A thesis submitted to the Department of Environmental Sciences and Policy of Central European University in part fulfilment of the

Degree of Master of Science

From silo to nexus: a systems dynamics evaluation of climate change governance systems' climate finance absorptive capacity and climate adaptive policies

A case study of Viet Nam

Tieza Mica SANTOS

September, 2017

Budapest

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Tieza Mica H. SANTOS

CENTRAL EUROPEAN UNIVERSITY

ABSTRACT OF THESIS submitted by:

Tieza Mica H. SANTOS

for the degree of Master of Science and entitled: From silo to nexus: a systems dynamics evaluation of climate change governance systems' climate finance absorptive capacity and climate adaptive policies. A case study of Viet Nam.

Month and Year of submission: September, 2017.

Climate change governance is a complex system. It operates within the context of an unpredictable climate condition due to its inherent variability and external systems simultaneously interacting in a constant flux. With future uncertainties, climate change governance requires enhanced capacities among elements that operate within such system. As the nature and character of climate change alters, governance systems must be able to respond respective to the nature of change in consideration of the temporal and spatial variation. This thesis looks into the climate adaptation governance system and examines the interconnection and interaction of elements that comprise such system; the character and behavior of each element within the system influence the capacity of climate adaptation governance system to absorb climate finance and develop climate adaptive policies respective to the nature of change.

The research uses Viet Nam as a case study to explore such dynamics and uses a systems theory approach to evaluate the country's current climate adaptation governance system. It concludes that systems have the capacity to absorb climate finance and to adapt through policy development supported by a learning process or feedback loops within the system. However, thresholds within the system, usually inherent, tend to regulate such process of building capacities and is not necessarily a negative feature. Such thresholds, support the self-regulating process of building appropriate capacities to further absorb finance and resources and develop climate adaptive policies. Such capacities are built through the process of learning and problem-solving, which are also dimensions of capacity in themselves.

Keywords: Absorptive Capacity, Adaptation, Adaptive Capacity, Climate Change, Climate Finance, Complex Adaptive Systems, Governance and Policy, Nexus, Resilience, Viet Nam

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Acknowledgements

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S.AMDG

To those who made this journey interesting, exciting, fun, bearable, and filled with only learnings, ***THANK YOU****…*

My family – **mom, Joseph, and Wes** – who have always been my constant pillars of strength, courage, encouragement, and love… for having complete faith in me;

Dr. Laszlo Pinter, for his guidance and mentorship during the Student Conference that inspired me to work on this thesis… for his constant encouragement, complete trust, unrelenting patience, support, and understanding… for simply believing and not giving up on me, knowing that I can overcome the challenges in my academic work and accomplish my goals;

Dr. Berne Weiss, for helping me gain a sense of peace during my most challenging days;

Jelena, Zhibek, Caroline, Darunee, Hippolyte, Antoine, Dorottya, Elizabeth, Shwetha, Yerzat, and Nacanieli, for being my core companions and second family in Budapest;

CEU Pinoy Students, for giving me sense of home in Budapest;

Verna, Pauee, and Anna, for your unconditional friendship and for just simply being there;

Trins, Tina, and Rosa for your friendship and extending your generosity and pure support as I face the logistical endeavors of this journey;

Former CEU MESPOM Alums and the staff of CEU Environmental Sciences and Policy Department – **Gyorgy, Kriszta, and Irina** for extending your administrative and logistical support during my thesis pre- and post-fieldwork;

For the administrative, logistics, and institutional support of individuals and officials of the following offices during my field work in Hanoi: **Hanns Siedel Stiftung, USAID Viet Nam Country Office, World Bank Viet Nam Country Office, JICA Viet Nam Country Office, GIZ Viet Nam Country Office, UNDP Viet Nam Country Office;** and most importantly

For the administrative, logistics, and institutional support of individuals and officials of the Line Ministries and Departments of the **Central Government of the Socialist Republic of Viet Nam**, in particular: **IMHE, DMHCC, MONRE, MPI, CIEM**, and **MARD**… thank you for your kindness, accommodation and generosity!

Scientia ad majorem Dei gloriam.

The content of this thesis has been subject to revisions following its defense with permission to upload the revised version by the head of department.

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LIST OF ABBREVIATIONS

ACAP	Absorptive Capacity
ADAC	Adaptive Capacity
ADP	Ad hoc Working Group on the Durban Platform for Enhanced Actions
AR4	Fourth Assessment Report (refer to IPCC)
AR5	Fifth Assessment Report (refer to IPCC)
BIs	Bilateral Institutions
CAS	Complex Adaptive Systems
CCA	Climate Change Adaptation
CCD	Climate Change Delivery
CCF	Climate Change Finance or Climate Finance
CCG	Climate Change Governance
CCP	Climate Change Policy or Climate Policy
CCR	Climate Change Response
COP	Conference of Parties
CCVI	Climate Change Vulnerability Index
CPEIR	Climate Public Expenditure and Investment Review
CSEDP	Comprehensive Social and Economic Planning System
DFIs	Development Finance Institutions
DP	Development Partners
FDI	Foreign Direct Investments
FM	Fiscal Management Landscape
GGC	Global Geophysical Cycle
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
GoV	Government of Viet Nam / Central Government of Viet Nam (Socialist Republic of Viet Nam)
IDFC	International Development Finance Club
OL	Organizational Landscape
INDCs	Intended Nationally Determined Contribution
IPCC	Intergovernmental Panel on Climate Change
JICA	Japan International Cooperation Agency

LDCs	Least Developed Countries
LM	Line Ministries
MARD	Ministry of Agriculture and Rural Development
MDBs	Multilateral Development Banks
MDGs	Millennium Development Goals
MOC	Ministry of Construction
MOF	Ministry of Finance
MOIT	Ministry of Industry and Technology
MONRE	Ministry of Natural Resources and Environment
MOT	Ministry of Transport
M&E	Monitoring and Evaluation
NAPCC	National Action Plan on Climate Change
NCCC	National Committee on Climate Change
NCCS	National Climate Change Strategies
NTP-EE	National Target Program on Energy Efficiency and Conservation
NTP-RCC	National Target Program to Respond to Climate Change
ODA	Official Development Assistance
PL	Policy Landscape
UNFCCC	United Nations Framework Convention on Climate Change
VGGS	Viet Nam Green Growth Strategy
VPCC	Viet Nam Panel on Climate Change
SD	Systems Dynamics
SDGs	Sustainable Development Goals
SEDP	Socio-Economic Development Plan
SES	Socio-ecological System
SIDS	Small Island Developing States
SP-RCC	Support Program to Respond to Climate Change
ST	Systems Theory
SYR	Synthesis Report (refer to IPCC)
TAR	Third Assessment Report (refer to IPCC)
TCCRE	Typology of Climate Change Response Expenditure
UN	United Nations

UNDP	United Nations Development Program
UNECE	United Nations Economic Commission for Europe
UNGA	United Nations General Assembly
USAID	United States Agency of International Development
VGGS	Viet Nam Green Growth Strategy
WB	World Bank
WEF	Water-Energy-Food (Nexus)

I. INTRODUCTION

A. Overview

This chapter presents the background of the study to situate the readers into the context that defined the research. It also states the research questions, objectives, and the scope and limitations of the study.

B. Background

There is vast literature on climate adaptation, climate finance, and climate policy that are available among scientific and academic communities. The field of policy and development has also developed its own literature, albeit more focused on the empirical, real-life practice of the field. However, the literature, at least in the academic community, has been concentrated on the epistemology of adaptation to make sense of the word. In the practice area, particularly policy, mainstreaming adaptation into the agenda remains incongruent with stated objectives and achieving concrete targets and identifying outcomes remain a challenge.

C. Research Questions

To restate the research inquiry, *this thesis primarily looks into the climate change governance (CCG) system and the nexus that exists within the aspects of governance (UNECE 2015)*[1] *– Organizational Landscape (OL), Policy Landscape (PL), and Fiscal Management Landscape (FM)* – comprising the system. More precisely, by examining the interlinkages between

[1] UNECE defines aspects of governance to constitute policy frames, legal and regulatory framework, and organizations and other actors (UNECE 2015, 15). For the purpose of this thesis, the aspects of governance of UNECE will be adapted using a re-articulation of terms, which will be replaced with organizations, policies, and fiscal mechanisms.

these, the research looks deeper into the governance system's capacity to absorb (ACAP) climate finance (CCF) and adaptive capacity (ADAC) in terms of climate policy (CCP) development.

The research inquiry is articulated through the research questions below:

1) *Does the climate change governance (CCG) system demonstrate the capacity to absorb (ACAP) climate finance (CCF)? Does it demonstrate adaptive capacity (ADAC) towards policy development? In what ways are these demonstrated?*
2) *If so demonstrated, does this capacity to absorb CCF, enable the system to develop ADAC?*
3) *Conversely, does this adaptive capacity of the system influence its ACAP for current and future climate finance?*

D. Research Objectives and Significance of the Study

The primary purpose of the research is to explore and utilize a multi-disciplinary and multi-dimensional analysis to understand governance system for climate adaptation, particularly looking into the areas of fiscal management and policy development process. For the purpose of bridging disciplines, it attempts to adopt a nexus approach, which originates from the systems theory field. This research offers an opportunity to exercise theory-building and exploration on the complex field of climate finance and policy that utilizes a systems perspective, a departure from the typical literature emerging out of academic, scientific, and policy communities. Specifically, the following objectives are articulated below:

- To contribute to knowledge-building in the discourse of climate adaptation governance, climate finance, and climate policy by proposing a multi-disciplinary approach to research that utilizes systems thinking;

- To apply the 'nexus' approach into scholarly research that departs from the traditions of the water, energy, and food sectors, and explore how it can be used as an evaluative lens in the area of climate adaptation and governance; and
- To explore the interlinkages among the various aspects or components of governance in the context of climate adaptation and how such system determines and influences future capacities to adjust to changes.

E. Scope and Limitations of the Research

The following are the scope and limitations of the study in answering the question:

1) The research will focus on climate finance in the context of climate adaptation and will only look into adaptation related policies. It is necessary to limit the scope to climate adaptation mainly because mitigation, at least in the area of scholarly research, requires a separate treatment of concepts and terminologies to be used in laying the foundation of the research. As the research uses multi-dimensional analysis, dealing with a number of constructs will require a more exhaustive research. It is worth noting however that in the course of the research, documents will also include mitigation discussion, and inevitably, there will be mention of mitigation in this thesis.

2) Given limited resources and time constraints, a case study approach will be used in the research to validate initial assumptions and build a theory. While a longitudinal study would allow a more exhaustive exploration to address the inquiry, this type of study is not feasible mainly because baselines need to be established and would require control measure to compare variables. Thus, a qualitative approach was used in the research, which is further detailed in the methodology section.

3) Viet Nam was selected as the study site. Beyond the objective in the methodology section, access to respondents, availability of contacts, and logistical feasibility were also important factors in selecting the country. Access to data and availability of information through contacts within ministries and organizations were crucial in setting the scope and limitations of the study since records are not easily accessible; financial information is often considered sensitive, both in terms of access to documents and willingness of interviewees to disclose information.

II. REVIEW OF RELATED LITERATURE

As a critical component of the research, this chapter looks into select theoretical and empirical studies relevant to climate change governance (CCG). Critical research focus will be given to climate change finance or climate finance (CCF) and climate change policy response or climate policy (CCP). The organizational structure of this chapter is illustrated in Figure 1, starting with a discussion of climate change with emphasis on adaptation as a response framework in which CCF and CCP anchors its context into. This also sets the context into which the core concepts of the thesis will be defined. This provides a critical takeoff point, linking theory and empirical data and serves as a crucial component in the methodology and analysis chapters; it defines absorptive capacity (ACAP) and adaptive capacity (ADAC) of the governance framework, the central concepts of the thesis. After this, a discussion that re-articulates CCG through a 'nexus' approach, focusing on the interlinkages between ACAP and ADAC as well as CCF and CCP in greater detail will follow.

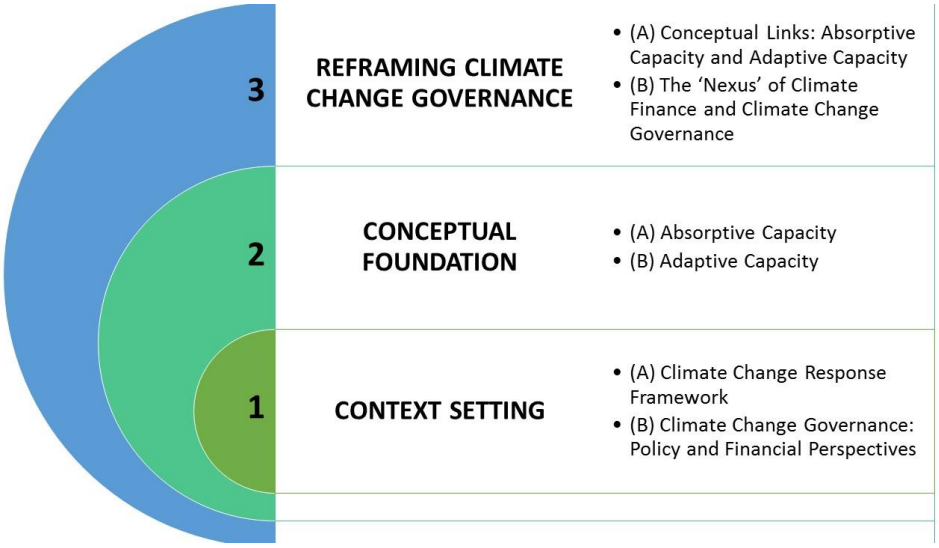


Figure 1. Schematic representation of the organizational structure of the literature review.

A. Context Setting

This study is anchored in the discourse on climate change response, particularly in the framework of adaptation, through which the core concepts of the thesis will be defined in the subsequent sub-chapters.

1. Climate Change Challenge and Response Framework

Reports on observed changes in the global climate system over the last three decades have generated growing interest, thereby becoming a crucial study focus among scientific and academic communities (Corobov 2011) and has hitherto sustained global attention with the creation of the United Nations Framework Convention on Climate Change (UNFCCC) and the Intergovernmental Panel on Climate Change (IPCC) in the 1980s (Corobov 2011). These observations have been supported by underlying scientific understanding and methodological analysis, and further affirmed by the authoritative reports published by the IPCC. The IPCC, in its Synthesis Report (SYR) of the Fifth Assessment Report (AR5), highlighted the scientific findings on unprecedented warming of the climate system since 1950s, with "the period from 1983 to 2012 [being] *likely* the warmest 30-year period of the last 1400 years in the Northern Hemisphere…" (IPCC 2015, 2) as one of the many indicators of the global climatic transformation. Recent changes in the global climate system have been attributed to anthropogenic causes as further elaborated in the SYR of the AR5, re-affirming that since the IPCC Fourth Assessment Report (AR4), there has been a growing evidence of the human system's influence on the climate system resulting from greenhouse gas emissions (IPCC 2015).

Much has already been said in scientific and academic journals as well as policy briefs and reports of development organizations about climate change and its impacts to the global ecological

process and the human response taking place (Hinkel 2012). These unprecedented changes drew closer attention to the natural-ecological and human system's interconnection in the context of climate change and the former's influence on the latter (Latif 2012; Hinkel 2012).

In conjunction with the IPCC's authoritative AR4 and AR5 and the three reports preceding these, there is also a growing literature that tries to establish deeper understanding on the complex close linkages between the natural-ecological and human systems, which is both a demanding policy and scientific challenge (Scott *et al*. 2015; Jaeger *et al*. 2012; Steffen *et al.* 2011; Corobov 2011). The dynamics between the natural-ecological and human systems are interconnected and interdependent, which elicit global geophysical alteration (IPCC 2008; Steffen *et al.* 2011); each element that comprises the system has its own attributes, functions, and capacity to direct and alter systems processes as it does not operate in isolation from other parts, but rather, are in constant interaction with them.

The constructs, 'Anthropocene' and socio-ecological system (SES) try to capture these dynamic relationship and processes between the nature-ecology and human systems and the spatial and temporal variability affecting such dynamics (Steffen *et al.* 2011; Janssen *et a.* 2007; IPCC 2008).

Steffen *et al.* (2011) propose to formally acknowledge the term 'Anthropocene' that attempts to depict the human system's capability of altering the natural ecological cycle at a global scale. The 'Anthropocene' re-articulates the 'anthropogenic' or 'human-induced' causes of the current climate system "…to capture this quantitative shift in the relationship between humans and the global environment" (Steffen *et al.* 2011, 843), underscoring that "…humankind has become a global geological force in its own right" (Steffen *et al.* 2011, 843). Further literature as that of

Scott *et al*. (2015), with reference to Steffen *et al.* (2011), also noted the intimate interconnectedness between the social and ecological processes "in the age of profound human manipulation of planetary processes" (Scott *et al*. 2015, 15). This discussion on climate change and the Anthropocene or SES attempts to set the premise that global environmental processes do not operate in a vacuum, but rather as part of a bigger system with a human element constantly interacting and making significant changes. There are specific systemic processes and concepts such as positive and negative feedback loops, delays, rates of change, and other elements that are crucial to understand and affect the functioning of the system. More precisely, as interlinkages are prevalent in such systems, "climate change will amplify existing risks and create new risks for natural and human systems…" (IPCC 2015, 13).

In such context, climate governance systems at the international and national levels necessitated concrete response strategies, which led to the creation of 'mitigation' and 'adaptation' as the primary response frameworks defined by the UNFCC and IPCC (IPCC 2015). From the international to the national level, initiatives were also cascaded down to the local level as strategies, frameworks, programs, action plans, and projects are transposed to suit the context of local level climate change response.

Following the above premise, this sub-chapter sets the context, illustrated in Figure 2, into which the concepts and theoretical framework in the succeeding chapters will be defined and built upon. Figure 2 below provides a graphic representation of the current climate change system and how the human system is altering and responding the changes occurring within the natural-ecological system over time.

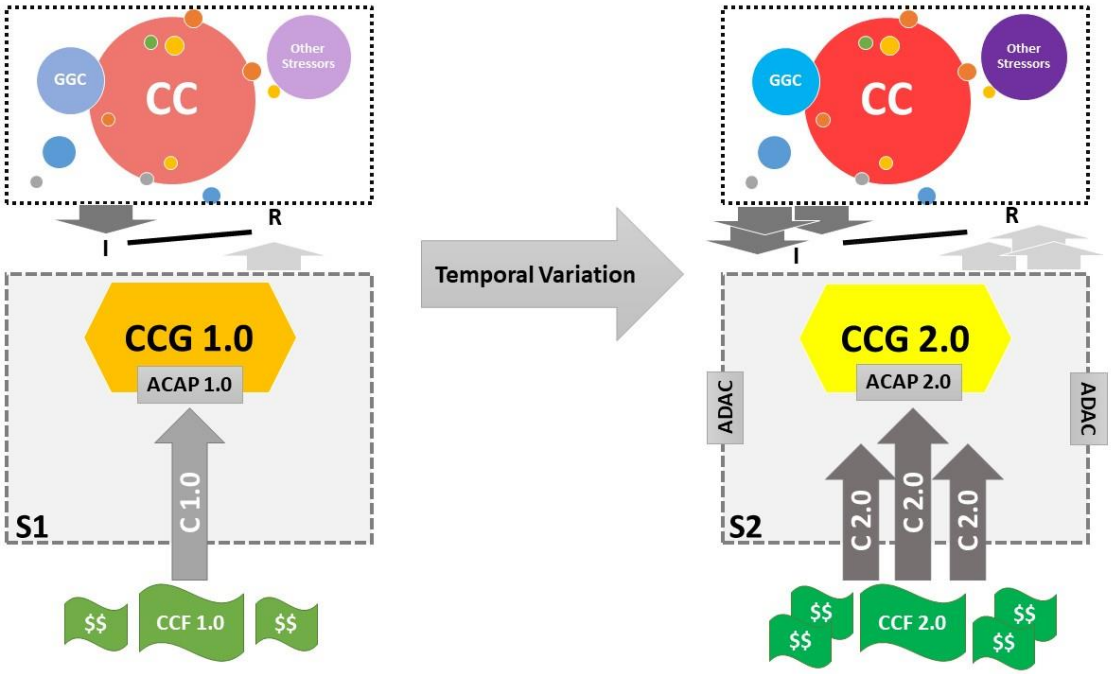


Figure 2. A schematic representation of the climate change challenge and response framework

As illustrated in Figure 2[2], the present human system (S1) is in constant interaction with the natural-ecological system. The global geophysical cycle (GGC) and other naturally-occurring biophysical stressors (i.e natural risks and hazards) are in constant flux and accurate prediction of these cycles remains a challenge with the natural climate variation that occur internally and externally (Latif 2012). As the current global climate change (CC) and other naturally-occurring stressors and hazards press impact (I) into the human system (S1), response (R) corresponding to these stressors are necessary, but should also take into account possible future conditions. With human-induced (CC) pressing additional stress into (S1), the current (CCG) requires its current

[2] The abbreviations S1/S2 refers to current human systems/future human systems, C1.0/C2.0 for current capacity/future capacity, CC for climate change, I for impact, and R for S1/S2's response to such impacts. These symbols will only be used to serve as functional abbreviations of terms used in the diagram, made specifically for this chapter and will not be reflected in the list of abbreviations that follow the table of contents section. The terms 'human systems', 'capacity', and 'climate change' will be articulated in full texts throughout the remainder of the thesis.

capacity (C1.0) in the form of scientific knowledge, policies, technology, and other tools and approaches necessary generate appropriate R. In order to do so, resource mobilization and financing (CCF1.0) support governance systems (CCG1.0) with the premise that it has the capacity to absorb (ACAP1.0) (CCF1.0). Over time, with (S1) constantly in interaction with these processes it drives the transformation of the (CC) and (GGC) into further complex dynamics. Such interacting systems operate at multiple spatial, functional, and temporal scales (Corobov 2011), rendering (CC) a multi-dimensional, cross-cutting problem where "climate-related hazards exacerbate other stressors…" (IPCC 2015, 54).

As these changes intensify over time, hazards will affect future human systems (S2) with greater intensity due to increased climate extremes and adverse impacts, weakening resilience in uncertainty and disasters (Forino *et al.* 2015; O'Brien *et al.* 2006; Birkmann and Mechler 2015). Future climate governance system (CCG2.0) will need to expand resource mobilization and funding to fuel its capacity to absorb (ACAP2.0) resources, thereby building further its future capacity (C2.0), eliciting the appropriate (R) to new character and magnitude of change and (I) (Mertz *et al.* 2009). In such capacity, it renders the system more adaptive (ADAC) to such variations.

This is not just an issue of how or whether we can address the ongoing global environmental problem in terms of trying to remediate the ecological damages and reverse the geological cycle back to its normal flow, if feasible at all, and the human capacity and limits to identify multiple pathways to respond with costs getting inexorably higher (Jaeger *et al.* 2012; O'Brien 2012). In reframing the current state of the climate system and predicting its future scenarios to allow human systems to respond accordingly, the social science aspects, particularly human thresholds should be taken account and such cannot be divorced from other sources of

stress in the system (Jaeger *et al.* 2012; Corobov 2011). Corobov (2011) emphasizes that "a specific climatic condition in not a sufficient cause for reaching a threshold which initiates a human response; physiological, subjective, and social conditions have also to be taken into consideration as well" (Corobov 2011, 38).

The heightened call for action and other drivers to adapt to climatic changes require social and human systems to cope correspondingly and with a conscious effort to become more familiar, i.e. both responsive and reactive, with the new vagaries of the biophysical systems exacerbated by climate change (Adger *et al.* 2003; Adger *et al.* 2004; Mertz *et al.* 2009; Dessai *et al.* 2005; ADB 2017). Past and current adaptation strategies have been more reactionary in nature (Adger *et al.* 2003; Adger *et al.* 2004; Dessai *et al.* 2005) as "… there are no precedents and few historic examples to draw upon" (Jaeger *et al*. 2012, 1). Given the changing nature and character of climate variations, social systems need to enhance their adaptive capacities outside their experience coping range (Adger *et al.* 2003; Adger *et al.* 2004; Dessai *et al.* 2005).

2. Climate Change Governance: Policy and Financial Perspectives

Mainstreaming Adaptation into Policy Agenda

Prior to IPCC's AR4, adaptation to climate change received little attention in the early years of international climate change scholarship and discourse (Mertz *et al.* 2009). Climate adaptation gained attention in the scholarly community in recent years, anchored on vulnerability, susceptibility to harm, and resiliency frameworks (Engle 2011). Furthermore, as discussions on adaptation to climate impacts have gained momentum in international climate negotiations, the IPCC reports that followed the Third Assessment Report (TAR) became more explicit about the need to intensify adaptation measures; the IPCC, in its AR4 that explicitly states that, "a wide array

of adaptation options is available, but more extensive adaptation than is currently occurring is required to reduce vulnerability to climate change. There are barriers, limits and costs, which are not fully understood" (IPCC 2008, 14).

Yet, even then, there have been difficulties in understanding the need to mainstream adaptation efforts as part of the policy process and development planning among developing countries, especially those vulnerable to climate change impacts. Part of the reasons why the concept of adaptation has gained little traction in the policy and development planning is that environmental and climate change problems have not been highly profiled as critically important issues to be addressed in order to achieve targets of the United Nations (UN) Millennium Development Goals (MDGs) in the development and policy frameworks of multilateral agencies (Mertz *et al.* 2009). Moreover, "this process has so far primarily been donor driven because many developing countries – for good reasons – do not consider climatic change as one of their greatest concerns" (Mertz *et al.* 2009, 744).

In spite of development capacity efforts being mainstreamed into national policies, plans, and strategies, responding to climate change through adaptation should not be treated as separate, but rather, complementary towards the achievement of such goals. The IPCC AR5 acknowledges that since the AR4, there has been an increase in knowledge and understanding among governments including the private sector regarding adaptation and how adapting the climate change has corresponding benefits, costs, and links to sustainable development (IPCC 2015). Furthermore, the Least Developed Countries (LDCs) and the Small Island Developing States (SIDS) have been pushing for the mainstreaming of adaptation into the Paris Agreement prior to the recent 2015 Conference of Parties (COP) in Paris and in their reporting to the Ad hoc Working Group on the Durban Platform for Enhanced Actions (ADP) (AEEF 2016). As part of the

agreements at the COP in Paris, adaptation was recognized as a key component in the long-term development goals and mainstreamed in the policy planning process (AEEF 2016). Article 7 of Decision 1/CP.21 – Paragraphs 41-46 highlights the need to support adaptation measures, particularly for developing countries, taking into account the Cancun Adaptation Framework.

Issues and Challenges

While frameworks for mainstreaming adaptation into policy development and institutional landscape processes, there is significant uncertainty in policymaking due to the complex nature of climate change and the institutional landscape in which policies are made (Jaeger *et al*. 2012; Corobov 2011). While scientific bodies such as the IPCC recognize human capacity to address climate change through adaptation, there remains a gap in addressing the science-policy connection on climate issues (Corobov 2011). Jaeger *et al.* (2012) highlighted what they call blockages in climate policy (Jaeger *et al.* 2012) to reflect the challenge of the world's policymakers to comprehend climate change as a common global problem, which cannot be resolved through traditions of institutional conflict resolution of zero-sum game (Jaeger *et al.* 2012). Corobov (2011), Jaeger *et al.* (2012), and Latif (2012) also emphasized the need for policy makers to understand the intrinsic challenge of policy making in the context of climate change given the inherent uncertainty in climate change predictions; there lies a gap between ideal policy based on theoretical scenarios and that which can be actually implemented (Corobov 2011; Jaeger *et al.* 2012; Latif 2012). Unlike previous institutional governance setup, policy making in the climate change regime presents a different playing field. Recently, it "demonstrates the emergence of some new legal aspects of instruments and principles, changing relations between 'hard' and 'soft' law, new economic and political relations between nation-states, new roles for non-state actors reflected

in the process of political modernization, and the policy process here has been multi-level and multi-actor in nature right from the start" (Corobov 2011, 84).

Climate Finance 101

Responding to climate change in the framework of adaptation necessitates funding and has resulted to the creation of a number of funding mechanisms and modalities. The UNFCCC and its Parties, under the Convention, acknowledge climate finance as necessary resource to support the adaptation capacity of the least developed and vulnerable countries. Article 4.3 of the Convention committed Annex II countries, "… provide new and additional financial resources to meet the agreed full cost incurred by developing country Parties in complying with their obligations under Article 12, paragraph 1" (UN, 13). Articles 4.1 and 4.4 also specified further funding assistance of developed countries to support developing nations particularly in their adaptation efforts, stating the need to "… provide such financial resources including for transfer of technology, needed by developing country Parties to meet the agreed full incremental costs of implementing measures…" (UN, 14). During the COP in Paris, the Parties agreed at the objective of making climate finance flows that is consistent with the low emission and climate-resilient pathway necessary to achieve the low carbon targets.

The Agreement also included setting the goals to enhance adaptation capacity and increase resiliency of climate vulnerable nations, of which funding support from developed countries would be "new and additional" on top of the existing financing commitments under their current development aid portfolio (AEEF 2016).

Climate finance, particularly adaptation funds played a significant role in addressing climate change impacts and related risks. Global climate finance – both adaptation and mitigation

– since the creation of the Convention mobilized funding institutions, both private and public sources, and have leveraged as much as $ 392 billion USD in 2014; East Asia and the Pacific received for 30% of the total global funding estimates in 2013 (CPI 2017). Over the years, in efforts to drive increased measures to mitigate and adapt to climate change, climate finance mechanisms have also expanded from foreign assistance to domestically-sourced budgets allocated by the national government, yet rather created inefficiencies in channeling and delivery is the system (WRI 2017; Buchner *et al.* 2014). Resulting from the Cancún Agreements, the formalized target of increasing finance flows to $100 billion a year by 2020 from developed to developing countries has made countries more cognizant of not just in terms of how these funds should be mobilized and leveraged, but also in how it will be properly allocated and efficiently utilized to meet the actual goals intended objectives and (WRI 2017; Buchner *et al.* 2014).

The number of climate financing mechanisms has created a landscape so varied and complex where "…funds and institutions follow bilateral and multilateral channels and use a variety of instruments" (WRI 2017, 4) as illustrated in Figure 3. The scaled-up financing flows that created such architecture with varying delivery mechanisms, governance structures, policy process, and reporting and evaluation tools. The current landscape brought about the challenge of overlapping roles and duplication of efforts that policy makers contest in an effort to promote greater coherence, complementarity, and efficiency in achieving intended goals and targets.

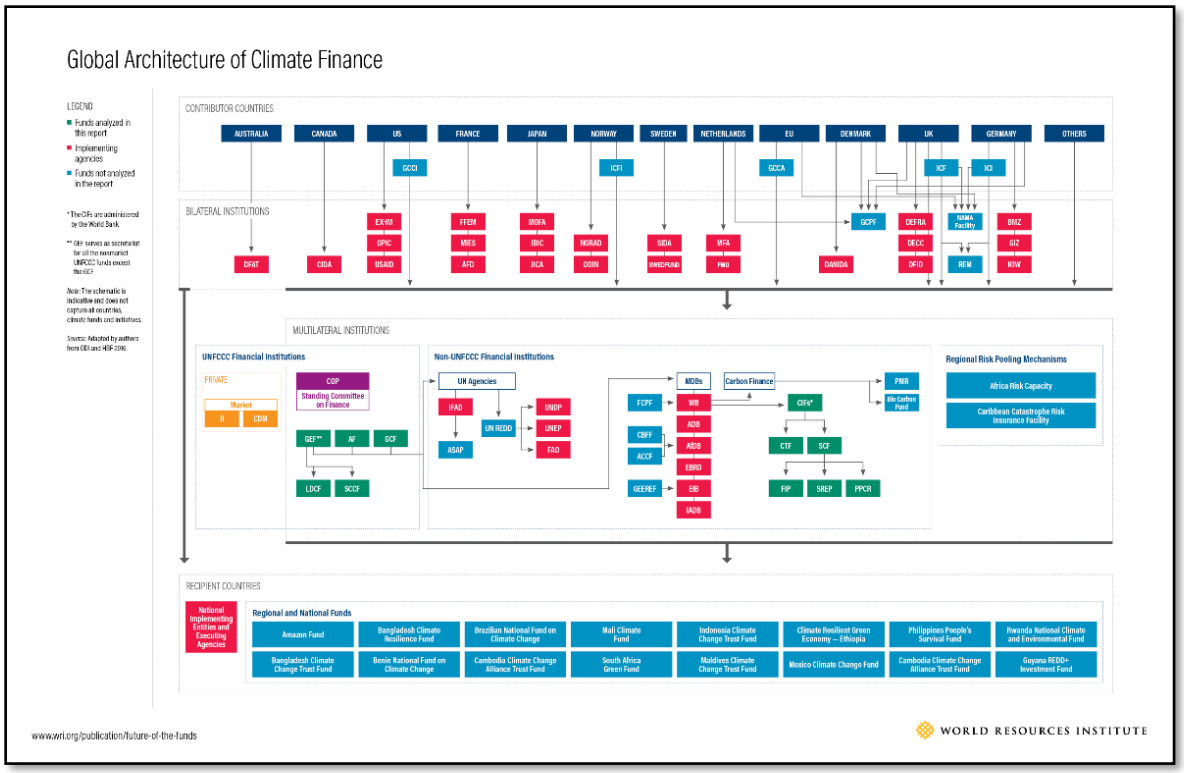


Figure 3. The Global Climate Finance Landscape (Source: WRI 2017)

Issues and Challenges

Mazza *et al.* (2016) traced the financial flow of the global climate finance allocated for climate change related investments and programs – both for mitigation and adaptation. The study covered data from major Development Finance Institutions (DFIs), Multilateral Development Banks (MDBs), Bilateral Institutions (BIs), and members of the International Development Finance Club (IDFC). The evaluation of the 2013 and 2014 financial flows gave emphasis on tracking finance and investment levels against measuring the climate goals and progress to facilitate better understanding among decision makers on the relevance of investments, gaps, needs, and opportunities (Mazza *et al.* 2016). Using the dataset from the *Global Landscape of Climate Finance* of the Climate Policy Initiative, Mazza *et al.* (2016) attempted to improve

comparability of data through an increase in coverage through surveys and harmonization of sectoral and geographical categories across years, giving the study new insights into the 2013 and 2014 financial flows. Mazza *et al.* (2016) provided insights on the nature of challenges that the global climate finance landscape currently faces: the definition and methodological concerns that could mobilize financing requirements and harmonization of approaches and accounting issues; such evaluation yields the conclusion on the need to further link finance to climate and development impacts, enhancing project design and uptake (Mazza *et al.* 2016).

Further studies such as that of the World Resources Institute (WRI) also looked into the future of funds that require re-evaluation and re-structuring in which some of the funds need to address structural, resource and operational issues (WRI 2017). The overlaps in function and objectives create unnecessary roadblocks and incoherence in the funding pipeline and portfolio, rending it inefficient; "…funds should define their mandates and specializations to ensure an improved division of labor; in the longer term, some funds may need to merge or close" (WRI 2017, 4).

B. Laying the Conceptual Foundation

In view of the context of climate change adaptation and the challenges in the institutional, policy, and finance landscape discussed in the earlier section, this sub-chapter defines the concepts that will serve as the cornerstone of the analysis of the thesis. The research acknowledges the existing epistemological and framework discourse that aim to define the foundational concepts used in this thesis. However, such further discussion is subject to another area of research and definitions of concepts below will be anchored on the context defined in the earlier section of the review of literature.

1. Absorptive Capacity

The construct, Absorptive Capacity (ACAP) serves as the cornerstone of the research. This term does not a typically emerge as a terminology in the climate change discourse, but is rather more prevalent in the fields of Strategic Management and Organizational Behavior. The term ACAP looks into the group, organization, or firm-level analysis.

Cohen and Levinthal introduced ACAP in 1990 to describe "…the ability of a firm to recognize the value of new, external information, assimilate it, and apply it to commercial ends [that] is critical to its innovative capabilities" (Cohen and Levinthal 1990, 128). Their argument extends to the similarities of problem-solving, which is the capacity to create new knowledge and learning capabilities, which is the capacity to assimilate existing knowledge; this require little differentiation to the modes of development, while also acknowledging that what is learned may vary (Cohen and Levinthal 1990). Furthermore, Cohen and Levinthal (1990) posits that an organization's capacity depends on the cumulative absorptive capacities of individuals that comprise the organization (Cohen and Levinthal 1990).

Other more recent prominent authors, Zahra and George (2002) and Todorova and Durisin (2007) redefined the construct in terms of the definitions dimension. Zahra and George (2002) argue ACAP as being inherently embedded in the organizational processes and routines of an organization, enabling it to acquire, assimilate, transform, and apply external knowledge (Zahra and George 2002). They posit that ACAP's dimensions can be distinguished as 'potential ACAP' and 'realized ACAP', classifying knowledge acquisition and assimilation with the former subset, and knowledge transformation and exploitation under the latter; both are separate yet complementary (Zahra and George 2002).

Todorova and Durisin (2007), contested Zahra and George's (2002) definition, arguing that transformation can be considered an alternative to assimilation rather than its consequence as defined by Zahra and George (2002) (Todorova and Durisin 2007; Sakhdar 2016). Further into the argument, they posit that new knowledge is assimilated and directly exploited when new knowledge and existing cognitive schemes fit, and conversely, when such new knowledge does not fit, existing structures need to be modified to adapt to new knowledge and situation that cannot be assimilated (Todorova and Durisin 2007; Sakhdar 2016). Todorova and Durisin (2007) reintroduced Cohen and Levinthal's (1990) earlier definition on the 'recognition of the value of external knowledge' that Zahra and George (2002) did not take into account (Sakhdar 2016). Sakhdar (2016) summarizes the evolution of the concept in Table 1 below:

Table 1. A summary of the development of definition of ACAP theory (Source: Sakhdar 2016)

Authors	Definition	Dimension	Contribution
Cohen and Levinthal (1989, 1990)	ACAP refers to a firm's ability to recognise the value of new, external information, assimilate it and apply it to commercial ends.	Recognition, Assimilation, Application	Introducing the concept in an organizational context.
Zahra and George (2002)	ACAP is a dynamic organizational capability encompassing organisational processes and routines, through which companies acquire, assimilate, transform and apply external knowledge.	Recognition, Assimilation, Transformation, Exploitation	Introducing ACAP as a dynamic capability consisting of four dimensions.
Todorova and Durisin (2007)	ACAP is a firm's ability to recognise the value of external knowledge, acquire, assimilate or transform and exploit external knowledge.	Recognition, Assimilation or Transformation, Exploitation	Introducing a new conceptualization of ACAP.

2. Adaptive Capacity

When the 2015 Sustainable Development Goals (SDGs) were launched, the UN called on to world leaders and the global community to address climate change. In the United Nations

General Assembly (UNGA) *Transforming our world: the 2030 agenda for sustainable development. Resolution adopted by the General Assembly on 25 September 2015 (A/RES/70/1)*, the UNGA states that:

> *Goal 13. Take urgent action to combat climate change and its impacts*
>
> 13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
>
> 3.2 Integrate climate change measures into national policies, strategies and planning 13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning
>
> 13.a Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly $100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible
>
> 13.b Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities

The term ADAC has become a prevalent terminology in the climate change discourse, particularly linked to the concept of adaptation. There has been an ongoing epistemological debate in the scientific and scholarly communities as to how to articulate ADAC's definition with precision with two "schools of thought" or framework trying to capture ADAC (Engle 2011). Scholars posit that ADAC is defined through the framework of vulnerability having its roots from hazards-risks research (Eakin and Luers 2006; Brooks *et al.* 2005) and other drivers such as human conditions (Adger 2006), political characteristics and the role of institutions and governance (Cutter *et al.* 2003). In the framework of vulnerability, it is "…broadly defined as susceptibility to harm…" (Engle 2011, 649). Other scholars postulate its meaning from the framework of resiliency, drawing from the literatures of ecology sciences and theoretical and mathematical modeling methodologies (Gallopin 2006; Janssen *et al.* 2006), as well as complexity theory and systems theory. In the framework of resiliency, it is defined to mean "… achieving desirable states

in the face of change…" (Engle 2011, 649). Engle (2011) attempts to capture the concept of ADAC, trying to bridge the two theoretical departures of vulnerability and resiliency frameworks, positing that it serves as a link between the two. Particularly, he mentioned that while vulnerability and resilience scholars recognize the potential linkages between vulnerability and resilience (Janssen and Ostrom 2006), the gap in the literature exists in the aspect of emphasizing the "… common albeit somewhat differently conceptualized connection they share through the concept of adaptive capacity… The authors conclude that vulnerability and resilience are separate, but linked concepts… [he suggested] that the separate concepts of vulnerability and resilience are uniquely linked through adaptive capacity, and that there is much to gain in the short-term from a greater emphasis on adaptive capacity from a combined perspective" (Engle 2011, 652).

In the authoritative definition of IPCC, a quick review of the definition of terms in the latest AR4 and AR5 demonstrates a rather varied articulation of the definition of adaptation and adaptive capacity. While similar in meaning, and the reports acknowledge that the definitions from the TAR have been retained, the published definitions in AR4 and AR5 made use of different articulation. Table 2 summarizes the IPCC definitions of adaptation and adaptive capacity, drawn from AR4 and AR5.

Table 2. Summary of definitions of Adaptation and Adaptive Capacity by the IPCC AR 4 and AR 5.

	AR 4 Definition (WG II) Source: IPCC 2007 *(page 869)*	**AR 4 Definition (SYR)** *Source: IPCC 2008* *(page 76)*	**AR 5 Definition** *Source: IPCC 2015* *(page 118)*
ADAPTATION	"Adjustment in natural or *human systems* in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities. Various types of adaptation can be distinguished, including anticipatory, autonomous and planned adaptation: *Anticipatory adaptation* – Adaptation that takes place before impacts of *climate change* are observed. Also referred to as proactive adaptation. *Autonomous adaptation* – Adaptation that does not constitute a conscious response to climatic stimuli but is triggered by ecological changes in natural systems and by market or *welfare* changes in *human systems*. Also referred to as spontaneous adaptation. *Planned adaptation* – Adaptation that is the result of a deliberate policy decision, based on an awareness that conditions have changed or are about to change and that action is required" (IPCC 2007, 869).	"Initiatives and measures to reduce the vulnerability of natural and human systems against actual or expected *climate change* effects. Various types of adaptation exist, e.g. *anticipatory* and *reactive*, *private* and *public*, and *autonomous* and *planned*. Examples are raising river or coastal dikes, the substitution of more temperature-shock resistant plants for sensitive ones, etc." (IPCC 2008, 76).	"The process of adjustment to actual or expected *climate* and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected *climate* and its effects" (IPCC 2015, 118).
ADAPTIVE CAPACITY	*(in relation to climate change impacts)* "The ability of a system to adjust to *climate change* (including *climate variability* and extremes) to moderate potential damages, to take advantage of opportunities, or to cope with the consequences" (IPCC 2007, 869).	"The whole of capabilities, resources and institutions of a country or *region* to implement effective *adaptation* measures" (IPCC 2008, 76).	"The ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences" (IPCC 2015, 118).

C. Literature Synthesis: Initials Insights to Reframe Climate Change Governance

Climate change adaptation (CCA) is a vast landscape that has elicited the interest of scientific and academic communities. Beyond the discourse that previously took place in academic papers and journals, the language of adaptation has now found its way in the development and policy landscape given its cross-cutting element.

Following the literature review above, what then can be synthesized out of the discussion to shed light as to how it will attempt to respond to the research questions?

What can be derived from the literature above is that the climate governance system in the framework of adaptation faces two main challenges:

(1) The first issue lies on the capacity of the system (i.e. government) to adapt to the changing climate. Deriving from the literature and connecting it to the research inquiry, there is the lingering thought on the need to "unpack" the concept of capacity as it serves as the fulcrum of the research inquiry. In synthesizing the review of literature in it attempts to expound on the question to mean "capacity of whom?", "who builds the capacity", and "into which context or situation can such capacity be applied?". Moreover, it unravels the question that asks, "how is capacity built and demonstrated" and "what are its elements?". With climate change further exacerbating naturally-occurring hazards, the human and social systems will require the necessary capacity to adapt to such changes.

(2) The second dimension looks into two "modes" of the system's capacity, the capacity to absorb specifically financing and the adaptive capacity of the system, which is reflected in policy development process. From the literature review, what can be derived is that the climate

governance system faces a multi-dimensional challenge, first in terms of "absorbing" the resources that will enable the system to adapt and second is how to translate these resources into concrete and measurable outcomes. To be more concrete and to ground the synthesis into real-life scenario, governments (which represents a system with governance capacity to address climate change through adaptation) are faced with the challenge of adapting to climate change. What is necessary is for these governments to have both an intrinsic capacity to respond to the climate challenge and to further develop such capacity, in accordance to the growing pressure to the human or social system. In order to do so, governments will need resources (i.e. financing, technical knowledge, learning, etc.) to build their capacities and such should therefore be reflected in actual delivery of projects as efficiently as possible. Particularly, it would mean that the amount of resources funneled into the system should not only demonstrate capacity to deliver outputs that are aligned with the stated goals and intended outcomes, but should also allow them to combine existing capacity and new capacity to adapt in congruent to nature and character of future climate and hazards. It assumes that this capacity to constantly adapt not only allows the system to become more resilient to current and future stresses, but to also feed into existing capacity to absorb resources that will further build future capacities – i.e. it becomes a system that reinforces on its own through a cycle of interaction.

III. THEORETICAL FRAMEWORK

1. Nexus as an Evaluative Lens: A Precursor to the Theoretical Framework

The landscape of CCF and CCP is a vast and complex discourse, requiring an analytical lens appropriate to the context of climate change; it allows synthesis of the concepts and models into a coherent theoretical framework. This sub-chapter aims to construct the conceptual map into an operative model that will facilitate the analysis of the CCF and CCP landscape in the succeeding chapters.

It is crucial to introduce the idea of the 'Nexus' approach to evaluate CCG, particularly in its capacity to absorb climate finance and adapt to climate change through policy development. The idea of the 'Nexus' lends a seminal blueprint for this thesis, particularly in the analysis of this complex system. Specifically, the 'Nexus' approach helps to comprehend how the constructs of the theory representing the units of analysis, will fit together into a model that can test and validate (or invalidate) the initial theoretical assumptions. This helps best articulate systems functioning of the elements in a CCG and how they are interrelated to each other, what are the critical intersection points, and possible causal links that affect the complex dynamics of such system, particularly in its capacity for CCF and CCP.

The term 'Nexus' (v. *necto, nectere*) traces its origins in the mid-17th century, from the Latin word that means "a binding together", "fastening", "joining", from *nex*- "bound", and for which later on has been defined to mean "a bond, link, or junction" (OED 2017; Pries-Heje and Baskerville 2008).

The concept of the 'Nexus' in the context of environmental sciences and related fields gained prominence in academic programs and international conferences, as early as in the 1983 Food-Energy Nexus Program of the United Nations University (Scott *et al*. 2015) and more recently, during the Bonn 2011 Nexus Conference organized by the German Federal Government (HOFF 2011), as well as in academic literatures and discourse analysis, and practice-level approaches, mainly in the areas of environmental policy, environmental management, environmental security, and sustainability (Endo *et al.* 2015).

It is worth mentioning that the concept of the 'Nexus' is also being used in other fields such as Design Science, Information Technology, as well as Management Discipline particularly in Organizational Development and Change Management; Pries-Heje and Baskerville (2008) for instance employed the concept into the Design Theory literature to "develop a general method for constructing a design theory nexus… (Pries-Heje and Baskerville 2008, 731)".

The 'Nexus' perspective finds its way into the global environmental and sustainability discourse, notably, in the study of environmental security; the approach is being employed in sector issues of the Water-Energy-Food (WEF) interlinkages to understand the complex relationships between the three sectors (Bach *et al.* 2014).

"The idea of the water–energy–food nexus was launched in earnest since at least the Bonn 2011 Nexus Conference, when the German Federal Government organized the international conference 'The Water Energy and Food Security Nexus—Solutions for the Green Economy' to contribute to the United Nations Conference on Sustainable Development (Rio + 20). According to the background paper prepared by Hoff for the conference, the concept of the water–energy–food nexus emerged in the international community in response to climate change and social

changes including population growth, globalization, economic growth, and urbanization (Hoff 2011; Endo *et al.* 2015)".

At the 2011 Bonn Conference, the "Water, Energy and Food Security Nexus, Solutions for the Green Economy" was put forward and became a major milestone in mainstreaming the nexus perspective on the agenda (HOFF 2011). Other studies also show that the integration of the approach has yet to be fully-propelled with greater cooperation to better understand such complex dynamics. "As climate change impacts are location-specific, the responses are best developed on the ground (IEA 2014)" and the complexity of the issues in climate vulnerable regions in the world is a good demonstration of the interdependencies and interlinkages between sectors and line agencies, "neglecting the transboundary dimension with all the major impacts resulting from a sectoral and "silo-driven" approach and neglecting the transboundary dimension" (Holzwarth 2014).

2. Systems Theory (ST): The Foundations of the 'Nexus'

The operative framework of this thesis is drawn mainly from a body of literature that utilizes the Systems Theory (ST) to serve as an evaluative tool of the aspects of CCG. The use of this framework aims to provide an anchor on the concept of the Nexus approach in understanding the complex interdependencies of key players in a CCG involved in the planning, fiscal management, and implementation of climate response. This allows a deeper understanding on the interlinkages of systems within the aspects of governance systems and the crucial role that governments play in managing the 'nexus' (Kurian and Ardakanian 2015).

Meadows (2011) provides relevant literature that helps create an understanding on complex systems that can be applied in the context of climate finance and policy. An understanding of the

concept of systems can be supported by Meadow's definition, "a system is an interconnected set of elements that is coherently organized in a way that achieves something… a system must consist of three kinds of things: *elements, interconnections,* and a *function* or *purpose…* a system is more than the sum of its parts. It may exhibit adaptive, dynamic, goal-seeking, self-preserving, and sometimes evolutionary behavior" (Meadows 2011, 11-12). Within the ambit of systems modeling, a theoretical framework by Katz and Kahn also defines that the system operates through an Open Systems Model wherein the process of inflow and outflow of elements (i.e. information), through feedback loop (i.e. monitoring and feedback) informs stakeholders within system (Katz and Kahn 1966). Meadows further supports this later, positing that information plays a crucial role in keeping the system together with a stock, providing the foundation of the system and flow helping shape the changes within the stock (Meadows 2011). Meadows (2011) illustrates the concept of a system using a tub as a representative model (Figure 4), wherein the water flows through the inflow pipe, goes through the tub, which serves as a repository or stock, and drains out into the outflow pipe. The rate of the water flow that goes in and out of the tub depends on a number of factors such as volume and diameter of the pipes, affecting how much goes in and out of the tub. In addition, the amount of water that a tub can hold also depends on the structural design, thus affecting carrying capacity. Todorova and Durisin also presents a hypothesis on the idea of the stock's capacity, positing that there is a certain threshold of absorption by the system (Todorova and Durisin 2007).

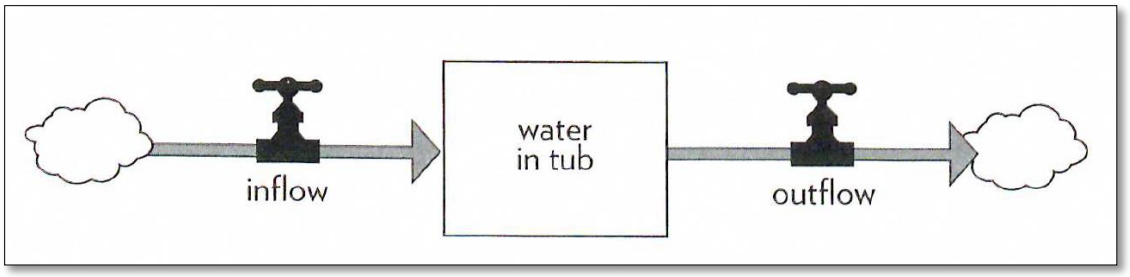


Figure 4. A illustration of a systems model using a tub diagram (Meadows 2011, 19)

Meadows also discussed the concept of a feedback loop, which influences iteration in the system. Figure 5 provides an illustration of Meadow's feedback loop using the analogy of a room temperature regulated by thermostat setting. In summary, Meadows uses a home heating system analogy, wherein regulating the room temperature is not just a linear flow of temperature coming in from the heat from the furnace. The room temperature is also affected by the outside temperature and achieving the desired room temperature is affected by the movement of heat and the discrepancy of the inside and outside temperature (Meadows 2011).

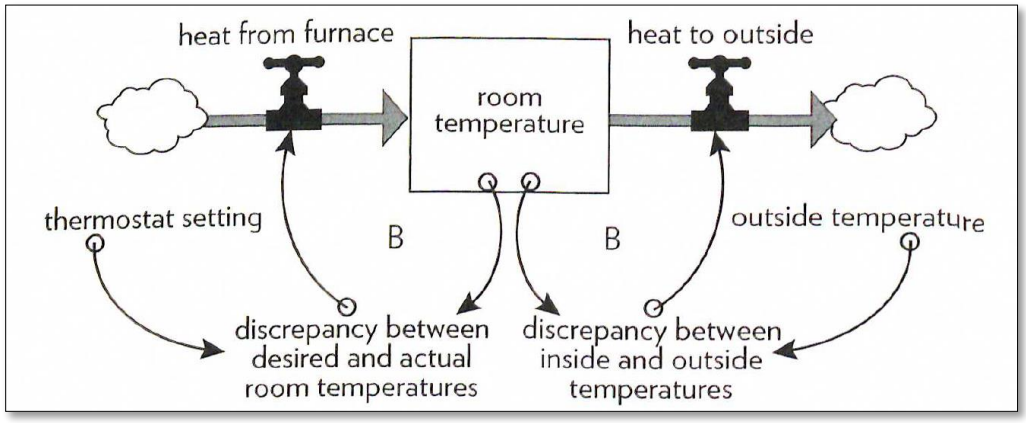


Figure 5. A stock system with a balancing feedback loop system depicted through a home heating system analogy (Meadows 2011, 36)

Earlier studies by Argyris also mentioned of a similar feedback loop in the systems, which he calls "double-loop feedback" and distinguishes it from the "single-loop feedback". Based on

his theory among firm and institutional level organization, he hypothesized that the stock's absorption capacity is iterated based on double-loop feedback, which gives emphasis on the idea that problem-solving does not only require focusing on external environment, but also looking inward to determine the capacity to self-correct and address errors and external challenges (Argyris 1991). The learning process takes place not just through a single-loop system in which learning is linear. Argyris (1991) argued that learning takes place when there is a feedback mechanism and that "…effective double-loop learning is not simply a function of how people feel. It is a reflection of how they think—that is, the cognitive rules or reasoning they use to design and implement their actions" (Argyris 1991, 4-5).

1. The Theoretical Framework: Synthesis and Integration of the Conceptual Foundation, Theories, and Models

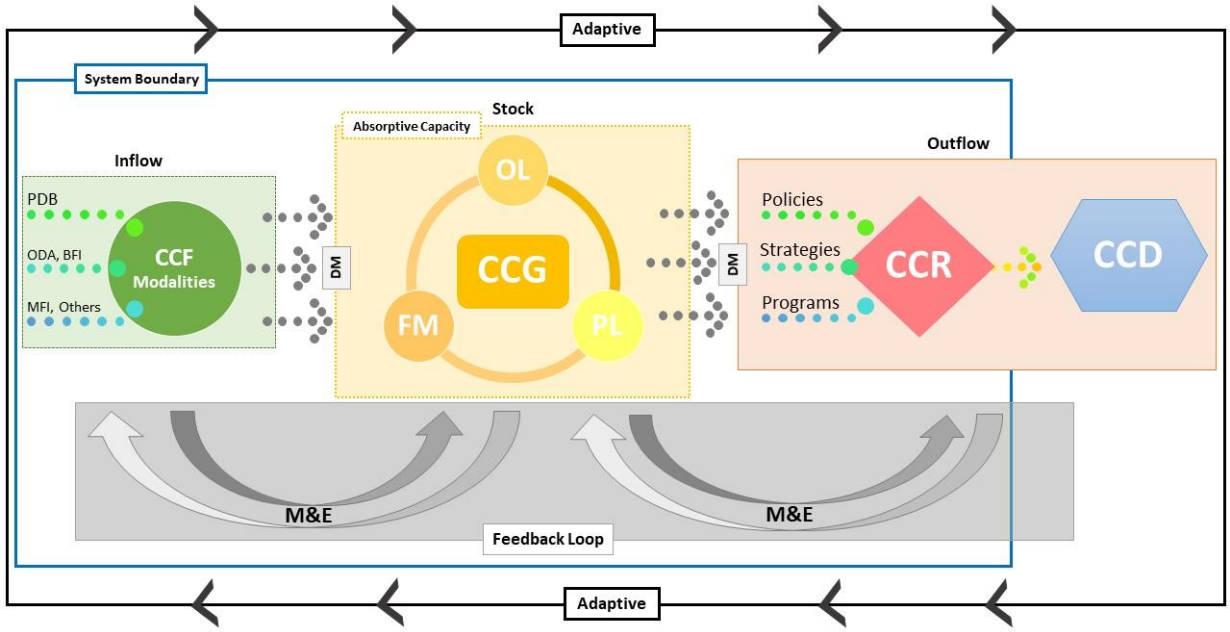


Figure 6. Schematic representation of the theoretical framework

The thesis adopts the ST model in trying to outline it area of inquiry. Figure 6 above best illustrates the model of an integrated Systems Dynamics (SD) with a characteristic of a Complex Dynamic System (CAS) (Meadows 2011). Following the diagram in and applying the models into the framework, this study looks into the inflow of climate finance (i.e. public domestic budget allocation, foreign-source funds such as bilateral aids, grants, and loans, and other forms of assistance quantifiable such as technology, capacity building, and knowledge transfer) into the national government's "repository" of funds. The rate of inflow of climate finance into the stock, depends on the structures and operating mechanisms in which funding is channeled as well as the capacity of the stock, which is represented by the CCG, to absorb such inflow of resources (i.e. in forms of actual financial investments, technical assistance, capacity development, etc.). The CCG systems is comprised of sub-elements called aspects of governance: Organizational Landscape (OL), Policy Landscape (PL), and Fiscal Management Landscape (FM). These three elements that are interacting and operating within the system "controls" the stock's capacity, but this capacity is inherent in itself (Meadows 2011). The flow of inputs and outputs through the delivery mechanisms (DM) is also controlled.

As a system with a CAS characteristic, there is a feedback mechanism that loops back into the system; this is in the form of information flow, or in application to governance systems, the Monitoring and Evaluation (M&E), which Argyris called "double loop feedback" (Argyris 1991). The outflow of resources results to Climate Change Response (CCR) in the form of policies, programs, strategies, upon which can be made concrete in the form of Climate Change Delivery (CCD) such as actual projects and activities. The capacity of the system to provide feedback enables itself to iterate and adjust, making the system adaptive through a process of learning and interaction taking place within the system. However, as explained by Meadows (2011), there is a

threshold in the system, but can be expanded depending on how the system will respond to the feedback or external stimulus.

To further put this theoretical framework in context and connect it with the conceptual framework with reference to Figure 2 in the earlier chapter, it should be emphasized that the future climate change context will likely be significantly different from what it is today. As human systems continue to contribute to the alteration of the processes in the natural-ecological system, climate conditions will manifest in different forms and intensity. The capacity of the human system in the aspect of climate governance will necessitate changes in response to such change from policies to finance to organization. Moreover, as there are delays in the system, the current climate finance and policy decisions, while responding to climate risks, are in turn, influencing the climate and broader risk context in the future.

IV. METHODOLOGY

The methodology chapter discusses the research design of the thesis. It rearticulates the research inquiry and research questions previously stated in the introduction chapter. To provide details how the research was conducted, this section explains the rationale behind choosing a qualitative approach over quantitative methodology and the research strategies used in the process of data collection, case study selection, levels of analysis identification, data analysis methods, the limitations of the methodology, including ethical considerations.

A. Research Inquiry

To restate the research inquiry, *this thesis primarily looks into the climate change governance (CCG) system and the nexus that exists within the aspects of governance (UNECE 2015)*[3] *– Organizational Landscape (OL), Policy Landscape (PL), and Fiscal Management Landscape (FM)* – comprising the system. More closely, by examining the interlinkages, the research looks deeper into the system's capacity to absorb (ACAP) climate finance (CCF) and adaptive capacity (ADAC) in terms of climate policy (CCP) development.

The research inquiry is articulated through the research questions below:

1. *Does the climate change governance (CCG) system demonstrate the capacity to absorb (ACAP) climate finance (CCF)? Does it demonstrate adaptive capacity (ADAC) towards policy development? In what ways are these demonstrated?*

[3] UNECE defines aspects of governance to constitute policy frames, legal and regulatory framework, and organizations and other actors (UNECE 2015, 15). For the purpose of this thesis, the aspects of governance of UNECE will be adapted using a re-articulation of terms, which will be replaced with institutions, policy, and fiscal mechanisms.

2. *If so demonstrated, does this capacity to absorb CCF, enable the system to develop ADAC?*
3. *Conversely, does this adaptive capacity of the system influence its ACAP for current and future climate finance?*

B. Methods

1. Qualitative Approach

Given the scope and limitations of the study, this qualitative research uses a case study approach that is less obtrusive than other research typologies (Baxter and Jack 2008). The case study looks into Viet Nam's climate change governance system to answer the research questions and to test the theoretical assumptions in the framework for analysis.

At the beginning of the research, a number of assumptions were set to define and develop the theoretical framework that serves as guide. The case study approach allows the researcher to explore whether these assumptions are valid or not and whether the theory holds true in trying to fit the elements or units of analysis into the "blueprint", which is the framework. This approach supports in the process of theory building as it is a triangulated research strategy that allows data collection from multiple sources. In such case, this renders the approach to be multi-perspective that is appropriate in the process of examining the theoretical framework set at the beginning of the study. In addition, with the limited time available to conduct the study, focusing on a specific subject allows the theory to be tested and research questions answered (Tellis 1997).

Case selection rationale: The research was conducted in Hanoi, Viet Nam from 6 – 30 May 2017, where all the offices of the line ministries (LM) of the Central Government of Viet Nam (GoV) are based as well as the country offices of partner agencies (i.e. aid agencies, multi-

lateral finance institutions, etc.). Viet Nam is one of Asia's critically vulnerable and climate hotspots with high level of exposure to climate risk; it ranked seventh among the ten countries most affected by long-term climate risk index from 1995-2014 (annual averages) in the German Watch data (Kreft *et al.* 2016). However, as a growing economy, Viet Nam's carbon intensity of GDP was recorded second highest in the region after China as of 2014 report (MPI 2015). Viet Nam is currently at the critical juncture of its ongoing development having set forward its climate change response policies and long-term vision as outlined in its Socio-Economic Development Plan (SEDP) and sustainable development strategies. In addition, after having just recently completed a review of its fiscal management on climate change response initiatives known as the Climate Public Expenditure and Investment Review (CPEIR), the GoV serves as an ideal case study for this thesis.

2. Units of Analysis

Level and Elements of Analysis: The set the scope and limitations of analysis, this research focuses on the following aspects of governance of the CCG system: OL, PL, and FM. Specific to the case study, this study looks into Viet Nam's CCG system comprised of the Go and respective LMs directly involved in the central planning and fiscal management related to climate change. Furthermore, it also evaluates the national-level climate change adaptation (CCA) policies, programs, and strategies of the GoV. In this respect, the research examines the architecture or structures and relationships of elements in the system. It takes into account the processes and interactions that take place within the system with respect to policy development and fiscal management related to climate change adaptation initiatives. This level of analysis helps in the process of understanding and answering the "how and why" embedded in the research questions (Strauss and Corbin 1990). It does not look into the actual or concrete CCD (i.e. actual

implementation of projects and activities) and the mechanisms in which they are delivered or implemented:

(1) Organizational Landscape: The research focuses on the GoV structure and composition, in particular, the key LMs involved in the climate change and green growth initiatives of Viet Nam and were also the subject of the 2015 CPEIR, namely the Ministry of Agriculture and Rural Development (MARD), Ministry of Construction (MOC), Ministry of Transport (MOT), Ministry of Natural Resources and Environment (MOIT), and Ministry of Natural Resources and Environment (MONRE). This study also includes two crucial ministries involved in the overall fiscal management and national development planning and strategy of the GoV, namely, the Ministry of Finance (MOF) and Ministry of Planning and Investment (MPI).

(2) Policy Landscape: The policy landscape at the national level is the key focus in this research. More specifically the process in which such policies are developed as well as the actual policies is examined. In particular, the thesis looks into the following national-level policy documents:

- National Climate Change Strategy (Decision No. 2139/ QĐ-TTg dated 05 December 2011)
- National Target Program to Respond to Climate Change 2012 – 2015 (Decision No. 1183/ QĐ-TTg dated 30 August 2012)
- Viet Nam National Green Growth Strategy for the period 2011-2020 with a vision to 2050 (Decision No. 1393/QĐ-TTg dated 25 September 2012).
- Viet Nam Green Growth Strategy (2012)
- Intended Nationally Determined Contribution of Viet Nam (September 2015)

- Climate Public Expenditure and Investment Review (April 2015)
- Plan for the Implementation of the Paris Agreement (October 2016)

(3) Fiscal Management (FM) Landscape on Climate Change Expenditures: The budget cycle process and management on climate change related expenditures at the national level or GoV is the main focus of this study.

3. Data Collection

The data collection process of this thesis uses two approaches – through desk and online research and field work in Hanoi, Viet Nam. During field work, the research activity included meetings and interviews with representatives (directors and high-level officials) from the GoV, particularly with the LMs directly involved in the management and coordination of climate change activities at the national level. Development partners (DP) with country offices in Viet Nam such as the World Bank (WB), United States Agency of International Development (USAID), Japan International Cooperation Agency (JICA), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, United Nations Development Program (UNDP), and the Hanns-Seidel Stiftung were also helpful in providing additional information, key contacts in the GoV, and secondary data.

The data collected came from both primary and secondary sources stated above. The information and data collected during the meetings and face-to-face interviews with officials are considered supplemental information to validate or clarify those that are already published in documents and materials collected prior to such meetings and not as separate primary or original data. Electronic documents and hard copies of national policies and related official documents on climate change that were not readily available (i.e. downloadable from online sources) prior to

field work came from MONRE and the WB. Other departments under MONRE and MARD also provided additional materials in electronic (via email) and hard copies such as project description notes, terminal reports, policy briefs, conference presentation notes, power point presentations, and related publications. These were considered as supplemental documents to support the main policy documents that is the source of data for analysis. DPs also provided materials in electronic (via email) and hard copies of project documents, particularly terminal reports and M&E documents.

During the interview with government representatives, the process followed a semi-structured approach with a set of guide questions available in Appendix A. Ethical considerations (stated at the end of this chapter) were observed.

This data collection approach known as triangulation method, particularly, data source triangulation (Denzin 1984) that looks at the data to remain the same in similar contexts (Tellis 1997). This expands the strategy for data collection in order to use more than one approach to gather data and information (Tellis 1997) and not just rely on limited sources. However, in spite efforts to exhaust all possible data sources, there was a challenge in the data collection process particularly in sourcing additional documents such as the actual declarations or decisions of Ministers and offices due to data sensitivity and language (i.e. not all legal documents can be accessed by public and will require clearance and many of the basic documents were in Vietnamese having either unofficial English translation or no translation at all). While some offices provided hard copies of useful data (i.e. actual budget reports of CCA projects and meeting notes), the documents are labelled "For Official Use Only", which cannot be disclosed and used in this research for the purpose of confidentiality.

4. Data Analysis

As this research is qualitative in nature that utilizes content analysis of policy documents as data source, the most appropriate method for data analysis chosen for this thesis is coding; specifically, a combination of *Axial Coding*, the process of relating categories to their sub categories and linking data at the property and dimension level and *Selective Coding*, the process of integrating and refining a theory (Strauss and Corbin 1990).

The research starts with the theoretical framework discussed in the earlier chapter in order to lay out the "blueprint" of the "phenomenon" being analyzed – that is the GoV's capacity to absorb CCF and adapt to climate change in the aspect of policy development. To measure this qualitatively, defining the concepts of ACAP and ADAC using three different authoritative sources were necessary in order to set the initial categories and dimensions of the coded texts that will be interpreted from the documents – preliminary categories extracted from the definitions of ACAP and ADAC were identified.

In the table of definitions, words or phrases that emerge (as exact or as similar i.e. synonym, related in meaning) from the definition at least twice from the texts were highlighted in red to serve as "proxies" that will define the dimension of ACAP and ADAC respectively. This initial categorization of the texts provides the "hinge" from which the other texts will be decoded:

Absorptive Capacity

Authors	Definition	Dimension
Cohen and Levinthal (1989, 1990)	ACAP refers to a firm's **ability to recognise** the value of **new**, **external information**, assimilate it and **apply it to commercial ends**.	**Recognition**, **Assimilation**, **Application**
Zahra and George (2002)	ACAP is a dynamic organizational **capability** encompassing organisational processes and routines, through which companies **acquire**, **assimilate**, **transform** and **apply external knowledge**.	**Recognition**, **Assimilation**, **Transformation**, **Exploitation**
Todorova and Durisin (2007)	ACAP is a firm's **ability to recognise** the value of **external knowledge**, **acquire**, **assimilate** or **transform and exploit external knowledge**.	**Recognition**, **Assimilation or Transformation**, **Exploitation**

Adaptive Capacity

	AR 4 Definition (WG II)	AR 4 Definition (SYR)	AR 5 Definition
ADAPTATION	"**Adjustment** in natural or *human systems* in **response to actual or expected climatic stimuli or their effects**, which **moderates harm** or **exploits beneficial opportunities**.	"Initiatives and measures to **reduce the vulnerability** of natural and human systems against **actual or expected *climate change* effects**.	"The process of **adjustment** to actual or expected *climate* and its effects. In human systems, adaptation seeks to **moderate or avoid harm** or **exploit beneficial opportunities**. In some natural systems, human intervention may facilitate **adjustment** to **expected** *climate* and its effects" (IPCC 2015, 118).
ADAPTIVE CAPACITY	*(in relation to climate change impacts)* "The **ability of a system** to **adjust to *climate change*** (including *climate variability* and extremes) to **moderate potential damages**, to **take advantage of opportunities**, or to **cope with the consequences**" (IPCC 2007, 869).	"The whole of capabilities, resources and institutions of a country or *region* to **implement effective *adaptation* measures**" (IPCC 2008, 76).	"The **ability of systems**, institutions, humans and other organisms to **adjust to potential damage**, to **take advantage of opportunities**, or to **respond to consequences**" (IPCC 2015, 118).

The coding process happens at two levels, first, as earlier stated, in highlighting recurring themes, i.e. key words or phrases in the textual definition. The second level of coding takes place by first arranging the words or phrases in a common terminology or thematic groupings in which they are interpreted. Particularly, in trying to look at emerging interlinkages between the two

concepts, ADAC and ACAP, what seems to have emerged as common terminologies out of the codes are **"capacity"**, **"learning"**, **"problem-solving"**, and **"threshold"** – which will become the "hinge" or cornerstone concepts as they can be used interchangeably to refer to ADAC and ACAP. These "hinge" concepts are central to analyzing the content of policy documents outlined in the units of analysis.

The second coding process, *Selective Coding*, takes place as all the codes from the definition are refined; it is helpful in making sense of the data and information obtained from the policy documents and in answering the research questions within the context of the theoretical framework. To further define the relationship of the codes, the second-level codes will be used to further establish connections and possible causal links among the terminologies. In arranging the codes, the "range of axes", dimensions, or principles (Mason 2002) help in organizing the data. This is represented in the sample diagram below in Figure 7.

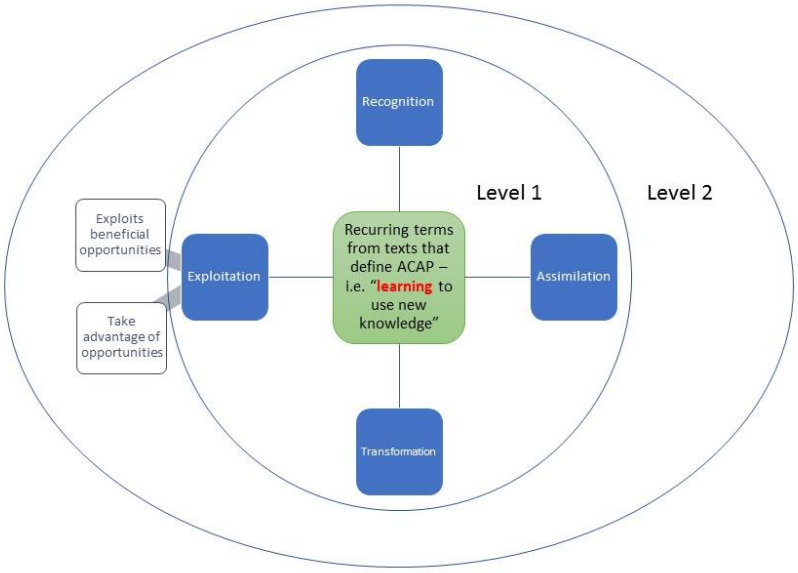


Figure 7. Schematic representation of the coding pattern used in data analysis

C. Limitations of the Methodology

There are limitations to this type of research and one prevailing argument against qualitative research is the possibility of researcher's bias in data interpretation. Texts can be decoded to have different meanings in this process. This can be avoided by ensuring that codes are properly labeled and can be traced from the original source in order to establish argument "evidently" (Mason 2002). Furthermore, given the time constraint and data availability, proper selection of documents and materials from authoritative sources is crucial to establish reliability of information.

D. Ethical Considerations

Ethics and informed consent: All respondents and key informants for the interview requested to maintain anonymity and were therefore not audio or video recorded. Interview notes are available but maintained and kept in a secure filing system for future reference and verification, if necessary. Moreover, they requested not to be directly quoted in the thesis and that any statement that may reflect their personal views, opinion or perception on a particular theme or subject should not be recorded and considered as official data, original information, or statement of the ministry or agency in which they represent.

Access to data: It should be noted that while the DPs and line ministries agreed to provide information during interview and copies of documents (i.e. official reports, circulars, laws, policies, etc.) in both hard and electronic versions, only those that are publicly available or labeled as "Open Source" or "For Public Disclosure" are recorded and included in this research. Documents provided by DPs and line ministries that indicate "For Official Use Only" were not included in the data analysis.

V. DISCUSSION AND ANALYSIS

A. Case Study: Viet Nam's Climate Change Governance

Member economies of the Association of Southeast Asian Nations (ASEAN) have a clear recognition of their region as a climate-vulnerable hotspot. The 2015 Global Climate Risk Index briefing paper of Germanwatch, shows four – Philippines, Cambodia, Lao PDR, and Viet Nam – out of ten countries most affected by climate change are from the ASEAN region (Germanwatch 2015). The national government of Viet Nam recognizes the country's inherent vulnerability to climate change and other related hazards being one of the 30 "extreme risk countries" globally according to the Climate Change Vulnerability Index (CCVI) (MPI 2015). Viet Nam has recently experienced rapid growth with a total population of 89 million as of 2012 and GDP per capita at PPP of 3, 359 (current USD) as of 2011 (OECD 2013).

The GoV recognizes that while Viet Nam has not been historically a contributor to global warming, its current rate of growth demonstrates a capacity to increase its total net emissions mainly driven by the projected growth in coal power generation use, that can account for more than 50% of the energy mix by 2030 (MPI 2015). With its going carbon-intensive economic growth, it is now the second highest in Asia after China in terms of carbon intensity of GDP. Furthermore, as majority of Viet Nam's growing population are situated within the Mekong River Delta and Red River Delta regions, the associated geographic hazards that affect living and economic conditions will hamper the country's sustained growth (MPI 2015). In the Mekong Delta alone, there are currently more than 18 million people living in the Vietnamese portion (ADB 2017).

With these developments taking place in Viet Nam, the GoV conducted a review of its climate finance landscape and policies in time for its long-term SEDP. The MPI recently published the report, entitled Financing Viet Nam's Response to Climate Change: Smart Investment for a Sustainable Future – Laying the foundation for resilient low-carbon development through the CPEIR. The study "…provides a thorough analysis of the organizational, institutional, investment, and financial structure for action on climate change, identifies achievements and challenges in Viet Nam's current approaches, and recommends innovations in policy, institutions, and financing to promote further climate actions" (MPI 2015, 13). It assesses Viet Nam's climate change policy and institutional framework in relation to its climate change response strategies. It looks into the process of interaction between agencies involved in the climate governance of Viet Nam, how each unit carries out its mandate and how the existing structures and processes are able to deliver the national climate change response objectives.

B. Aspects of Climate Change Governance in Viet Nam: An Overview

1. Viet Nam's Institutional Landscape

Viet Nam has undergone changes in its governance system since the Doi Moi reforms in 1986. The GoV still reflects a top-down approach to policy development and governance with top political institutions such as the Central Communist Party having sustained leadership (OECD 2013), although initiatives to open the process to decentralization are underway.

Currently, it operates under a three-tiered system of local government, which following the Article 110 of the 2013 Constitution enacted in 2014, Viet Nam now has provinces with centrally-controlled cities (Nguyen 2015a).

In terms of the planning system, Viet Nam follows three approaches, which are practiced horizontally as illustrated in Figure 8 below:

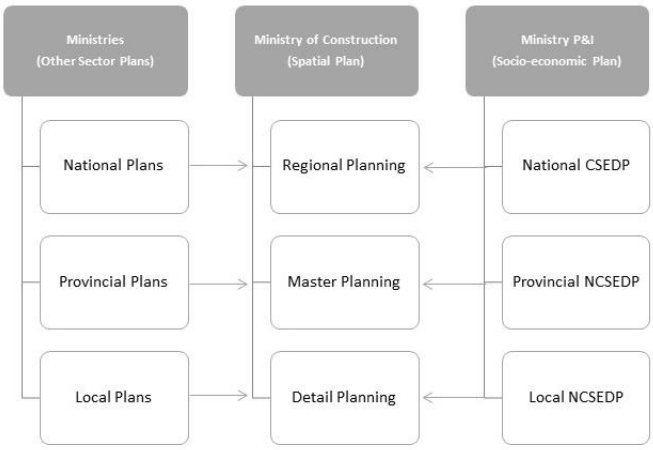


Figure 8. The Government of Viet Nam's horizontal planning system (Source:* Nguyen 2015a*)

In terms of climate change institutional landscape, the GoV coordinates based on a ministerial coordinating architecture whose mandates are defined in Decision 25/QĐ-UBQGBĐKH, 2012. As illustrated in Figure 9, the National Committee for Climate Change (NCCC) is the highest-level inter-ministerial body tasked to oversee climate-change related initiatives. It serves as the main coordinating body, chaired by the Prime Minister with the Vice Prime Minister serving as the permanent Vice Chairman and the Minister of MONRE serving as the Vice Chairman 2 (MPI 2015). Members of this body include other ministries such the MPI, MOF, MARD, MOC, MOT and MOIT whose mandates are based on the document Decision 25/QĐ-UBQGBĐKH (2012) and are required to report every six months to evaluate climate change activities particularly implementing challenges and to inform future planning process (MPI 2015).

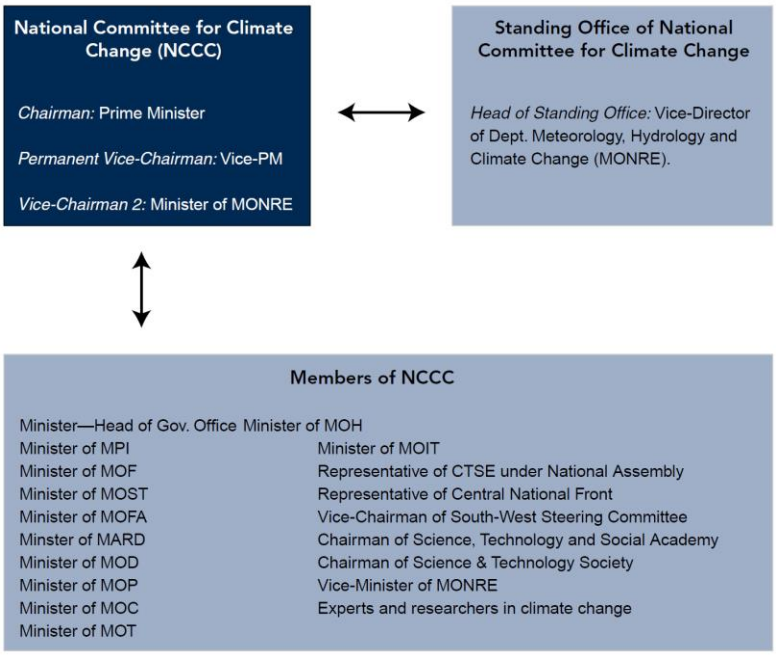


Figure 9. The Government of Viet Nam's Climate Change Institutional Landscape (Source: MPI 2015, 35)

2. Viet Nam's Policy Landscape

Viet Nam's commitment to addressing climate change is reflected through is ongoing institutional, fiscal, policy process that aims to develop and strengthen strategies that will support projects and programs both at mitigation and adaptation aspects. As early as the late 1990's, in its commitment to the Kyoto Protocol, Viet Nam initiated the process of developing its Initial Communication to the UNFCCC, later published in 2003 (MPI 2015). Following this Initial Communication, the country launched a series of policy initiatives in order to strengthen its capacity to mitigate and adapt to climate change. From the year 2008, Viet Nam sustained it commitments as manifested in the number of plans and strategies, each having its own mandate and mobilizing all key sectors from the GoV to the local level. The following are the policies, programs, strategies that the GoV initiated and approved at the ministerial level since its Initial Communication to the UNFCCC:

- National Target Program to Respond to Climate Change (NTP-RCC: Decision 158/2008/QĐ-TTg, 2008; and 1183/QĐ-TTg, 2012 for the period 2012–2015)
- Overarching policy frameworks with a policy vision up to 2020:
    - National Climate Change Strategy (NCCS: Decision 2139/QĐ-TTg, 2011) – actualized through the National Action Plan on Climate Change (NAPCC)
    - Viet Nam Green Growth Strategy (VGGS: Decision 1393/QĐ-TTg, 2012) – actualized through the Green Growth Action Plan (GGAP)
- National Action Program on REDD+ 2011–2020 (Decision 799/QĐ-TTg, 2012)
- Other related policies:
    - National Strategy for Natural Disaster Prevention, Response and Mitigation to 2020 (2007)
    - Law on Natural Disaster Prevention and Control (2013)
    - National Forestry Development Plan 2011–2020 (2012)
    - National Target Program on Energy Efficiency and Conservation (NTP-EE).

Viet Nam follows a structure specific to CCP process and structure, which attempts to harmonize and coordinate policy efforts of the GoV. As 2015 CPEIR, three policy pillars set the direction of the GoV when it comes to CCP, illustrated in Figure 10 below.

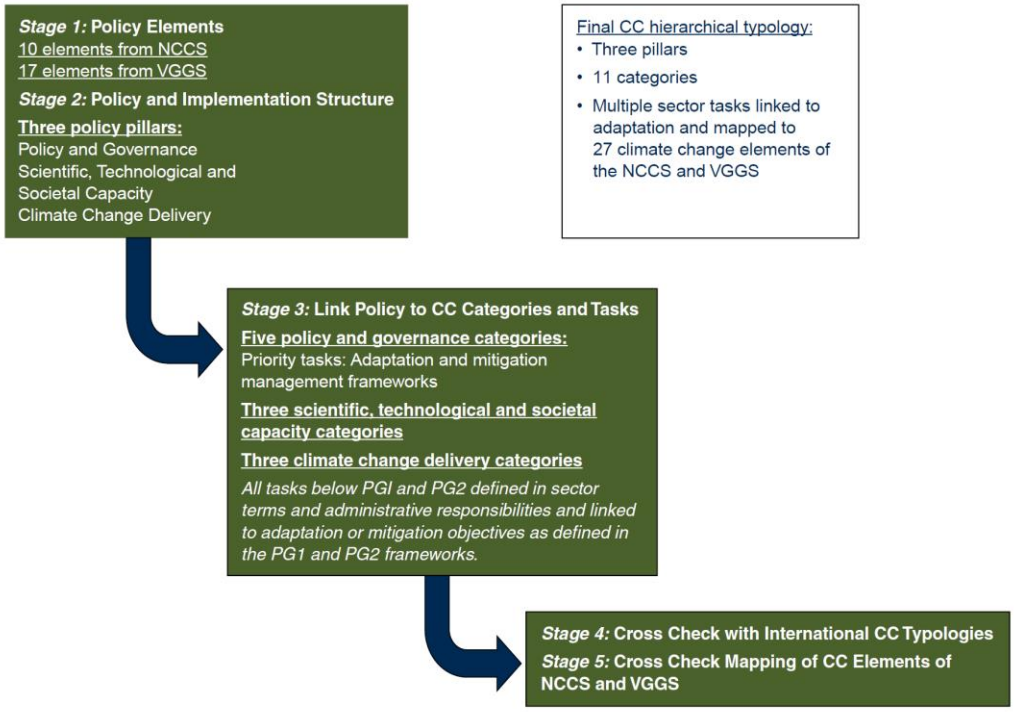


Figure 10. Mapping Policies to Climate Change Expenditures and Organizational Responsibilities (Source: MPI 2015, 52)

3. Viet Nam's Fiscal Management Landscape

Viet Nam currently holds a portfolio of mixed climate financing from a number of sources. As of 2014 record, the GoV has received about $2 billion USD worth of official development assistance (ODA) package from 1993 in the forms of climate change related projects, programs and budget support (Pham 2014). In addition to ODA, the GoV invests in projects and programs related to green growth amounting to about $ 1 billion USD annually, specifically allocated NTP-RCC (Pham 2014). This demonstrated that he GoV is utilizing investments for mitigation initiatives as the budget covers the NTP-EE and reforestation initiatives and there is little mention in the document about adaptation. The diagram in Figure 11 below maps out the current climate fiscal landscape of Viet Nam, which includes mitigation.

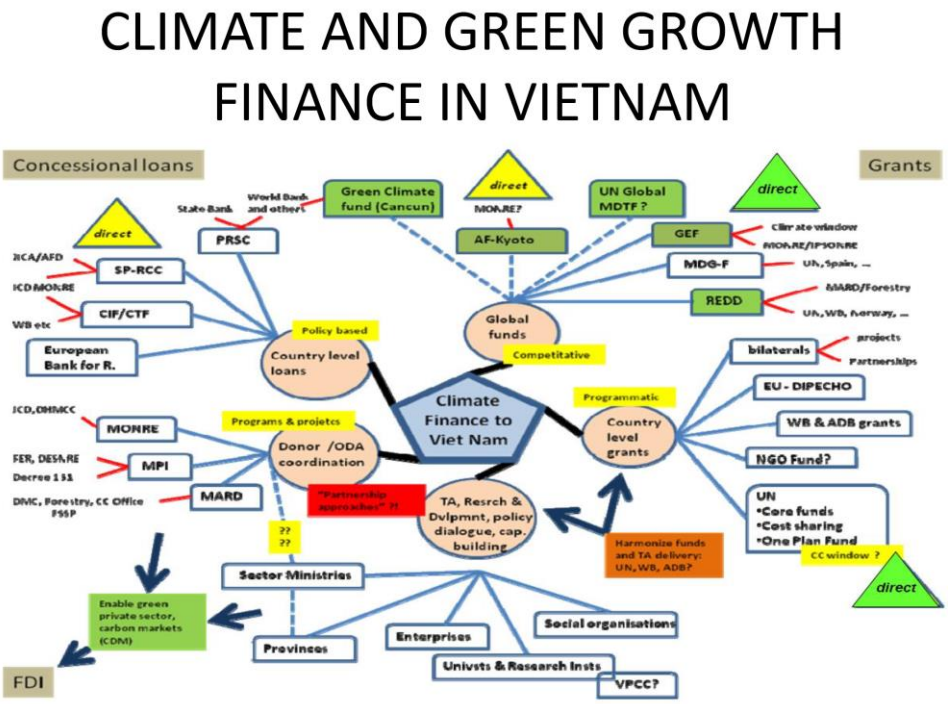
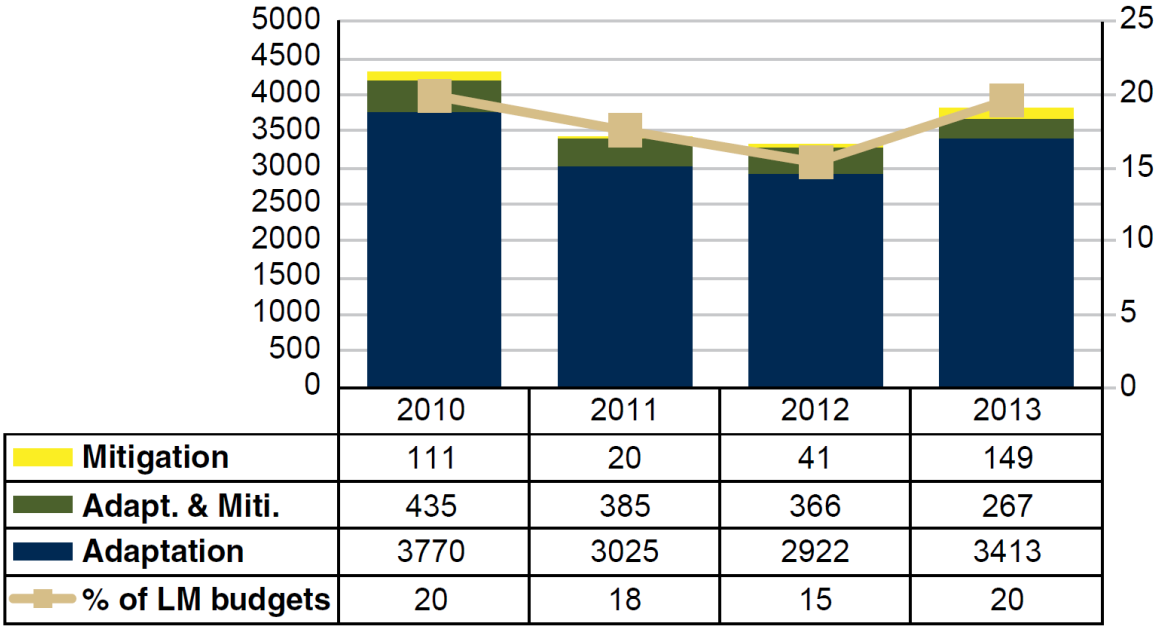


Figure 11. Viet Nam's climate finance landscape as presented by the Ministry of Planning and Investment in 2014 (Source: Pham 2014)

Viet Nam's fiscal management in terms of climate change expenditure is significant with 18% from 2010 to 2013 by the five LMs. From 2010 to 2011, however, there has been a decline from around VND 4,300 billion in 2010 to around VND 3,800 billion in 2013, largely attributed to the government policy Decree 1792/CT-TTg, 5/10/2011, requiring tightening of public investments to shift focus to priority projects (MPI 2015). The graph illustrated in Figure 12 below provides a brief overview on how the government allocates public finance from the five LMs. It demonstrates that budget is mainly allocated for adaptation and current efforts of the GoV are focused on generating mitigation-related financing (MPI 2015).



	2010	2011	2012	2013
Mitigation	111	20	41	149
Adapt. & Miti.	435	385	366	267
Adaptation	3770	3025	2922	3413
% of LM budgets	20	18	15	20

Figure 12. Total Climate Change Appropriations (investment and recurrent) for Five Line Ministries, NTP-RCC, and NTP-EE, 2010–2013 (left Y axis: constant price 2010 VND billion; right Y axis: percent) (Source: MPI 2015, 61)

C. Analysis

1. Organizational Landscape

Viet Nam's organizational architecture provides the staging point in which to analyze the CCG system's capacity to absorb finance and develop policies that are adaptive to climate change. The GoV employs a horizontal planning approach, yet according to the CPEIR document, its capacity to implement climate policies needs to be harmonized; the climate change responses raise different technical and policy challenges emanating from its institutional composition (MPI 2015). On the other hand, in its Plan for Implementation of the Paris Agreement, the GoV commits to the UNCFFF its implementation resources, particularly human resource development (DMHCC 2016). In both its National Climate Change Strategy and the National Target Program to Respond to Climate Change 2012 – 2015, outlines clearly specified mandates of implementing agencies

among LMs in carrying out climate change policies, which includes planning, as well as facilitate education and communication among LMs down to the local level to strengthen capacity (GoV 2011; GoV 2012a). Furthermore, in its Intended Nationally Determined Contributions, Viet Nam clearly specified the strengthening of the role of the State to lead in responding to Climate Change (Gov 2015).

2. Fiscal Management Landscape

In the aspect of fiscal management and resource mobilization of climate finance, National Climate Change Strategy and the National Target Program to Respond to Climate Change 2012 – 2015, as complementary policies specified the need to promote bilateral and multilateral cooperation to mobilize international finance. In the Intended Nationally Determined Contributions, it specifically mentioned the country's goals to generate international support in finance and facilitate the entry of foreign direct investments (FDI) on climate change related projects (DMHCC 2016). In addition to this, the GoV further emphasized its concerns on climate finance adaptation that states, "while there are policies, plans and programmes climate change adaptation efforts were designed to collect funding for implementation, state resources can only meet 30% of the adaptation needs" (GoV 2015, 10). In this manner, the GoV's fiscal management system and respective mechanisms demonstrate the capacity to absorb CCF as it allows itself to integrate external resources into its fiscal landscape. However, the GoV is also cognizant of this thresholds and limits as reflected in the Paris Plan of Action. Moreover, a review of supplemental documents, particularly the report of the MPI at the COP in Paris also revealed that the GoV experiences difficulty in mobilizing and tracking climate-relevant foreign and domestic investments (Nguyen 2015b). Moreover, the GoV, after having completed the CPEIR, plans to

outline approaches to track climate-related budget allocation and public expenditure and adapt the Typology of Climate Change Response Expenditure (TCCRE) of fiscal categorization recommended by the CPEIR into their system. In addition to the report presented at the COP in Paris, the MOF has started to review environmental fiscal instruments and reforms.

3. Policy Landscape

Viet Nam's policy landscape reflects institutional capacity to iterate and shift strategies in accordance to the context in which these are implemented. This is evident in the number of laws, decisions, and programs that overlap and complement the existing policies and strategies. In the Intended Nationally Determined Contributions alone, page four of the plan is devoted to providing the legal instruments as basis for the plan development (DMHCC 2016). The Intended Nationally Determined Contributions also listed six legal documents and policies to support the INDC implementation (GoV 2015). The implementation activities for all adaptation related actions are enshrined in laws promulgated by the national government. In addition, adaptation responses to climate change, by law, require monitoring and evaluation systems. However, based on the CPEIR study, there is still a need to strengthen the GoV's monitoring system, in which can be addressed through consolidated national targets and re-alignment (MPI 2015). The GoV's VGGS also takes reflects the capacity in terms of coordinating strategies in efforts to further harmonize national-policy initiatives (GoV 2012b). Furthermore, it reflects the GoV's capacity to anticipate future changes as its strategy is based on the process of changing growth models which is implemented from 2011 to 2020, but with a long-term vision towards 2050 (GoV 2012b).

VI. CONCLUSION

Understanding the complexity of climate adaptation governance necessitates the use of an evaluation and analytical lens that incorporates systems thinking and multi-dimensional analysis. In summarizing the findings of the study and to answer the questions stated at the beginning of the research, these will be addressed by re-enumerating the questions and answering them directly.

Does the climate change governance (CCG) system demonstrate the capacity to absorb (ACAP) climate finance (CCF)? Does it demonstrate adaptive capacity (ADAC) towards policy development? In what ways are these demonstrated?

The current state of climate governance, with respect to its application in the case study of Viet Nam demonstrates absorptive capacity of climate finance at policy-development level and implementation as reflected in the document analysis process. Specifically, Viet Nam, at the organizational level of the government, demonstrates absorptive capacity of climate finance as it is able to manage climate expenditures, using it to build capacities within LM and departments through learning and problem-solving, and utilizing existing knowledge and capability to further its climate adaptation goals. Through its capacity to absorb finance, the CCG system of Viet Nam demonstrate adaptive capacity, particularly in terms of how, at organizational level, are able to respond through iteration and development of policies and fiscal management that are more responsive to the changing nature and character of climate change.

However, without comparable baseline data and given the qualitative nature of the research, there is a limit to which these capacities can be measured. It may be necessary to further refine the approach to extend beyond the GoV and look into individual capacities what comprise the system.

If so demonstrated, does this capacity to absorb CCF, enable the system to develop ADAC? Conversely, does this adaptive capacity of the system influence its ACAP for current and future climate finance?

While the system is capable of absorbing financing, there is a limit to the capacity of absorption. This limit or threshold in the system is inherent and not necessarily negative. This threshold may be self-imposed in order to efficiently manage the flow of funding and in effect, allows the system to regulate the uptake to ensure that the outflow in terms of policy development is aligned and balanced with the inflow of funding. Specifically, it means that more funding and capacity to absorb future finance does not necessarily build adaptive capacity in the manner in which it is expected to develop. More funding does not necessarily result to better policies, especially if the system has an inherent characteristic to regulate the rate at which it expands.

VII. APPENDIX

A. Interview Guide Questions

1. Please provide information on the various climate change programs or projects that your ministry / department / agency is in-charge of. Please explain how these programs or projects are executed and managed in your portfolio.

2. Please provide information on climate change policies that your agency / office has a mandate to execute / deliver. Please explain the process of how these mandates are executed.

3. Are these (policies, projects and programs) aligned / connected to the national-level policy or priorities on climate change? How?

4. What is the composition of the working group in-charge of these projects and programs?

5. Do they get assistance (i.e. trainings, support, etc.) in managing and handling these programs and projects?

6. Do they work inter-agency / with other government offices? How? What is the structure and working relations.

7. How are policies made / developed and evaluated?

8. How are projects / programs made / developed and evaluated?

9. Is there an oversight committee / office to monitor and evaluate these?

10. How are policies, projects, and programs communicated? How are mandates streamlined per office involved?

11. Are there any consultative processes in developing policies and programs?

12. How does your agency / office work in bilateral or multilateral institutions?

13. Does your agency / office work with external organizations (i.e. NGOs, Civil Societies, local communities) in executing and delivering projects and programs?

14. Do you work closely with another agency in-charge or a particular sector that might overlap with your work / mandate? How are the working relations? How are sector issues analyzed, understood and resolved?

15. Is there information sharing among other agencies / offices?

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