).

Table 10: The resilience of groups who are most vulnerable to climate change is promoted

No.	Indicators	Scoring
17	Plans and policies address the issues affecting different groups of women, men, boys and girls	3
18	Groups of people who are vulnerable to social, cultural, economic and environmental conditions are identified, targeted	2
19	Initiatives take into account the differentiated needs and capacities of women and men in different age groups	3
20	Initiatives promote social equity and cohesion while protecting people’s livelihoods	4

Note: Scoring Level: 0 = N/A, 1= Very low, 2 = Low, 3 = Moderate, 4 = High, 5 = Very high

4.6 Capacity building and evidence-based planning

However, awareness raising and capacity building on CCA/DRR is still limited to transfer to either local authorities or communities (Table 11). The limitation of CCA and DRR knowledge could affect the consideration of CC/DRR mainstreaming into CDP/CIP as commune councils and CCDM have not fully worked together to mainstream such CCA and DRR into CDP/CIP. According to

the discussion with president of Baray Commune, shortfall of implementation budget concerned with the integration of CCA into CDP/CIP is a major issue and needs urgent response from national and international donor, and Cambodia’s Government. Resulting from this budget constraint, there is only about 30-40% of CCA has been mainstreamed into the CDP/CIP while about 20-30% of CC integration into DRR actions in the commune. Similar to the finding by NGO Forum (2016), budget limitation with short-term period or lack of fund to support on CCA activities in the commune level is the second main challenging.

Generally, most fiscal budgetary transfers from national government to sub-national level related to decentralization policy only leaves little room for discretionary capital investment at the local level and does not always favor CCA expenditure. Referring to UNCDF; there is a restricted financial flow to the local level – most local governments in LDCs are not able to contribute effectively to CCA and resilience building due to a lack of appropriate finance and budgetary allocation to the local level such as (i): local governments cannot absorb the additional cost of CCA through local taxes and other revenue streams; (ii) most budgetary allocations for sub-national for CCA/DRR related expenditure are concentrated in central government agencies, often MoE and MAFF not directly to the commune level. Moreover, it was observed that the poorest communities are difficult to participate in the CCA activities while they are the most vulnerable people particularly the women headed households and/or widow with many children. Education level of the communities to be able to participate and/or join in any training provided by central government or NGOs also another restriction to push for CCA action successfulness. Finally, seeking for a resilience seed for CCA, suitable areas for irrigation system, and other crop or livestock diseases solutions are the main challenges of communities.

Table 11: Investment in capacity building and policies related to CCA

No.	Indicators	Scoring
<i>There is appropriate investment in the building of skills and capacities for adaptation, as well as in physical infrastructure</i>		
21	Adequate resources are made available to improve the effectiveness of institutions responsible for managing climate change adaptation	2
22	Adequate resources are made available for raising public awareness and education about climate change	2
23	Investment plans contain targets for developing human capacities, natural capital, and physical infrastructure	2
24	The capacities of local people and their structures are developed in ways that contribute to the empowerment of individuals and communities	2

Plans and policies respond to evidence of the current and future manifestations and impacts of climate change

25	Adaptation plans consider how exposure to climate-related stresses and extremes are affecting existing vulnerabilities	3
26	Vulnerability, exposure and adaptation scenarios are based on the best available science and evidence from the ground	4
27	Interventions are modified as new information becomes available	3
28	Climate information is made accessible to enable adaptive decision making by all stakeholders	3

There was remarkable possibility for mobilizing resources for development projects in response to the negative impact from climate change and natural disaster from the available funds provided by international organizations. Firstly, financial support of NGOs, NCDD, and MoE has encouraged the community participation in the project. Secondly, NGOs working at sub-national level have put more effort to work with commune councils and communities on CCA. Thirdly, both commune councils and communities are willingness to learn about CC concept as well as other related topics for example Vulnerable Reduction Assessment (VRA) knowledge was delivered to the commune level to actively identify the priority needs and set up the CCA action plan to be integrated into CDP/CIP. Fourthly, communities and local authorities fully engage and involve in the CCA programmes, particularly labor, financial, and land contribution as in-kind support from the communities for construction/restoration/ rehabilitation of irrigation, road, fish pond, etc. Finally, private sectors are also interested in coping with the CCA/DRR issues in the commune level as the charity support. Yet, the capacity of CoCs remained very limited in relation to fund raising, project management as well as monitoring and evaluation; CoCs have not been able to mobilize resource by their own as well as to implement the large-scale projects without support from provincial offices and NGOs. As the result, funds for activities proposed for the respond to climate change and natural risk were not able to be well integrated into CDP and CIP. Instead, all those funds have been mobilized by the provincial offices as well as NGOs.

Table 12 shows that only few proposed development activities in Baray Commune (33.3%) and Sean Kveang Commune (25.9%) were achieved against CIP plan raised by the local people. In Baray Commune, 21 projects were proposed; but only 7 of them were funded. While 27 projects were proposed in Seang Kveang Commune; only 7 of them were allocated with budget for the implementation. In Baray Commune, there were no activities and funds for activities implemented to raise awareness on climate change as well as better environment. There were 3 projects proposed and funded for community

meetings and tree plantation which contributed towards climate adaption and resilience. The projects were more likely proposed by the CIP; but the activities were probably implemented by the provincial department of environment or NGOs. There was clear information about who were the sponsors of the projects; but the activities were funded to integrate into CIP during the workshop. Both communes were implementing infrastructure projects which mainly funded under the Commune/Sangkat funds. In Baray commune, micro-finance such as KREDIT Microfinance Institution Plc. and Angkor Mikroheranhvatho Kampuchea (AMK) also funded irrigation projects; they have served multi-purpose: socio-economics and climate change. Obviously, the projects also helped reduce the impacts from droughts; they could provide sufficient water for the local people during the dry season. In particular, the constructions of irrigation were considered as the most needed by the local communities. Moreover, the infrastructure development has been directly beneficial to the livelihood development of the rural communities in Cambodia; the people have always prioritized during the planning process.

Table 12: CIP of Baray and Seang Kveang Communes

No.	Project	Baray Commune				Seang Kveang Commune			
		Proposed	Funded	Amount (USD)	Source	Proposed	Funded	Amount (USD)	Source
Physical infrastructure									
1.1	Irrigation system	3	3	24,500	KREDIT	2	0	43,750	CoCs fund
1.2	Irrigation system	1	1	50,000	AMK				
1.3	Road construction	2	0		CoCs fund	3	1	24,000	CoCs fund
Sub-total		6	4	74,500		5	1	67,750	
Economic sector									
2.4	Agri-economics	1	1	1200	IFAD	7	0		
2.5	Agri-economics	9	1	1600	MAFF	1	1		MAFF
Sub-total		10	2	2,800		8	1	-	
Social sector									
3.1	Awareness raising	1	1	2035	WOMEN	1	1	924	CoCs fund
3.2	Health service	4	1		WOMEN				
3.3	Social services								
3.4	Gender					1	0		
Sub-total		5	1	2,035		2	1	924	

Environmental sector									
4.1	Awareness raising					2	2		
4.2	Tree plantation					1	1		
Sub-total						3	3	-	
Administration and Security									
5.1	Community meeting					1	1	960	CoCs fund
5.2	Security enhancement					8	0		
Sub-total						9	1	960	
Grant total		21	7	79,335	0	27	7	69,634	

According to the discussion with head of Baray Commune, budget constraint is a key issue for the adaptation of climate change program into CIP/CDP. From the implementation of CCA/DRR mainstreaming into CIP/CDP – the commune has received five projects for irrigation system improvement and adaptation to climate change. The first project was implemented since 2012. It mainly focused on the rehabilitation of the water-gate. Secondly, the project was granted in 2013 on rehabilitation of the road infrastructure in the commune. The projects have been so helpful for students for traveling to school and home. In 2014, there were two projects approved by the donor such as the construction of water-pumping stations from the main canal, and construction of new canal at Svay Russey Village. The fourth project was implemented in 2015. It focused on the rehabilitation of an existing canal (with 350 meters long) and construction of new water-gate at Kro Chabb Village. Lastly, rehabilitation of road infrastructure has been approved in 2017 (with 517 meters long) at Dun Peng Village. Those five projects related to climate change adaptation were fully funded by LGCC². In this commune, adaptation measure has been identified to mainstream CCA/DRR into the CDP/CIP. Adaptation measures mainly focus on infrastructure improvement, water management, flood protection and reservoir rehabilitation for agriculture purposes. In order to improve capacity of local authority, technical team from LGCC has conducted several training sessions related to VRA tool. The VRA tool is used for mainstreaming the processes of CCA/DRR into the CIP/CDP. With this regards, members of the CoCs are well-trained. On the ground, disaster risk ranking is applied as a key tool of sub-national planning guideline for the integration of CCA/DRR into the Commune/Sangkat workplan.

² LGCC is refers to Cambodia's Local Government and Climate Change. It is one of the first local country projects and is a recognized success. The project is implemented in Takeo and Battambang Provinces, and other parts of Cambodia.

The discussion with head of the commune illustrated that promoting awareness among local people – in the commune is a key to be well implemented of the project. The awareness is conducted with systematic participation³. Within this technique, local people in the whole commune are shared equal opportunity to participate in the events. In every meeting, members from commune council played important role for facilitating. Additionally, the project has produced a short educational film documentary related to the project activities and showed to local people. Educational film documentary was a key factor that encourages local people to participant in the CCA/DRR program. However, the effectiveness of implementation of climate change adaptation and mitigation programs in this commune still limited due to the constraint of funding support and capacity of commune staffs. Based on the discussion with head of the commune, 5 projects related to CCA/DRR have not fully covered the current situation of climate change impacts. Approximately 30% of the beneficiary in the commune received services from projects. Regarding the budget for the implementation of CCA program, head of the commune illustrated that:

“Climate Change related issues in this commune – is mostly related to drought. Drought usually causes broader difficulty to farmer during the farming season. There are several existing irrigation systems (canals) – however, those canals are not well-functioning. Issue related to the irrigation system is likely concerning with no link between the main canal and sub-canal. Therefore, there is no water in the sub-canal for agricultural purpose during the dry season. In this context, the budget from local government and related NGOs on CCA is not sufficient for dealing with the above situation. Based on the commune’s recorded book, there are 2,900 hectares of dry season rice field – it needs sufficient water supply system in order to produce adequate yields for farmers. During the wet season, the road related infrastructure in this commune is difficult, especially for students for travelling to school. Although the project has partially supported road/infrastructure development in some areas of the commune, but it is still not sufficient and needs more improvement. The funded support from LGCC on rehabilitation on road infrastructure has covered only 30-40 percent. Therefore, commune’s committee has to reserve some budget for the implementation of CCA/DRR activities. The allocation of the commune’s budget will be side-effected to other activities.” (Head of Commune Councils in Baray Commune).

The head of Commune Councils in Baray Commune indicated that participation of local people in the CCA/DRR program was still limited. Relatively, knowledge on CCA/DRR of local authority and people remained narrowed. Moreover, project lifetime related to CCA/DRR is short and unstable – causing constraint to the implementation. Likely funding for capacity building on CCA/DRR is concerned with the week implementation of this program. The funding support for building capacity was very important for successful implementation of the

³ Three groups of people are selected. Group 1 is selected from the starting point of the commune, while group 2 selected from the centre, and the ending point of the commune.

CCA/DRR, as this approach is new to sub-national government and local community. Head of the commune has concluded that the CCA/DRR program has changed habit of traditional farming practices to new techniques of climate change smart agriculture. Last but not least, head of the commune suggested that capacity building on CCA/DRR concept to community and sub-national government be scaled up and widely promoted to other communes. The awareness raising should be targeted to commune committee on the processes of preparing and developing budget and work plan on CCA/DRR in the commune level. Furthermore, funding support from the government side for the implementation of CCA/DRR in the commune level should be increased. Royal Government of Cambodia should encourage development partners to integrate CCA/DRR program into their action plan. The integration of CCA/DRR into their work plan was essential to maintain the implementation activities of the program, as long term and reliable. In conclusion, the integration of CCA/DRR into CIP/CDP has positively improved the ground root system of infrastructure and irrigation. Significantly, this program is helpful for local farmers for changing their habit from traditional to new techniques of climate smart agriculture.

4.7 Problems and Constraints of CIP implementation

In implementing CDP and CIP, there were four key main issues and problems; they included (1) weak authority in decision making, (2) lack of autonomous operation, (3) lack of accountability; and (4) ineffective responsiveness. Overall, the CDP and CIP were impediment due to deconcentration of power, weak partnership, separated plans and limited local resources. At the commune level, CoCs have not generated revenues and the annual budget was completely derived from the central government. When there was a limited amount of annual budget from the central government for CIP implementation; integration workshops were organized to mobilize resource from NGOs. Yet, the annual integration workshop annually organized at district has been a mechanism to mobilize financial resources from government agencies and NGOs; but only very little resources were integrated into CIP. It is the fact that plans of CIP, provincial department of environment and NGOs were separately formulated. When each involved agency developed separate plans; they have worked to mobilize resources for their own activities rather than willing to integrate into CIP implementation. In addition, CoCs only worked with local people to mobilize resource while NGOs and provincial department of environment only engaged with CIP participate at the integration workshop. The weak partnership among Provincial Department of Environment, NGOs and CoCs caused mismatch of activities among the key stakeholders.

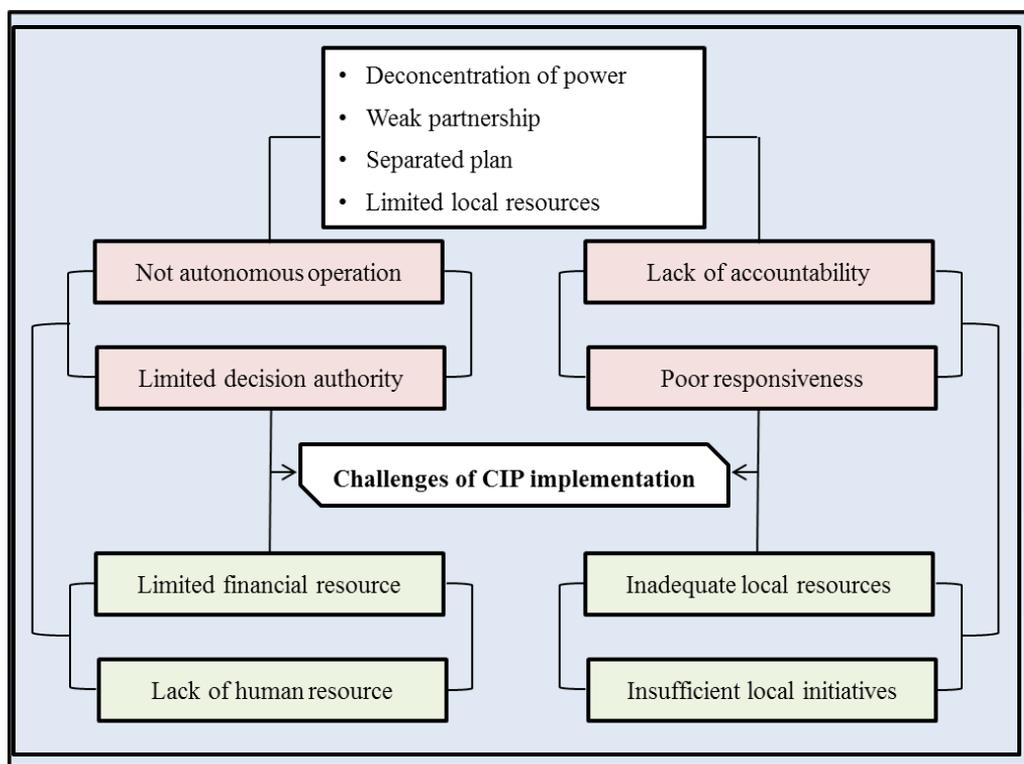


Figure 3: Challenges of CIP implementation

At community level, CoCs has some problems, i.e., ineffective responsiveness, lack of accountability, week authority in decision making and lack of autonomous operation. When the CoCs called for community meetings to design CDP and CIP; the local people seemed not be interested to participate in. Many activities planned were not implemented because there were repeatedly insufficient funds for the implementing CDP and CIP over the past years. The local people felt that CIP were not accountable when CoCs could not well responded to the local needs. In addition, the CoCs were not autonomously operated and had limited authority in decision making on any project to be implemented. Without its own revenues, the CoCs have to follow the donors and sponsors' activities and requirements. Moreover, the CoCs and local people have always hesitated to raise the activities to respond local needs because they could not implement any activity without external support. Furthermore, the CoCs do not have enough human resources and local initiatives to propose or implement innovative development projects. All of the CoCs committee members were elected among people in communities where they had low education. With their limited capacity and competency, they could not have initiative to mobilize sufficient resources for the project implementation.

5. Conclusion

Based primarily upon our findings in the two study communes, Cambodia, but with some additional insights from mainstreaming CCA/DRR into Commune Investment Plan (CIP); it could be summarized as follows:

- CIP were involved by all the key stakeholders; but it was made into different levels. When the local needs were raised; the processes were engaged by the local people and CoCs committee members. Yet, the donors, i.e. NGOs and the Provincial Department of Environment participated in district integration workshop to integrate some of their activities into CIP. Based on the findings and past experiences, the integration has been the only mechanism used by CoCs to mobilize resources to implement social services and activities for example adaptation and resilience to climate change. When only around 30% of the proposed activities were funded; the integration workshop seemed not to be effectively organized to help the CoCs for resource mobilization for the CIP implementation.
- Infrastructure (road and bridges) was found to be the highest prioritized projects as well as receive the highest funding for the CIP. The central government has been the largest sources of funds for the CIP; but the allocation was largely made for infrastructure development. Overall, the local people considered infrastructure, i.e., road, irrigation and dykes as the most important for project for their socio-economic and livelihood development because the majority of them were farmers. In reality, infrastructure development was useful for livelihood development, adaptation and resilience to climate change. With strong infrastructure, such as irrigation and road, the impacts from climate change will be reduced. For example, irrigation helps to supply sufficient water during the drought and dry season. However local people also raised other priority for example the respond to the impact from flood and drought; budget for those intervention were not allocated from the central government. Other proposed activities beside infrastructure are expected to receive support from provincial offices and NGOs; the amount received for those activities remained very limited.
- Activities for adaptation and resilience were mainstreamed into CIP; but it remained very little due to lack of funds and local initiatives. The CoCs did not create its own revenues and the implementations of CIP were derived from the funds from central government and NGOs. Yet, central government and NGOs also have their own agenda and plan which are not really responded to the local needs. Separated plans formulated by the provincial government, NGOs and CoCs were also the main reason that CIP did not have sufficient funds for their activities. More likely, CIP could probably have more funds when the provincial department of environment, NGOs and CoCs were working together to develop a single plan. During the

development of CDP/CIP, provincial office and NGOs could be facilitators or observers on the priority setting; they could also select some of those activities based on their expertise into their plans. By doing so, local need will be filled, either through the implementation by provincial offices and NGOs.

- The capacities of CoCs were obviously limited when the CoCs committee members were elected among the local people. They were only not able to mobilize financial resources for CIP implementation but they could not implement climate change related activities well without the support of the provincial Department of Environment and NGO. In order to improve their competency and capacity, a long-term capacity building and the inclusion of local profession into the CoCs committee members are very necessary action for improvement of CoCs functions and effectiveness.
- Four key main issues and problems happened to be faced by CoCs; they included (1) limited decision authority, (2) not autonomous operation, (3) lack of accountability; and, (4) poor responsiveness. Moreover, the CIP were constrained by deconcentration of power, weakness of partnership, spectated plans and limited local resources.

In reality, CoCs have been established with lacks of both human and financial capacity where their roles, tasks and responsibilities based on decentralized process could not be well accomplished. Without internal funds for example through tax collection, CoCs have developed CIP/CDP for resource mobilization and develop plans which could not be accomplished. The local priorities were also ready beyond the capacity of CoCs while CoCs members include activities into CIP/CDP without care of their available resources. It has been already 16 years of CIP/CDP development but only 25.9% in Sean Kveang Commune and 33.3% in Baray Commune of the total activities proposed were granted with budgets to implement the activities. As the result, CIP/CDP have been more likely planned to failed however funds are plenty available for CCA/DRR in Cambodia. The international donors preferred to channel their funds through NGOs or central or provincial government agencies while private companies are working individually or with central government.

6. Recommendations

The central and provincial government. The increased annual S/C funds and decision-making authority of CoCs should be very necessary for the integration and mainstreaming of CCA/DRR projects for the implementation of CDP and CIP. While key policies, regulations, strategies and plans have been endorsed, the

funds for activities implementation remain limited to say the least. According to the CIP in Baray Commune in 2017 and Seang Kveang Commune in 2015, only around 30% of the proposed activities were funded. As a result, many proposed development projects could not be implemented. In Thailand, before decentralization was introduced, only line ministries had the authority to provide public and social services to the local people. The fiscal decentralization plan has increased local revenue share significantly since 2002. The sharing of collected taxes and grants has resulted in a large set of social services, functions being transferred from the central government to local governments. The latter, which include Tambon Administrative Organizations (TAOs), are now allocated budgets for social services. Similar to the case of Thailand, the central government of Cambodia should work to improve the autonomous capacity of the CoCs to effectively operate public and social services in terms of decision-making and sufficient funding. The needs and empowerment of CoCs are more likely to be fulfilled when each district functions as an autonomous administration with its own mandate and funds, similar to those of the TAO in neighboring Thailand.

Increasing investment in climate proof infrastructure by both the government and the private sector could be made to improve resilience system. High levels of infrastructure will impact positively on adaptation, resilience and development. For example, efforts need to be made towards improving rural roads, irrigation systems, and local market build-up. All of these infrastructures should be improved inside the communes given that the national roads, the overall water systems, and the provincial/district markets already exist and are in moderate condition. The privatization of physical assets could be made by investment in local banks or private companies that operate on a non-profit basis under CoCs management. Governments at the district level could contract with local banks or private companies to invest in irrigation systems, local markets, and other necessary infrastructures for creating local employment opportunities. Non-profit CoCs management would probably reduce the high service fees demanded of villagers, for example, irrigation systems or water pumping. In Indonesia, the Metropolitan Sanitation Management Investment Project support the delivery of sanitation systems including wastewater treatment plant and sewer connections in Cimahi, Jambi, Makassar, Palembang, and Pekanbaru. The initial environmental examination was prepared for each of these subprojects raises the possible impacts of climate change on the project infrastructure components (ADB, 2017).

Commune Councils (CoCs) and Non-Governmental Organization. Long-term capacity building for CoCs should be made for better planning and resource mobilization. Rood (1998) suggests that the success of local governments in the Philippines has facilitated the election of local people, their roles in decision-making, allocation of resources and good coordination among stakeholders engaged in development activities. In the rural communities of Cambodia, the

basic education level among the general population is relatively low. Although the central government has built the capacity of the CoCs since 2002, more progress needs to be made vis-à-vis the participatory planning process. To this end, the CoCs require long-term, on-the-job capacity building, i.e., resource management and fund raising that will enable them to operate social services and integration of CCA/DRR into CIP/CDP in the long term by themselves. In this respect, the national and international NGOs would be the most suitable entities to support this long-term capacity building scheme: it would mean shifting their targets from the household level to the communities. They not only have adequate financial and human resources, but in addition have broad experience in community development and resource management.

In principle, CoCs committees can include councilors, local citizens and other representatives such as NGO staff as members. 'The chief may include a doctor or a nurse as a committee member, or may include a representative from an organization which focuses on climate change and disaster risk reduction. CoCs may also decide to employ staff outside of the council framework to assist with its affairs' (Mansfield *et al.* 2004). However, the CoCs committees in the two studied communes were solely recruited from among the villagers; so, CoCs human resources are not significantly helpful for development at all. China, which has established a nationwide policy of human resources development, has actively recruited global talent since the 1990s, in particular targeting overseas Chinese. Also, its local governments have initiated schemes to attract innovative technopreneurs and high-level professionals, and to promote returnee entrepreneurship in high-tech industries to support economic growth (Zhao and Zhu 2009). This could be the best strategy for the central government of Cambodia to employ; that is, to increase human resources by recruiting young university graduates to work at the commune level.

The capacity building of CoCs committees could prove a long-term, on-the-job process. Young university graduates could be recruited as technical assistants to support their daily operations by providing them with a good working environment and capacity building. The roles of the IOs, NGOs and governments at the provincial and district levels would be to provide technical guidance and training to CoCs, and technical assistance in the spheres of climate change and disaster risk reduction, fund raising, and management planning of the agricultural and non-agricultural sectors for livelihood improvement of local communities. On-the-job capacity building and the availability of technical assistants could definitely enhance the daily operations and competence of the CoCs in the above suggested fields. The types of public and social services with which CoCs should become familiar include Income Generation Activities (IGAs) from agricultural and non-agricultural sectors, health care, basic education, infrastructure development, migration, and social security.

Mainstreaming CCA/DRR through implementing CDP and CIP. Every year, activities related to CCA/DRR intervention have been already included in CDP and CIP; but CoCs could not implement any project so far because of the lack funds for them. The C/S fund transferred from Mol were mainly allocated for physical infrastructure while integration of funds from NGOs remained very limited. In this stage, mainstreaming of CCA/DRR at commune level could probably happen when annual funds for CoCs are specifically allocated for CCA/DRR related development projects from C/S funds or NGOs. Presently, C/S funds were very limited, therefore contribution of financial resources from NGOs and other development partners could make this happen. During the development of CIP, NGOs may work with CoCs to facilitate the priority setting and provide funds of the prioritized activities proposed by local people in order to reduce the impact from climate change and natural disaster.

Improved application of Joint Principles for Adaptation (JPA) at CoCs. In order to adopt this tool at commune level, NGOs is playing a very important role to provide them with capacity building, coaching and financial support to carry out this participatory tool that ensuring national policies and plans meet the needs and fulfill the rights of the most vulnerable people to adapt to climate change. During this assignment, the application of JPA applied by CoCs was limited; NGOs may probably involve with CoCs as on-job training process during their assignment of JPA. By doing so, CoCs will be able to use this tool. In reality, capacity of CoCs is very limited and there is no any resource from the government agencies that can help CoCs to learn on how to apply JPA. In addition, NGOs may provide technical and financial support to CoCs during the development of CDP and CIP.

Practice policy development/enforcement. Based on decentralization, CoCs have been transferred with authority in community development through the implementation of CDP and CIP. Since the 2000s, several legal framework and policies i.e., Law on Disaster Management in Cambodia, National climate change strategic plan (2014-2023), National Democratic for Sub-national Development Programme (2010-2019), Implementation Programme First Phase (2010-2013), Implementation Programme Second Phase (2014-2016), Implementation Programme Third Phase (2010-2013) and the Annual Operation Plan and Climate Change Strategic Advocacy have been developed; the existing legal frameworks are necessary to put them into action. In this sense, all the line agencies should be working closely together. Local need could be filled when CoCs have received sufficient technical and financial support for the implementation of CIP/CDP to respond the impacts from CCA/DRR.

7. References

- ADB (2017). *Guidelines for mainstreaming disaster risk reeducation into sub-national development plans*. Manila: Asian Development Bank.
- Baray Commune Councilor (2017). Sangkat Investment Plan for 2017 for Baray Sangkat, Daunkeo municipality, Takeo province.
- Benson, C. (2009). *Mainstreaming Disaster Risk Reduction into Development: Challenges and Experience in the Philippines*. Geneva: ProVention Consortium Secretariat.
- Benson, C., Twigg, J. with Rossetto, T. (2007). *Tools for Mainstreaming Disaster Risk Reduction: Guidance Notes for Development Organizations*. Geneva: The International Federation of Red Cross and Red Crescent Societies / the ProVention Consortium.
- Carter, J. and Sok, V. (2013). *Cambodia Community Based Adaptation Programme*. Canberra: Australian Aid. Climate Change Adaption, CATIE and Both ENDS.
- Cho, C., (2010). *The local governance of common pool resources: the case of irrigation water in Cambodia*. Phnom Penh: Cambodia Development Resource Institute.
- CNMC, (2010). The state of climate change management in Cambodia. Phnom Penh: Cambodia National Mekong Committee. *Comparative Education*, 1(1), 62–67.
- Dator-Bercilla, J., Hawrylyshyn, K. and Diopenes, E.V. (2013). *Strengthening Climate Resilience: The Southeast Asian Experience*. Brighton: Strengthening Climate Resilience.
- DCA/CA (2015). *DCA/CA Cambodia Country Programme*. Phnom Penh: Cambodia - DanChurchAid.
- Enrich Institute for Sustainable Development (2013). *Climate Change Financing in Cambodia, Phnom Penh, Cambodia*.
- FAO (2017). *2015–2016 El Niño Early action and response for agriculture, food security and nutrition*. Rome: Food and Agriculture Organization of the United Nations.
- Fitzgerald, I., Suvaṅṅāridhi, S., & Suphal, C. (2007). *Moving out of poverty: trends in community well-being and household mobility in nine Cambodian villages*. CDRI.
- Gero, A., Méheux, K., and Dominey-Howes, D. (2011). *Integrating community based disaster risk reduction and climate change adaptation: examples from the Pacific*. Natural Hazards and Earth System Sciences.
- IFAD (2010). *Cambodia Environmental and Climate Change Assessment*. Rome: International Fund for Agricultural Development.
- Inter-ministerial Working Group (2007). *Guideline on C/S Development Plan and C/S Investment Program*. Phnom Penh: Inter-ministerial Working Group.

- ISDR (2002). Terminology: basic terms of disaster risk reduction. Available from <http://www.unisdr.org/eng/library/lib-terminology-eng%20home.htm> [Accessed Apr. 2012].
- Koun E.M and Chea C.T. (2007). *Health Impact of Climate Variability and Change in Cambodia*. Available: <http://www.wpro.who.int/NR/rdonlyres/6BE01257-DA1C-45A4-9886-EE79F75F90FE/0/CCpptCambodia.pdf>
- Lassa, A.J. and Sembiring, M. (2017). *Towards Policy Integration of Disaster Risk, Climate Adaptation, and Development in ASEAN: A Baseline Assessment*. Singapore Non-Traditional Security Studies (NTS Centre).
- Maling, E. (2012). *Good Practices for Integrating Climate Change Adaptation: Lessons from Local Partners in Cambodia*. Phnom Penh: Sida
- Mansfield, C., March, L., Sou B. (2004). *Commune Councils & Civil Society: Promoting decentralization through partnerships*. Phnom Penh: Pact.
- Masten, A.S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist*, 56(3), 227–238.
- MLMUPC (2001). *Law on commune/Sangkat administrative management (unofficial English translation)*. Phnom Penh: Ministry of Land Management, Urban Planning and Construction.
- MoE (2005). *Vulnerability and Adaptation Assessment to Climate Change in Cambodia*. Phnom Penh: Ministry of Environment.
- MoE (2012). *Cambodia's Initial National Communication*. Phnom Penh: Ministry of Environment.
- MoE (2016). *Climate Change Action Plan 2016 – 2018*. Phnom Penh: Ministry of Environment.
- MoE and UNDP (2011) *Building Resilience: The Future for Rural Livelihoods in the Face of Climate Change*. Phnom Penh: Ministry of Environment.
- Mom, S. (2011). *Group 3: Enhancing Adaptive Capacity of Local Communities “Building Disaster Resilient Communities in Cambodia*. The 1st Meeting of Climate Change Adaptation Demonstration Projects in the Lower Mekong Basin held at Rex Hotel, Ho Chi Minh City, Viet Nam, 21-22 July 2011.
- MoP (2013). *Cambodia Climate Change Strategic Plan (2014-2023)*. Phnom Penh: Ministry of Environment.
- National Assembly (2015). *Law on Disaster Management*. Phnom Penh: National Assembly.
- NCCC (2013). *Cambodia Climate Change Strategic Plan 2014-203*. Phnom Penh: National Climate Change Committee.
- NCDD (2010). *National Program for Sub-National Democratic Development (NP-SNDD) 2010-2019*. Phnom Penh: National Committee for Democratic Development.
- NCDD (2011). *IP3 Annual Implementation Report*. Phnom Penh: National Committee for Democratic Development.
- NCDD and MoP (2008). *Strategic National Action Plan for Disaster Risk Reduction 2008-2013*. Phnom Penh: National Committee for Disaster Management and Ministry of Planning.

- NCDM (2015). *Law on Disaster Management in English*. Phnom Penh: National Committee for Disaster Management.
- Perez, C.J., Vignola, R., Perez, H. (2007). Community-based adaptation to climate variability and change in agriculture and water resources in the dry tropics of Nicaragua: The Case of San Pedro Del Norte. Costa Rica: Tropical Forests and
- Rivera, C. (2014). Integrating climate change adaptation into disaster risk reduction in urban contexts: Perceptions and practice. *PLoS currents*, 6.
- Romeo, L.G. and Spyckerelle, L. (2003). Decentralization reforms and commune-level services delivery in Cambodia. Manila: Asian Development Bank.
- Rood, S., (1998). Decentralization, democracy and development. In: D.G. Timberman, ed. *The Philippines: New directions in domestic policy and foreign relations*. New York: Asia Society. Available from http://www.ciaonet.org/book/ass01/ass01_d.html [Accessed Nov. 2012].
- Sean Khveang Commune Councilor (2017). Commune Investment Plan for 2017 for Sean Khveang commune, Kamchay Mear District, Prey Veng province.
- Smit, B., McNabb, D., Smithers, J. (1996). Agricultural adaptation to climatic variation.
social-ecological systems through comparative studies and theory development: introduction to the special issue. *Ecology and Society*, 11(1), 12. Available from <http://www.ecologyandsociety.org/vol11/iss1/art12> [Accessed Feb. 2012]
- Solidarités International (2011). *Disaster Risk Reduction*. Hauts-de-Seine: Solidarités International.
- Southern Vice for Adaptation (2018). *NAP progress in participation and transparency*. Copenhagen: Southern Vice for Adaptation.
- Southern Voice (2013). *Joint Principles for Adaptation: A civil society initiative to promote effective and equitable adaptation to climate change*. Denmark: Southern Voice.
- Southern Voices (2015). *Joint Principles for Adaptation. A civil society initiative to promote effective and equitable adaptation to climate change*. Copenhagen: Southern Voices.
- Stromquist N.P., (2002). NGOs in a New Paradigm of Civil Society. Current Issues in Walker, B.H., Anderies, J.M., Kinzig, A.P., Ryan, P. (2006). Exploring resilience in Climatic Change, 33, 7–29.
- Tan, S. (2016). *Development Plans and 3-Year Rolling Investment Plans at the Sangkat Administrations in Phnom Penh*. Phnom Penh: Parliamentary Institute of Cambodia.
- The Royal Government of Cambodia (2013) *National Action Plan for Disaster Risk Reduction (NAP-DRR) 2014-2018*. Phnom Penh: The Royal Government of Cambodia.
- Turner, S., Pangare, G., and R. J. Mather, R.J. (2009) *Water Governance: A situational analysis of Cambodia, Lao PDR and Viet Nam* (Mekong Region Water Dialogue Publication. Gland, Switzerland: IUCN.

- UNFCCC (2010) Glossary of Climate Change Acronyms. Archived 29 April 2010 at the Wayback Machine.. Accessed 24 October 2010.
- UNISDR (2009) *2009 UNISDR terminology on disaster risk reduction*. Geneva: United Nations International Strategy for Disaster Reduction.
- World Bank and UN (2010) *Natural hazards, unnatural disasters: the economics of effective prevention*. Washington, D.C.: World Bank and United Nations.
- Zhao, L., and Zhu, J. (2009). *China Attracting Global Top Talents: Central and Local Government Initiatives*. Singapore: East Asian Institute.

Appendices

Appendix 1: Sample of Checklist for Interview with Key Informants and Focus Group Discussion

Datasheet for mainstreaming Climate Change Adaptation/Disaster Risk Reduction (CCA/DRR) into Commune Development Plan/Commune Investment Plan (CDP/CIP)

Organization: Northeastern Rural Development (NRD)

Person(s) complete(s) datasheet: Sam Sovann

Position: Executive Director

Contact addresses (Tel and e-mail): 097 777 5788, sovanns@nrdo.org

1. Projects (related to above): how many projects have you worked with regard to mainstreaming CCA/DRR into CDP/CIP? And please name the communes and duration of each project.

NRD work 27 villages in 7 communes such as Kampong Cham, Watana, Sandann, Sambor, Beung Char, Koh Khner and Orkreang communes in Sambor district, Kratie province

.....
.....

2. Please describe the processes of mainstreaming CCA/DRR into CDP/CIP, including stages and methodologies.

NRD collaboration with Department of Women Affair in Kratie province, we work together provide the technical support including the budget to 7 commune council (CC). The CC provides the training on Gender in Water Government and CCA/DRR to communities and they doing together the work plan for CIP also.

.....
.....
.....

What types of CCA/DRR have been identified to mainstream them into CDP/CIP?
NRD have mainstream on Gender in Water Government and Environmental and CCA/DRR into CIP

.....
.....
.....

3. Based on your own experiences, what successful processes and methodologies have been applied in order to integrate the CCA/DRR into CDP/CIP?

We have good collaboration with local authority and stakeholders.
We discuss and find the root cause in communities together (One voice).
We engage and propose the proposal to find the donors together.
We join the projects implement together.
We join the projects monitoring and evaluation together.

.....
.....
.....

4. What are the key challenges to integrate the CCA/DRR into CDP/CIP?

Sometime the local authority is busy with political party.
The capacities for local authority are limited and late.
The budgets for implement are limited.

.....
.....
.....

5. Key lessons learnt for implementation of integrating the CCA/DRR into CDP/CIP?

We implement the project together is good opportunity for commune council to increase their capacity, after NRD finished the project they will have full experiences and can implement by themselves.

.....
.....
.....

6. Please give recommendations for practicing mainstreaming the CCA/DRR into CDP/CIP?

The Cambodia government should be allocating some budget to commune council for implementation the project on CCA/DRR.
Donors should be continuing support to some NGOs that work on mainstreaming the CCA/DRR into CDP/CIP

.....
.....
.....

Appendix 2: Checklist of scorecard of JPA principle

Principles	Criteria	Scoring Level	Justifications
A. The formulation, implementation and monitoring of adaptation policies and plans is participatory and inclusive	Multiple stakeholders (including, but not limited to civil society, sub-national governments, research institutes, academia, private sector, and indigenous peoples) participate in defining options and priorities as well as in implementation and monitoring	0 = No stakeholders identified as target stakeholders are allowed in project 1 = 20% of the identified target stakeholders involved in project 2 = 40% of the identified target stakeholders involved in project 3 = 60% of the identified target stakeholders involved in project 4 = 80% of the identified target stakeholders involved in project 5 = 100% of the identified target stakeholders involved in project	80%, through the planning process in the commune
	The knowledge and experience of local communities and indigenous peoples are incorporated <ul style="list-style-type: none"> - Local knowledge and experiences on CCA and DRR are included into the planning and implementation - People are mostly aware of the implementation method 	0 = Knowledge and experience of local community and indigenous people have not yet integrated into CDP/CIP in national and sub-national levels 1 = 20% Knowledge and experience of local community and indigenous people have been integrated into CDP/CIP in national and sub-national levels 2 = 40% Knowledge and experience of local community and indigenous people have been integrated into CDP/CIP in national and sub-national levels 3 = 60% Knowledge and experience of local community and indigenous people have been integrated into CDP/CIP in national and sub-national levels	60%, through VRA and planning processes

Principles	Criteria	Scoring Level	Justifications
		<p>4 = 80% Knowledge and experience of local community and indigenous people have been integrated into CDP/CIP in national and sub-national levels.</p> <p>5 = 100% Knowledge and experience of local community and indigenous people have fully been integrated into CDP/CIP in national and sub-national levels</p>	
	<p>Plans and policies are publicized in ways that local people can understand and engage with.</p>	<p>0 = Plan and policies on CCA/DRR have not yet publicized to local people</p> <p>1 = 20% local people understand about the plan and policies on CCA/DRR</p> <p>2 = 40% local people understand about the plan and policies on CCA/DRR</p> <p>3 = 60% local people understand about the plan and policies on CCA/DRR</p> <p>4 = 80% local people understand about the plan and policies on CCA/DRR</p> <p>5 = 100% local people fully understand about the plan and policies on CCA/DRR</p>	<p>60%, through Commune council forums</p>
<p>B. Funds for adaptation are utilized efficiently, and managed transparently and with integrity</p>	<p>The implementation and financing of plans is periodically monitored by a body on which civil society is represented</p> <ul style="list-style-type: none"> - The implementation of financing mechanism is monitored by NECA and NGOF 	<p>0 = No guideline or instruments on monitoring the implementation and financing of the plans exists in place</p> <p>1 = The implementation and financing of plans are monitored on two years basis</p> <p>2 = The implementation and financing of plans are monitored on annual basis</p> <p>3 = The implementation and financing of plans are monitored on bi-annual basis</p>	<p>3, annual performance assessment by national and external auditors, and local govt. agencies (if - Performance based climate resilient grant assessment,</p>

Principles	Criteria	Scoring Level	Justifications
		4 = The implementation and financing of plans are monitored on quarter basis 5 = The implementation and financing of plans are monitored on monthly basis	and project participatory monitoring and evaluation (guideline of NCDD)
	There is a mechanism in place to safeguard against initiatives that might have negative impacts	0 = No guideline and procedure of safeguard are in place to mitigate negative impacts resulting in adopting CCA/DRR 1 = Guideline and procedure of safeguard are being developed to mitigate negative impacts resulting in adopting CCA/DRR 2 = Guideline and procedure of safeguard have been employed to mitigate negative impacts resulting in adopting CCA/DRR (checking report of safeguard) 3 = Negative impacts resulting from adopting CCA/DRR are integrated into CDP/CIP plan and implementation.	3, NCDD guidelines (PIM-project implementation manual, ESS-Environmental and social safeguard), Gender and CC policy (as requirement for accessing to Green Climate Fund)
	There is full and free access to information on how adaptation funds are being spent (finances and processes)	0 = The expenditure of adaptation funds is not free access 1 = There is a mechanism in place to disclose the information on adaptation funds to public 2 = The information of expenditure on adaptation funds is only available to only donors 3 = The information of expenditure on adaptation funds is only available to donors, and network NGOs 4 = The information of	4, MOE/MEF publicizes annual CCA fund expenditure, and this is disseminated on information board at commune office

Principles	Criteria	Scoring Level	Justifications
		expenditure on adaptation funds is only available to donors, network NGOs, target community and government agencies 5 = The information of expenditure on adaptation funds is posted on website and made available to all public.	
	Adaptation funding is made available through a transparent process of allocation	0 = There is no mechanism in place to allocate adaptation funding through transparent process 1 = Only network NGOs can access to adaptation funds 2 = Only target local community is able to access adaption funds 3 = Any local community is able to access adaption funds 4 = Adaptation funds are made available to all legal institutions and all sector	4, process of project prioritizes for CCA project proposal at local community and commune level by engaging all stakeholders - Clear indicators for project selection as stated in CIP/CDP guideline
	A secure mechanism for expressing grievances and seeking redress is available	0 = No guideline or mechanism for expressing grievances and seeking redress is available in place 1 = Guideline or mechanism for expressing grievances and seeking redress is being developed 2 = Guideline and procedure of expressing grievances and seeking redress have been employed to solve any conflicts arising from adopting CCA/DRR (checking	3, accountability box at commune level, and these complaints are settled and integrated into CIP/CDP plans - Office for Citizen in

Principles	Criteria	Scoring Level	Justifications
		report of safeguard) 3 = Conflict resolutions have been addressed and their reports are made available	one window services at district and province levels
C. All government sectors and levels of administration have defied responsibilities and appropriate resources to fulfill them (Not much relevant to commune people)	National adaptation plans carry the authority to enable different government sectors to work in a coordinated way	0 = No policy and regulation to integrate CCA/DRR into local government plan exist 1 = Policy and plans to integrate CCA/DRR into local government plan is being developed 2 = There are guideline and procedure developed based on the national adaptation plans to integrate CCA/DRR into local government plans 3 = There is a coordinated body of government to enable different government sectors to work in a coordinated way 4 = The coordinated body includes members from NGOs and local community 5= There are clear roles and mandate for this body to exercise its power.	3, NAP has only national level, and coordinated by NCSD/MOE
	Existing initiatives and sector plans are enhanced to take climate change and disaster risk into account	0 = No climate change and disaster risks have been taken into existing initiatives and sector plan 1 = Climate change and disaster risks have been included into some of existing initiatives and sector plans at national level 2 = Climate change and disaster risks have been included into all existing initiatives and sector plans at national level 3 = Climate change and	3, only for sub-national development and investment programs for NCDDS, but not all line dept. development plans

Principles	Criteria	Scoring Level	Justifications
		disaster risks have been included into some of existing initiatives and sector plans at sub-national level 4 = Climate change and disaster risks have been included into all existing initiatives and sector plans at sub-national level 5 = Government has allocated funds to implement all climate change and disaster risk projects	
	Funding for adaptation is explicitly provided for within the national budget and respective sectorial allocations <ul style="list-style-type: none"> - Is the commune receives the allocated fund for CCA/DRR? - Is the funding support for implementation of CCA/DRR enough and sustain? 	0 = No funding provided by national budget for the program 1 = National budget is allocated for some of priority adaptation projects in selected sector at national level 2 = National budget is allocated for some of priority adaptation projects in all sector at national level 3 = National budget is allocated for some of priority adaptation projects in selected sector at sub-national level 4 = National budget is allocated for some of priority adaptation projects in all sector at sub-national level 5 = National budget is allocated for all adaptation projects in all sector at sub-national level (district and commune)	1, through govt. project implementation requested by sector ministries, not yet annual national budget for CC expenditure required by govt law or regulation
	Local level adaptation plans are guided by mechanisms to ensure coherence with national adaptation policies	0 = No guideline or procedure exists to guide the local level adaptation plans harmonized with national adaptation policies	3, guideline follow the national policy and strategies of

Principles	Criteria	Scoring Level	Justifications
		1 = Guideline or procedure to guide the local level adaptation plans harmonized with national adaption policies is being developed 2 = Local level adaptation plans have been incorporated into CDP/CIP document 3 = Implementation of the local level adaptation plans is reported regularly	CCA (e.g. CCCSP)
D. Local adaptation plans are developed through approaches that build resilience of communities and ecosystems	Communities affected by climate change participate in defining adaptation options and priorities <ul style="list-style-type: none"> - Adaption options are publicly discussed before decision - The decision of the option is agreed by the affected community by climate change 	0 = No mechanism to include affected communities by climate change in defining adaptation options and priorities 1 = Only selected communities affected by climate change are included in defining adaptation options and priorities 2 = All communities affected by climate change are included in defining adaptation options and priorities	2, all as in NCDD guideline for sub-national planning
	Local adaptation plans are formalized and integrated into the development priorities of local administrations.	0 = No mechanism to formalize and integrate local adaptation plans into the development priorities of local administrations 1 = There is a government sub-decree or declaration issued to formalize and integrate local adaptation plans into the development priorities of local administrations 2 = Local adaptation plans are included into CDP/CIP document 3 = Regular report of implementation of local	3, all in above

Principles	Criteria	Scoring Level	Justifications
		adaptation plans are included into CDP/CIP document	
	Significant resources are allocated towards implementation of local adaptation plans	0 = No resources are allocated towards the implementation of the local adaptation plans 1 = There is funding mechanism of government being prepared in order to finance the local adaptation plans 2 = Government allocates funds to implement local adaptation plans that are incorporated with CDP/CIP	1, it is project based
	Financing arrangements make commitments for multi-year programmes of support to vulnerable communities	0 = The financing arrangement is not in purpose for multi-year programs of supporting vulnerable communities 1 = The financing arrangement is purposed for 3 years programs of supporting vulnerable communities 2 = The financing arrangement is purposed for 5 years programs of supporting vulnerable communities 3 = The financing arrangement is purposed for long term programs of supporting vulnerable communities	2, program based for future Green Climate Fund and Adaption Fund when NCDDS become NIE (National Implementing Entity) so that they can prepare proposal for submission
E. The resilience of groups who are most vulnerable to climate change is promoted	Plans and policies address the issues affecting different groups of women, men, boys and girls - Targeted stakeholders – beneficiary is identified including gender concept	0 = The issues affecting different groups of women, men, boys and girls are not included in the plans and policies 1 = The plans and policies addressed issues affecting group of men and women 2 = The plans and policies addressed issues affecting	3, through VRA tool as indicated in sub-national Planning guideline

Principles	Criteria	Scoring Level	Justifications
		group of boys and girls 3 = The plans and policies addressed issues affecting group of men and women, children and elder people 4 = All effecting group of people are considered in plans and policies	
	Groups of people who are vulnerable to social, cultural, economic and environmental conditions are identified, targeted	0 = Groups of people who are vulnerable to (economic or social or cultural or environmental conditions) are not identified and targeted 1 = Groups of people as direct beneficiaries who are vulnerable to environmental and economic are identified and targeted 2 = All groups of people in the project area who are vulnerable to social, cultural, economic, environmental and social conditions are identified and targeted	2, as in above
	Initiatives take into account the differentiated needs and capacities of women and men in different age groups	0 = No mechanism to take into account any specific needs and capacities of women and men in different age groups and incorporated in to local initiatives 1 = Mechanism to take into account any specific needs and capacities of women and men in different age groups into local initiatives has been developed and implemented 2 = The specific needs and capacities of women and men in different age groups are integrated into local initiatives through CDP/CIP 3 = Reports on implementation of specific	3, all as in CIP/CDP

Principles	Criteria	Scoring Level	Justifications
		needs and capacities of women and men in different age groups integrated into local initiatives through CDP/CIP are produced and made available to public.	
	Initiatives promote social equity and cohesion while protecting people's livelihoods	0 = No social equity and connection are promoted 1 = Mechanism to promote social equity and cohesion while protecting people's livelihoods is being developed and implemented 2 = Provisions of social equity and cohesion are included in the CDP/CIP 3 = No conflicts occurring in the commune or project area regarding adopting CCA/DRR into CDP/CIP 4 = All local community participates all events or project activities in the commune	
F. There is appropriate investment in the building of skills and capacities for adaptation, as well as in physical infrastructure (Not much relevant to commune people)	Adequate resources are made available to improve the effectiveness of institutions responsible for managing climate change adaptation	0 = No resource is allocated to improve the effectiveness of institutions responsible for climate change adaptation management 1 = Plans for financial and human resource development have been formulated and implemented to improve the effectiveness of institutions responsible for climate change adaptation management 2 = Budget is available from development partners 3 = National budget allocated and used for the purpose	
	Adequate resources are made available for raising public awareness and	0 = No materials and resources for promoting or improving awareness and	

Principles	Criteria	Scoring Level	Justifications
	education about climate change	education on CC 1 = Plans to raising public awareness and education about climate change are developed and budgeted 2 = Materials and resources (posters, video clips, booklets, etc.) for promoting or improving awareness and education on CC are developed 3 = Events for raising public awareness and education about climate change are organized	
	Investment plans contain targets for developing human capacities, natural capital, and physical infrastructure <ul style="list-style-type: none"> - In the commune investment plan has integrated CCA/DRR. - Commune budgeting is mentioned the CCA/DRR in certain amount. 	0 = No investment plan contains targets for developing human capacity, natural capital, and physical infrastructure 1 = There is an existing mechanism to include development of human capacity, natural capital, and physical infrastructure into investment plan 2 = The investment plan containing targets for developing human capacity, natural capital, and physical infrastructure are included into CDP/CIP documentation 3 = National budget has been allocated to implement investment plan containing targets for developing human capacity, natural capital, and physical infrastructure 4 = Reports on implementation of investment projects containing targets for developing human capacity, natural capital, and physical infrastructure have been	

Principles	Criteria	Scoring Level	Justifications
	The capacities of local people and their structures are developed in ways that contribute to the empowerment of individuals and communities	<p>produced.</p> <p>0 = There is no provisions or mechanisms to develop capacities of local people and their structures in ways that contribute to the empowerment of individuals and communities</p> <p>1 = Training materials are being developed to build the capacities of local people and their structures in ways that contribute to the empowerment of individuals and communities</p> <p>2 = Training courses have been organized to build the capacities of local people and their structures in ways that contribute to the empowerment of individuals and communities</p> <p>3 = Individuals and communities in communes are leaders or key committee members of CCA/DRR projects</p>	
G. Plans and policies respond to evidence of the current and future manifestations and impacts of climate change (Not much relevant to commune people)	Adaptation plans consider how exposure to climate-related stresses and extremes is affecting existing vulnerabilities	<p>0 = No method or procedure has been introduced to target area to carry out the vulnerability assessment and adaptation planning</p> <p>1 = Training course on the vulnerability assessment and adaptation planning has been organized for commune</p> <p>2 = Results of vulnerability assessment and adaptation planning have been incorporated in CDP/CIP</p> <p>3 = Adaptation plans are formulated and implemented</p>	
	Vulnerability, exposure and adaptation	0 = No source of information containing best science and	

Principles	Criteria	Scoring Level	Justifications
	<p>scenarios are based on the best available science and evidence from the ground</p>	<p>evidence from the ground available to include into vulnerability, exposure and adaptation scenarios</p> <p>1 = Adaptation plans contain brief information of vulnerability, exposure and adaptation scenarios</p> <p>2 = Adaptation plans contain national level information of vulnerability, exposure and adaptation scenarios</p> <p>3 = Adaptation plans contain sectoral level information of vulnerability, exposure and adaptation scenarios based on the best available science and evidence from the ground</p> <p>4 = Adaptation plans contain sub-national level information of vulnerability, exposure and adaptation scenarios based on the best available science and evidence from the ground</p> <p>5 = Adaptation plans contain detail and all levels information of vulnerability, exposure and adaptation scenarios based on the best available science and evidence from the ground</p>	
	<p>Interventions are modified as new information becomes available</p>	<p>0 = No climate information is available to modify the interventions</p> <p>1 = Adaptation plan is occasionally updated based on modified interventions</p> <p>2 = Adaptation plan is regularly updated based on modified interventions</p> <p>3 = Successful cases of implementation of adaptation plans based on updated interventions</p>	

Principles	Criteria	Scoring Level	Justifications
	Climate information is made accessible to enable adaptive decision making by all stakeholders	0 = No climate information is accessible for stakeholders 1 = Instruments are being developed to disseminate climate information 2 = Climate information is available only at national scale 3 = Climate information is available at sectoral scale 4 = Climate information is available at sub-national scale 5 = All climate information at all scales is available at public domain (websites)	

Appendix 3: List of People Interviewed and Discussed, including Government Officials and Local NGOs

No.	Contact Person	Position	Institution/NGOs	Address
1	Mr. Kong Chanthan	Climate Change Technical Advisor	National Committee for Subnational Democratic Development Secretariat (NCDDS)	chanthankong@gmail.com
2	Mr. Te Rithy	Environmental Project Advisor	National Committee for Subnational Democratic Development Secretariat (NCDDS)	terithy@ksp.ncdd.gov.kh
3	Mr. Sorn Sunsopheak	Chief Office	National Committee for Subnational Democratic Development Secretariat (NCDDS)	Tel: 012 922 123 ssspheak@ncdd.gov.kh
4	Mr. Va Vuthy	Adaptation Specialist	Cambodia Climate Change Alliance	vuthy.v@gmail.com
5	Mr. Nop Polin	Climate Change Advisor	DanChurch	nopo@dca.dk
6	Dr. Heng Chanthoeun	Deputy Director	Department of Climate Change, General Secretariat of National Council for Sustainable Development, Ministry of Environment.	hchoeuncc@gmail.com
7	Mr. Aum Phirum	Deputy Director	Department of Land Resource Management /MAFF	amphirum@yahoo.com
8	Stong Kia	Officer	Department of Planning and Statistics, MAFF	stongkia@yahoo.com
9	Mr. Bak Bunna	Deputy Director	Department of Rural Water Supplies/ Ministry of Water Resource and Meteorology	bakbunna@yahoo.com
10	Mr. Sem Sam An	Executive Director	Community Resource Improvement for Development (CRID)	012218575 crid.org@gmail.com
11	Mr. Vicheth CHOEUN	Executive Director	Peace and Development Aid Organization (PDAO)	085722777 vichethc@pdao-cambodia.org

12	Mr. Sam Sovann	Executive Director	Northern Rural Development (NRD)	0977775788 sovanns@nrdo.org
13	Mr. Virak	Consultant – ADB Project	Life With Dignity (LWD)	012 266 499 virak@lwd.org.kh
14	Mrs. Luy Reasmey	Executive Director	Culture and Environmental Preservation Association (CEPA)	rasmey@cepa-cambodia.org
15	Mr. Yun Sina	Deputy Team Leader, TA8179 Package B	Plan International (working for ADB project)	
16	Dr. Lay Chanthy	NAPA Specialist	ADB TA8179, Ministry of Environment and Ministry of Water Resource and Meteorology	laychanthy369@gmail.com
17	Mr. Pech Sithan	Agriculture and climate change specialist	ADB TA8179, Ministry of Environment	psithanp@gmail.com
18	Mr. Chhann Sopha	Head of Commune	Seang Khveang Commune, Kamchhay Mear District, Prey Veng Province	097 803 8569
19	Mr. Men Chhim	Head of Commune	Baray commune, Daunkeo district, Takeo province	012 923 506
20	Mr. Yen Run	Deputy Director	Provincial Dept. of Environment, Stung Treng	012 841 708





The NGO Forum on Cambodia

Address: #9-11 Street 476 Sangkat Toul Tompoung 1,
Khan Chamkar Morn, Phnom Penh City, Cambodia.

P.O Box: 2295 Phnom Penh-3

Tel: (855-23) 214 429

Fax: (855-23) 994 063

E-mail: ngoforum@ngoforum.org.kh

Website: www.ngoforum.org.kh