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Discourses of Climate Change Adaptation Policy in Thailand: Implications for Sustainable Development and Sufficiency Economy

A thesis

submitted in fulfilment

of the requirements for the degree

of

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at

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by

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Abstract

The significant threat of climate change to sustainable development is most acute in developing countries, which are predicted to experience higher occurrences of wildfires, more extreme storm events, rising sea-level and increasing incidence of devastating floods. In studying climate change adaptation policy in a developing country context, this thesis focuses on Thailand and its attempts to respond to international, national, and local pressures to respond to climate change.

As there is little research on the nascent climate change adaptation policies in the country, the thesis makes a significant contribution to identifying, analysing, and understanding the key discourses of such policies at the international, national, and local levels. Specifically, it examines how the different discourses at each level shape initiatives to promote climate adaptation and what the implications of these discourses are for sustainable development and the uniquely Thai notion of the sufficiency economy.

The research involved examining key texts, including policy documents, national reports, legislation and press releases, and analysing interviews with key actors on climate change adaptation policies at the international and national levels, as well as a local case study of the USAID-funded Mekong Adaptation and Resilience to Climate Change (ARCC) project in Chiang Rai, Thailand. The findings reveal several discourses at each level, with distinctly different implications for sustainable development and for the fulfilment of the aims of the sufficiency economy.

Thailand's adaptation responses were influenced to a great extent by the country's desire to balance its international obligations with its local development needs. The ideas that the discourses propagate, and the extent of their dominance vary across different levels, each being shaped by the genre of the texts and the key actors involved in producing and disseminating the discourses. Overall, there were stronger links to sustainable development than sufficiency economy in adaptation policy discourses.

By examining the discourses of adaptation policy at different policy levels, the research highlights the similarities and differences in how adaptation is prioritised and

adopted at each level, including the role of international agencies in shaping local adaptation responses. The study provides a foundation for further research into the role of climate adaptation and its contribution to sustainable development. It also provides a basis for further analysis into the links between the ideas that underpin the Thai concept of the sufficiency economy and notions of sustainable development, and how they can inform national policy and practice.

Dedication

To my loved ones, especially my mom

Thank you for your endless love, sacrifices, support, and advice

Grandpa, remind grandma that I finished

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Abbreviations

ADB	Asian Development Bank
AR4	IPCC Fourth Assessment Report
AR5	IPCC Fifth Assessment Report
ASCC	ASEAN Socio-Cultural Community
ASEAN	Association of Southeast Asian Nations
ASPCC	Climate Change Strategic Plan for the Agriculture Sector
BAU	Business-as-usual
BBC	British Broadcasting Corporation
BMA	Bangkok Metropolitan Administration
BOT	Bank of Thailand
CAIT	Climate Data Explorer
CBD	Convention on Biological Diversity
CCAI	Climate Change and Adaptation Initiative
CCMC	Climate Change Management Coordination Division
CCMP	Climate Change Master Plan
CDA	Critical Discourse Analysis
DAI	Development Alternatives Incorporated
DOLA	Department of Local Administration
DPT	Department of Public Works and Town & Planning

DWR	Department of Water Resources
FAO	Food and Agriculture Organization
G77	Group of 77
GCF	Green Climate Fund
GDP	Gross Domestic Product
GEF	Global Environment Facility
GGGI	Global Green Growth Institute
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
GNI	Gross National Income
HIA	Health Impact Assessment Division
H-NAP	National Adaptation Plan on Climate Change and Health
HRDI	Highland Research and Development Institute
ICEM	International Centre for Environmental Management
IKI	International Climate Initiative
INC	Initial National Communication
INDC	Intended Nationally Determined Contributions
IPCC	Intergovernmental Panel on Climate Change
IUCN	International Union for Conservation of Nature
JICA	Japan International Cooperation Agency
LDD	Land Development Department

M&E	Monitoring and evaluation
MASAP	Mekong Climate Change Adaptation Strategy and Action Plan
MFA	Ministry of Foreign Affairs
MOEJ	Ministry of Environment of Japan
MOF	Ministry of Finance
MONRE	Ministry of Natural Resources and Environment
MOPH	Ministry of Public Health
MOSTE	Ministry of Science, Technology and Environment
MOTS	Ministry of Tourism and Sports
MRC	Mekong River Commission
MRV	Measurement, Reporting and Verification
NAP	National Adaptation Plan
NAP-Ag	Integrating Agriculture in National Adaptation Plans
NCCC	National Committee on Climate Change
NCPO	National Council for Peace and Order
NDC	Nationally Determined Contributions
NEB	National Economic Board
NESDB	Office of the National Economic and Social Development Board
NESDC	Office of the National Economic and Social Development Council
NGO	Non-governmental organisation

NIC	Newly Industrialised Country
NLA	National Legislative Assembly
NRC	National Reform Committee
NTFP	Non-timber forest products
OAE	Office of Agricultural Economics
OECD	Organisation for Economic Co-operation and Development
OEPP	Office of Environmental Policy and Planning
ONEP	Office of Natural Resources and Environmental Policy and Planning
ONWR	Office of National Water Resources
ORDPB	Office of the Royal Development Projects Board
R&D	Research and Development
RD	Rice Department
RID	Royal Irrigation Department
Risk-NAP	Risk-based National Adaptation Planning
SDG	Sustainable Development Goal
SDSN	Sustainable Development Solutions Network
SEA-START	Southeast Asia START Regional Center
SIDS	Small Island Developing States
SNC	Second National Communication
STI Office	National Science Technology and Innovation Policy Office

TDRI	Thailand Development Research Institute
TGCP	Thai-German Climate Programme
TNC	Third National Communication
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environmental Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
WCED	World Commission on Environment and Development
WHO	World Health Organization
WMO	World Meteorological Organization
WRI	World Resources Institute

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Chapter 1: Introduction

The impact of climate change on our social, political, economic and cultural systems is unprecedented. A key task for states is to ensure appropriate, equitable and effective adaptation to climate change to minimise the negative impacts on people and non-human species. This task is particularly difficult for developing states, which continue to need economic development to address the challenges of poverty, and to provide access to basic social services such as education and healthcare. This thesis focuses on the case of Thailand, one of the countries that is most at risk to the impacts of climate change (ONEP, 2018a).

Adapting to climate change generally refers to the "process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities" (IPCC, 2018, p. 542). The Thai government's action on climate change adaptation has been slow, and there have been few studies into these activities. Where there has been research, it has focused on the assessments of climate variability and the impacts on specific sectors such as water management or agriculture (Cookey et al., 2016; Kittipongvises & Mino, 2013a, 2013b; Phimphakan Lebel et al., 2015; Manandhar et al., 2015; Suthirat & Takashi, 2014). Such research has not examined climate change adaptation policies from a political and policy perspective or scrutinised the links to national sustainable development. Crucially, there is a lack of critical analysis about Thailand's climate change adaptation policies. This research seeks to address this gap by exploring the dominant discourses of climate change adaptation policy in Thailand and their implications for sustainable development as well as for the closely related Thai concept of the sufficiency economy.

This chapter begins by introducing the background to climate change adaptation policies in Thailand. It then explains the research problem and its significance, before outlining the research questions. It also introduces the theoretical frameworks that are used to guide the analysis in this research, along with the methodology and the scope of the research. Lastly, it concludes with the outline of the thesis.

1.1 Background

In September 2018, the United Nations Secretary-General, António Guterres, remarked, “Climate change is the defining issue of our time – and we are at a defining moment. We face a direct existential threat” (UN, 2018, para. 4-5). The threat of climate change has increasingly become evident, especially in developing countries such as Thailand (Eckstein et al., 2020). The impacts of climate change are already being felt throughout the country and include warmer temperatures, sea-level rise, floods and droughts (ONEP, 2018b). These effects have already caused extensive economic, social and environmental challenges. For example, the 2011 floods in Thailand, attributed to the effects of climate change (Promchote et al., 2016), resulted in drastic economic damage and loss, deaths, and the emergence of new flood disaster zones (World Bank, 2012). Thailand’s capital city, Bangkok, is one of the most vulnerable cities in Southeast Asia to rising sea-levels (Climate Central, 2019). The increasing vulnerability to climate risk has brought the need for climate change adaptation to the attention of Thai policymakers (Chinvanno & Kerdsuk, 2013; ONEP, 2011, 2018b).

Climate change adaptation in Thailand is being integrated into national policies through the National Adaptation Plan (NAP) process, which was established under the Cancun Adaptation Framework (CAF) in 2010. This process enables countries to identify their medium and long-term adaptation needs along with strategies and programmes that can be mainstreamed at all levels (UNFCCC, 2010). The NAP process, importantly, recognises the inherent link between adaptation and overall development planning with a specific focus on sustainable development (ONEP, 2018a). Sustainable development generally involves sustaining the natural systems necessary to provide for the needs of present and future generations through three core elements: economic growth, social inclusion and environmental protection (UN, 2015b). The United Nations Sustainable Development Goals (SDGs), adopted in 2015, recognise that “climate change is one of the greatest challenges of our time and its adverse impacts undermine the ability of all countries to achieve sustainable development” (UN, 2015b, pp. 5-6). The current international climate change treaty, the 2015 Paris Agreement, supports “enhancing adaptive capacity, strengthening

resilience, and reducing vulnerability to climate change, with a view to contributing to sustainable development…" (UNFCCC, 2015). Therefore, having a robust and effective climate change adaptation policy is critical to sustainable development in Thailand.

The success of Thailand's sustainable development policies depends on its specific political, economic, socio-cultural, and environmental contexts that influence public policy across and within different levels of government. This research recognises that different discourses exist within climate change adaptation policy. These differing discourses are shaped by the high degree of political instability in the country since Thailand transitioned to a constitutional monarchy in 1932. The political turmoil and power contestations in the country have often been facilitated by the power of dominant factions such as the military and the monarchy. Climate change policy in Thailand takes place "within a broader societal frame of authoritarian governance, sometimes despite the institutions of democracy" (Simpson, 2015, p. 183). These policy settings have profoundly shaped the country's ability to respond and adapt to the consequences of climate change. Such an ability is crucial when climate change adaptation policy is in contention with the government's drive towards economic growth and development and its obsession with transitioning the country to a high-income country (World Bank 2011b). The path towards economic growth has involved practices that are unsustainable which has caused environmental degradation and contributed to climate change.

Moreover, some distinctive Thai social structures and systems influence the development and implementation of the policy. Thai social beliefs, values and attitudes influence how society is governed and the way policies are perceived, prioritised and implemented. Thai social hierarchy, social stratification and patron-client relationships have involved multiple actors, competing interests, lack of coordination, vague laws and over flexibility that can impede efforts on climate change adaptation (Tookey, 1999). Such complications can be seen with Thailand's approach to achieving sustainable development, which is based on the philosophy of sufficiency economy developed by the late King Bhumibol Adulyadej. The concept of sufficiency economy has been strongly advocated by the Thai government to be

implemented throughout all policies and levels including the NAP. However, it is yet unclear how Thailand will implement the approach to achieve its climate change adaptation goals. The integration of climate change adaptation and sustainable development within the unique Thai context raises questions about the coherence and comprehensiveness of the Thai approach.

1.2 Statement of the Research Problem

Existing scholarly research on climate change in Thailand has focused mostly on mitigation (Arunrat et al., 2016; Limmeechokchai & Suksuntornsiri, 2007), assessments of climate change impacts (Arunrat & Pumijumnong, 2015; Seeboonruang, 2016; Shrestha, 2014; Wang et al., 2014) and analysis of individual extreme events and government responses (Lebel et al., 2011; Marks, 2011; Marks & Lebel, 2015; Mishra, 2012). Much of this research has been narrowly focused, technical and descriptive, with little analysis of politics and policy. Research on climate change adaptation has been limited to specific sectors, initiatives and sites (Mainuddin et al., 2011; Panyakul, 2012; Permpibul & Routray, 2009; Rattana & Krawanchid, 2012; Rattanachot et al., 2015) and carried out by multilateral or bilateral climate change projects or research institutes in Thailand (ONEP, 2011, 2018b). It is evident from this research that there have been inadequate climate change adaptation initiatives driven by the government. While climate change adaptation has become a significant item on the policy agenda of developing countries such as Thailand, there have been few studies on climate change adaptation from a critical policy perspective.

The adaptation literature on Thailand shows that climate change adaptation policy is a relatively new focus for government policymakers and researchers in Thailand, and is often dominated by misconceptions and weak implementation processes (Panyakul, 2012). Research from non-government agencies has highlighted the limited capacity in climate change management, planning, technical expertise and monitoring which are expected to hinder the implementation of national and local climate change adaptation (CARE Deutschland Luxemburg et al., 2013).

Moreover, Thailand has difficulty in planning and implementing climate change adaptation plans due to conflicting government priorities on social and economic growth and the uncertainty over the accuracy of climate change impact assessments (Chinvanno & Kerdsuk, 2013). Such challenges require the government to take "a broader approach to adaptation that goes beyond efforts to address future climate change impacts. Adaptation should consider the long-term consequences of development, and how they might change a community's or sector's risk profile" (Chinvanno & Kerdsuk, 2013, p. 1). Whether the Thai government has responded appropriately to such challenges around climate adaptation remains to be seen. This thesis, therefore, explores questions around the effectiveness of adaptation policies, their underlying discourses, and the implications of these discourses for sustainable development.

There is a clear need to move towards more integrated approaches to climate and development, which Thailand has recently attempted to do through mainstreaming adaptation policies into development planning (ONEP, 2016, 2018a). However, there is a limited number of studies on climate change adaptation within the context of sustainable development in Thailand which is central to national policy direction in Thailand (Osbeck et al., 2011). There are even fewer studies that examine climate change adaptation within the Thai approach to sustainable development in the context of the sufficiency economy (Kansuntisukmongkol, 2017). Few studies have examined the conceptual foundations of sufficiency economy, its distinction, if any, from sustainable development, and how the concept has been integrated into its national climate change adaptation policy. This research will look at the extent to which climate change adaptation policies have been integrated into national and local development planning, and the extent to which those measures are consistent with sustainable development and sufficiency economy principles.

Studying climate change efforts in Thailand needs to account for how institutions and different actors coordinate and implement adaptation actions and the dominant discourses implicit within them. Achieving sustainable development within the context of climate change will involve significant transformations such as changes in land-use patterns, technological choices and policy approaches (O'Brien & Sygna, 2013).

These transformations may be deliberately created through social, economic and political processes which include justice, equity and ethical dimensions. Few studies have examined climate change from such theoretical, critical or interpretive social science perspectives. The closest example of studies from this perspective have been on climate change perceptions among local and rural citizens (Cookey et al., 2016; Kittipongvises & Mino, 2013a, 2013b; Phimphakan Lebel et al., 2015; Manandhar et al., 2015; Suthirat & Takashi, 2014). This absence shows the need for a critical social science perspective on climate change adaptation policy in Thailand.

1.3 Research Questions and Objectives

The key research questions for this research are:

- How has climate change adaptation policy been developed in Thailand?
- How have sustainable development and the sufficiency economy been approached in Thailand?
- What are the overlaps between sustainable development and sufficiency economy approaches?
- What are the dominant discourses that inform Thai climate change adaptation policy and practice?
- What are the implications of the dominant discourses of Thai climate change adaptation policy for sustainable development?

The focus on discourses will enable the study to capture the distinctive Thai approach to climate change adaptation, particularly the way the problem of climate change has been socially constructed in the Thai political, social and economic context. Discourses govern the way people think and act, and, in the policy world, shape the way we understand and define policy problems (Foucault, 1972). The analysis will uncover the explicit and implicit discourses embedded in climate change adaptation policy in Thailand to provide insight into their implications for sustainable development.

1.4 Analytical Frameworks

Sustainable development and sufficiency economy are theoretical concepts that guide the analysis in this research. The discursive elements of both concepts are defined and developed as the analytical framework of this research. They are also compared to explore how the two frameworks overlap. The analytical framework created consists of six elements: guiding principles, normative values, political and institutional mechanisms, policy processes, change approaches and actors involved. The concepts and analytical framework are relevant to studying climate change adaptation as they shape how Thailand links climate change adaptation to its national sustainable development approach.

Sustainable development is a development approach that aims to balance economic, social and environmental conditions (Elliott, 2012). The concept of sustainable development dates to the 1970s, but was widely popularised after the publication of the report of the World Commission on Environment and Development, *Our Common Future*, commonly referred to as "The Brundtland Report", in 1987 (WCED, 1987). The commitments to sustainable development have evolved and today it is established within the United Nations 2030 Agenda on Sustainable Development, marked by 17 Sustainable Development Goals (SDGs). Sustainable development is considered by all countries as the overarching goal for development. While the characteristics of the sustainable development framework are universal such as inclusivity and transparency (UN, 2015b), their application by countries differs depending on the context.

In the Thai context, sustainable development initiatives in Thailand have been developed by the national government and informed by the late King Bhumibol Adulyadej's Philosophy of Sufficiency Economy. Sufficiency economy is an approach that advocates taking the 'middle path' in life and includes three basic principles: moderation, responsible consumption, and proper risk-management (UNESCO, 2013). The approach has a strong emphasis on the application of modern, but appropriate, technologies to tackle problems (ORDPB, 2016). This approach is endorsed by the current military regime, "so the Thai people can be aware, adapt and

apply the royal principles and initiatives in their work for sustainable development" (Chan-o-cha, 2014). These belief systems and the use of local knowledge have the potential to help promote sustainable development and foster environmental protection.

The term "sufficiency economy", with its roots in Buddhism, is different from the English term and idea of "self-sufficiency" that instead focuses on the moderation of individual desires with consideration for the effects on others. In principle, sufficiency economy challenges the system of a capitalist economy and postmodern democratic individualism that regulates contemporary Western society (Bunnag, 2013). The differences in the interpretation of 'sustainable development' and 'sufficiency economy' thus present potential challenges in translating global climate change adaptation goals into national climate change adaptation policy and plans in Thailand. The challenges include how sustainable development principles overlaps with sufficiency economy principles. These similarities and differences determine how well climate change adaptation policies can address global climate change adaptation goals and effectively contribute to global sustainable development. The proposed research, therefore, will draw on existing scholarship to construct an analytical framework based on sufficiency economy and sustainable development, and apply this framework to an analysis of climate change adaptation policy in Thailand.

1.5 Methodology

To answer the research questions, the study applies a critical discourse analysis (CDA) approach. The approach used in this research draws on Dryzek (2013) discourse analysis, Fairclough (1992) three-dimensional framework and van Dijk (2008) socio-cognitive approach.

The structure of the analysis is guided by Dryzek (2013) discourse analysis approach, which involves four key structural elements that he uses to define each of the discourses in more detail:

1. Basic entities whose existence is recognized or constructed
2. Assumptions about natural relationships
3. Agents and their motives

4. Key metaphors and other rhetorical devices

These form the core parts of the analysis as presented in the substantive chapters (chapters 7, 8 and 10).

In addition, the three-dimensional framework used by Fairclough (1992) is applied to link the three levels of analysis: micro, macro and meso levels. The analysis links the text (micro-level) with the processes of text production and consumption, and the underlying power structures (macro level) through discursive or sociocultural practices upon which the text was drawn (meso level). The three-stage system of critical discourse analysis involves:

1. Description: identifying the formal properties of text
2. Interpretation: identifying the relationship between the text and interaction
3. Explanation: identifying the relationship between the interaction and social context

This framework makes it clear that the three stages of the analysis are important when defining the elements of the discourse offered.

Finally, the socio-cognitive approach of (van Dijk, 2008) argues that discourse consists of the shared knowledge of language users as social actors and members of those communities. This idea is relevant to the Thai context as it recognises that the actors' use of language is determined by their identities or associations which are informed by their social and cultural practices.

The research methods involved the analysis of documents, semi-structured interviews and a case study. The documents used for the analysis include relevant policy documents, national reports, legislation and press releases from primary and secondary sources. Primary sources include intergovernmental organisations (e.g., UN), international and national environmental and development bodies, and the Thai government, while secondary sources include reports and materials from research institutions. Where data is not available, grey literature, such as reports and materials produced by non-governmental organisations (NGOs), were used. The semi-structured interviews were conducted with individuals within government, research institutes, development and environmental consultancies, NGOs and local

communities related to the research. This involved those in the case study, the Mekong Adaptation and Resilience to Climate Change (Mekong ARCC) project (2011 to 2016), which was implemented to help integrate climate science information and local decision making to achieve ecosystem-based community adaptation plans in the Lower Mekong Basin (United States Embassy in Thailand, 2011). The case is suitable for this research in bridging international and national approaches to climate change adaptation as the project itself is a partnership between foreign agencies and national organisations.

This research examines the underlying assumptions and priorities for actions that shape the development and implementation of climate change adaptation policies in Thailand. The analysis focuses not only on practices and knowledge, but also the identification of power differences, divergent interests and key discourses (Eriksen et al., 2011). Furthermore, the analysis explores how distinct and potentially competing understandings of sufficiency economy and sustainable development played out in climate change adaptation policies in Thailand.

1.6 Scope of the Study

This research examines climate change adaptation policies at three different levels: international, national and local. At the international level, the study looks at how Thailand has discussed its commitments and reports to the United Nations Framework Convention on Climate Change (UNFCCC) and other climate change-related agencies. At the national level, it is an assessment of the key discourses evident in the articulation of its CC adaptation policies. At the local level, it looks at how climate change adaptation is implemented in a local adaptation project, the Mekong ARCC project. It also explores how this research is linked or relevant to national climate change adaptation policies. In each of these levels, the research also examines the implications of climate change adaptation policies for sustainable development.

This research involves those in the development of Thailand's climate change adaptation policy and the Mekong ARCC project. For national climate change adaptation policy in Thailand, the research focuses primarily on the Office of Natural

Resources and Environmental Policy and Planning (ONEP) and the six priority sectors in the NAP. These sectors include water resource management, agriculture and food security, tourism, public health, natural resource management and human settlement. The Mekong ARCC project involved five sites in the Lower Mekong Basin in Cambodia, Vietnam, Laos and Thailand. While there are two sites in Thailand – Chiang Rai and Sakhon Nakon – only the Chiang Rai site was used in the research based on logistics and a limited timeframe.

The period of this research (2016-2020) meant there were limitations such as constraints to the timeframe and location of the fieldwork, which determined access to participants and resources. Given the finite amount of time I spent in Thailand, the people interviewed for the project were limited to those with expertise and involvement in national adaptation policy and the Mekong ARCC project, although some were interviewed via audio call from New Zealand. Another limitation was the language barrier. Both English and Thai were used in the research—with government officials and academics, the use of both languages was often available which provided clarity to the questions and answers. However, for a number of project facilitators and most villagers, only Thai was used for the interviews, and this was further restricted to their proficiency in Thai as it was a second language for many of the villagers who were ethnic minorities and spoke other languages. In terms of the delimitations, the interviews on national climate change adaptation and development policies were conducted mostly with government officials and academics. I did not talk to NGOs or corporations working on climate change adaptation in Thailand as they were not directly involved on the policy aspect of climate change adaptation and/or did not respond to my interview request. As for the Mekong ARCC project, this was confined to project facilitators and villagers in the three villages in Chiang Rai, Thailand and, so, it did not include the Sakhon Nakon site.

1.7 Outline of the Thesis

The thesis is divided into eleven chapters. The following provides a brief outline to each chapter.

Chapter 1: Introduction provides an overview to the research and makes the case for the need for climate change adaptation policy and sustainable development. It states the research questions. It briefly describes the theoretical frameworks and methodology for the research, including the scope of the study.

Chapter 2: Historical Context on Thailand and Climate Change Adaptation Policy describes the history of Thailand through its political, economic and socio-cultural developments and how these contribute to the understanding and priority given to the environment and climate change adaptation policy. These provide context to understanding the priority and pace of development on climate change adaptation policy in Thailand.

Chapter 3: Literature on Climate Change and Adaptation Policy provides a review of the scholarship on climate change adaptation policy in developing countries and Southeast Asia before providing an in-depth account in Thailand. The review shows that adaptation in developing countries is an emerging area of research, and there is a lack of study on Thailand's national adaptation policy and its contribution to sustainable development. This research therefore will address these challenges.

Chapter 4: Review of Climate Change Adaptation Policy in Thailand describes the key climate change adaptation policies at the international and national levels.

Chapter 5: Sustainable Development and Sufficiency Economy Frameworks examines the sustainable development and the sufficiency economy frameworks. It explores key elements of each framework, focusing on principles and values, political and institutional mechanisms, policy processes and actors involved, and change approaches. These elements are compared to seek out the similarities and differences which informs the analytical framework that will guide this research.

Chapter 6: Methodology describes the qualitative research methodology that is used in this research. It begins with the relevance of a CDA approach and its key assumptions. It then explains the approach that is used to guide the analysis in this research that is informed by Dryzek's discourse analysis, Fairclough's three-dimensional framework and van Dijk's socio-cognitive approach on power and language. These works are useful in capturing the underlying dominant constructions

and the power dynamics that shape climate change adaptation policy. The chapter then describes the research methods that are used in the study: thematic analysis of documents and semi-structured interviews with actors involved in climate change adaptation policy in Thailand and the case study of the Mekong ARCC project. These methods help uncover the dominant discourses in climate change adaptation policy and the implications for sustainable development at the international, national and local levels in Thailand.

Chapter 7: Review of Thailand's Climate Change Adaptation Policy Within the International Context analyses statements and reports from Thailand to the UNFCCC and other UN entities on its climate change adaptation policy. The analysis is in four sections as structured by Dryzek's discourse analysis approach. It explores the dominant discourses and their implications for sustainable development. Through this process, it highlights the rhetoric surrounding the construction of adaptation policy by Thailand at the international level.

Chapter 8: Review of Thailand's Climate Change Adaptation Policy within the National Context analyses documents on Thailand's climate change adaptation policy and other related national strategies and plans. The analysis identifies and describes key discourses and their implications for sustainable development. It highlights the construction of adaptation policy by Thailand and the practices at the national level and how they are integrated into national development policies. The discussion also considers whether Thailand's rhetoric at the international level is realised through its climate change adaptation policies at the national level.

Chapter 9: Climate Change Adaptation Policy at the Local Level: Mekong ARCC Project describes the project in detail, focusing particularly on the site in Chiang Rai, Thailand. It provides an overview and account of different phases to the project and how it has been conducted in Chiang Rai. It then provides a preliminary analysis of how the project has considered sustainability including the implications for sustainable development.

Chapter 10: Review of the Thailand's Climate Change Adaptation Policy Within the Local Context – the Mekong ARCC project considers how national climate

change adaptation policy is implemented at the local level. The analysis identifies the dominant discourses of climate change adaptation and the implications for sustainable development within local communities through the Mekong ARCC project. This analysis shows whether national adaptation policy and the discourses identified at the national level are similar, different or applicable to the local context. The project is useful to triangulate the findings of adaptation priorities and underlying power dynamics through the relationship of international and national agencies and the communities involved.

Chapter 11: Conclusion The thesis concludes that there are several key discourses of climate change adaptation policies in Thailand and these have implications for sustainable development. It reviews the findings and theoretical and empirical contributions to the scholarship. It also evaluates the strengths and weaknesses of the analytical framework. It assesses the limitations and delimitations to the study. Lastly, it explores the contributions to policy and practice as well as future research.

1.8 Chapter Summary

This chapter introduced the policy issue of climate change adaptation in Thailand. It explores the political, economic, socio-cultural and environmental contexts that affects the country's approach to climate change adaptation. It also considers briefly the gaps this research addresses regarding the integration of climate change adaptation and sustainable development in Thailand. It provides an overview of the research methodology, including the use of a CDA approach to identify the key discourses of climate change adaptation policy in Thailand. It argues that it is important to examine the implications of these discourses for sustainable development and the sufficiency economy in Thailand.

The next chapter will begin with the historical background to Thailand, focusing on its political, economic and social and cultural developments. It discusses how they have contributed to the understanding of and priority given to the environment and subsequently climate change adaptation.

Chapter 2: Historical Context of Thailand and its Climate Change Adaptation Policy

Contemporary Thai government and policy is shaped by the history of political, economic, social, and cultural developments in Thailand. These elements have had profound impacts on the development of Thai climate change adaptation policy. Throughout the 20th century, the country experienced constant political upheaval and associated change in the political system and government leadership. Nevertheless, some political ideals such as the promotion of Thai nationalism, preserving sacred institutions and the pursuit of economic growth have remained constant. These ideals have influenced socio-cultural transformations as well as conflicts between traditional and modern values. Part of this is shaped by the integration of Westernisation and globalisation that have fuelled greater environmentalism, climate change action and the influence of democratic principles.

This chapter provides an overview of the historical context of Thailand in order to provide a foundation for the analysis of Thai climate adaptation policy. First, the chapter examines the political developments since 1932 and the emergence of what has been described as a "hybrid" political regime and how this has affected policymaking in Thailand. Second, it explores the recent history of Thailand's pursuit of economic development, and how its rapid economic growth in the late 20th century has contributed to growing GHG emissions. Lastly, it looks at the social and cultural developments and the way these affect environmental policies including climate change adaptation.

2.1 Political Developments and Climate Change Adaptation Policy

Since the end of absolute monarchy in 1932, power struggles between authoritarian and democratic forces in Thailand have led to a long history of political instability in the country. Such conflicts have caused a cycle of coups and constitutional changes, resulting in longer periods of military authoritarianism than constitutional democracy (Ockey, 2017). Academics have referred to Thai politics as a 'bureaucratic polity' (Riggs, 1966), "network monarchy" (McCargo, 2005), "Thai-style democracy" (Chambers & Waitoolkiat, 2016; Connors, 2011; Hewison & Kitrianglarp, 2010) and

“democratic dictatorship” (McCargo & Alexander, 2019). In recent years, Thai politics has been described as a “hybrid democracy” or “hybrid” regime that is only partially democratic with authoritarianism entrenched (McCargo & Alexander, 2019). This concept captures how Thai politics has been dominated by the monarchy, military and bureaucracy, rather than elected politicians (Kanchoochat & Hewison, 2016). These elites have reversed Thailand’s progress towards full democracy when their power was threatened such as the 2014 military coup that toppled a democratically elected government (Bamrungsuk, 2020). That said, there has been periodic resistance against such authoritarian regimes. A current example are the 2020 anti-government protests that called for reform of the political system, including the role of the monarchy (Head, 2020).

An important consequence of recurring political instability is that state institutions have little capacity to manage diverse and competing policy interests (Unger & Siroros, 2011). The focus of this section is on the history of political turmoil and power contestation through the features of the “hybrid” political system, and the implications for policy making, particularly policy related to climate adaptation. This section begins with coups and constitutionalism, which are tools that have been used by authoritarian regimes. Later, it looks at mass protests, as forms of democratic resistance against the authoritarian regimes. Lastly, it describes how these affect governing institutions and processes in Thailand.

2.1.1 Coups

In Thailand, there have been 19 attempted and successful coups since 1932 (Chitty, 2019). The country has developed a “coup culture” which normalises military interventions as an acceptable way to solve a political crisis. Such coups have also been justified as defending the monarchy (Farrelly, 2013). Throughout Thai history, coups have been a way for the military and monarchy to preserve their power and interests. To gain legitimacy and control over resistance in the country, the military employs several tactics such as ruling by decree, cracking down on dissent, censoring the media and banning public gatherings (Merieau, 2016). Like in the past, since the 2014 military coup, the Thai government has been criminalizing the right to

freedom of expression to silence views perceived to be critical of the authorities. For example, nine activists involved in the 2020 anti-government protests were arrested for demanding the dissolution of the government and reform of the monarchy (BBC, 2020a).

Coup attempts rarely happen in countries that are fully dictatorial or fully democratic, which makes Thailand's "hybrid" political system more susceptible (Chitty, 2019). The likelihood of another coup points to high levels of political uncertainty in the country (Farrelly, 2013). The military government has time and again claimed that it is maintaining stability through the transition to democratic principles. The issues often cited by military government are political conflict and corruption, particularly amongst politicians and their parties (Head, 2017). Nevertheless, the constraints used by the military government have consistently been unsuccessful in creating stability in the country. This is a major concern for policymaking in Thailand, including climate change policies, as political instability creates a lack of commitment by the government, political turnover, inconsistent policymaking processes and low confidence in the public sector. These factors stall progress on climate change adaptation policies.

2.1.2 Constitutionalism

Military coups are generally followed by a new constitution. Since 1932, there have been 20 constitutions. Following the 2014 military coup, a new constitution was drafted by a military-appointed committee. The military made sure the draft would pass by imposing a strict ban on any campaigning against the draft constitution (McCargo, 2018). The 2017 Constitution was passed by the Thai voters in a national referendum in August 2016 (Holmes, 2017). However, the lack of public participation and debate on the draft constitution means that many Thai citizens were unable to have a say on the constitution and ill-informed of the contents (Head, 2017). The 2017 Constitution provides greater powers and duties of the government to the military. There have been concerns by academics, Thai politicians and legal experts that "The new constitution risks constitutionalising authoritarianism rather than paving the way for democracy" (Head, 2017). This is unlike past constitutions such as in

1972, 1997 and 2007 when the rights and freedoms of the Thai people were better or fully protected (Hicken, 2007).

In essence, the interests of the military are protected in the 2017 Constitution. The constitution introduced an electoral system with an unelected 250-person senate chosen by the military (Head, 2017). This means that following the election, even if a new government was elected, any policies or legislation would need to be passed by the military-appointed senate. In this case, climate change may or may not be a priority for the senators as policies and legislation become limited or selective as they must also be based on the 20-Year National Strategy (discussed below). The 20-Year National Strategy has only few statements on climate change which means there is narrow scope on priority for climate change. Elected governments will also be bound to follow the strategy (Sattaburuth, 2018).

The 20-Year National Strategy dictates that Thailand's current plans and policies are structured in three levels: tier one, tier two and tier three (see Figure 1) (NESDC, 2019b). Following the logic of the diagram, it indicates that all Thai government plans must align with the 20-Year National Strategy (NESDC, 2019b). Thailand's climate change plans, thus, are considered as tier three – "action plan". This is given less priority than tier one and tier two policies and plans, although a few climate change measures are also included in those tiers. For example, the National Strategy promotes sustainable climate-friendly society which includes adapting to prevent and reduce losses and damages caused by natural disasters and impacts of climate change (NESDC, 2019a) (NESDC, 2019a, p. 55). Unfortunately, these climate change statements may be merely declarative rather than a requirement to be taken into action.

The constitution not only has provisions that support the military, but also the monarchy. For instance, the document states that the King is the Head of State (Office of the Council of State, 2017). The ideas on the sufficiency economy by the late King were also included in the constitution. Even after the referendum, the constitution was altered at the request of the King Maha Vajiralongkorn, who succeeded to the throne after the death of his father King Bhumibol Aduyadej in October 2016. The rare intervention resulted in changes that restored royal influence

over important procedures (McCargo, 2018). The monarchy in Thailand has been considered as above politics (Barron, 2020). Thailand's monarchy has long been shielded from criticism under strict lese-majeste and other laws with up to 15-year imprisonment for those charged with royal defamation (Barron, 2020). However, the role and power of the monarchy and military have not always been devoid from public scrutiny.

Figure 1: Framework for Development of National Plans

Note. Adapted from *แนวทางการเสนอแผนระดับที่ 3 เข้าสู่การพิจารณาของคณะรัฐมนตรี* [Procedure for proposed plans based on the three tiers] (p.2), 2019, http://nscr.nesdb.go.th/wp-content/uploads/2019/10/คู่มือแนวทางการเสนอแผนฯ กันยายน2562.

2.1.3 Mass Protests

There is clear sense of resentment and a desire for a full democratic state as seen with anti-government protests in Thailand. Mass protests have occurred in 1973, 1992, 2008, 2010 and 2020 (BBC, 2019b, 2020b). The latest anti-government protests in 2020 has shown that “people are sick and tired of living under a repressive regime” as described by human rights lawyer Arnon Nampa (Barron, 2020). This protest has come to include for the first time, a call for reforms to the monarchy (BBC, 2020a).

Students play a crucial role in Thailand's national politics. Democracy movements have often been led by students such as in the 1973 protests (Kongkirati, 2012) and the recent 2020 protests (Head, 2020). These protests revealed that there were major inequalities and inequities in Thai society and the education system, particularly under a military regime that had been rigid and restrictive. In addition, the protests, which are usually born from tertiary students, included those that were generally well educated, exposed to Western ideologies and supportive of democracy (Zimmerman, 1974). For the students in the 1973 uprising, they declared that their duty as students was to continue to struggle to protect true democracy in Thailand (Zimmerman, 1974). Similarly, one of the core demands for the students in the 2020 protests is that they want a true democracy (Ratcliffe, 2020). In the past, there have been movements only within university campus but now they include schools. Students in high schools were influenced by other student movements around the world. For example, the global School Strike 4 Climate instigated by Greta Thunberg influenced a similar movement in Thailand (BBC, 2019a).

Protests appear to be the only way for citizens to express their voice on marginalised issues. This action may provide a window of opportunity for change that people may want. In the 2020 protests, the close ties between the monarchy and the military have been denounced as "enemy to the principles of democracy" (Rasheed, 2020). This is because the military has consistently reversed progress towards the establishment of democratic institutions.

2.1.4 Governing Institutions and Processes

In some cases, a new government administration implements changes to governing institutions and processes. Sometimes, this is good for environmental and climate change policy. For example, in 1992, an authoritarian regime created the Ministry of Science, Technology, and Environment and adopted Thailand's landmark 1992 National Environmental Quality Act (Unger & Siroros, 2011). As reinforced in the 1997 Constitution, the restructuring provided state policies that were efficient and participatory through promotion and sustainable use of natural resources and environment. Pollution control and quality of life were also encouraged. This enabled

environmental policy to be integrated into the national agenda for social and economic development (Unger & Siroros, 2011).

Similarly, democratic regimes also allow progress on environmental and climate change policies. Under an elected government, administrative reforms involved the restructuring of government departments and ministries in 2002 (Hewison, 2010). This paved way for new ministries such as Ministry of Natural Resources and Environment. Following a military coup in September 2006, a new constitution went into force in November 2007. The 2007 Constitution process was arguably not participatory, undermined democratic development and entrenched authoritarianism (Hewison, 2010). However, the constitution called for broad participation in public policy making, including a public hearing process for projects with large potential environmental impacts (Unger & Siroros, 2011). It was during this time that Thailand upgraded the sub-committee on climate change to the National Committee on Climate Change (NCCC) in 2007. The NCCC was chaired by the Prime Minister and is made up of members from the public and private sectors, and academic institutions. The NCCC has the mandate to define national climate policies (ONEP, 2011b). Meanwhile, Thailand began to draft its first National Climate Change Strategy 2008-2012 which was later approved by Cabinet in 2008. As some academics argue, authoritarianism does not necessarily prevent the government of concentrating on environmental issues (Unger & Siroros, 2011).

The political developments in Thailand show that while it has undergone cycles of political conflicts and experienced both authoritarian and democratic governments, it has not deterred much from the trajectory on environmental policy, particularly climate change adaptation. Even so, policy progress in this area may have been slow due to the fragile political situation resulting in weak political institutions and systems. This progress has concurrently been influenced by the number of coups and constitutional changes. At the same time, the drive towards economic growth and development by subsequent governments has also shaped its response to environmental policies, including climate change adaptation.

2.2 Economic Developments and Climate Change Adaptation Policy

The Thai economy is important to its national climate change adaptation because economic growth contributes to large amounts of greenhouse gas emissions (GHGs) in the country. Since 1961, Thailand has experienced high levels of economic growth. The country's gross domestic product (GDP) grew from USD $3.034 billion in 1961 to $543.65 billion in 2019 (World Bank & OECD, 2019c). As a result, one of the most significant GHGs, carbon dioxide (CO_2), rose from 4,147.377 kt in 1961 to 283, 763.461 kt in 2016 (Carbon Dioxide Information Analysis Center, 2016). This increase is driven by the shift from a poor, agrarian society to a middle-income newly industrialised country (ADB, 2015). To capture this transition, this section describes key economic periods in Thailand from 1961 to 2019. This section is divided into five periods[1]: sustained moderate growth (1961 to 1985); extraordinary high growth (1986 to 1996); economic crisis and recovery (1997 to 2006); slow economic growth (2007 to 2013); and economic decline (2014 to present). These explore the focus of the country's National Economic and Social Development Plans (hereafter First Plan, Second Plan, etc) and main economic sectors such as agriculture, industry and services. In doing so, it evaluates the contribution of those sectors to Thailand's GDP and GHGs.

2.2.1 Sustained Moderate Growth (1961 to 1985)

Between 1961 and 1985, economic growth was sustained as the GDP grew on average 6.9% annually (see Figure 2 for the summary) (World Bank & OECD, 2019d). Economic policies during this period from the First Plan (1961-1966) focused on private initiatives, import substitution and provision of infrastructure facilities (National Economic Board [NEB], 1964). From the 1960s to 1970s economic growth occurred mostly from the agriculture sector which contributed on average 28.5%[2] of the GDP (World Bank & OECD, 2019a). This was driven by agricultural land expansion, growth

[1] The periodisation, particularly between 1961 to 1997, was adapted from Jitsuchon (2002).

[2] Includes forestry and fishing. Calculations from 1961 to 1979.

in unemployed labour in the rural population and infrastructure investment (Dixon, 1998). The growth in the agriculture sector was derived from traditional crops such as rice, maize, kenaf and rubber and upland crops such as jute, maize, cassava and sugarcane (Dixon, 1998). This later included agricultural exports such as chicken, canned tuna, frozen shrimp and vegetables (Hussey, 1993). The increase in productivity saw up to 80% of employment in the agriculture sector (NEB, 1961). Between the 1970s and 1980s, the increase in agriculture production and exports supported Thailand's transition to an industrialised economy beginning with light manufacturing (Chaloemtiarana, 2018).

From the 1970s to 1980s, industry grew on average 25.1%[3] of the GDP (World Bank & OECD, 2019e). Manufacturing was the most important industrial subsector in Thailand contributing to 13.0% of the GDP in 1961 to 21.9% in 1985 (World Bank & OECD, 2019f). Manufacturing consisted of mostly textiles and garments as well as wood products, non-metallic minerals, electronics, electrical machinery, jewellery and precious stones (Simon, 1996). Over 70% of the population was in the agriculture sector, with just 8% of the labour force worked in the manufacturing sector (Falkus, 1995). The growth of manufacturing saw the share of the GDP for agriculture slowly decline by 20.7% between 1961 and 1985 (World Bank & OECD, 2019a). Industry surpassed agriculture in the share of the GDP in 1976 (World Bank & OECD, 2019a, 2019e). By 1985, agriculture accounted for 15.8% of the GDP compared to 31.8% for industry (World Bank & OECD, 2019a, 2019e).

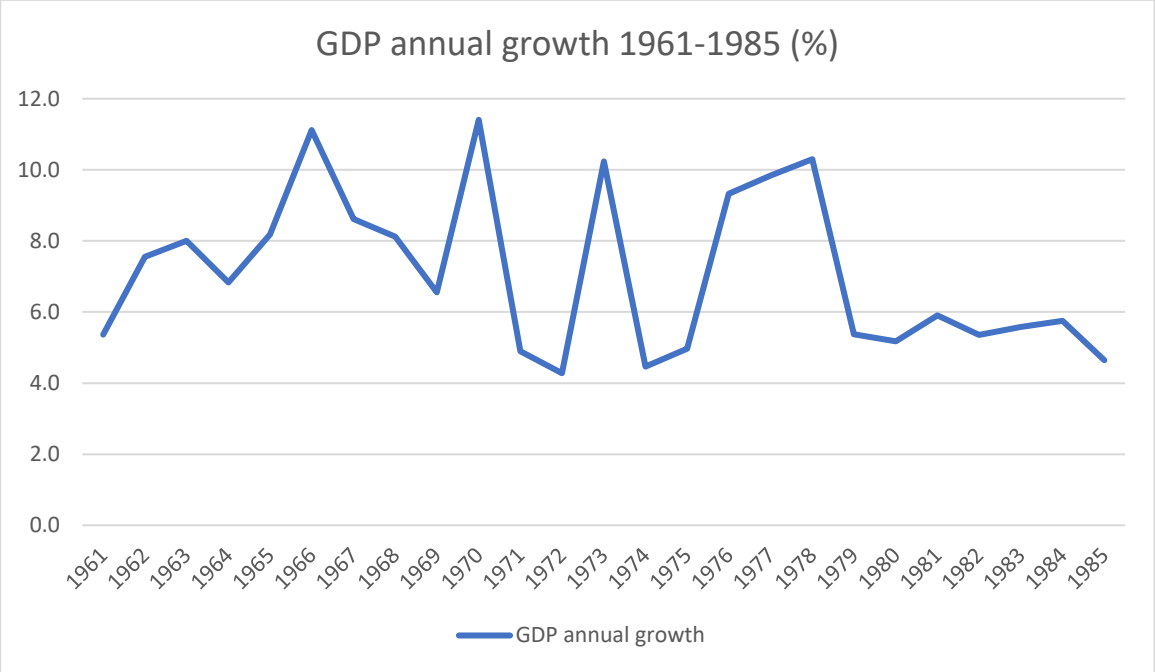
Economic growth during this period led to intensive use of natural resources resulting in increased levels of GHGs (World Bank, 1970). Data on total GHG emissions are limited, but the contribution of key economic sectors to specific gases give a good indication of their climate change impacts. Agricultural activities are the largest contributor to methane (CH_4) and nitrous oxide (NO_2) which are key GHGs[4] (Fischedick M. et al., 2014). Between 1970 to 1985, agriculture contributed on

[3] This includes construction. Calculations from 1961 to 1979.

[4] According to the IPCC AR5 report, only agricultural non-CO_2 sources are reported as anthropogenic GHG emissions (Fischedick M. et al., 2014).

average 81.8% of total methane emissions (European Commission, 2008a) and 79.4% of total nitrous oxide emissions in Thailand[5] (European Commission, 2008b). During that period, the percentages for agricultural CH_4 and NO_2 were consistent. According to the IPCC Fifth Assessment Report (AR5) report, "the agricultural sector is the largest contributor to global anthropogenic non-CO_2 GHGs" (Fischedick M. et al., 2014, p. 822). This highlights that, for most of this period, agriculture was a significant contributor to GHGs emissions in Thailand.

Figure 2: GDP Annual Growth 1961-1985 (%)



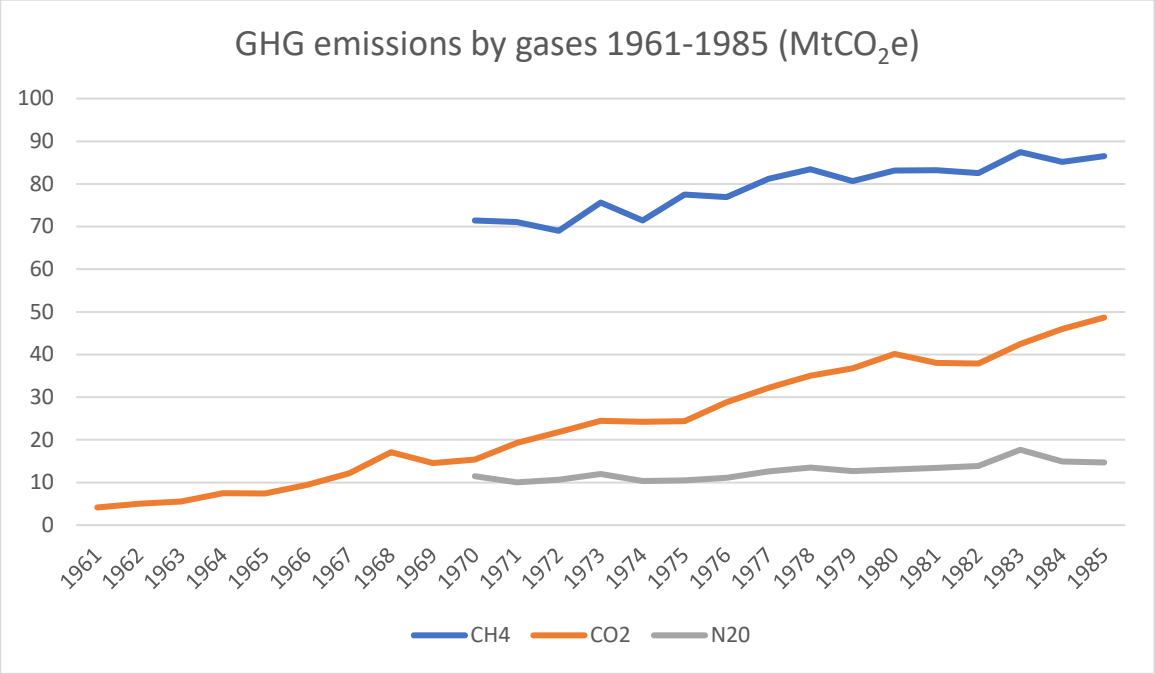
Note. Calculations based on data from *World Development Indicators*, by World Bank, 2020, http://data.worldbank.org/data-catalog/world-development-indicators.

Manufacturing activities contribute significantly to CO_2 emissions. According to the IPCC AR5 report, it is responsible for about 98% of total direct CO_2 emissions from the industrial sector (Fischedick M. et al., 2014, p. 750). Between 1971 and 1985, CO_2 emissions from manufacturing and construction accounted for, on average, 21.7% of total fuel combustion in Thailand (OECD & IEA, 2014). However, this declined from

[5] As described in the World Development Indicators for CO_2 (kt), "The carbon dioxide emissions of a country are only an indicator of one greenhouse gas. For a more complete idea of how a country influences climate change, gases such as methane and nitrous oxide should be taken into account" (Carbon Dioxide Information Analysis Center, 2016).

27% in 1971 to 17.3% in 1985 (OECD & IEA, 2014). These data show that while manufacturing grew during this period, its contribution to GHG emissions were lower than agriculture as methane emissions remained high (see Figure 3). Yet, economic growth in the country continued and peaked in the next period, led by a tariff and tax structure that encouraged foreign and local industrial enterprises for exports.

Figure 3: GHG Emissions by Gases 1961-1985 ($MtCO_2e$)



Data for CH4 and N2O were only available from 1970. Data for F-gases were not available.

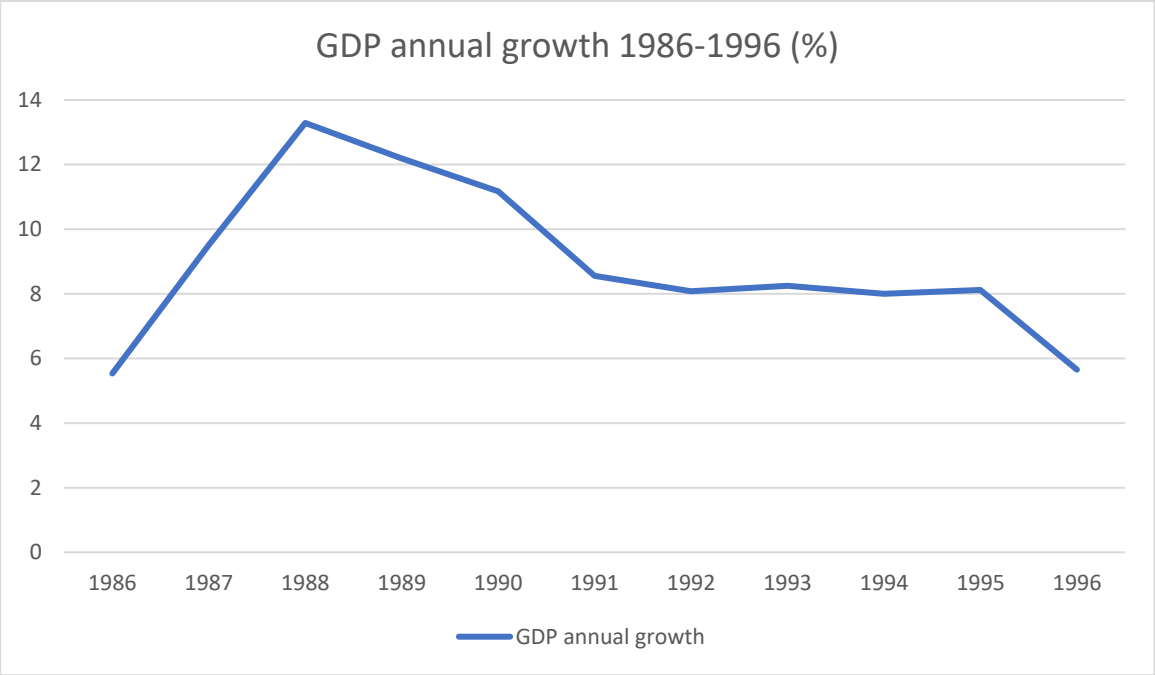
Note. Calculations based on data from *World Development Indicators*, by World Bank, 2020, http://data.worldbank.org/data-catalog/world-development-indicators.

2.2.2 Extraordinary High Growth (1986 to 1996)

In contrast to the previous period, between 1986 and 1996, Thailand experienced extraordinarily high growth (Dixon, 1998). The country's GDP growth averaged 8.9% during this period and peaked at 13.3% in 1988 (see Figure 4) (World Bank & OECD, 2019d). Economic policies during this period focused on export industries, foreign trade and direct foreign investment (Hussey, 1993). At the highest period of growth, the GDP growth averaged 10% from 1986 to 1990 (World Bank, 2000). In 1986 Thailand's GDP was USD $43 billion and rose to $183 billion in 1996 (World Bank & OECD, 2019c). The first half of this period was driven by manufactured exports in

labour-intensive products such as garments, shoes, artificial flowers, and gems and jewellery (Sussangkarn, 1995). Manufacturing grew dramatically at about 10.2% per annum (World Bank & OECD, 2019g) and contributed to an average of 26.1% of the GDP (World Bank & OECD, 2019f). Unfortunately, the latter half of this period saw declining growth rates of labour-intensive manufactured exports to medium-high technology manufactured products (Sussangkarn, 1995). These included items such as computers and parts, electrical appliances, electrical circuits apparatus, and vehicles and parts (Sussangkarn, 1995). Due to the growth of manufacturing, CO_2 emissions from manufacturing industries and construction contributed to 17.1% of total fuel combustion in 1986 to 22.9% in 1996 (OECD & IEA, 2014).

Figure 4: GDP Annual Growth 1986-2006 (%)



Note. Calculations based on data from *World Development Indicators*, by World Bank, 2020, http://data.worldbank.org/data-catalog/world-development-indicators.

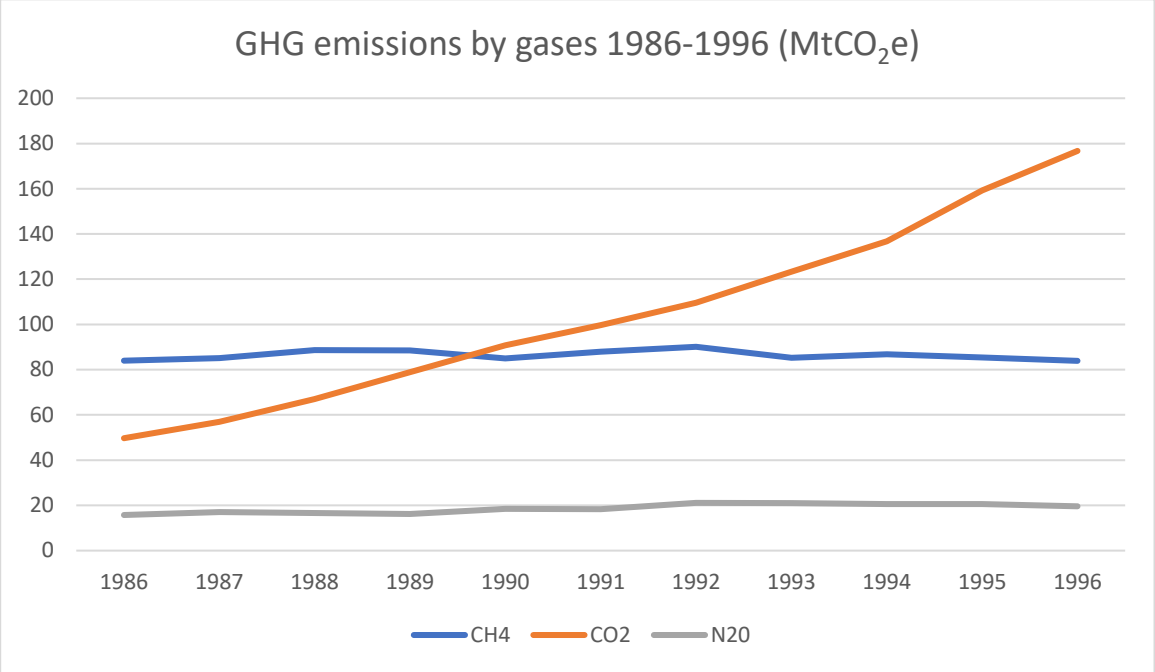
During this period, Thailand was a major exporter of rice, tapioca, rubber, sugar and fisheries (Sussangkarn, 1995). While agricultural export and production were important to the Thai economy, agricultural growth slowed. Agriculture grew on average 0.03% (World Bank & OECD, 2019b) and contributed about 12.3% of the GDP (World Bank & OECD, 2019a). However, it declined from 15.7% of the GDP in 1986 to 9.1% in 1996 (World Bank & OECD, 2019a) as it began to lose its

comparative advantage due to dwindling land, low global prices for agricultural products[6] and an increasing income gap between agriculture and other sectors. Many people migrated from rural to urban areas to find jobs in manufacturing or services. Although, agriculture continued to provide a high share of employment as a high proportion of the country's population lived in rural areas and were dependent on agriculture (Dixon, 1998). As a result of the decline in agriculture, agricultural methane emissions slumped by 8.1% between 1986 to 1996, yet it still contributed on average 73.1% of the total methane emissions (European Commission, 2008a). Similarly, agricultural nitrous oxide emissions dropped by 4.5% during this period but accounted for, on average, 78.1% of total nitrous oxide emissions (European Commission, 2008b). The decrease in agricultural output saw total CO_2 emissions surpassing methane emissions from 1986 (Carbon Dioxide Information Analysis Center, 2016; European Commission, 2012a).

Thailand's obsession with becoming the next "Asian Tiger" or newly industrialised country (NIC) in Asia saw the focus on making the most efficient use of the country's depleted natural resources and looking for untapped natural resources for future national development (NESDB, 1987). This meant the country faced challenges as rapid growth resulted in rising income inequality, depleted natural resources and environmental degradation. These challenges became more apparent in the latter part of this period as economic plans began pointing to the expansion of economic activities and urban population growth as producing more serious problems and constraints to future development. The climate change impact of rapid growth was reflected in GHG emissions in Thailand. CO_2 grew dramatically from 49.70 Mt in 1986 to 176.72 Mt in 1996 exceeding methane by 1990 (see Figure 5) (Carbon Dioxide Information Analysis Center, 2016). Methane emissions remained steady at 83.95 $MtCO_2e$ in 1986 to 86.46 $MtCO_2e$ in 1996 (European Commission, 2012a). Similarly, nitrous oxide emissions rose slightly from 15.74 $MtCO_2e$ in 1986 to 19.53 $MtCO_2e$ in 1996 (European Commission, 2012b).

[6] This was partly a result of the expansion of global food production and the protectionist policies of developed countries.

Figure 5: GHG Emissions by Gases 1986-1996 ($MtCO_2e$)



Note. Calculations based on data from *World Development Indicators*, by World Bank, 2020, http://data.worldbank.org/data-catalog/world-development-indicators.

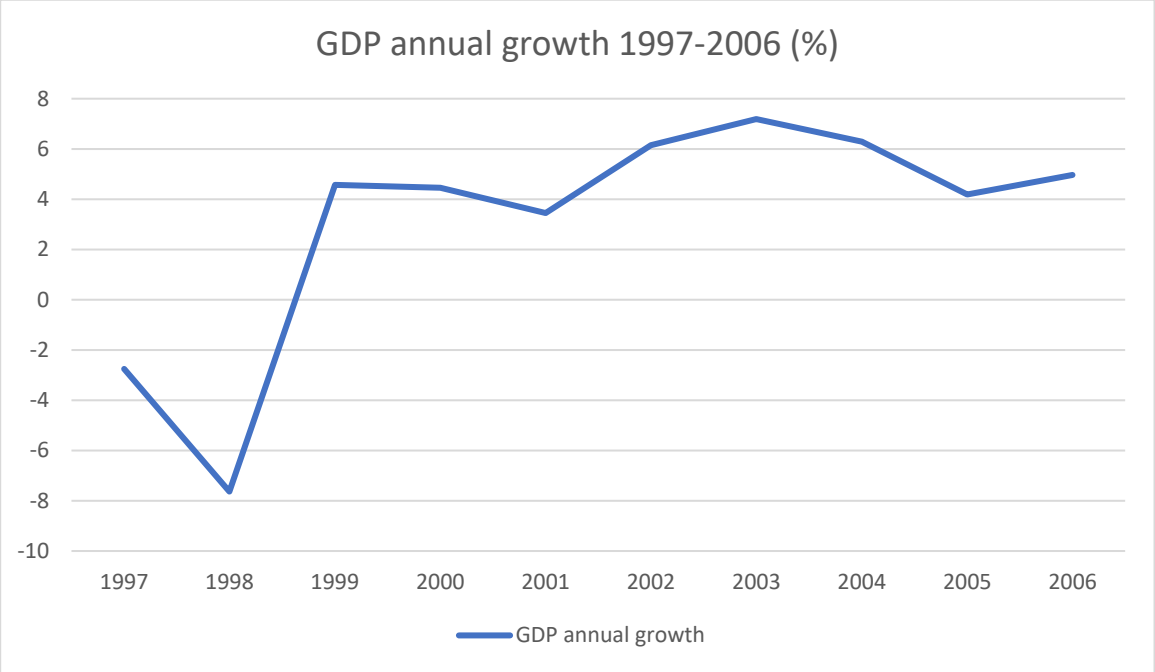
Until this period climate change remained absent from economic plans, but after the UNFCCC came into force in 1994, the country began to fully recognise that rapid economic growth and the urban industrial society have produced increasingly serious pollution problems (NESDB, 1997). The Seventh Plan (1992-1996) was the first time that the global warming phenomenon and its potential impact on agriculture and coastal areas were discussed (NESDB, 1997). Thailand's economic approach overall began the shift to a sustainable development paradigm at this time (NESDB, 1992). However, this was premature of the financial crisis.

2.2.3 Economic Crisis and Recovery (1997 to 2006)

The rapid growth in the previous period saw high foreign debt and uncontrolled capital investment in the private sector. This resulted in a major collapse in foreign-exchange and equity markets by 30 to 50% (Goldstein, 1998). The huge falls forced the Thai central bank to float the baht in July 1997 after failing to protect the currency from speculative attack (Siamwalla, 2000). The move triggered the 1997 Asian financial crisis (Ferrara, 2020). This crisis caused the Thai economy to drop

dramatically to -2.8% per annum in 1997 and -7.6% in 1998 (see Figure 6) (World Bank & OECD, 2019d). The GDP dropped from US $183 billion in 1996 to $113 billion in 1998 (World Bank & OECD, 2019c).The depleted funds from financial institutions saw the country accepting a US$17.2 billion loan from the International Monetary Fund (IMF) (Daquila, 2007). Thailand also saw a distinct dip in its GHG emissions from 275.08 $MtCO_2e$ in 1997 to 256.82 $MtCO_2e$ in 1998 (see Figure 6) (CAIT, 2016).

Figure 6: GDP Annual Growth Rate 1997-2006 (%)



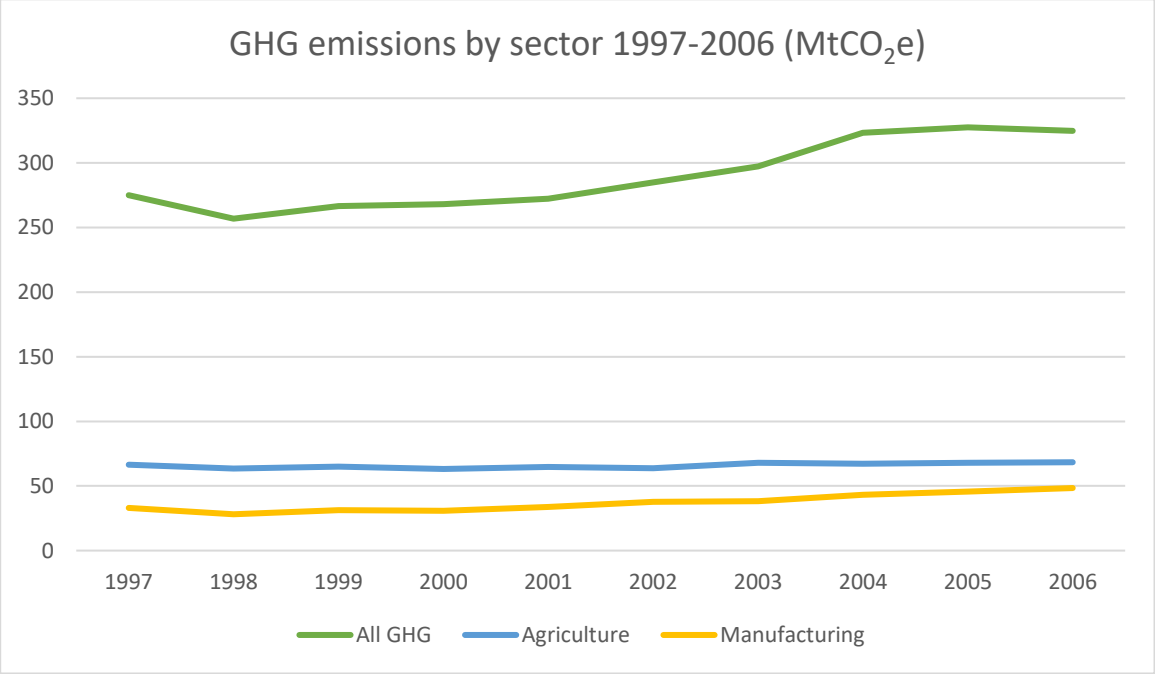
Note. Calculations based on data from *World Development Indicators*, by World Bank, 2020, http://data.worldbank.org/data-catalog/world-development-indicators.

Learning from this failure, Thailand began to shift from an accelerated economic growth with natural resources and low-cost labour for export to a holistic "people-centred development" approach in the Eight Plan (1997-2001) (NESDB, 1997, p. iv). To guide this approach, the government adopted the philosophy of sufficiency economy by King Bhumibol Adulyadej from the Ninth Plan (2002-2006) (NESDB, 2002). These plans promoted more effective and systematic management of natural resources. Although climate change was not mentioned in this plan, it placed greater emphasis on natural disasters and pollution problems (NESDB, 2002). With this in mind, economic policies in the latter part of this period saw the promotion of foreign investment, international trade, exports and tourism in Thailand as well as rural

development and increased domestic consumption (Chambers, 2013). Through these initiatives, Thailand's economy regained momentum, except for a short period after the 2004 Indian ocean tsunami. This event prompted the government to evaluate its disaster response approach and to enhance the capacity of local communities which subsequently introduced climate factors into disaster risk management (ONEP, 2011).

Between 1997 to 2006, agriculture remained at 9 to 10% of the GDP (see Figure 7) (World Bank & OECD, 2019a). Annual growth in agriculture was low at about 3% per annum (World Bank & OECD, 2019b). Manufacturing, though, continued to rise steadily from 25.7% of the GDP in 1996 to 30.2% in 2006 (World Bank & OECD, 2019f). Manufacturing experienced a slight drop for annual growth rate of 4.4% with the lowest at -8.3% in 1998 (World Bank & OECD, 2019g). Services such as tourism began to increase at the end of this period. This increase initially began with USD $10.456 billion in 2003, with a short dip after the 2004 Indian Ocean tsunami, later reaching $16.624 billion in 2006 (World Tourism Organization, 2018b).

Figure 7: GHG Emissions by Sector 1997-2006 ($MtCO_2e$)

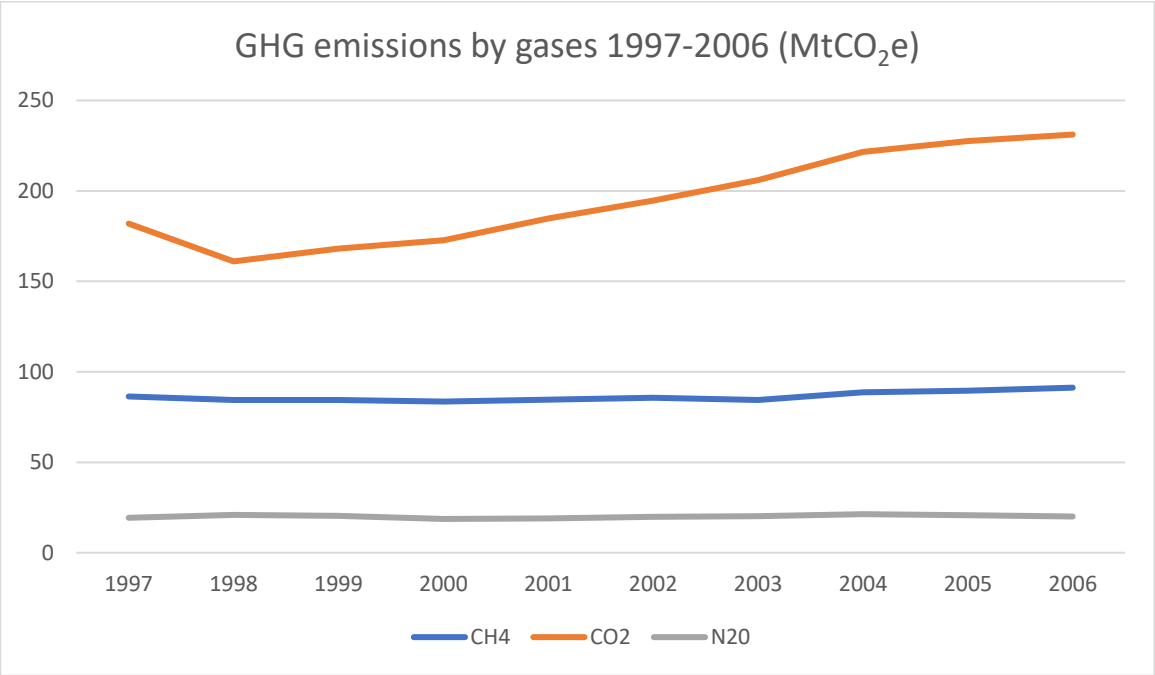


Note. Calculations based on data from Historical *GHG emissions*, by CAIT, 2020, https://www.climatewatchdata.org/ghg-emissions.

However, economic activities corresponded to GHG emissions, began to rise from 266.62 $MtCO_2e$ in 1999 to 324.74 $MtCO_2e$ in 2006 (see Figure 8) (CAIT, 2016).

Economic growth for Thailand from this period continued to rise slowly until the next period.

Figure 8: GHG Emissions by Gases 1997-2006 ($MtCO_2e$)



To keep data comparison consistent, F-gases (fluorinated greenhouse gases comprising of Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs) and Sulphur Hexafluoride (SF6) collectively), which data is available from CAIT, were not included in this table and subsequent tables.

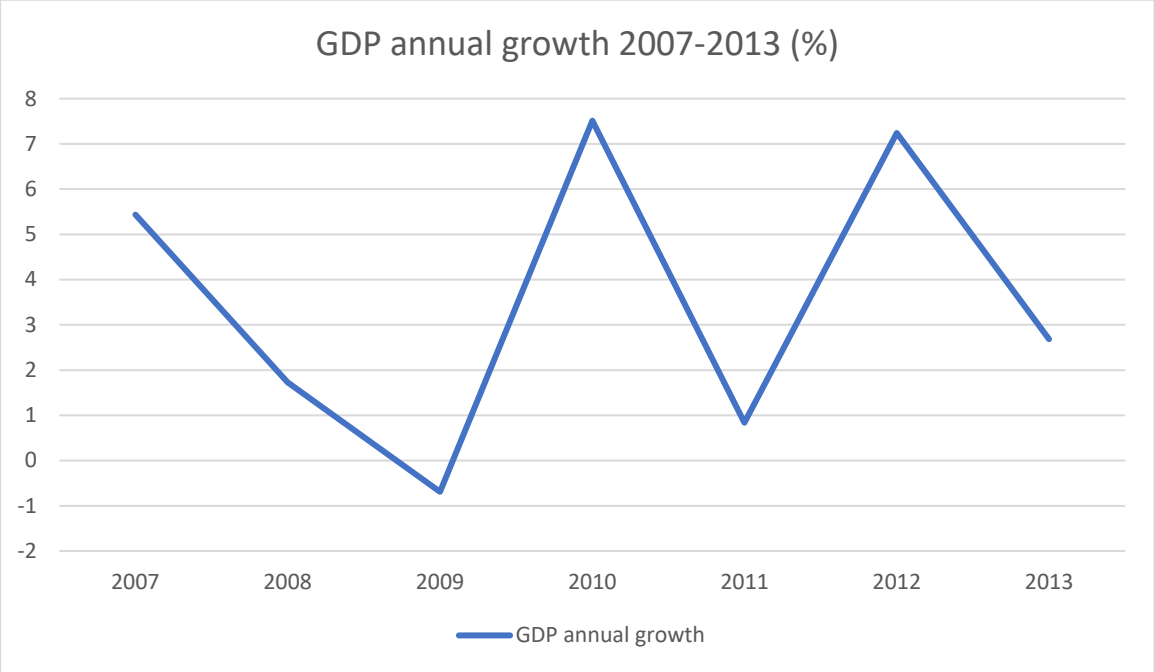
Note. Calculations based on data from Historical *GHG emissions*, by CAIT, 2020, https://www.climatewatchdata.org/ghg-emissions.

2.2.4 Slow Economic Growth (2007 to 2013)

Economic growth was slow but steady at about 2.3% per annum (see Figure 9) (World Bank & OECD, 2019d). Despite the slow rate, the GDP grew from USD $262 billion in 2007 to $420 billion in 2013 (World Bank & OECD, 2019c). Growth occurred from export, tourism and domestic demand (BOT, 2010). Economic growth early in this period was driven by the accelerated manufacturing of products for export. This included mostly electronics, electrical appliances, leather products and chemical products (BOT, 2007, 2008, 2009). Tourism was another significant sector growing on average of 11.8% of exports (World Tourism Organization, 2018a). The sector grew dramatically from $20.625 billion in 2007 to $41.765 billion in 2013 (World

Tourism Organization, 2018b). Meanwhile, agricultural growth overall continued to decline (World Bank & OECD, 2019b). Major agricultural products included rice, cassava, rubber, sugarcane, maize, palm oil and shrimp (BOT, 2007, 2008). Yet the global economic crisis and internal political unrest adversely affected Thai export demand and deterred both domestic and foreign investment and tourism (Booth, 2016; BOT, 2008, 2009).

Figure 9: GDP Annual Growth 2007-2013 (%)



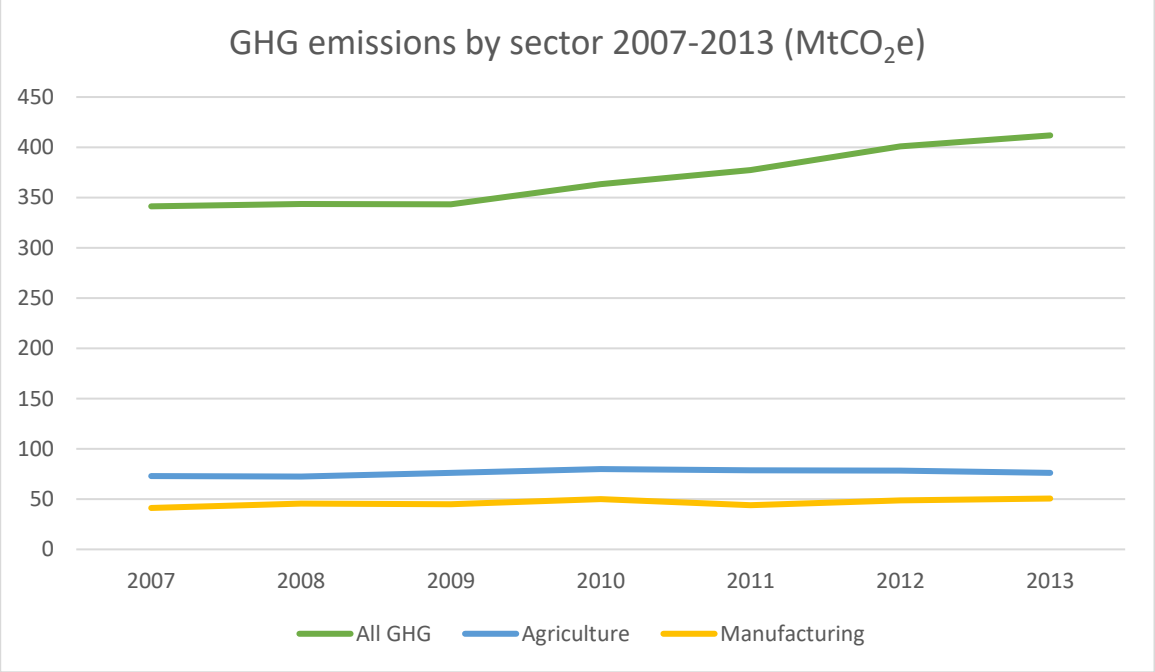
Note. Calculations based on data from *World Development Indicators*, by World Bank, 2020, http://data.worldbank.org/data-catalog/world-development-indicators.

Thailand experienced negative growth in 2009, but had a strong recovery in 2010 after facing negative factors, including occurrences of natural disasters (BOT, 2010). This recovery was further supported by fiscal stimulus, low interest rates and a resilient financial system (Gil Sander & Burgard, 2011). Unfortunately, floods in 2011 severely damaged the manufacturing sector. For example, as one of world's leading manufacturers of hard-disk drives, the flooding in Thailand suspended and constrained global production (Fernquest, 2011). The agricultural sector remained resilient, however, despite damage to rice crops in the central region (BOT, 2011). At the end of this period, Thailand began to see the need to transition from the middle-income trap, where the economy does not rely on low-cost labour, natural resources

and government subsidies. The country started to look at driving competitiveness through innovation and technology (BOT, 2012).

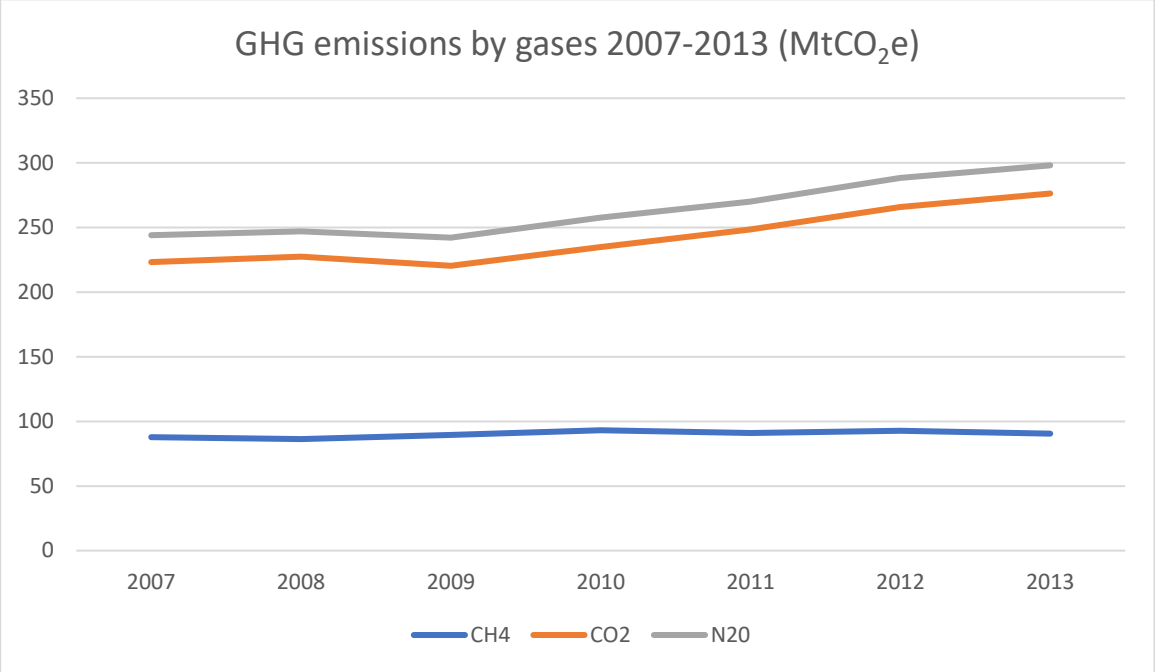
Total GHG emissions (including LUCF) in Thailand grew steadily from 341.27Mt CO_2e in 2007 to 411.83Mt CO_2e in 2013 (see Figure 10 and 11) (CAIT, 2016). Agricultural CO_2 equivalent emissions (CO_2e) contributed to 73.09Mt CO_2e in 2007, accounting for 21.4% of total GHG emissions, compared to 76.18Mt CO_2e in 2013, which was 18.5% of total emissions in 2013. (CAIT, 2016). Meanwhile, manufacturing (including construction) contributed 41.20Mt CO_2e in 2007 and 50.60Mt CO_2e in 2013. This was roughly 12.1% of total GHG emissions in 2007 and 12.2% in 2013 (CAIT, 2016). The percentages show that the share of the total GHG emissions from agriculture and manufacturing are similar but overall GHG emissions continued to increase.

Figure 10: GHG Emissions by Sector 2007-2013 ($MtCO_2e$)



Note. Calculations based on data from Historical *GHG emissions*, by CAIT, 2020, https://www.climatewatchdata.org/ghg-emissions.

Figure 11: GHG Emissions by Gases 2007-2013



Note. Calculations based on data from Historical *GHG emissions*, by CAIT, 2020, https://www.climatewatchdata.org/ghg-emissions.

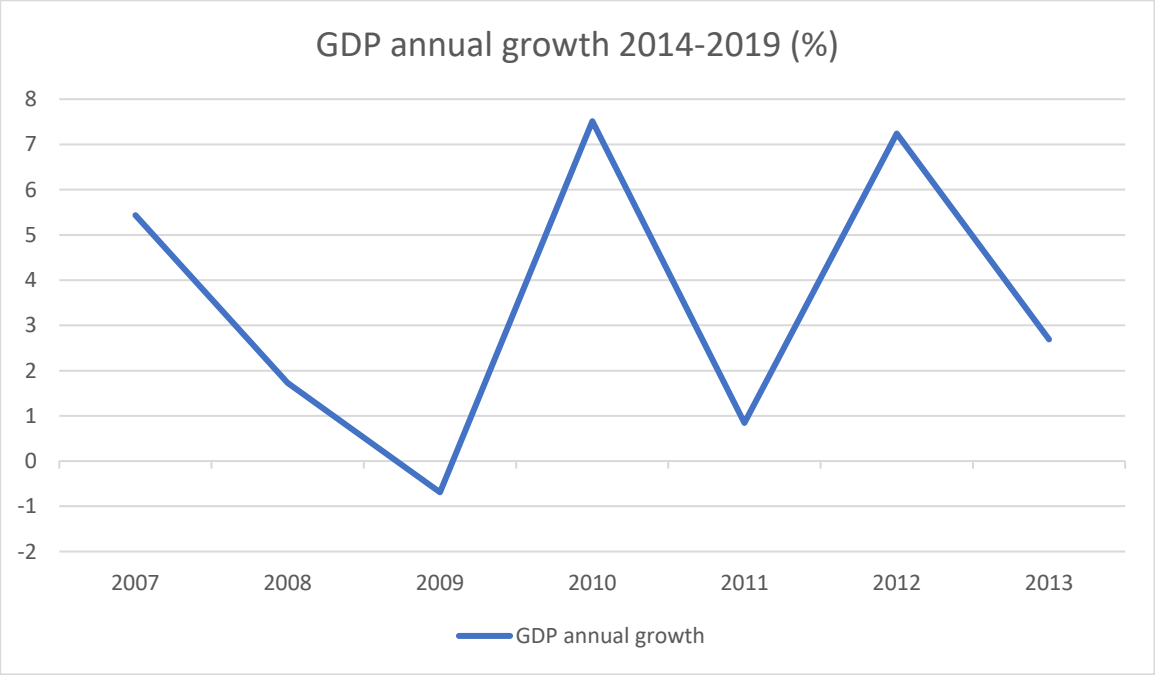
Economic policies during this period began to include a focus on climate change. Climate change was explicitly mentioned for the first time in a national development plan in the Tenth Plan (2007-2011). This plan claimed that the "increase in the world population has caused deterioration in the world's environment and natural resources, with effects on climate change, the incidence of natural disasters, and the spread of communicable diseases" (NESDB, 2007, p. ii). The plan also attributed consumerism and pollution as factors causing climate change. The severity and occurrence of natural disasters in Thailand such as the 2011 floods prompted the government to consider its response to disaster management through the introduction of climate factors (Marks, 2015; ONEP, 2011). The discussion on climate change was dramatically elevated in the Eleventh Plan (2012-2016). The plan focused on the management of natural resources and the environment toward sustainability. It aimed to create a low-carbon society, enhancing the capacity to adapt to climate change and natural disasters, while ensuring consistency between trade practices and environmental protection (NESDB, 2012). This was the first plan to deeply consider

climate change implications for national development, particularly sustainable development. This approach was taken into the next period.

2.2.5 Economic Decline (2014 to present)

Since 2014, Thailand experienced slow economic performance, leading it on the verge of a recession, with increased criticism of the government's handling of the economy (Chantanusornsiri, 2019). While the GDP increased from USD $407.339 billion in 2014 to $543.65 billion in 2019 (World Bank & OECD, 2019c), the economic growth rate was just under 1% in 2014 and peaked at 4.1% in 2018 but slightly dropped to 2.4% in 2019 (see Figure 12) (World Bank & OECD, 2019d). Although growth sank in 2014 following political instability, the country's economic recovery continued in 2016 (Oxford Business Group, 2017). However, Thailand is losing its competitiveness to low-wage and low-skilled goods from less-developed, labour-abundant countries (ADB, 2015).

Figure 12: GDP Annual Growth 2014-2019 (%)

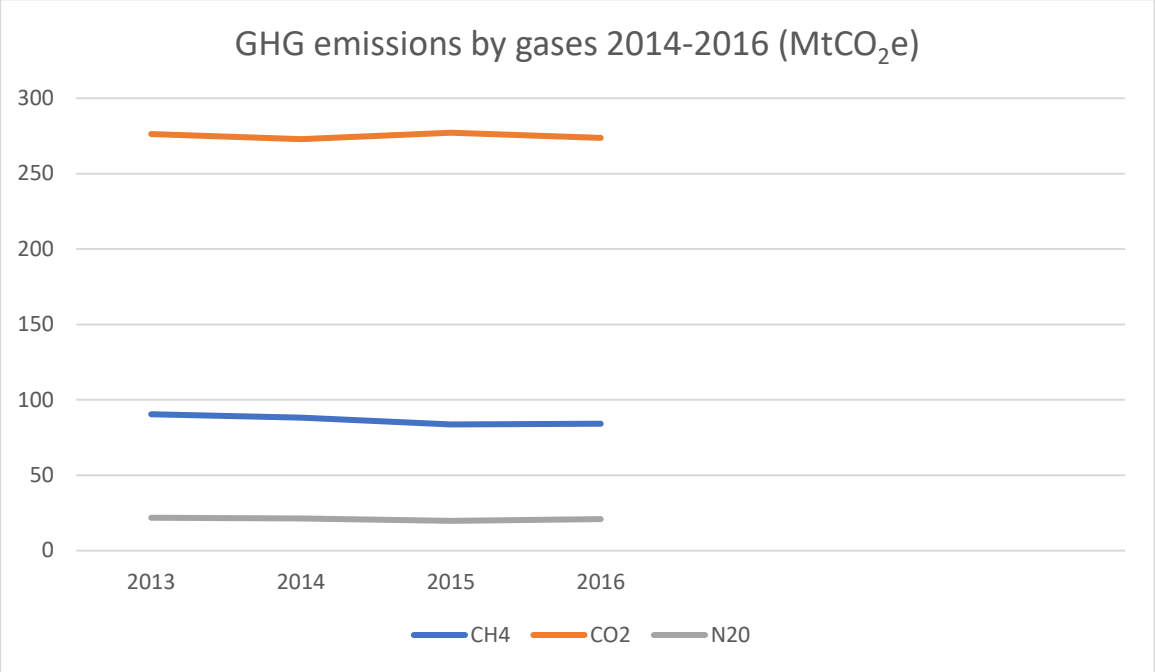


Note. Calculations based on data from *World Development Indicators*, by World Bank, 2020, http://data.worldbank.org/data-catalog/world-development-indicators.

Growth continues to be driven by primary exports and tourism. High-tech industries dominate the export-oriented manufacturing industries, led by electronics and automotive. This has been supported by regional transport and logistics hubs in recent years. There is greater telecommunication connectivity and domestic income, leading to a rise in consumer spending (Oxford Business Group, 2016). Manufacturing contributes on average 26.9% of the GDP, but this is slowly declining, dropping by 2.3% between 2014 to 2019 (World Bank & OECD, 2019f). Annual growth for manufacturing has contracted to an average of 1.5% (World Bank & OECD, 2019g).

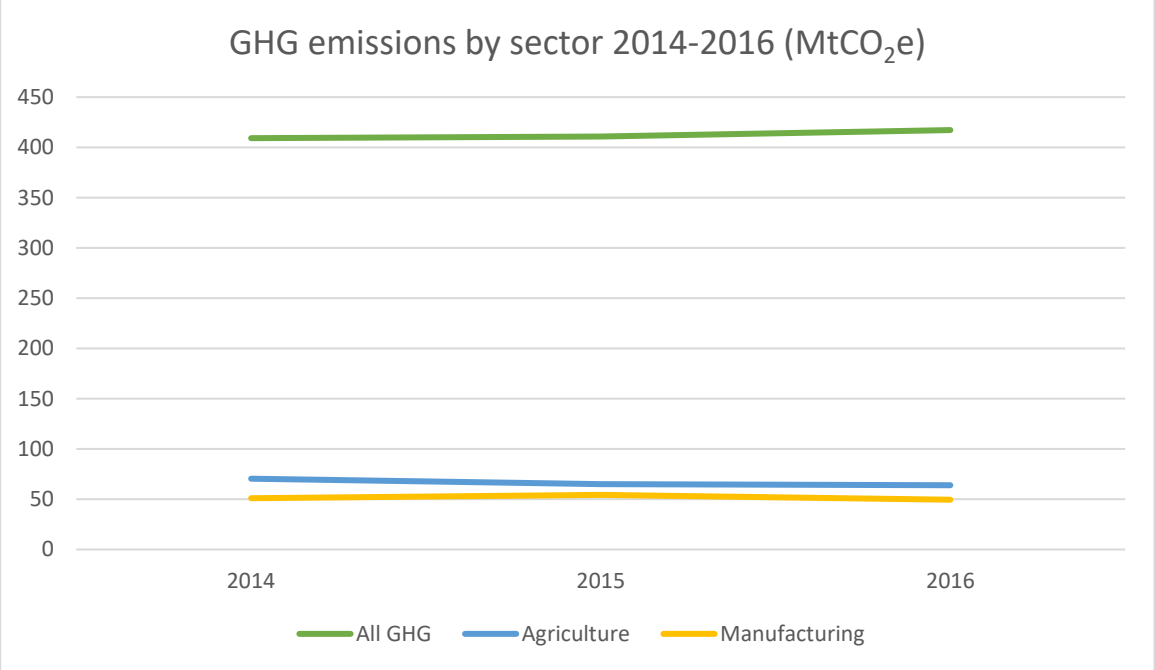
Meanwhile, tourism contributed to 13.8% of total exports in 2014 which grew to 19.9% in 2018 (World Tourism Organization, 2018a). Tourism on average is growing at 11%. It contributed $38.451 billion in 2014, rising steeply to $65.242 billion in 2018 (World Tourism Organization, 2018b). Tourism is one of the largest sectors of employment in Thailand, making it the second-largest employer by sector after agriculture, which had 14.1% of total employment (Oxford Business Group, 2016). From 2014, total GHG emissions were at 409.18Mt and are rising slowly (see Figure 13 and 14) (CAIT, 2016). The rate of GHG emissions for key economic sectors remains relatively the same. Agriculture continues to have a slight dip from 70.41Mt CO_2e to 63.93Mt CO_2e in 2016 (CAIT, 2016). Manufacturing continues at a steady rate from 50.6Mt CO_2e in 2014 to 49.5Mt CO_2e in 2016 (see Figure 14). These figures show that GHG emissions from these sectors will likely not increase but will continue to have impacts at the amounts that are produced.

Figure 13: GHG Emissions by Gases 2014-2016 ($MtCO_2e$)



Note. Calculations based on data from Historical *GHG emissions*, by CAIT, 2020, https://www.climatewatchdata.org/ghg-emissions.

Figure 14: GHG Emissions by Sector 2014-2016 ($MtCO_2e$)



Note. Calculations based on data from Historical *GHG emissions*, by CAIT, 2020, https://www.climatewatchdata.org/ghg-emissions.

Beginning in 2015, the focus for the Thai government was to transition the country from a “middle income trap” to a high-income nation in five years through the latest economic initiative “Thailand 4.0”. Considered the fourth industrial revolution, the plan describes an economy driven by high-tech industries and innovation (Phoonphongphiphat, 2017). One of the key strategies is to create Southeast Asia’s innovation and knowledge-based digital hub, through a highly skilled workforce, rapidly improving infrastructure and favourable government incentives for foreign companies to move their operations to Thailand. The government and private investors plan to spend more than US $45 billion developing environmentally sustainable smart cities, futuristic digital technology parks, fast rail links, three seaports and other facilities. This is targeted for the Eastern Economic Corridor (ECC) which is a special economic zone of three provinces in eastern Thailand. In doing so, Thailand aims to reduce income disparities by lifting living standards in rural areas (Bangkok Post, 2020).

In the last two periods, the 20-year National Strategy and Thailand 4.0 were reinforced in the Twelfth Plan (2017-2021) (NESDB, 2017). In these plans there is greater attention to climate change policy than at any other time in Thai economic history. The intensification of climate change and Thailand’s related commitments have given the country more responsibilities in GHG emission reduction within a context of intensified trade competition (NESDB, 2017). The plans recognise that climate change is a risk factor in exacerbating natural resource deterioration, which has future economic implications (NESDC, 2019a). However, the economics of climate change are often discussed only in terms of mitigation, despite the completion of the country’s first National Adaptation Plan 2018-2036 in 2018 (ONEP, 2018a). The state of the economy could potentially be more difficult for climate change adaptation as it faces slow economic growth, the lowest in five years, amidst budget disbursement delays and the Covid19 pandemic in 2020 (Reuters, 2020).

In the last 60 years, Thailand has experienced mostly rapid and steady economic growth (see Table 1 for summary). This growth was initially driven by an agricultural economy prior to the 1970s, but steadily shifted towards labour-intensive, export-

oriented manufacturing in the 1980s to 1990s, and later to medium- and high-technology industries. Thailand is currently driving towards a high technology and innovation industries. While these changes have helped Thailand move up from a low-income to an upper-medium economy, there have been consequences. Growth has mostly occurred from the exploitative use of natural resources, leading to environmental degradation and increased GHG emissions. The Thai government has slowly considered the economic impacts to climate change, but political will has been lacking and government action is slow. The reasons for this can be understood by the Thai social and cultural underpinnings.

Table 1: GDP Average Growth and Contribution of Major Production Sectors, 1961-2019 (%)

		Agriculture		**Industry**		**Services**	
Period	GDP Growth Rate	Growth Rate	Share to GDP	Growth Rate	Share to GDP	Growth Rate	Share to GDP
1961-1970	8.1	5.6	31.1	11.7	22.8	8.0	46.0
1971-1980	6.9	4.0	25.4	9.3	27.9	7.1	46.7
1981-1990	7.9	3.9	16.8	10.4	32.8	7.7	50.3
1991-2000	4.5	1.7	9.6	6.2	37.1	3.8	49.8
2001-2010	4.6	2.2	9.4	5.5	38.4	4.4	52.2
2011-2019	3.2	1.3	9.6	1.6	36.0	4.9	54.4

GDP = gross domestic product

Source: Calculations based on data from World Bank. World Development Indicators. http://data.worldbank.org/data-catalog/world-development-indicators (accessed September 2015).

Note. Adapted from Thailand Industrialization and Economic Catch-up, by ADB, 2015, https://www.adb.org/sites/default/files/publication/178077/tha-industrialization-econ-catch.pdf.

Further calculations based on data from *World Development Indicators*, by World Bank, 2020, http://data.worldbank.org/data-catalog/world-development-indicators.

2.3 Social and Cultural Developments and Climate Change Adaptation Policy

Since the 1960s, rapid economic growth, political tensions and population restructuring have influenced Thailand's social and cultural developments (Liamputtong, 2014). Thailand's transition from an agrarian society to a newly industrialised country saw it emerge from a low-income country to an upper middle-income country. These changes brought about substantial poverty reduction in the country (Wang et al., 2020). Unfortunately, in recent years, the poverty rate and the absolute number of people living in poverty in Thailand is growing. The reversal of poverty reduction is linked to worsening economic and environmental conditions (Wang et al., 2020). Such trends put vulnerable populations at risk of further social inequalities and low adaptive capacity (Siriyuvasak, 1991). For example, droughts have affected the livelihoods of farmers who are already typically the poorest (Wang et al., 2020).

This section explores how social and cultural developments have shaped Thailand's perspectives on the environment, especially climate change. First, it looks at the constructed meaning of nationalism in Thailand and the implications on natural resources used in rural and ethnic communities. Second, it explains the role of the monarchy in Thai society and how the sufficiency economy is used in royal development projects on the environment. Third, it describes the Buddhist religion in Thailand and its influence on environmentalism. Lastly, it explores Westernisation and globalisation in Thailand and how it has shaped environmental and climate change movements.

2.3.1 Nationalism

Among the estimated 69 million people in Thailand, there are a total of 62 ethnic groups. Approximately 85% identify as ethnic Thai although consisting of 36% of Tai population, 33% of the Isan population in the northeast, 8% of Lanna Thai population in the north, and 8% of Pak Thai in the south. Other major ethnic groups include 14% Sino-Thai population who are located mostly in the central region and Bangkok, 3% Malay-Muslim population in the south and 2% Khmer in the east. The rest make up

the minority ethnic groups which include ethnic highland communities in the north down to the west (Government of Thailand, 2011). Despite being a pluralistic society, ethnic diversity has been obscured by Thai nationalism as enforced by the monarchy and state. Beginning in the 19th century, King Vajiravudh (Rama VI) (1881-1921) constructed the meaning of 'Nation, Religion, Monarchy' which symbolises nationalism, Buddhism and the royal family. The emphasis on these pillars make them superior in Thailand (Baker & Phongpaichit, 2020). These pillars have defined "Thainess" or "Thaification" as sacred institutions in Thai society and have been used as authority and legitimacy by political elites. The pillars portray a narrowly defined concept of Thai culture and society where "nation" means a racially homogenous country of ethnic Thais, "religion" means Buddhism only and "monarchy" means a sacred institution beyond any criticism (Ekachai, 2020). This state ideology has been reproduced throughout Thai history and is still relevant to Thai culture and identity today (Sattayanurak, 2020).

The dominance of Thai nationalism means that other ethnic groups in Thailand have historically been forced to integrate into mainstream Thai society. Since 1976, policies towards highland minorities have been shaped by territorial and security concerns, the eradication of opium cultivation and the control of shifting cultivation (Francis, 2004). However, some of these strategies were detrimental to ethnic highland communities who were dependent on the forests and natural resources for their livelihoods. For example, a study in Pae Por and Wieng Pha located in northern Thailand shows that the inconsistency from citizenship and land tenure meant that highland communities have been relocated or are in constant threat of eviction (Francis, 2004). This provides little incentive for communities to invest in sustainable methods of land management. Similarly, the implementation of agriculture initiatives such as the introduction of coffee and other cash crops lacked coherence and sustainability. There were several other limitations including no account of social and cultural underpinnings (Francis, 2004). These effects are important when considering how state initiatives impact on local communities and adaptive capacity.

2.3.2 Religion

Thai citizens have religious freedom as there is no official state religion (Office of the Council of State, 2017). Even so, as stipulated in the Thai constitution, the King is Buddhist and the upholder of the faith (Kusalasaya, 1983). Buddhism is the main religion practised by 95% of people in Thailand (McCargo, 2004). Buddhism in Thailand has integrated with its strong tradition of Hinduism from India via Cambodia, Chinese folk religions of its Sino-Thai population and Tai folk religions of its Isan ethnic groups (Kusalasaya, 1983). Buddhists believe in karma and rebirth, so they aspire to reach enlightenment (*nibbana*), allowing them to be released from desire, passion and hatred, liberated from the cycle of suffering and rebirth (Darlington, 1998). Laypeople acquire merit (*bun*) through almsgiving (*dana*), temporary ordination and performing good deeds which is believed to improve their chances for a good rebirth. The notion of merit is thus a dominant aspect of the life of Buddhists in Thailand (Kusalasaya, 1983).

As Buddhism has been integrated into Thai culture and intrinsically tied to nature, protecting the environment is seen a form of merit making (Darlington, 2012). The development of Thailand has seen the increasing deterioration of natural resources and the environment. Since the late 1980s, activist Buddhist monks in rural Thailand have led a popular movement to protect local forest, water and land resources while at the same time challenging dominant state and corporate "economist" development paradigms (Walter, 2007). These "development monks" (*phra nak phathanaa*) and "ecology monks" (*phra nak anuraksaa*) have led local villagers and NGO activists in rituals like tree or forest ordinations (*buta paa*) (Walter, 2007). These rituals have initially been to tackle controversial issues such as deforestation and the construction of large dams in the 1990s, but have become Buddhist teachings to support and encourage sustainable ecological practices (Darlington, 2012). The Buddhist environmental movement in Thailand has thus seen monks actively engaged in environmental and conservation activities in response to the suffering caused by environmental degradation.

In many ways, climate change is amplifying environmental problems that are already existing. Most of the anthropogenic increases in GHG concentration have come from a century of rapid growth through the consumption of fossil fuels and transformation of natural resources. Daniels (2010b) proposed that Buddhist worldviews and themes can contribute to effectively address climate change and other sustainability problems. He argues that a society that embraced Buddhism would greatly reduce the drivers that currently underlie predicted climate change and provide an adaptive and sustainable policy response to climate change (Daniels, 2010a). The principle of moderation or the "Middle Way" in the Buddhist approach is in fact the same principle which King Bhumibol Adulyadej's sufficiency economy concept is derived from (Daniels, 2010a). Some monks have also mixed Buddhist teachings with the sufficiency economy theory (Price, 2018).

2.3.3 Monarchy

For over 70 years, King Bhumibol Adulyadej (Rama IX,1927-2016) was seen to have dedicated his life to the betterment of the Thai people through a myriad of initiatives and projects (Streckfuss, 2017). He developed the philosophy of sufficiency economy in the 1970s, an approach to development that was strongly promoted in the rural areas and among the underprivileged in society. At the time, this approach attempted to sustain the livelihoods of the largest percentage of the population who were falling behind from rapid economic growth and deterioration of natural resources (United Nations Development Programme [UNDP], 2007).

The New Theory is the most distinct and concrete example of the application of the sufficiency economy approach. Through this approach, the King attempted to help Thai farmers who suffered from the impacts of economic crisis, natural disasters and other severe environmental conditions (UNDP, 2007). It is essentially a system of integrated and sustainable agriculture through water resource development and conservation, soil rehabilitation and conservation, sustainable agriculture and self-reliant community development. It encouraged farmers to grow a diversity of crops, raise fish and poultry, and avoid chemical pesticides and fertilizers (UNDP, 2007).

The persistence of the late King's sufficiency economy approach demonstrates that the monarchy has a strong presence in the life of Thai people and dictates societal norms and values. As evidenced, Thailand has a long history of royal dynasties starting from around 1238 CE with the Phra Ruang dynasty (Chachavalpongpun, 2020). The royal family is revered throughout the country with the King traditionally "believed to be a reincarnation of the supreme god or *devaraja*" (Adsanatham, 2017, p. 482). However, reverence for the King was reinforced by the strict lèse-majesté laws that apply in which offenses are punishable by imprisonment[7] (Hewison & Kitrianglarp, 2010). Under the Thai constitution, the King is a symbol of national identity and unity who has respect and moral authority (Merieau, 2016). The authority and the legitimacy of the monarchy reinforce traditional values in Thai society.

2.3.4 Traditional Values

Traditional norms governing behaviour in Thai society can be seen within the Thai social hierarchy. The embedded practices of patronage, nepotism and cronyism, dictated by wealth, family name, level of education and influence are prevalent in society, along with differential status and Buddhist religious merit. They dictate notions of "non-inconvenience to others" (*krengjai)*, modesty (*thomton)*, respect (*haikiat)* and "debt of gratitude" (*bunkhun),* which are entrenched in the Thai mindset. Intachakra (2012) describes *krengjai* in the literal sense as "fear of hearts", but is widely construed as "consideration or concern for others' feelings" (p. 619). It is an institutionalised principle of interaction, a ritualistic social obligation than genuine concern, that is expected as routine practices in his or her life. Through formal and informal education, it is encapsulated in a rhyme which students are encouraged to recite (Intachakra, 2012). The term *bunkhun* has a similar connotation. The concept is based on social norms and Buddhist instructions. It involves "any good deed by individuals, thereby entailing gratitude and obligation on the part of the beneficiary" in terms of meritorious debts that must be repaid (although the debt is never completely

[7] The lèse-majesté laws, based on Thai Criminal Code section 112, make it illegal to defame, insult, or threaten the king, queen, heir-apparent, or regent (since 1908). The punishment is three to fifteen years of imprisonment per count.

repaid) (Subgranon & Lund, 2000, p. 171). Similarly, this concept can be linked to be *katanyu*, or to be "constantly aware and conscious of the benefit or favour another person has bestowed" which is a highly valued character trait in Thai society (Klausner, 1960, p. 275).

These words are common in the Thai context and reflect an internal, inclined subservience to others, particularly elites. In politics, the patronage system has been used by high-level officials, pointing to money politics and corruption. This system has been criticised for causing slow policy developments (Hicken, 2006). Moreover, the phrase *mai pen rai* describes the laidback mindset that is inherent to a sense of light-heartedness. This term has been linked to the Buddhist concept of *tri laksana* which infers that "everything is impermanent and so nothing is truly substantial" (Panpothong & Phakdeephasook, 2014, p. 99). However, it is used erroneously in Thai society (Panpothong & Phakdeephasook, 2014). It adds another layer to the other terms, by inferring a state of complacency in Thai society in maintaining the status quo or old policies that lack innovation. This means that policies such as climate change that compete with dominant interests are likely to be dismissed or fail to advance easily in debate. Thai traditional values have at times conflicted with Western thought and values and globalisation driven by social and environmental movements.

2.3.5 Westernisation and Globalisation

The experiences of Western-style administration and Western knowledge during the reign of King Mongkut (1851-1868) and particularly of King Chulalongkorn (1868-1910) helped lead to social and political reforms in the country (World Bank, 1980). But the threat of Western colonialism and the potential risk to Thai traditional values meant that Westernisation was limited (Chonchirdsin, 2009). Despite such efforts, more Thai intellectuals began to identify with Western thought and values, unconsciously isolating themselves from traditional Thai society (Chonchirdsin, 2009). From the 1970s, modernisation in Thailand came to be identified with Westernisation and globalisation, and by the 1980s, brought the rise of an educated middle-class and urbanisation (Baker & Phongpaichit, 2014). While poverty diminished steadily, the

division between rich and poor grew worse, primarily between urban and rural populations. Thailand began to see that the booming urban economy has been at the expense of rapid exploitation of natural resources and pollution (Baker & Phongpaichit, 2014).

To tackle the deterioration of natural resources and pollution, environmental social movements appeared in the 1980s in Thailand. While this movement followed from environmentalism in the West, environmentalism in developing countries such as Thailand was largely based on local struggles by farmers, ethnic minority and poor communities in defending their livelihoods and access to local resources (Forsyth, 2007). This action involved protests for democracy and against capitalist globalisation, specifically targeting “agrarian debt, failing crop prices, access to forests, and dam projects” that continued in the 1990s (Baker & Phongpaichit, 2014, p. 218). Local groups also protested against large government infrastructure projects that had no local consultation or environmental assessments (Unger & Siroros, 2011). For example, in the 1980s, the construction of the Pak Moon dam forced villagers to resettle in less fertile areas without adequate compensation (Bureekul, 2007). Consequently, the long period of public participation in opposition to the construction of the Nam Choan Dam became a significant force in Thailand’s environmental movement (Bureekul, 2007). Public participation has become an important part of environmental management in Thailand and has included local villagers and slum dwellers, NGOs, academics and student activists (Missingham, 2003). In recent years, environmentalism in Thailand has embraced the notion of environmental justice (Darlington, 2014).

Environmental justice has crucially shaped the climate change movement in Thailand in recent years. This shaping has been seen with floods and droughts which have had disproportionate effects on most vulnerable populations in the country (Darlington, 2014). Community protests have also increased against government projects such as the construction of new coal mine projects where there are already pollution problems in the country (Praiwan, 2017). This protest strategy has amplified with the

worsening pollution problems particularly from persistent PM 2.5[8] particularly in Bangkok and Chiang Mai in the last few years which will intensify with climate change (Roengjit, 2019). Academics have pointed to a narrow approach, centralised government complacency, conflict of interest, and lack of political will as reasons for the little space in policymaking that prioritises the environment for society's overall quality of life (Roengjit, 2019). As Darlington (2014) points out, “these issues show that rural farmers and local communities are having to implement activities to withstand and adapt to climate change through addressing broader underlying social inequalities that make them more vulnerable in the first place” (pp. 214-215) [214-215]. Yet, government climate change plans have paid little attention to these inequalities particularly as there have been limited opportunities for public participation (Marks, 2011).

Climate activists in Thailand, such as from the Thai Working Group of Climate Justice (TCJ), the first civil society coalition established in 2008, have thus tried to call for greater climate justice principles in international and national climate change policy process (Marks, 2011; TCJ, n.d.). This group has criticised the Thai government on the lack of public consultation in the decision-making process. Similarly, the global climate movement, arising from student and youth climate change activists such as Greta Thunberg, has inspired climate change youth activism in Thailand beyond climate strikes and into action, advocacy and education (Tanakasempipat, 2019). For example, more than 200 young people in Thailand protested at Thailand’s Ministry of Natural Resources and Environment in September 2019 demanding government action on climate change (Tanakasempipat, 2019). This protest sees the prominence of the global influence of Western environmental activism in Thailand, particularly among students who are challenging traditional Thai institutions and values. Much of this can also be linked to resurgence of student political activists in the country (Black, 2020).

[8] PM2.5 (particles less than 2.5 micrometres in diameter) is an air pollutant that is a concern for human health when levels in air are high.

2.4 Chapter Summary

The preceding review has highlighted that traditional institutions in Thailand, such as the monarchy and religion, continue to shape culture, norms and values in Thai society. Such influence can be seen in its politics and long history of political instability. Thailand's political system has been described as a "hybrid" regime which combines authoritarian and, to a lesser extent, democratic values. The system has produced uncertainty and has slowed progress on policymaking on climate change adaptation. The government has maintained a focus on economic growth throughout the latter part of the 20th century based on the exploitation of natural resources. This exploitation has in turn led to environmental degradation and increased GHG emissions.

Environmentalism in Thailand has been similarly influenced by Thai society and culture. The role of the sacred institutions of nation, religion and monarchy, and of traditional Thai values, has been seen as diminishing the need for climate change policies. While Westernisation and globalisation has contributed to further environmental degradation, increases in environmental awareness and exposure to global environmental and climate change movements has helped mobilise grassroots action and protest movements. This distinctive history is important background knowledge for understand Thailand's response to climate change adaptation policy today. Having established this context, the next chapter presents a review of literature on climate change adaptation policies.

Chapter 3: Climate Change Adaptation Policy: A Review of the Literature

While climate change is a global phenomenon, it presents specific challenges to developing countries, particularly in Southeast Asia which is a region most vulnerable to the impacts of climate change (ADB, 2009). Southeast Asian countries are particularly susceptible to extreme weather events, tropical storms, floods and droughts, along with sea-level rise (ONEP, 2016). There is, therefore, a need to prepare to adapt to these impacts. While Thailand has begun to develop and implement long-term plans for adaptation, little has been done to turn plans into actions as they face significant barriers such as "limited information, knowledge, and expertise; lack of relevance and impetus; and 'rigidity traps' or 'institutional gaps'" (Ober & Sakdapolrak, 2020, p. 86). Adaptation requires building adaptive capacity, but developing countries tend to have less ability to do this and there is a need for external support (Francisco, 2008). Climate change adaptation also requires mainstreaming in development planning to make it an integral part of sustainable development. Yet, limited public awareness, research, and policy on adaptation across different levels of government in Thailand has contributed to a policy lag (ONEP, 2018a).

As mentioned earlier, the purposes of this research are to understand climate change adaptation policy in Thailand by identifying the key discourses that influence climate policy development and to consider the implications for sustainable development. This chapter provides a foundation for the research by reviewing scholarly and grey literature on climate change adaptation policy in developing countries, Southeast Asia, and specifically Thailand. The goal is to identify and evaluate current research on climate change adaptation in developing countries, Southeast Asia and Thailand.

The method used to conduct this literature review involved collating scholarly research through databases such as Web of Science and Google Scholar. The search terms used include terms relating to *climate change, adaptation, policy, discourse, developing countries* and *Thailand*. Capturing these terms and their variations involved conducting Boolean searches. Examples of searches include:

- "climate change" AND adapt* AND polic*
- "climate change" AND (adapt* or resilien* or vulnerab*) AND polic* AND developing countries
- "climate change" AND (adapt* or resilien* or vulnerab*) AND polic* AND Thailand
- "climate change" AND (adapt* or resilien* or vulnerab*) AND polic* AND discourse*

The review begins with a brief examination of the development of climate change policy at the global level and explores how adaptation has been prioritised and articulated. Second, it examines the literature on climate change adaptation policy in developing countries. Lastly, it explores the literature on climate change adaptation policy in Thailand and makes the case for why a focus on climate change adaptation policy in Thailand is necessary.

3.1 Overview of Climate Change Adaptation Policy in the UNFCCC Process

During the late 1970s, the World Meteorological Organization (WMO) began to have concerns about the possible effects of carbon dioxide emissions from human activities in the atmosphere. This concern grew in the 1980s from increased scientific evidence and international awareness on anthropogenic global warming and ozone depletion pushing climate change as a significant policy issue (Hulme, 2009). In 1988, WMO and the United Nations Environment Programme (UNEP) established the Intergovernmental Panel on Climate Change (IPCC) to provide scientific evidence on climate change and possible international responses to it (IPCC, 2020). The IPCC's first assessment report informed the drafting of the UNFCCC in 1991 and subsequent reports have been vital to the development of international climate change policies (IPCC, 2020).

Early in the UNFCCC negotiations, there was an explicit emphasis on mitigation, rather than adaptation (Pielke et al., 2007). Mitigation was deemed appropriate and cost-effective given the urgency to cut emissions and the belief that discussing adaptation could detract from mitigation efforts (Howell et al., 2016). Mitigation was

also viewed as an issue for developed countries, which have historical responsibility for climate change, while adaptation was seen as a priority for developing countries, where mitigative capacity is lower and vulnerability is high (Ayers & Huq, 2009b). The treatment of mitigation and adaptation as competing goals was evident both in the scientific research and policy responses (Füssel & Klein, 2006). Numerous scientists and policymakers argued that adaptation was overlooked, pushing for more attention on adaptation in the climate change debate. The lack of explicit provisions under the UNFCCC made it difficult for policymakers and scholars to address adaptation under the framework (Schipper, 2006).

However, the Nairobi Work Programme (NWP) in 2005 was the first institutional arrangement under the UNFCCC on adaptation to climate change. It aimed to improve the understanding and assessment of impacts, vulnerability and adaptation to support policies and practices (Di Pietro Paolo, 2020). This programme was followed by the launch of the Bali Road Map in 2007, which paved the way for the establishment of the Cancun Adaptation Framework (CAF). This established a comprehensive approach to adaptation under the UNFCCC stating that “adaptation must be addressed with the same priority as mitigation” with support enhanced for adaptation across all countries (UNFCCC, 2010, p. 3). The framework enhanced action on adaptation to reduce vulnerability and build resilience in developing countries that are particularly vulnerable. This provided the means of implementation through finance, technology and capacity building (UNFCCC, 2010). Support for adaptation was extremely important to the least-developed countries and small island developing states (SIDS) whose territories have long been threatened by climate change like sea-level rise (Mertz et al., 2009). These measures have continued to be prioritised such as in the latest climate agreement, the Paris Agreement.

The Paris Agreement in 2015 brought greater attention and efforts to tackling global climate change and represents a substantial step toward meeting the ultimate objective of the UNFCCC of “preventing ‘dangerous’ human interference with the climate system” (UNFCCC, n.d.-c). It highlighted the need to balance support for mitigation and adaptation (UNFCCC, 2015). Adaptation for the first time is defined as a global goal in the climate agreement. This calls for stronger adaptation

commitments from states through their Nationally Determined Contributions (NDCs) and NAPs (Lesnikowski et al., 2017). Developing countries, such as Thailand, have included adaptation in their initial NDC and have recently developed their NAP.

The increased priority on adaptation has shown that the tension between mitigation and adaptation has eased from mainstream debates as policymakers and scholars have recognised that there are linkages and co-benefits between mitigation and adaptation (Schipper, 2006). For example, Schipper (2006) contends that the more mitigation that takes place, the less adaptation will be needed, and vice versa. The IPCC Fourth Assessment Report in 2007 extends the connections further, arguing for a strong linkage between mitigation, adaptation and sustainable development (Yohe et al., 2007). This view recognises that mitigation and adaptation also support other development priorities (Shaw et al., 2014). The linkage of adaptation and mitigation to sustainable development can be seen with the integration of climate change into sustainable development in the UN 2030 Agenda for Sustainable Development (UN, 2015b). Having established the development of adaptation as a policy focus for governments, the next section turns to a review of the literature on global adaptation policy.

3.2 Review of Global Climate Change Adaptation Policy

The increased attention from governments and the UN on global adaptation policy is paralleled by increasing scholarly focus on climate change policy. A review of the existing literature indicates that there are a number of journals dedicated to the study of climate change policy, including *Nature Climate Change*, *Climatic Change, Climate Policy, Climate Research*, *Journal of Climate*, *Mitigation and Adaptation Strategies for Global Change, International Journal of Climate Change Strategies and Management, The International Journal of Climate Change: Impacts and Responses,* and *Wiley Interdisciplinary Reviews Climate Change*. These span scholarly research across physical and social sciences that aim to facilitate better understanding of the impacts of climate change and the capacity of human systems to adapt to global climate change and their wider implications for the economy, society and policy. This literature has explored adaptation policy from a number of perspectives. However, for

the purpose of this thesis, it is important to explore how this subject has been conducted through a critical public policy perspective.

The concept of climate change adaptation has evolved over time and has led to the different understandings of the concept. The concept has origins in the natural sciences, namely population biology and evolutionary ecology (Winterhalder, 1980). It has been widely applied in other scholarly fields such as human and cultural ecology, ecological economics and natural hazards research, with distinct interpretations (Smithers & Smit, 2009). In climate change policy, the UNFCCC Secretariat in 1992 presented a definition of adaptation as "practical steps to protect nations and communities from the likely disruption and damage that will result from effects of climate change" (Levina & Tirpak, 2006, p. 6). Later, a well-established, consensus-based definition from the IPCC Third Assessment report stated:

> Adaptation to climate change refers to 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 participatory and reactive adaptation, private and public adaptation, and autonomous and planned adaptation [shortened definition] (IPCC, 2001, p. 365).

In response to this IPCC definition, some scholars and policymakers have attempted to build upon the definition. Moser and Ekstrom (2010) made changes to include social-ecological systems rather than separate natural or human systems. Their definition further states that adaptation may or may not succeed in moderating harm or exploiting beneficial opportunities. Levina and Tirpak (2006) claimed that "UN bodies and national climate programmes have their own definitions of the same terms" (p. 5). The definition of adaptation from the UNDP was "a process by which strategies to moderate, cope with and take advantage of the consequences of climate events are enhanced, developed, and implemented" (Burton et al., 2004, p. 248).

A more recent definition of adaptation is offered by the 2014 IPCC AR5, which states that adaptation is:

> The process of adjustments 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 (WGII, I) (IPCC, 2014c, p. 118).

This definition has commonly been quoted in the literature and in national reports of countries such as Thailand (ONEP, 2018a). The definition recognises both the human and natural systems on adaptation and the risks and opportunities from the impacts of climate change. This definition has changed in breadth from the Fourth Assessment Report (AR4) and previous IPCC reports.

The latest definition of adaptation has not really changed in the IPCC Special Report in 2018, but has been expanded to include different types of adaptation – incremental adaptation and transformational adaptation:

> *Incremental adaptation* - Adaptation that maintains the essence and integrity of a system or process at a given scale. In some cases, incremental adaptation can accrue to result in transformational adaptation (Termeer et al., 2017; Tàbara et al., 2018). (Tàbara et al., 2019; Termeer et al., 2017)
>
> *Transformational adaptation* - Adaptation that changes the fundamental attributes of a socioecological system in anticipation of climate change and its impacts (IPCC, 2018, p. 542).

Although the Special Report provides the most recent definitions from the IPCC, many national reports and literature that appeared before 2018 rely on the IPCC AR5's definitions, which currently serves as the chief assessment report from the IPCC.

The evolution of the meaning of adaptation has led to greater conceptual specificity. This specificity helps us understand that adaptation is more than adjusting to climate change and includes who is adapting, what are the types of adaptation, and what are the relationships between the different agents in adaptation. Clarifying the definitions of adaptation and related concepts highlights the scientific progress and technical knowledge of policymakers as well as how the issue is framed in policy. There are

other key terms and concepts related to adaptation that have also been defined in the IPCC assessment reports and have been used in the literature such as *adaptive capacity, sensitivity, exposure, hazard, impacts, resilience, risk* or *vulnerability* (see Glossary). This list indicates that when exploring studies on adaptation, the policymakers may examine the features of adaptation through any of those related terms. Scientific and policy communities use slightly different definitions or use terms that have meaning in common usage but may have significance in other settings. The different interpretations may lead to varying expectations and policy responses (Levina & Tirpak, 2006).

Adaptation has been pushed in the UNFCCC to be integrated into long-term development planning as a key policy response (Smith & Lenhart, 1996). This recognises that climate change has the potential to push developing countries back on their development so "systemic transformation of development paradigms is a requirement for effective adaptation" (Few et al., 2017, p. 3). Such integration is already happening in many developing countries (UNFCCC, 2019). Ayers et al. (2014) states, "mainstreaming climate information, policies and measures into ongoing development planning and decision-making has been… seen as making more sustainable, effective and efficient use of resources than designing and managing climate change policies separately from ongoing development activities". In the literature, adaptation has been described as providing benefits to achieving sustainable development (Beg et al., 2002). For example, adaptation can reduce a layer of uncertainty, risks and vulnerability to efforts to achieve sustainable development (Lebel, Li, et al., 2012). Consequently, mainstreaming needs to be aligned with other policies, plans, programmes and institutions within sectors in developing countries and without the risk of increasing exposure and sensitivity to climate change (Reid & Huq, 2014). Thus, a holistic view of development is required (Ayers et al., 2014).

In recent years, more studies have investigated the ways adaptation can support the SDGs and national planning. This has involved integrating climate change into sectoral planning, particularly those that are vulnerable to the impacts of climate change. These studies have examined vulnerable areas such as water management

(Green et al., 2011), agriculture (Elliott et al., 2014), health (Swinburn et al., 2019), coastal and marine areas (Kwadijk et al., 2010), but have also expanded to land-use (Howells et al., 2013), urban planning (Hunt & Watkiss, 2011), biodiversity (Mantyka-Pringle et al., 2013) and natural resources and forestry (Lindner et al., 2014). The focus on sectors reflects the shift in the UNFCCC recommendation for countries to develop sector-based approaches to adaptation to integrate into their national planning (Reid, 2016). Studies have also attempted to identify or address the uncertainties of climate impacts in these sectors and the possible responses to them. Some have also examined the impacts across several sectors (Banwell et al., 2018; Falloon & Betts, 2010; Locatelli et al., 2015). For instance, the visibility of extreme weather events and natural disasters has seen a multitude of studies on the linkage of adaptation policy to disaster risk management (Calliari, 2018; Heazle et al., 2013; Kelman, 2015).

Adaptation policy has been implemented within and across scales. Zolnikov (2019) observes that adaptation will need to be context specific as vulnerability, risks and impacts are likely to vary depending on country, location, population and community. The UNFCCC also promotes a country-driven approach to adaptation that reflects national capacities (UNFCCC, 2015). The literature on adaptation policy has thus focused on national approaches to adaptation including policies and plans, and how they can be implemented at the sub-national levels. However, much of the policy development has taken place at the local level, and studies have examined adaptation through local policy initiatives. This is because while climate change is a global issue, its effects mostly occur at a local scale (Laukkonen et al., 2009). Unfortunately, few studies have examined adaptation policy across transboundary regions (Milman et al., 2013) or as comparative studies (Vogel & Henstra, 2015). This may be because the scope and capacity to examine adaptation policy across scales are difficult due to context, time and funding.

The literature on adaptation policy has shown that there are different strategies to adaptation. Adaptation strategies are described as “hard” intervention or “soft” intervention. “Hard” intervention refers to physical measures that are implemented such as dikes, seawalls and reinforced buildings. “Soft” intervention on the other

hand can be in the form of precautionary planning, foreign aid or intangible support (Sovacool, 2011). According to Sovacool (2011), while both types of interventions are vital, they can cause tensions. “Hard” adaptation pathways are often expensive, rigid and dependent on technological systems. In contrast, “soft” adaptation pathways are often less expensive, flexible and involve small-scale decentralised initiatives. There is often a mixture of these two types of interventions in policy. Scholars such as Hallegatte (2009) argue for “soft” interventions which produce fewer risks and consequences. These “soft” approaches have been discussed in the literature, such as “ecosystem-based adaptation” (Munang et al., 2013) and “community-based adaptation” (Archer et al., 2014). These approaches have been developed and implemented primarily by non-governmental organisations but are increasingly being adopted into national adaptation policy (Brink et al., 2016; Reid & Huq, 2014).

The types of adaptation in national adaptation policy are also discussed in the literature, such as “incremental adaptation” and “transformational adaptation” (Kates et al., 2012). Kates et al. (2012) indicated that adaptation has largely been incremental to avoid disruptions of current systems, but, in some cases, vulnerabilities and risks of some systems may be high enough to require transformative adaptation. However, recent studies such as Du et al. (2020) have found that that a hybrid strategy allows for low future risks and high benefit to cost ratio. This strategy may be important to developing countries who are the most impacted by climate change and the least able to address the consequences (Mertz et al., 2009). The challenge faced by these countries provides an important commencement point for further research into adaptation policy in developing countries.

3.3 Climate Change Adaptation Policy in Developing Countries

There is evidence that climate change will further exacerbate poverty and inequality in developing countries, threatening the development progress of the last half-century (Eriksen & O'Brien, 2007). Climate change will severely challenge developing countries’ ability to achieve sustainable development and the SDGs. Adaptation policies in developing countries have so far focused on areas most vulnerable to

climate change impacts. This includes agriculture and natural resources, where climate change is already having negative effects (Sova & Schipper, 2019). Developing countries are also heavily reliant on these sectors, so several studies examine the impacts on farmers and rural communities (Hagedoorn et al., 2020; Khanal et al., 2018; Singh et al., 2016). Apart from this research, there are studies on coastal areas (Le, 2019), public health (Rauf et al., 2017), tourism (Hoogendoorn & Fitchett, 2018) and infrastructure (Chinowsky et al., 2015). These studies focus on the risks and effects of floods, droughts and sea-level rise from extreme weather events, temperature rise and other climatic factors (Mirza, 2003). Some studies examine impacts within regional areas such as in Southeast Asia, and focus on groupings (e.g. Association of Southeast Asian Nations [ASEAN]) or in locations (e.g. Mekong River Basin) (Keskinen et al., 2010). Unsurprisingly, this research mainly examines adaptation in the context of those regional groupings. The advancement in climate change adaptation in developing countries varies due to different levels of vulnerabilities, capacities, priorities, resources and political will (Dedicatoria & Diomampo, 2019).

These vulnerabilities and challenges have seen many developing countries integrating adaptation into their development planning (Huq et al., 2004; Runhaar et al., 2018). These efforts are shaped considerably by advances in international support mechanisms for adaptation in developing countries, focusing on capacity building, technology transfer and financial support (UNFCCC, 2010). These mechanisms are driven by the underlying concept of climate justice, both procedural and distributive (Thomas & Twyman, 2005). Procedural justice refers to the “perceived fairness of rules and decision processes used to determine the outcome”, whereas distributive justice refers to “perceived fairness of outcomes or resource allocations” (Lucas et al., 2016, p. 235). Procedural justice recognises that developing countries have traditionally been at a disadvantage in the negotiations, while distributional justice recognises the “common but differentiated responsibilities” (Sova & Schipper, 2019). This acknowledges that all countries have an obligation to act on climate change, yet some nations are historically more responsible for emissions and should bear the financial burden for mitigation and adaptation (Wang & Gao, 2018). To facilitate the

procedural and distributive justice principles, the UNFCCC provides policy guidelines to support developing countries in establishing adaptation plans.

Current adaptation plans for developing countries are being delivered through the National Adaptation Plans (NAPs) (LDC Expert Group, 2012). NAPs were envisioned as a policy framework to provide for medium- and long-term adaptation responses for both least-developed countries and other developing countries (UNFCCC, 2010). NAPs were also intended to integrate more robustly into existing development and sectoral planning processes from “mainstreaming” or “climate-proofing” through revised NAPs (LDC Expert Group, 2012). While the NAPs provide broad guidelines for developing countries to build adaptation plans, in practice, developing countries have experienced considerable challenges in implementing adaptation policies (Adger et al., 2003). The literature shows that much of this has to do with institutional, technical and financial capacity deficits within those countries (Amundsen et al., 2010; Biesbroek et al., 2013; Dupuis & Knoepfel, 2013; Ober & Sakdapolrak, 2020). For example, developing countries often lack the domestic resources to properly invest in climate change adaptation activities and rely to varying degrees on international funding mechanisms (Shalizi & Lecocq, 2007). Climate change financing should be “additional” to existing flows of official development assistance (ODA), but several experts assert that a considerable amount of climate financing is merely a repackaging of business-as-usual development assistance (Ayers & Huq, 2009a). This situation has led to technocratic or financial control by international organisations over the adaptation process resulting in policies and plans that do not always align with national adaptation needs or development plans (Ojha et al., 2016).

The literature points to increased efforts on integrating climate change adaptation into development planning (Huq & Ayers, 2008; Klein, 2010; Klein et al., 2005; Mitchell et al., 2006). Many developing countries have carried out climate change projections and impact assessments, but few have started consultation processes to look at adaptation options and identify policy responses (Mitchell et al., 2006). In developing countries, the mainstreaming process is in the early stages, so studies draw attention to some of the barriers to mainstreaming adaptation. For instance, Robinson (2019) finds that for small island developing countries, barriers include competing

development priorities, poor planning/governance and insufficient manpower/human resources. Lasco et al. (2009) highlights that in the case of the Philippines, there is a pervasive lack of awareness about the impacts of climate change on sustainable development. Runhaar et al. (2018) observes that knowledge on what makes mainstreaming effective is scarce and fragmented. Their study shows that while adaptation policy options are identified, only some are implemented. This gap in implementation is most strongly seen in developing countries. Kok and de Coninck (2007) contend that if inter-linkages between climate policies and various relevant policy areas can be strengthened and policy coherence is improved, the effectiveness of climate policy can be enhanced. These studies imply that much research is needed into how adaptation can be effectively mainstreamed in developing countries.

Ojha et al. (2016) contend, “As developing countries formulate policies to address climate change, concerns remain as to whether voices of those most exposed to climate risk are represented in those policies” (p. 415). This is especially concerning for indigenous populations who have long been adapting to climate change through local and indigenous knowledge. Community-based adaptation is a growing field that recognises the need to make adaptation planning and implementation more responsive to local needs, including the increased use of indigenous knowledge into formal policy development and implementation mechanisms (Ayers & Forsyth, 2009). Complementary to this field is ecosystem-based adaptation, which is the use of natural capital by people to adapt to climate change impacts (Munang et al., 2013). These approaches are slowly being integrated into NAPs of developing countries. For example, Thailand has begun to include both approaches into its NAP, but they are yet to be implemented (ONEP, 2018a).

There are relatively few examples of adaptation implementation in practice and there is considerable debate over how to measure success in adaptation (Sova & Schipper, 2019). There are different dimensions to success such as social, ecological, economic, political, technical, institutional, psychological, and cultural dimensions, which make it difficult to measure (Moser & Boykoff, 2013). Owen (2020) observes that it is difficult to distinguish adaptation from related activities such as poverty

alleviation, making it hard to attribute to successful adaptation. Even so, scholars have offered frameworks to measure success. For example, Barnett et al. (2013) state that one of the approaches to evaluating adaptation is to ensure that adaptation at least avoids maladaptation. Maladaptation occurs when adaptation not only fails to be effective but makes people even more vulnerable to climate change (Moser & Ekstrom, 2010). Barnett et al. (2013) consider the following criteria in screening for maladaptation in communities: not emissions-intensive; can act to increase social equity rather than burden the most vulnerable; have no or low regrets, multiple benefits, and low opportunity costs; do not reduce incentives to adapt further; and act to increase the range of adaptation pathways, rather than decrease them (p. 43). These approaches have been considered in developing countries as there have been cases of maladaptation. In a recent study, Work et al. (2019) found that mitigation and adaptation initiatives in Cambodia resemble development projects that caused or exacerbate drivers of climate change. Magnan et al. (2016) warn that there appears to be little concern about the risk of maladaptation in developing countries and argue for it to become a priority at all levels. The development of adaptation policy within developing countries provides an overview of some of the experiences that are also faced in Thailand.

3.4 Climate Change and Climate Change Adaptation Policy in Thailand

In the last couple of decades, Thailand has seen the potentially damaging effects of climate variability and impacts. Severe floods and droughts from extreme weather events and natural disasters have resulted in serious economic loss and threatened the livelihoods of millions of people in the country. Thailand is at extreme risk and is vulnerable to future climate change impacts, including sea-level rise in Bangkok and coastal areas (ONEP, 2015b). Thailand also recognises that climate change is a major challenge to sustainable development (ONEP, 2016). In response, Thailand began its first national climate change planning process in 2006 leading to the National Climate Change Strategic Plan 2008-2012 (ONEP, 2008). This plan was followed by the Climate Change Master Plan (CCMP) 2015-2050 (ONEP, 2016). For adaptation in

particular, it has recently implemented the early phases of the National Adaptation Plan 2018-2036 (NAP)(ONEP, 2018a).

In Thailand, adaptation can be implemented at national, provincial, community and watershed levels. At the national level, adaptation has broad aims, while at the local levels it focuses on a specific community or landscape, and on local concerns and preferences in responding to climate threats. The limited capacity for environmental management, planning, technical expertise and monitoring of enforcement of laws and regulations is expected to hinder the implementation of national climate change strategy, including the formulation of local adaptation priorities and action plans. As Saetren (2005, p. 573) highlighted, the "translation of policy into practice in developing countries is a challenging and legitimate concern". The literature shows that climate change policy is a relatively new concept for government, policymakers and researchers in Thailand and is often dominated by misconceptions and weak implementation processes (Panyakul, 2012).

To understand the development of adaptation policy in Thailand, it is crucial to begin with studies that have examined climate change policy in the country. The literature review demonstrated that the journal articles on climate change policy in Thailand have predominantly been published in *Global Environmental Change, Climate and Development, Regional Environmental Change, Sustainability, Ecology and Society, Environmental Earth Sciences* and *International Journal of Disaster Risk Reduction*. The existing scholarly research on climate change in Thailand has largely focused on mitigation measures (Arunrat et al., 2016; Limmeechokchai & Suksuntornsiri, 2007); the assessment of impacts through climate change scenarios or projections (Arunrat & Pumijumnong, 2015; Seeboonruang, 2016; Shrestha, 2014; Wang et al., 2014); analysis of individual extreme events and government responses (Lebel et al., 2011; Marks, 2011; Marks & Lebel, 2015; Mishra, 2012); and climate change perceptions of local and rural citizens (Cookey et al., 2016; Kittipongvises & Mino, 2013a, 2013b; Phimphakan Lebel et al., 2015; Manandhar et al., 2015; Suthirat & Takashi, 2014). These areas of focus have reflected the developments of climate change policy in Thailand.

Thailand initially focused on mitigation, on par with the original intent of the UNFCCC text in reducing greenhouse gas emissions. This corresponded to the reporting mechanisms on inventory of greenhouse gases to the UNFCCC. However, as global policy shifted towards adaptation, the lack of scientific research on climate change for adaptation became evident. Researchers attempted to fill this gap with studies on adaptation beginning with vulnerability assessments (ONEP, 2018b). Much of this research was conducted internally through government projects and initiatives, but there were also those conducted in collaboration with, or exclusively by key external climate experts (ONEP, 2018b). Although there has been increased research on adaptation, it has remained largely scientific and technical with some integration of socio-economic factors (ONEP, 2011). Meanwhile, Thailand experienced severe extreme weather events in the last couple of decades beginning with the 2004 Indian Ocean tsunami which had massive economic impacts and loss of life (Larsen et al., 2011). This was compounded by major flooding between 2005 and 2006, as well as in 2011 (Lebel & Lebel, 2018). Much of the research, thus, has analysed Thailand's disaster recovery efforts, institutional capacity, and governance systems related to climate change and disaster management (Lebel et al., 2011; Marks & Lebel, 2016; Mishra, 2012).

Meanwhile, the literature on climate change adaptation focuses on specific sectors such as agriculture, water management, tourism and health (Panyakul, 2012; Rattanachot et al., 2015). Most of these focus on selected areas in those sectors such as rice production, groundwater, aquaculture, water management, coastal tourism and health. Yet, the methodology has mostly been scientific, using modelling and scenarios on social-ecological systems and behaviours (Lebel et al., 2018). Some literature focuses on community-based plans, initiatives or sites (Mainuddin et al., 2011; Permpibul & Routray, 2009; Rattana & Krawanchid, 2012). Several studies have also begun to include a social science lens on adaptation, such as perceptions of local and rural citizens from extreme weather events (Lebel et al., 2019; Suthirat & Takashi, 2014; Tapsuwan & Rongrongmuang, 2015). Some also explore farmers' perception of climate-related impacts for adaptation and in their practices (Arunrat et al., 2017; Lebel et al., 2016; Shrestha et al., 2017). The study sites focus on areas in

Thailand such as Northern Thailand (P. Lebel et al., 2015; Shrestha et al., 2017), coastal areas (Bennett et al., 2014; Larsen et al., 2011), and river basins or transboundary water regions (Keskinen et al., 2010; Molle, 2007). These studies therefore remain limited in scope and scale, undertaken mainly by the few Thai climate change and adaptation experts.

Given the lack of research on climate change and adaptation policy in Thailand, this review has been complemented by grey literature such as assessment reports, external reports and project reports. Some of this has been from reputable research institutions in Thailand such as the Southeast Asia START Regional Center (SEA-START) and Thailand Development Research Institute (TDRI). For example, the work by SEA-START involves research and capacity building activities on climate change adaptation. However, these are generally scientific assessments that may implicitly guide policy. Additionally, there have been reports from international climate change projects in Thailand that focus on mitigation, adaptation, capacity building and technology assessment that have worked closely with either the Thai government and/or local communities (CARE Deutschland Luxemburg et al., 2013). This corresponds to the international funding and technocratic adaptation in developing countries as discussed earlier. These studies are usually focused on building adaptive capacity of local communities and may guide local government work on adaptation but does not directly relate to adaptation policy development. The review has shown that research on climate change in Thailand has been narrowly focused, technical and descriptive, and few studies have examined climate change from theoretical, critical or interpretive social science perspectives.

3.4.1 Critical Studies on Climate Change Adaptation Policy in Thailand

The few studies that have explicitly examined the climate change policy process from a critical or social science perspective have generally analysed the institutions and governance of climate change policy in Thailand. One research study by Kraisoraphong (2010) was commissioned by the National Economic and Social Advisory Council to assess the implementation of Thailand's Tenth Plan, specifically

the section of Natural Resources and Environment. The study revealed that Thailand's current climate policy approach has constrained its efforts to integrate thinking about climate change into its wider context of public policymaking. The author claims that national environmental policy in Thailand is unlikely to lead to climate policy integration as it has been exacerbated by existing institutional structures and processes. For example, as the Ministry of Environment and Natural Resources is the national focal point for climate change, there is very little room to integrate a climate change dimension into other areas policymaking (p.429). Another study, by Wongsa (2015), explored how Thai civil law has obstructed the advancement of climate change policy in Thailand. The author argues that:

> Climate governance in Thailand has a rather short history; no legislation has been enacted and climate policy is lagging behind. To understand the reason behind the delay in climate policy, one must take a close look at policy practice in Thailand (p. 253).

The study observes that the cause of the delay is due to the turnover of the involved staff and disconnect between relevant actors. The author describes the current state of Thailand's climate governance as "dysfunctional, disintegrated, and ad-hoc" (p. 257) and that "researchers have barely penetrated the policy space and vice versa" (p. 255). This provides a useful analysis of the state of climate governance in Thailand. Unfortunately, most research only analysed climate policy in terms of mitigation as the research project focused on mitigation policy.

Importantly, other research with a more critical lens has explored climate change adaptation using political ecology and political economy approaches. One such research was by Marks (2011) who used a political economy approach to assess the impacts of climate change and the capacity of climate change policies in Thailand. The review found that climate change policies in Thailand have been limited due to the country's low institutional capacity and ongoing political fragmentation. In another study by Marks (2015), the author deployed an urban political ecology analysis to question discourses used by the Thai government regarding the causes of the 2011 floods in Bangkok and their proposed response. These discourses focused on depoliticising disaster and infrastructure-heavy solutions. They demonstrate that the

discourses conceal socio-economic processes that place vulnerable populations at risk (Marks, 2015). Political ecology and political economy have strong links to discourses as they "focus on unequal power relations and examine control over access to natural and social environments and to natural resources, thereby making conflict and contestation over resources central to most analyses" (Marks, 2015, p. 627). The study refers to the notion of discourses in the analysis, rather using a discourse analysis approach.

In one of the only studies that explicitly applied discourse analysis in a climate-related research in Thailand, Lebel et al. (2019) assess the significance of stakeholder discourses on uses of water by aquaculture for public policy. The authors draw on the work of Hajer and Versteeg (2005) to categorise dominant lines of spoken or written reasoning, and the situations in which they were used. They paid special attention to claims of impact, either of aquaculture on water conditions or of activities of other users on aquaculture and identified three key discourses related to aquaculture. The authors argue that discourse analysis is useful in "its capacity to reveal the role of language in politics, its capacity to reveal the embeddedness of language in practices and its capacity to answer 'how' questions and to illuminate mechanisms" (p. 175). Although this study provides a useful example of how discourse analysis has been applied to climate-related research, it lacks the depth or definitive features of what might constitute each of the discourses identified. This further shows that there is a lack of studies that explore adaptation policy in relation to discourses. This thesis analyses discourses from a broader critical public policy perspective by examining adaptation policy within a whole system.

There are many studies that focus on the politics of Thailand but surprisingly not on the politics of climate change or environmental policy. Environmental governance in Thailand takes place "within a broader societal frame of authoritarian governance, sometimes despite the institutions of democracy" (Simpson 2015, 183). Recent developments in Thailand's government policy settings, such as adherence of government policies to the 20-Year National Strategy, are profoundly shaping the country's ability to respond and adapt to the consequences of climate change. Studying climate change efforts in Thailand, therefore, would need to account for how

institutions and different actors coordinate and implement adaptation actions, and consider their implications for the effectiveness of adaptation policy.

Currently, sectoral climate change adaptation is beginning to be mainstreamed at provincial and national levels. For example, Uppanunchai et al. (2018) examined how the most relevant adaptation policy elements can be integrated or mainstreamed into existing development policies and plans. This study is one of the first evaluations of the coverage and sensitivity of aquaculture policies to climate change. It shows that while existing policies in Thailand are beginning to refer explicitly to climate change, they do not yet include much in the way of adaptation responses, underlining the need for identifying entry points as has been done in this analysis. It states that the Eleventh Plan (2012-2016) provides a strong enabling environment, and thus an opportunity for addressing climate change as part of aquaculture development. While mainstreaming adaptation policy is being done, Uppanunchai et al. (2018)argues that it may not be the most appropriate approach as there are limited governance constraints. It instead offers an approach that specifically examines climate change in each sector. While this reflects an idea for sector-specific climate plan and policy that is similar to the health and agriculture sectors in Thailand, this research was only specific to aquaculture policy and not broader national adaptation policy. Moreover, Thailand has difficulty in planning and implementing climate change adaptation plans due to conflicting government priorities in social and economic growth. There is a clear need to move towards more integrated approaches to adaptation and sustainable development (Chinvanno & Kerdsuk, 2013).

3.4.2 Climate Change Adaptation Policy and Sustainable Development in Thailand

Since the 1990s, Thailand has “made substantial efforts to expand technical knowledge concerning climate change and to integrate the results into the process of sustainable development” (ONEP, 2011, p. 57). Climate change has become a crucial factor in development planning, but Thailand does not always have the technical or financial capability to achieve such outcomes. This recognition has continued to be emphasised by researchers and policymakers. For instance, “the ultimate goal of

research work in vulnerability and adaptation is to enable the integration of climate change adaptation needs into national development policies and planning" (ONEP, 2011, p. 58). There is also a limited number of studies on climate change adaptation within the context of sustainable development in Thailand (Osbeck et al., 2011). Thailand, therefore, is a suitable case for exploring the questions around adaptation policies with regards to climate change, focusing on the concepts of sustainable development within the Thai context.

The Thai approach to sustainable development is guided by the sufficiency economy. There are few academic studies that examine the concept of sustainable development within the Thai concept of sufficiency economy. One such study by Shone (2014) considers the impacts of the sufficiency economy approach on sustainable development as an alternative approach to development. The author examines this through the application of sufficiency economy in Sufficiency Economy Philosophy (SEP) model villages in Lao PRD and Timor-Leste. He concludes that there are several linkages between sufficiency economy and sustainable development. Significantly, he argues that the concept of sufficiency economy can provide a useful alternative development approach to sustainable development (Shone, 2014).

There is currently only one study that examines climate change adaptation within the context of the sufficiency economy. Kansuntisukmongkol (2017) explores the coping and adaptive capacity to climate change of local agricultural communities following the sufficiency economy and analysed the success factors of adaptation to climate change. The research found five adaptive strategies leading to a resilient livelihood: self-evaluation, diversity dependency, storage and reserve, cooperation, and mobility over space and time. The critical success factors of adaptation measures were attributed to key principles (moderation, prudence and self-immunity) and conditions (knowledge and morality) within the sufficiency economy (Kansuntisukmongkol, 2017). For example, self-evaluation refers to how the focus on self-reliance in the sufficiency economy allowed communities to build their knowledge individually and collectively. Knowledge can be shared and integrated to provide capacity assess risks and define a wider range of adaptation options (Kansuntisukmongkol, 2017). The

author adds that these factors can be applied in community-based adaptation in Thailand's NAP. This study provides a useful base to consider how the sufficiency economy may be applied to adaptation policy in Thailand.

Overall, the lack of research on the integration of sustainable development and sufficiency economy concepts and how these are applied in climate change adaptation in the Thai context demonstrates the significance of the present research. This will be discussed further in the next chapter.

3.5 Chapter Summary

The review of the literature on climate change adaptation policy shows that there is limited critical public policy research on climate adaptation. Adaptation policy, however, is crucial in developing countries, particularly in Southeast Asia, given the significant impacts of climate change on the region. In Thailand, there have been few studies on climate change policy and even fewer on adaptation policy. Many of the existing studies on adaptation are scientific, technical and narrow in focus. The review here shows that there is a need for more research on adaptation from a critical policy analysis perspective.

This chapter has also considered how adaptation policies are currently integrated and mainstreamed in development and sectoral planning. It showed that few studies examine policy integration, and only in select areas such as aquaculture, and these studies note the need for a more integrated approach to adaptation for sustainable development. Having reviewed the literature on climate change adaptation policy in Thailand, the next chapter critically reviews how climate change adaptation policy has been developed and implemented in the country.

Chapter 4: Climate Change Adaptation Policy in Thailand: A Critical Review

In both the National Strategic Plan on Climate Change that was implemented in 2008 and the Climate Change Master Plan in 2015, the emphasis has been on mitigation rather than adaptation. It was not until the NAP that the Thai government focused specifically on climate change adaptation. The plan is to be implemented by the Climate Change Management Coordination Division (CCMC) within the Office of Natural Resources and Environmental Policy and Planning (ONEP). The aim is to achieve greater societal resilience. In pursuing this goal, ONEP needs to balance economic and social development aspirations with the preservation of natural resources and the environment (ONEP, 2016). This chapter sets the context of these challenges by identifying climate change impacts and the response of the Thai government in terms of adaptation policy. The chapter begins but identifying the impacts of climate change in Thailand. It then provides an outline of the governance structure for adaptation and a description of the policy framework. It explores the alignment with other national policies, and links with regional and international policies. It considers international partnerships and the local adaptation projects they have sponsored. Lastly, it summarises the constraints to adaptation policy.

4.1 Climate Change Impacts in Thailand

Thailand is one of the twenty-seven countries in the “extreme risk” category that are most vulnerable to future climate change impacts over the next thirty years (ONEP, 2015b). In developing countries, risks are higher in agriculture, fisheries and water resources (Adger et al. 2003). Climate change in Southeast Asian countries such as Thailand is expected to lead to significant variations in precipitation patterns, increased incidence of severe weather events, higher temperatures, and sea-level rise in many highly populated coastal regions (ADB, 2009). Studies have shown extreme climate events and variability have increased in both extent and frequency over the past several decades (ADB, 2009). This increase has already caused extensive economic, social and environmental challenges. The 2011 floods in Thailand resulted in drastic economic damage and loss, deaths, and the emergence

of new flood disaster zones (World Bank, 2012). Climate change has been attributed for this event by the government. Although, according to Peterson et al. (2012), “Neither in the precipitation observations nor in climate models is there a trend in mean or variability up to now, so climate change cannot be shown to have played any role in this event” (p. 1049). Despite this observation, there was increased attention on the potential link between floods and climate change within Thailand’s climate change policy (ONEP, 2011, 2018b).

In contrast, according to Herring et al. (2018), “The record temperature of April 2016 in Thailand would not have occurred without the influence of both anthropogenic forcings and El Niño, which also increased the likelihood of low rainfall” (p. 128). This event received much media and public attention, but less policy attention in terms of climate change. In addition, Thailand borders the Mekong River, one of the transboundary river systems in Southeast Asia, which already faces deterioration of water, ecosystem and biodiversity through economic growth, increasing population, urbanisation and industrialisation, raising the prospects of floods and droughts (Keskinen et al., 2010). With climate change, the consequences of these impacts will intensify, and will threaten economic development and endanger the livelihoods of millions of people (Adger et al., 2003). This high vulnerability to climate risks has brought the need for climate change adaptation to the attention of policymakers in Thailand (Chinvanno & Kerdsuk, 2013).

4.2 Governance Structure for Climate Change Adaptation Policy in Thailand

After the ratification of the UNFCCC in 1994, Thailand put in place a new governance arrangement for climate change with the establishment of a national sub-committee on climate change under the National Environment Board (NEB). The sub-committee served as a climate change policy making body and guided Thailand’s positions in the climate change negotiation process (ONEP, 2011). This governance body

continued until the Thaksin government enacted major administrative reforms and structure changes[9] in 2002.

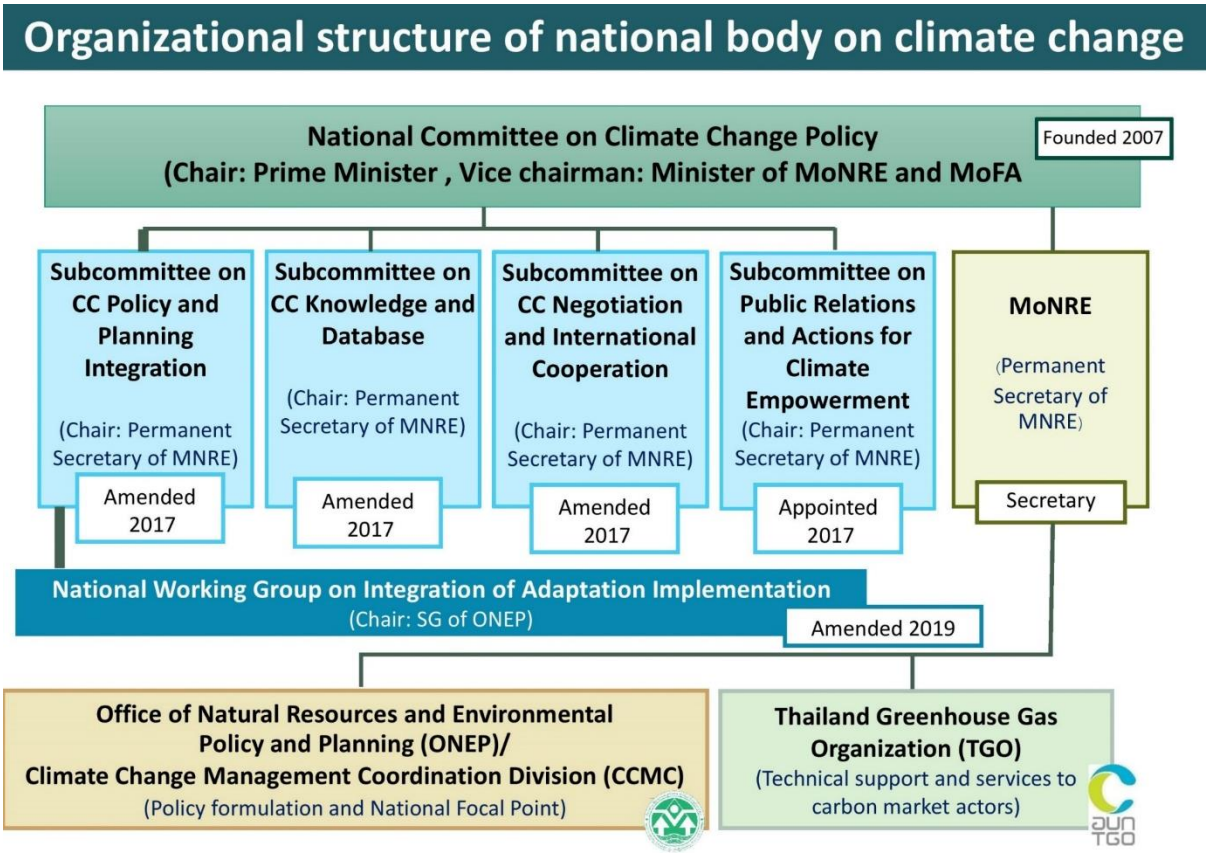
ONEP within the Ministry of Natural Resources and Environment (MONRE) was established in 2002 as the main institution responsible for climate change. The National Committee on Climate Change (NCCC) was later founded in 2007 and is responsible for approving climate-related plans and sectoral climate strategies (MONRE, 2017b). Its creation coincides with the time when the first national strategy on climate change was being developed. The NCCC is chaired by the Prime Minister and co-vice-chaired by the Ministers of MONRE and Ministry of Foreign Affairs (MFA). Committee members are high-level representatives from different ministries that operate through four thematic sub-committees, which are all chaired by the Permanent Secretary of MONRE (GIZ, 2019d). The NCCC has high-level political support and has the mandate to set up topic- or sector-related working groups when necessary, with the objective to steer the technical discussion among line ministries responsible for the country's key adaptation sectors and national climate experts (GIZ, 2019d). There are also working groups within sub-committees. However, it was not until 2019 that a National Working Group on Integration of Adaptation Implementation was added to the Sub-committee on Climate Change Policy and Planning (see Figure 15 for climate governance structure in Thailand) (Sribuaiam, 2016). This seems to show that adaptation has not been highly prioritised within Thai climate change policy structure.

Meanwhile, the Climate Change Management Coordination Division (CCMC) was officially formed within ONEP in 2012 as the national coordinating authority for climate change (GIZ, 2019d). Its key tasks involve developing climate change policies and plans and providing guidelines and support for implementation and monitoring. It is the national focal point to the United Nations Framework Convention on Climate Change (UNFCCC), the Green Climate Fund (GCF) and the Adaptation Fund, responsible for negotiation and coordination. An Inter-Ministerial Working Group

[9] The reforms were based on the Organization of State Administration Act B.E. 2545 (2002) and Reorganization of Ministry, Sub-Ministry, and Department Act, B.E. 2545 (2002).

(IMWG) was established by ONEP to steer overall planning for adaptation at the national level (GIZ, 2019d). This again emphasises that adaptation policy in Thailand has only emerged in recent years, stalled by similar slow progress on the establishment of a governance structure for climate change policy at the national level.

Figure 15: Climate Governance Structure for Adaptation



Note. Adapted from presentation file given from interview participant at ONEP.

Climate change policies are integrated into environmental policies such as the Environmental Quality Management Plan 2017-2021. This integration aligns with the vision of Ministry of Natural Resources and Environment (MONRE) to "return the natural environment to the Thai society and work towards the inclusion of natural resources and the environment in the national agenda as they provide the basis for social and economic development" (Ministry of Natural Resources and Environment 2016b). Through the ONEP, its aim is to strengthen the national economy, promote sustainable development and enhance quality of life (Ministry of Natural Resources and Environment 2016a). These plans are further integrated into the 20-Year National

Strategy (2018-2037) and Twelfth Plan National Economic and Social Development Plan (2012-2016) as well as in other national and sectoral plans that relate to climate change. While climate change policies are integrated into national planning, they do not propose a framework for climate change integration or policy on social-economic and environmental development, nor do they clearly address how they may support planning towards sustainable development (Chinvanno & Kerdsuk, 2013).

4.3 Climate Change Adaptation Policy Framework in Thailand

Thailand's participation in the UNFCCC has compelled the country to develop a national policy approach to address its climate change impacts (ONEP, 2016). This began with the **National Strategic Plan on Climate Change (Climate Change National Strategy) 2008-2012** which was approved by Cabinet in 2008. The plan provided a framework for climate change planning in relevant government departments and agencies (ONEP, 2016). Its aim was for the country to be a climate-resilient society that cooperates with the global community to mitigate climate change based on the principle of sustainable development (ONEP, 2008). There were two key strategies on adaptation: to build capacity to adapt and reduce vulnerabilities to climate change impacts; and support research and development to better understand climate change, its impacts and adaptation and mitigation options, responding to long established limitations (ONEP, 2008). This highlighted the lack of policy, research and development on adaptation during that time as the vulnerability and assessment studies in Thailand were still at an early stage of development (ONEP, 2011). The main issues were a) uncertainties in downscaling the global climate change scenarios to national and regional scenarios; b) meaningful behavioural linkages between climate factors and key sectors of the economy; c) socio-economic scenarios for vulnerability analysis in all sectors; and d) integration of vulnerability and adaptation strategies into different sectors and stakeholders (ONEP, 2011, p. 6). Innovative technical approaches were needed to respond to policy needs and address increasingly severe effects of climate change and climate vulnerability and extreme events. During the plan's implementation, agriculture, water resources, health, forest and wildlife, and marine and coastal resources were identified as key sectors that are vulnerable to the impacts of climate change (ONEP, 2011). Overall in the plan, there

were links between adaptation and mitigation issues, and how they are environmental problems. Lebel, Foran, et al. (2012) observe that in the plan, “adaptation and other ways of reducing vulnerabilities to climate change are not seen as closely related to improving disaster management and only modestly related to the pursuit of sustainable development” (p. 131). The authors drew evidence from public forums and the Climate Change National Strategy where one strategy is “promoting greenhouse gas mitigation activities based on sustainable development” (p. 131).

The National Strategic Plan was reinforced in the **Climate Change Master Plan (CCMP) 2015-2050**, which is a long-term framework for climate change policy in Thailand. The CCMP was approved by Cabinet in 2015. The plan was formulated to help Thailand achieve low carbon growth and climate resilience by 2050 as a pathway to achieve sustainable development (ONEP, 2016). Adaptation is one of the three key issues in the plan. The plan identified six priority sectors for adaptation:

1. Flood, drought and water management
2. Agriculture and food security
3. Tourism
4. Public health
5. Natural resource management
6. Human settlement and security

Although these priority sectors were identified, at the time, only the agriculture sector had developed its own climate change strategy. Public health was beginning to develop its own climate change adaptation plan. However, most sectors had little attention, or no climate change measures in their sectoral planning (ONEP, 2018b). Meanwhile, during the initial implementation of this plan, there were improved vulnerability assessment studies of four sectors: water resources, agriculture, human settlement and health. Thailand recognised that adaptation should be streamlined with the disaster risk management at the national, regional, local and community levels (ONEP, 2018b).

The **National Adaptation Plan (NAP) 2018-2037** expanded on adaptation planning including the six priority sectors identified in the CCMP. The process of developing NAP was established under the 2010 Cancun Adaptation Framework to enable

countries to identify, prioritise and implement the most needed medium- and long-term adaptation actions. It has been prioritised in 2015 through the UN Sustainable Development Goals (SDGs) and the Paris Agreement. ONEP began its NAP process in 2015 with support of Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ) under the Risk-based NAP project (GIZ, 2018). This seems to be in line with IPCC risk framework for adaptation (IPCC, 2014e).

In 2015, ONEP conducted a study project to draft the NAP. The first phase was the study of risk and vulnerability assessment by area, province, and sector, together with creating a risk and vulnerability map, and a database on climate change in Thailand (ONEP, 2018b). In 2016, ONEP conducted the second phase of study by collecting and creating a database of knowledge and best practices on climate change adaptation in Thailand. This database stretched from the local level to the national level, as well as to utilise the results of the first phase study that has analysed weaknesses, gaps and needs to formulate the NAP.

For example, the lessons learned from Thailand's effective adaptation planning process based on data collection and risk assessments included:

- ONEP has established an inter-ministerial working group to steer the overall planning for adaptation at the national level. This will make adaptation policies more effective and allow early mainstreaming.
- Adaptation plans can be more concrete and well-connected to subnational adaptation actions by conducting national and sectoral NAP processes in parallel.
- A mechanism has been made to collect necessary data and incorporate collected information into policy formulation and implementation (MOEJ, 2016).

The NAP formulation process passed the public hearing and suggestions from the working group on academic supervision of the project, experts and all relevant parties, including the public, private and government sectors at the regional level (north, northeast, central, eastern and southern) and the national level. Yet, in order to formulate NAP comprehensively, an appropriate decision for the changing situation in 2018, ONEP reviewed and drafted a NAP in accordance with international cooperation and national policies such as the Paris Agreement, the National Strategy and the National Reform Plan (GIZ, 2018).

The NAP was approved by the NCCC in November 2018. It is now going through the new process of review by the NESDC before being submitted to Cabinet for approval (see Figure 16). It contains the overall national and sector-specific risk assessment and sector specific adaptation measures and indicators. Meanwhile, the NAP is currently in the completion of the first phase of implementation which includes risk-based NAP project which involve four pilot areas: Chiang Rai, Udonthani, Upper Chao Phraya and Andaman; and three pilot sectors: Tourism, Public Health and Human Settlement and Security.

It seems that the NAP process has helped Thailand to think beyond its short-term goals and to set specific priorities and plan of action in key adaptation sectors in the medium- to long-term. While there are some developments in the priority sectors, progress is slow. For example, despite tourism being one of the largest sectors and contributors to the country's GDP at roughly 15-20%, there has been little policy focus on climate change prior to the NAP process (Fitch Solutions, 2020; Thampanishvong & Karnchanapimonkul, 2019).

The NAP will be used to communicate the implementation progress of the adaptation component of the second **Nationally Determined Contribution (NDC)** to be submitted in 2020 (GIZ, 2019d). Adaptation has been included in Thailand's first NDC submitted in 2015 prior to COP 21 in response to the UNFCCC's request for countries to state their voluntary Intended Nationally Determined Contributions (INDC). This document publicly outlined countries' post-2020 climate actions to determine whether the world achieves the long-term goals of the new global framework, the Paris Agreement. The goals are namely "holding the increase in the global average temperature to well below 2°C above preindustrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels" (UNFCCC, 2015, p. 2). Now known as the NDCs, they capture the contributions in the context of national priorities, circumstances and capabilities. While these mostly reflect the ambition for reducing emissions, some also address how they will adapt to climate change impacts including support that will be required or given. Thailand included a section on adaptation which describes the priorities, key sectors and support needed for implementation. For example, one of the priorities is to

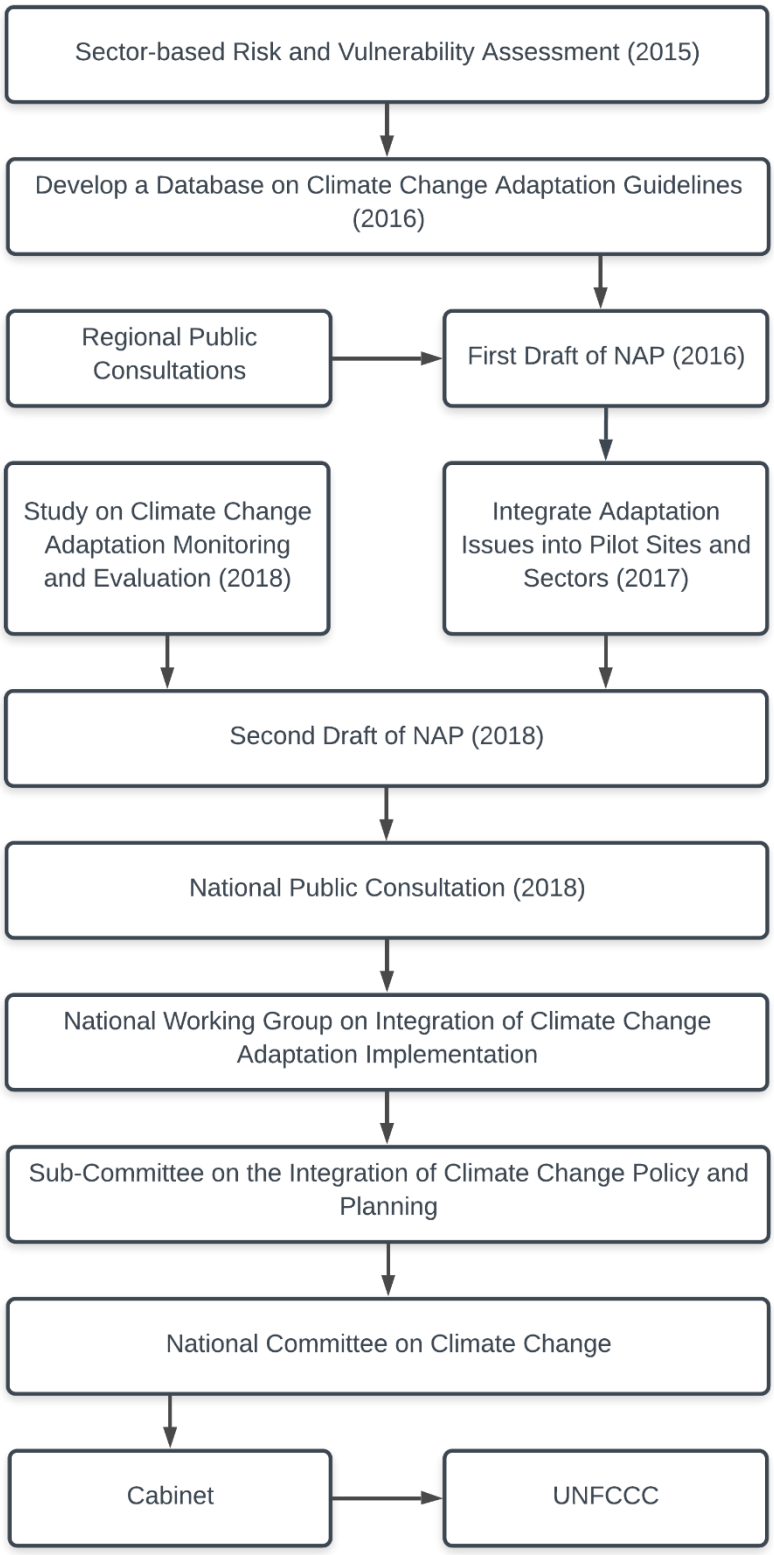
“safeguard food security through the guidance of Sufficiency Economy Philosophy” (ONEP, 2015b, p. 5). Thailand needs support in technology for agriculture, water resource management and modelling (ONEP, 2015b).

Thailand identified long-term plans to address climate change including the National Strategy and the CCMP. It also referred to specific sectoral plans. These plans are to provide a continuous framework for long-term measures and actions to achieve climate-resilient and low-carbon growth in line with sustainable development path by 2050 guided by the Philosophy of Sufficiency Economy (ONEP, 2015b). The NAP greatly expands on the determined national contributions it has listed for adaptation in the 2015 NDC. The six sectors that were identified in the CCMP were expanded to include the plan of action that consists of key objectives, measures and indicators.

4.4 Sectoral Climate Change and Climate Change Adaptation Plans in Thailand

Each sector has a different starting point for addressing adaptation to climate change as some ministries have started before while others have begun after the NAP process (GIZ, 2019d). The Health Impact Assessment Division (HIA) under the Ministry of Public Health (MOPH) previously finalised the **National Adaptation Plan on Climate Change and Health 2018-2030 (H-NAP),** which was approved by the Ministry of Public of Health Board at the end of 2016 (GIZ, 2019d). This plan provides a national framework for building resilience to climate impacts and health risks that includes adaptation and mitigation measures. The plan has been commended as an example of a successful H-NAP process (WHO, 2017). For the Ministry itself, this has been attainable with support from the World Health Organisation (WHO) which aims to ensure that the health sector follows a systematic process in developing the health component of the NAP (WHO, 2014). The H-NAP aims to strengthen health systems to protect health from climate variability and change (Ebi & Prats, 2015) (ONEP, 2018b). However, despite earlier progress this plan is yet to be approved by Cabinet.

Figure 16: National Adaptation Plan (NAP) Preparation Process



Note. Translated. Adapted from *Thailand's National Adaptation Plan*, by ONEP, 2018.

Another sector that has made headway on climate change is the Office of Agricultural Economics (OAE) under the Ministry of Agriculture and Cooperatives (MOAC) which manages the **Climate Change Strategic Plan for the Agricultural Sector (ASPCC) 2017-2021**. The ASPCC guides adaptation in the agriculture sector in Thailand and informs the agriculture component in the NAP. Its vision is for the agriculture sector to have climate resilience and be able to mitigate climate change problems under sustainable development pathways (OAE, 2017). The ASPCC was developed with support from the **Integrating Agriculture in National Adaptation Plan (NAP-Ag) programme 2016-2018** as an action plan to strengthen the planning processes for adaptation of the agriculture sectors in Thailand by focusing on adaptation measures and actions and mainstreaming climate change risks into planning and budgeting (UNDP & FAO, 2019).

The NAP-Ag process began in 2015, funded by the International Climate Initiative (IKI) of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) and co-led by the United Nations Development Programme (UNDP) and the Food and Agriculture Organization (FAO) (UNDP & FAO, 2019). The NAP-Ag process engages with the framework of the UNFCCC Technical Guidelines for the NAP process by focusing on setting the scene for integrating the agriculture sectors in NAPs and engaging agricultural stakeholders in the process of formulating and implementing the NAPs and analysing the climate change scenarios, risks and vulnerabilities in the agriculture sectors to identify, select and prioritise medium- to long-term adaptation options. In addition, the NAP-Ag process involves developing strategies and enhancing capacities to implement adaptation actions in the agriculture sectors; and building effective monitoring and review systems to assess adaptation planning and implementation of agricultural adaptation actions, with a possibility for evidence-based learning and revisions (UNDP & FAO, 2019). The NAP-Ag roadmap document is currently being reviewed and will guide continued sectoral adaptation planning and implementation of ASPCC and agriculture sector components of Thailand's NAP (UNDP & FAO, 2019).

More recently, the Department of Public Works and Town and Country Planning (DPT) has pushed adaptation forward. DPT is the lead agency in urban planning and

building control in Thailand and climate change adaptation consideration is still in its infancy (DPT1, 2019). DPT informs the human settlement and security component of the NAP. Meanwhile, the Ministry of Finance (MOF) and MONRE are developing an Integrated Budget Allocation Framework to integrate climate change into budget decision-making as a separate criterion. This would apply to annual budgets as well as sectoral budgets outside MONRE and would provide public funds for climate change adaptation (GIZ, 2019d).

Despite the progress made, especially in health and agriculture sectors, due to changes in national and sectoral planning from the 20-Year National Strategy and 2017 Constitution, some plans are yet to be approved by Cabinet. For instance, although the H-NAP was expected to be approved by Cabinet in 2017, it now must undergo revisions and review to align with the new policy requirement (WHO, 2017). This indicates that the slow policy process is not only limited by a lack of knowledge or technical and financial capacity, but also by structural limitations that are influencing policy progress. Even more concerning is that because these plans have only begun and are at the early stages of development or implementation, the monitoring and evaluation of successes have either been inadequate or yet to be seen, such as the NAP which has not reached implementation. Monitoring of these plans might focus on whether Thailand is overseeing and checking the activities in the plan and to ascertain if it can achieve the set planned results or not. The evaluation of these measures might involve assessing how well Thailand has achieved the set objectives and indicators over short-, medium- and long-term.

4.5 Alignment to Other National Policies in Thailand

The NAP is aligned with other national policies which have overarching influence on the direction of climate change policy including adaptation in Thailand. These plans emerged under the 2017 Constitution which was developed by the National Legislative Assembly (NLA) under the National Council for Peace Order (NCPO) coup government. Crucially, the NAP timeframe is aligned with the overarching government plan, the **20-Year National Strategy (National Strategy) 2018-2037**, including its cycle of 5-year revisions. The 20-Year National Strategy was developed

by the National Strategy Committee following the enactment of the National Strategy Preparation Act B.E. 2560 (20-Year National Strategy) in 2017 (Royal Gazette, 2017b). The 20-Year National Strategy was endorsed by Cabinet in June 2018 and came into effect in October 2018 (Bangkok Post, 2018). Its vision is of "stability, prosperity and sustainability" for Thailand to become a developed country based on the sufficiency economy. The plan consists of six strategic areas: 1) security, 2) competitiveness enhancement, 3) human resource development, 4) social equality, 5) green growth, and 6) rebalancing and public sector development. Climate change including adaptation is included under the Strategy on Green Growth (NESDC, 2019a).

In addition to the 20-Year National Strategy, the **National Reform Plan 2018-2030 (National Reform Plan)** was developed by National Reform Committee (NRC) following the enactment of the National Reform Plans and Procedures Act B.E. 2560 (National Reform Plan) in 2017. The plan serves as urgent priorities complementary to first five years of the 20-Year National Strategy (NESDC, 2019c; Royal Gazette, 2017a). The National Reform Plan was approved by Cabinet in April 2018 (NESDC, 2018). There are 11 reform areas: 1) politics, 2) public administration, 3) laws, 4) justice procedures, 5) the economy, 6) natural resources and environment, 7) public health, 8) mass media and IT, 9) social issues, 10) energy and 11) anti-corruption. Climate change measures are included under the Natural Resources and Environment area and developed by the Sub-committee on Natural Resources and Environment Reform (NESDC, 2018). Both the National Strategy and National Reform Plan are legally binding and state agencies must implement them (NESDC, 2019c).

Moreover, the 20-Year National Strategy also has a goal for national economic development under the **Thailand 4.0** economic model (NESDC, 2019c). The model was adopted by the government in 2018 and emphasises on "security, wealth and sustainability" to transition Thailand from a "middle-income trap" to a high-income country in five years (NESDC, 2019c). The "middle-income trap" is a situation in which a country's growth slows after having reached the middle-income levels (Jitsuchon, 2012). From the 1970s to the 2000s, Thailand was ranked by the World Bank as *lower-middle-income*, advancing to upper-*middle* status in 2011 (Kamnuansilpa & Minh, 2019) (World Bank, 2011).

Currently, Thailand's current gross national income is USD $385.217 billion (2018) while the gross national income (GNI) per capita $6,610 (ADB, 2020). Moreover, 9.9% of the 68 million people in Thailand live below the national poverty line (2018), while 0.8% are unemployed (2019) (ADB, 2020). However, with COVID-19, the unemployment rate increased to 1.95 % from April to June 2020 (Bangchongduang, 2020). Thailand is now in a situation where the country has developed itself to rely on heavy industry with certain technologies such as oil and gas, petrochemicals and steel produced largely for export and dominate up to 70% of the GDP (Phoonphongphiphat, 2017).

Despite this, the country is not able to compete with neighbouring countries on wages and inputs costs. Crucially, it cannot catch up with countries in the region that possess more advanced innovation and skilled workers such as South Korea and China (Languepin, 2016). The Prayuth government claims that Thailand is moving on from a country with abundant, cheap, unskilled labour to an innovation and "value-based economy" that deals effectively with disparities and the imbalance between the environment and society (Languepin, 2016). The Prime Minister explained that Thailand 4.0 has three elements to help the country's economy and production: knowledge-based economy, inclusive society and sustainable growth and development (Languepin, 2016). Thailand 4.0 comprises of four objectives: 1) economic prosperity, 2) social well-being, 3) raising human values and 4) environmental protection. It has five agendas that aims to bring Thailand as a first world nation through technology, industry, and enterprise with strong mechanisms within the provinces and cooperation through regional networks such as ASEAN and the global community. The Thai government views that environmental protection is integral to security and sustainability that seeks to create a liveable society with an economic system that addresses climate change and supports a low carbon economy (The Government Public Relations Department, 2016). This sounds like a rhetorical or symbolic statement that references high-carbon economic activities. Somchai Jitsuchon, the research director for inclusive development at the Thailand Development Research Institute (TDRI) warns that it will take up to a decade to achieve the goal of Thailand 4.0 (Phoonphongphiphat, 2017). He expressed concerns

about the model, such as the lack of specialists and experts, especially in high-tech industries, to help push Thai industries to modernise while another major problem is the bureaucratic system of Thai government administration, as every action plan is set to be done by several ministries, which make plans slow (Phoonphongphiphat, 2017). In this case, the benefit of Thailand 4.0 model for climate change may also be difficult to see.

The National Strategy was formally incorporated in the **2017 Constitution** in Section 65 which states, in essence, that the state should set out a national strategy as a goal for sustainable development of the country under the principle of good governance to be used as a framework for formulating consistent and integrated plans (Office of the Council of State, 2017). With the help of Thailand's military government, King Vajiralongkorn revised and then promulgated the country's 20th constitution on 6 April 2017 (Bangkok Post, 2017; Bangprapa, 2017). Climate change is only acknowledged once in the 2017 Constitution under Section 258 with a focus on water resource management system (Office of the Council of State, 2017). According to the 2017 Constitution, elected governments for the next 20 years are obliged to develop their policies and propose their annual budget based on the 20-Year National Strategy including master plans (Office of the Council of State, 2017). Non-compliance from government agencies and pubic organisations could mean ministers would face suspension from public office or removal from position, expulsion or a jail term[10] (Office of the Council of State, 2017). This means what the National Strategy and National Reform Plan emphasise are important policy priorities for the government. Climate change was mentioned in only a few areas.

The **Twelfth Economic and Social Development Plan (Twelfth Plan) 2017-2021** constitutes the first five years of the implementation of the 20-Year National Strategy, the country's SDGs, the Thailand 4.0 Policy, and other reform agendas/ consistent with the targets of the 20-Year National Strategy. The Twelfth Plan thus focuses on reforms to solve "long-term accumulated fundamental problems" (NESDB, 2017, p.

[10] Any policy proposed by a political party, government policy statement or budget allocations must be within the national strategic framework.

1). The plan has ten development strategies: 1) strengthening and realising the potential of human capital, 2) creating a just society and reducing inequality, 3) strengthening the economy, and underpinning sustainable competitiveness, 4) environmentally-friendly growth for sustainable development, 5) reinforcing national security for the country's progress towards prosperity and sustainability, 6) public administration, corruption prevention, and good governance in Thai society, 7) advancing infrastructure and logistics, 8) development of science, technology, research, and innovation, 9) regional, urban and economic zone development and 10) international cooperation for development (NESDB, 2017). The commitment to climate change is found under the fourth strategy on "environmentally-friendly growth for sustainable development" while climate change is marginally mentioned in other strategies.

Since 1961, the Office of the National Economic and Social Development Board (NEDSB) has set five-year plans as the national policy framework for balanced economic growth and sustainable development priorities in all sectors. ONEP (2011) claims that Thailand has integrated climate change issues into the national development planning process since the Seventh Plan (1992-1996). However, this was only in terms of global warming which does not fully consider climate change as a holistic issue (NESDB, 1992). Climate change was not fully integrated until the Tenth Plan (2007-2011) (NESDB, 2007). In the Twelfth Plan, climate change is reflected mostly under the Strategy for Environmentally-Friendly Growth for Sustainable Development and mentioned throughout the plan. The aim for Thailand is to achieve a low carbon emission and a climate-resilient society (NESDB, 2017). The aim for adaptation is to enhance the capacity for climate change adaptation through action plans in each of priority sectors and research and development (R&D) in science, technology and innovation (ST&I) (NESDB, 2017). The plan links this to the NAP. The NAP is aligned with the five-year Twelfth Plan and at least the next three plans (the Thirteenth Plan, Fourteenth Plan and Fifteenth Plan) to be developed by the newly established National Economic and Social Development Council (NESDC). These plans will be important as they must adhere to the 20-Year National Strategy (NESDB, 2017). This provides the possibility for some major headway for climate

change objectives that have been included in the 20-Year National Strategy, National Reform Plan and Twelfth Plan. Even so, the elements on adaptation are currently unclear as 20-Year National Strategy and National Reform Plan mention a broad objective for adaptation. The Twelfth plan only refers to enhancing capacity.

In addition, there have been national environmental policies and plans that are aligned with climate change including adaptation. This includes the National Environmental Quality Promotion & Conservation Policy and Plan 2017-2036, and Environmental Quality Management Plan 2017-2021 as previously mentioned. For adaptation, the National Disaster Risk Management Plan (2015) is particularly relevant to climate change, since climate change will likely inflict more frequent and severe droughts in dry season, heavier than usual downpours in rainy season, increase in frequency and severity of extreme weather, and higher rates of sea-level rise (DDPM, 2015). This plan is linked to Thailand's Disaster Prevention and Mitigation Act (2007), the main legal framework for all sectors in disaster risk management. According to Article 44 of the act, when foreseeable that the country's risk situation is changing or the existing National Disaster Prevention and Mitigation Plan has been implemented for five years, it is recommended to revisit and revise the plan in a timely manner (DDPM, 2015).

Lastly, there is also the Master Plan on Integrated Biodiversity Management 2015-2021 which is linked to climate change policy (ONEP, 2015a). It recognises that climate change is one of the major threats to biodiversity. It includes a few measures on adaptation such controlling and protecting marine and coastal resources, wetlands and vulnerable ecosystems that may be affected by climate change; and promoting research and development as to be the base for climate change adaptation (ONEP, 2015a).

In general, priorities given to other national policies such as the National Strategy and National Reform Plan means that the progress on other policy areas have been slow. Even though climate change measures have been included into key national policies, they are limited in scope and often open to interpretation. One major direction is the possibility of the Climate Change Act in 2020, which may provide a legal framework for implementing climate change measures. However, the content is yet unknown and

likely to be towards mitigation rather than adaptation as the plan seems to have greater consideration for mitigation. The Draft Climate Change Act is to include Environmental Impact Assessment (EIA), GHG accounting and risk map, economic incentives and raising awareness and education. The elements of the law comprise of 1) institutional structure, 2) greenhouse gas reduction, 3) impact adaptation and 4) incentives or economic tools (ONEP, 2019). Additionally, all policies and plans must adhere to the National Strategy and based on past development timeframes, so policies may take longer to be approved by Cabinet. This provides little confidence for policymakers to advance action on areas such as adaptation effectively.

4.6 Links to International and Regional Policies

Thailand's global commitments to climate change have shaped its national approach to addressing climate change. Thailand ratified the **United Nations Framework Convention on Climate Change (UNFCCC)** in 1994 (UNFCCC, 1992) and the Kyoto Protocol in 2002. Consequently, "Thailand's policy on climate change has been drawn up to ensure that the country's commitments and obligations to the UNFCCC and the Kyoto Protocol are fulfilled and are consistent with the national interest" (ONEP, 2011, p. 31). There were mechanisms under the UNFCCC specifically on adaptation that have supported Thailand. For example, the **Nairobi Work Programme 2006** is a mechanism to facilitate and catalyse the development, dissemination and use of knowledge that would inform and support adaptation policies and practices (UNFCCC, 2013a). Subsequently, the **Cancun Adaptation Framework 2010** was established to strengthen action on adaptation in developing countries through international cooperation (UNFCCC, 2010). The **Warsaw Mechanism on Loss and Damage 2013** specifically addressed the loss and damage associated with the impacts of climate change, including extreme events and slow onset events (UNFCCC, 2013b). Significantly, the **Paris Agreement** adopted in 2015 aims to strengthen the global response to the threat of climate change by keeping global temperature rise well below 2 degrees Celsius. The agreement has for the first time established a global goal on adaptation to increase efforts on adaptation including strengthening national adaptation efforts through the NAPs and enhancing

adaptive capacity of developing countries (UNFCCC, 2015). So far, Thailand has included some of these international mechanisms on adaptation in its NAP.

Furthermore, Thailand's national adaptation policies can be linked to the **Convention on Biological Diversity (CBD)** adopted in 1992, a multilateral treaty for developing national strategies for the conservation and sustainable use of biological diversity (CBD, 1992). This is integrated in its Master Plan on Integrated Biodiversity Management 2015-2021 (ONEP, 2015a). It also has links to the **Sendai Framework on Disaster Risk Reduction 2015-2030** under UN Disaster Risk Reduction (UNDRR), which is a roadmap for make communities safe and more resilient to disasters (UN, 2015a). The Sendai Framework is integrated into the National Disaster Risk Management Plan (2015) (DDPM, 2015). Thailand has included these mechanisms in the NAP (see Chapter 7). Thailand's progress on climate change including adaptation is reported through mechanisms such as the **National Communications (NCs)** and **Biennial Update Reports (BURs)** to the UNFCCC (ONEP, 2017, 2018b). Thailand has increased its reporting on adaptation and have included details on its vulnerability assessments, partnerships and projects on adaptation (ONEP, 2018b).

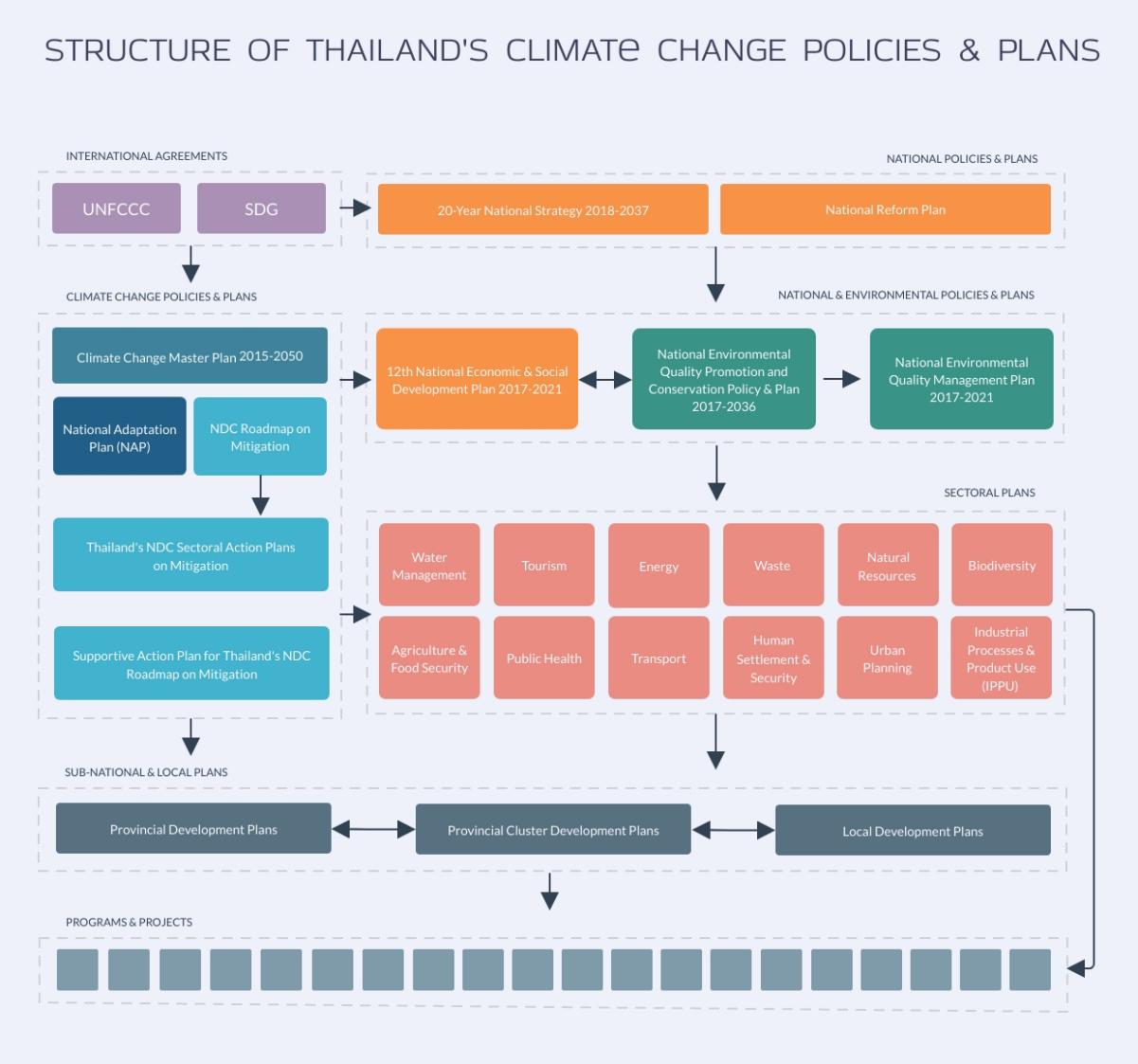
The 17 **Sustainable Development Goals (SDGs)** adopted in 2015 as part of the UN 2030 Agenda are crucially relevant to Thailand's adaptation approach (see Chapter 4). Thailand's approach to sustainable development is guided by the sufficiency economy – Thailand promotes a sustainability mindset among all Thai citizens that is inclusive and balanced. "Inclusive" means that all of Thai society are involved, while "balanced" means that the lives of people in Thailand and their approach to development involve good management of resources of production and consumption, efficient and effective use of limited resources, and use of the principles of the sufficiency economy to achieve greater resilience (Dharmapiya & Saratun, 2015). In order to achieve this, in October 2016, Thailand approved an initiative called Sufficiency Economy Philosophy for Sustainable Development Goals (SEP for SDGs) (a.k.a. SEP 4 SDGs) partnership to promote the application of the sufficiency economy for the SDGs in all areas and at all levels (CSD, 2017). SEP and SDGs have since been integrated in the 2017 Constitution and its national plans as well as the budgets of all government agencies (CSD, 2017). This approach is reflected in

Thailand's SDG 13 on climate change which is also part of the NAP. Its efforts on the SDGs can be assessed from its **Voluntary National Review (VNR)**. This review mechanism was established as part of the 2030 Agenda, as regular reviews by the High-Level Political Forum (HLPF). The VNR aims to provide a collaborative evaluation that will help to accelerate the implementation of the 2030 Agenda. It recognises that since all the SDGs are interlinked, the progress made in implementing one SDG can support the successful implementation of other SDGs (MFA, 2018). The progress on adaptation is mentioned in Thailand's VNRs, including the NAP process (MFA, 2018). See Figure 17 for a full picture of the structure of Thailand's climate change policies and plans.

There are regional frameworks relevant to Thailand's adaptation policies. In recognition of the prevailing transboundary nature of climate change impacts in the Southeast Asian region, states have attempted to address this through a key institution, the Association of Southeast Asian Nations (ASEAN). ASEAN, established in 1967 with the signing of the ASEAN Declaration (Bangkok Declaration), comprises Indonesia, Malaysia, Philippines, Singapore and Thailand, Brunei Darussalam, Viet Nam, Lao PDR, Myanmar and Cambodia (ASEAN, n.d.). ASEAN is built on cooperation to achieve mutual objectives specific to Southeast Asia and enforced through the ASEAN Charter from 2008. The ASEAN Community was established in 2015, comprising the three pillars of the ASEAN Political-Security Community, ASEAN Economic Community and ASEAN Socio-Cultural Community (ASEAN, n.d.). The ASEAN Economic Community only mentioned climate change in terms of increasing resilience to climate change, natural disasters and other shocks for food, agriculture and forestry (ASEAN, 2015) and to increase responsiveness to environmental protection and climate change for a more sustainable and inclusive pattern of ASEAN tourism (ASEAN, 2015). The ASEAN Socio-Cultural Community focus includes climate-related issues as identified under the Resilient category in its ASEAN Socio-Cultural Community Blueprint 2025 where it includes "A Climate Adaptive ASEAN with Enhanced Institutional and Human Capacities to Adapt to the Impacts of Climate Change" among others (ASEAN, 2016). In addition, the **ASEAN Socio-Cultural Community (ASCC) Blueprint 2025** has climate measures

throughout the five categories: 1) engages and benefits the people, 2) inclusive, 3) sustainable, 4) resilient and 5) dynamic (ASEAN, 2016). Adaptation is specific in the sustainable and resilient categories and refers to “A resilient community with enhanced capacity and capability to adapt and respond to social and economic vulnerabilities, disasters, climate change as well as emerging threats, and challenges” (ASEAN, 2016, p. 3).

Figure 17: Structure of Thailand's Climate Change Policies & Plans



Note. Adapted from file given by interview participant at ONEP.

Another regional body relevant to Thailand’s climate adaptation approach is the **Mekong River Commission (MRC),** a regional cooperation between Cambodia, Lao PDR, Thailand and Viet Nam formed in 1957 and originally set up under a statute

endorsed by the UN. It works on managing shared water resources and the sustainable development of the Mekong River. It is a platform for water diplomacy and regional cooperation and acts as a regional knowledge hub. Adaptation initiatives occur throughout the basin as part of regional and national projects. Most adaptation strategies focus on water resource management, agriculture, and natural disaster management. The **Mekong Climate Change Adaptation Strategy and Action Plan (MASAP) 2017** sets out the strategic priorities and actions at basin level through which the MRC can contribute to addressing climate change risks and strengthen basin wide resilience. The MASAP is part of, among others, the MRC Integrated Water Resources Management-based Basin Development Strategy (BDS) 2016-2020, the MRC Strategic Plan 2016-2020, and the MRC Climate Change and Adaptation Initiative (CCAI) Framework Document 2009-2025 (MRC, 2017).

These international and regional policies highlight that Thailand's national adaptation policy is influenced and shaped by its membership in regional and global institutions. This has generally helped Thailand consider and integrate other key mechanisms to strengthen its adaptation approach. At the same time, this membership may put pressure on the government to meet its obligations and requirements, particularly when seeking funding and support. This may also inadvertently provide ineffective response to adaptation. For example, Thailand has integrated greater disaster risk management measures into its adaptation response as it has faced severe flooding and droughts in recent years. These measures have been focused particularly in the human settlement sector. However, the sector itself has yet to demonstrate adequate understanding or priority for climate change, much less adaptation, which may give priority to a disaster risk management response rather than adaptation and reduce the effectiveness of the intended plan.

4.7 Partnerships on Climate Change Adaptation Policy

Thailand relies greatly on cross-sectoral, bilateral and multilateral partnerships and projects to support its national adaptation planning and implementation. These have been in forms of financial support, capacity building support and technical assistances from several international organisations. Global Environment Facility

(GEF) provided grant funding, through UNDP, to assist Thailand in the preparation of its National Communication and Biennial Update Report. The Global Green Growth Institute (GGGI) assisted in the implementation of the CCMP as well as the development of a sector's NDC Action Plan for Thailand (ONEP, 2018b). These results and recommendations from these partnerships then get translated into specific policies.

Thailand's partnership with GIZ is perhaps most relevant to Thailand's adaptation policy process. GIZ began working with ONEP in 2015 on the Risk-NAP (Risk-National Adaptation Plan) project which enables Thailand to analyse the climate risks in Thailand and implement activities that integrate the NAP into sectoral and sub-national planning processes. This is to also enable Thailand to align its plans with adequate budgeting (ONEP, 2018b). This process began in 2015 and was completed in 2019 (GIZ, 2016). This partnership is further enhanced by further collaboration on the Thai-German Climate Programme (TGCP) which is a cross-sectoral approach and is composed of five integrated components (GIZ, 2019b):

- climate policy
- agriculture
- energy
- waste
- water

The components relevant to adaptation are policy, agriculture and water. Energy and waste are not included in the NAP.

For example, the TGCP-Policy supports ONEP to engage and promote the mainstreaming of climate change policy at regional and local levels (GIZ, 2019c). This primarily consists of national policy development, sub-national implementation, measurement, reporting and verification (MRV) and monitoring and evaluation (M&E), climate finance, and international cooperation. The duration of this project is from 2018 to 2021 (GIZ, 2019b). In the first phase of the TGCP project from 2014 to 2017, the GIZ and ONEP focused on 17 pilot provinces to work out the bugs before expanding. The latest phase was launched in July 2018 and aims to assist the

remaining 60 provinces, which were not included in the project's first phase, to draft their own climate policies based on the local environment and circumstances (Rujivanarom, 2018).

The first phase highlighted some challenges that needed to be addressed in the second phase (Rujivanarom, 2018). The first challenge is a lack of constructive cooperation from other related official agencies. A senior ONEP official commented:

> "This problem was mainly caused by the lack of climate-change awareness among the officers in other agencies. Most of them saw climate change as a problem for the future and did not prioritise work on this issue," (Rujivanarom, 2018). Moreover, "The differences in organisational culture between the project's various stakeholders and the complicated bureaucratic system of official Thai agencies were also big problems that made our work harder" (Rujivanarom, 2018).

The second problem is that climate change is already impacting some areas. These factors are being considered by government officials when promoting climate change adaptation policies at the regional and local levels.

The international partnerships are possible through collaboration with other government agencies at the national level. ONEP collaborates with other government agencies to develop and implement the NAP especially those in the six priority areas: Department of Health, Office of Agricultural Economics (OAE), Department of Tourism, Office of National Water Resources (ONWR), Office of the Permanent Secretary for MONRE, Department of Public Works and Town & Planning (DPT). The projects with GIZ saw collaboration with other main partners such as the Department of Water Resources (DWR), Royal Irrigation Department (RID), Rice Department (RD) and Department of Local Administration (DOLA). Other line ministries include the Ministry of Foreign Affairs (MFA), Ministry of Agricultural and Cooperatives (MOAC), Ministry of Science and Technology (MOST), Budget Bureau, NESDC for policy alignment and the SDGs, along with provincial, regional and local government including the Bangkok Metropolitan Administration (BMA). This shows that ONEP, while it is the main agency responsible for climate change, cannot develop and

implement adaptation policies alone (GIZ, 2019a). These sectors, who are focal points for their respective agencies, have helped Thailand fill some of its gaps in its knowledge or capacity in those areas. At the same time, ONEP provides support to those sectors in integrating climate change measures into their work.

Apart from government agencies, Thailand relies on technical expertise to advise or conduct the research and analysis on relevant areas. Adaptation projects often require technical expertise to advise or conduct the research and analysis on relevant areas. Some of these include national institutions such as the National Science and Technology Development Agency (20-Year National Strategy) and involve national universities (e.g. Kasetsart University and Chiang Mai University) (ONEP, 2018b). Some involve specific industries that specialise in the area (ONEP, 2018b).

Without the support from these international organisations or agencies, Thailand may not have been able to develop its adaptation policy or meet its reporting requirements. Despite the support provided by the partnerships with different agencies, there is a lack of effective or accessible data on monitoring and evaluation of many of these projects as they were not often found or available from this research.

4.8 Constraints to Climate Change Adaptation Policy in Thailand

There are several constraints or barriers to implementation of climate adaptation policies in Thailand. One major constraint to adaptation is the reliability and validity of research (ONEP, 2011). Uncertainties in climate scenarios, long-term periods and differing local characteristics are factors that hinder the development of clear adaptation strategies. The long-term strategies also rely on data and outcomes from short-term and mid-term strategies which makes it difficult to predict its success. Baker and Phongpaichit (2019) argues that the limited state of knowledge on climate change in Southeast Asian countries is a concern but “in practice makes the issue easier to ignore”.

Another major barrier to successful implementation includes high costs and capacity constraints. The proposed measures and actions in adaptation plans are subject to high investment and operating costs such as technologies and infrastructure. There is also inadequate support by financial institutions as well as domestic technological and

technical resources (ONEP, 2015b). Thailand needs technologies and know-how on impact, vulnerability and adaptation, including technology that has been developed and transferred (ONEP, 2018b). Waiving or reducing taxes on research devices and instruments developed domestically and promoting devices and supporting locally-developed devices and research work will be important (STI Office, 2012).

However, international cooperation is also crucial to enhance technical capacity and financial resources for the implementation of adaptation policies and measures in Thailand. Thailand needs advanced technology capacity building from leading international institutions and companies and MOUs with developed countries on technology transfer or research collaboration. It also needs support in developing the country as an ASEAN training hub for adaptation technologies in the context of South-South collaboration (STI Office, 2012). It is necessary to create incentives for technology developers to cooperate and share technology knowledge to enable technology transfer on a larger scale (ONEP, 2015b). Perhaps Thailand 4.0 economic model proposed by the current government could assist in this area.

These adaptation measures and plans further require a high level of technical capacity and effective coordination across different sectoral agencies. Importantly, areas that are highly vulnerable or have been affected by climate change include agriculture, water resources, health, and marine and coastal resource (ONEP, 2018b). Unfortunately, progress varies in different sectors as ongoing sector-based strategic plans may set climate change-related objectives at a lower priority. Most sectors, including those that are vulnerable, do not have a comprehensive climate change and adaptation strategic plan (e.g., water resources). Some may lack information and data on climate variability and vulnerability while some may require research and analytical techniques to analyse the impacts along with technical capacity to meet the adaptation measures (ONEP, 2018b). This includes a lack of staff with climate change capacity and inefficient knowledge transfer and distribution (STI Office, 2012).

Current policies are also in their early stages and will require further development and revision to be effective. For example, the CCMP is currently the blueprint for climate change policy in Thailand, and clearly states that the short-term focus would be project integration; the medium-term focus would be programmes integration; and

the long-term focus would be policy integration. However, according to Chinvanno and Kerdsuk (2013), the CCMP does not propose a framework for climate change integration or policy on social-economic and environmental development, nor does it clearly address how it may support planning towards sustainable development. Further, national policies, due to their broad approach, may not fully address local or even regional climate-related issues.

Importantly, policy practitioners are still grappling with what *successful* adaptation means (Owen, 2020). There is no uniformly applicable answer. There are social, ecological, economic, political, technical, institutional, psychological and cultural dimensions to consider (Moser & Boykoff, 2013). These are both scientifically informed and practice relevant. Yet, past lessons have shown that the achievement of adaptation goals may have been too narrowly defined or that achieving outcomes at one level (for instance local) may not lead to or be consistent with desired outcomes at a regional or national level (Moser & Boykoff, 2013). The success of adaptation involves normative, historically based and context-specific dimensions. Such dimensions may also be politically and socially contested.

Lastly, while Thailand has short-term to long-term plans for climate change, including adaptation, little is being done to turn them into actions. In addition, “Thailand's medium-term plan for electricity generation, recently updated, is totally incompatible with the long-term plan on climate change” (Baker & Phongpaichit, 2019). Given these premises, this study examines climate change adaptation policy at the national level as well as an on-the-ground adaptation project to explore the interactions between policy and practice.

4.9 Chapter Summary

Climate change is an urgent and ongoing issue for governments, requiring immediate attention and also long-term planning. Thailand has developed goals and objectives for its climate change policies. Through its NDC and CCMP, it has identified its long-term planning and strategies to address climate change. On adaptation, the NAP has outlined cross-sectoral objectives that bring together key affected and vulnerable areas including agriculture, water management, human settlement and health (ONEP,

2018b). The climate change plans are further influenced by other national plans and policies including the 20-Year National Strategy and the Twelfth Plan, and other environmental plans.

Thailand's climate change initiatives are constrained by very slow policy processes, uncertainties, and a lack of capacity and resources (OEPP, 2000; ONEP, 2011, 2018b). There has also been a lack of interest, knowledge and priority given to climate change in sectoral planning. The national policies and plans are often too broad and do not serve the needs of those at the local levels or on the ground. These are also the factors that may hinder the progress of future climate change policies and planning.

This chapter examined Thai climate change adaptation policy and governance arrangements and how they are expressed through international and domestic partnerships. It has touched on how climate change adaptation policies and plans also contribute to national sustainable development efforts. It is important to understand how sustainable development concepts and the Thai notion of the sufficiency economy have been defined, developed and implemented in Thailand. The next chapter describes these ideas and their relevance to this research.

Chapter 5: Sustainable Development and Sufficiency Economy Frameworks

While there have been specific references to sustainable development and the sufficiency economy in national planning documents in Thailand, there is little reference to how these plans are to achieve sustainable development (NESDB, 2017; NESDC, 2019a; ONEP, 2016, 2018a). Sustainable development refers to development that can be maintained over an indefinite period of time (Du Pisani, 2006). The idea of the sufficiency economy refers to an approach to development based on a strong foundation and stability before furthering progress (Shone, 2014). Both sustainable development and sufficiency economy concepts promote an approach to development that is balanced socially, economically and environmentally (UN, 2015b). Sustainable development and sufficiency economy are not just goals for the Thai government, but are also theoretical frameworks that introduce and inform the description of the research problem (Lederman & Lederman, 2015). These frameworks allow us to understand how climate change adaptation policies are linked to the national direction on sustainable development in Thailand.

The purpose of this chapter is to develop an analytical framework, informed by the concepts of sustainable development and sufficiency economy. The framework seeks to account for the guiding principles, normative values, political and institutional mechanisms, policy processes, change approaches and actors involved within the sustainable development and sufficiency economy approaches. These elements have been developed on the basis of a reviewing the literature and share similarities to those identified by Hetherington (2019) in her thesis, “Trashing New Zealand: A critical evaluation of food waste management discourses in New Zealand and their implications for sustainable development” (pp. 49-50). Each element shapes how climate change adaptation policies in Thailand are integrated into national development planning.

There are three main sections in this chapter. First, it explores the historical developments, definitions and key elements of sustainable development. Second, it applies the same review to the sufficiency economy. Lastly, it brings the key elements

of the two theoretical frameworks together to form an analytical framework for the study.

5.1 Sustainable Development

Sustainable development is a development approach that aims to balance economic, social and environmental dimensions. In recent years, at the international level, this has evolved into what are known as the Sustainable Development Goals (SDGs), a set of 17 issues that need to be addressed by all countries to achieve sustainable development (UN, 2015b). Climate change (the focus of SDG 13) is one such issue – if perhaps the most threatening to human and planetary sustainability – and responding to it entails, in part, addressing both mitigation and adaptation. Addressing climate change in a meaningful way requires thinking about how we can foster sustainable development. To understand this better, the following section discusses the concept of sustainable development, its key elements, and how it relates to climate change adaptation. It begins by outlining the political history and definitions to the concept.

5.1.1 Political History of Sustainable Development

Today, the concept of sustainable development has become integrated within policies and initiatives set out by governments around the world. However, the concept dates back to the late 1960s and early 1970s when international debates on environmental protection and economic growth came to frame policymaking (Dryzek, 2013). An early influential work was the *Tragedy of the Commons* by Hardin (1968)[11] who argued that people are incapable of putting collective interest before individual ones[12], which creates a vicious cycle of environmental degradation. Later, a concern for some form of sustainable development was popularised initially by reports such as *The Limits to Growth* by the Club of Rome (Meadows et al., 1972), which took a systems approach to the issues of overpopulation and overconsumption. Since that

[11] According to Mildenberger (2019), although the "Tragedy of the Commons" remains an influential work in environmental scholarship, Hardin himself is a deeply problematic figure, with greater recognition now that he was "a racist, eugenicist, nativist and Islamophobe".

[12] The "Tragedy of the Commons" reflects a survivalist and limits discourse described by Dryzek (2013).

time, the environmental movement has raised questions about the survival of humankind in a world with limited natural resources (Springett & Redclift, 2015).

Despite some criticisms of *The Limits to Growth* such as Sandbach (1978) who observed, amongst other perspectives, that from a Marxist or Political Economy position, "resource scarcity and pollution are dependent upon underlying principles of economic and social organization" (p. 496), it was influential as during this time governments began to engage in debate about tensions between environment and development, although largely through North-driven agendas (Connelly et al., 2012). This debate was a central theme in the first United Nations Conference on the Human Environment in 1972 in Stockholm, where the conflicts between environment and development were officially acknowledged (Kates et al., 2005). The idea was that the world needed to approach development in a way that was "sustainable", meaning that it can keep going indefinitely into the future (Du Pisani, 2006). However, the South struggled to include social justice into sustainable development as the North's view on environmental responsibility against industrialisation and pollution dominated the talk (Dabelko & Conca, 2019).

It was not until 1980, though, that the concept of sustainable development started to gain wider momentum (Du Pisani, 2006). Prominently, sustainable development was reinforced in the *World Conservation Strategy* of the International Union for the Conservation of Nature (IUCN) in 1980 (IUCN, 1980) (Kates et al., 2005). The UN tasked the World Commission on Environment and Development (WCED), better known as the "Brundtland Commission", in 1982 to identify long-term environmental strategies for the international community (Du Pisani, 2006), which led to the landmark report, *Our Common Future* (WCED,1987). The report expressed the belief that social equity, economic growth and environmental protection were simultaneously possible (Du Pisani, 2006). Sustainable development was formally endorsed at the 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro (the "Earth Summit") with *Agenda 21,* which detailed the actions needed to address the development-environment conflict (Lafferty & Meadowcroft, 2000; UNCED, 1992). It drew attention to the need to address the worsening socio-economic disparities between the North and South along with

environmental degradation (Dabelko & Conca, 2019). Agenda 21, a non-binding UN resolution that suggests ways for governments and NGOs to promote sustainable development, occurred in the same year as key international agreements on climate change and biodiversity, and a statement of principles on forests were adopted (Kates et al., 2005). This is significant as it was established during a time that environmental and climate change policies were being prioritised internationally.

In the decades since UNCED, there has been increase in economic inequalities between countries and people, while poverty and deprivation persists in large parts of the developing world (Springett & Redclift, 2015). World leaders attempted to explicitly recognise these issues when the UN at the 2000 Millennium Summit in New York adopted the UN Millennium Declaration and the *Millennium Development Goals (MDGs)*, that outlined the UN trajectory for development for the next 15 years (Servaes, 2016). The MDGs committed world leaders to combat poverty, hunger, disease, illiteracy, environmental degradation, and discrimination against women (UN, 2000).

The commitment to sustainable development was reaffirmed at the 2002 World Summit on Sustainable Development in Johannesburg, South Africa when the UN adopted the *Johannesburg Declaration on Sustainable Development (Connelly et al., 2012)*. The declaration reinforced the notion of the three pillars that underpinned the concept, comprising the environment, economy and society (Kanie, 2019). The balance of power has also shifted to emphasise greater participation from and dialogue with NGOs alongside businesses (Springett & Redclift, 2015).

The 2012 UN Conference on Sustainable Development in Rio de Janeiro ("Rio+20") initially caused concern through its overarching theme of "green economy" (Brand, 2012). The green economy attempts to integrate economic policies relevant to sustainable development as a way to transform from prevailing economic paradigm which has resulted in market failures and economic crises. Brand (2012) asserts that "the concept of a green economy is, like sustainable development, rather an oxymoron which intends to bundle different, partly contradictory, interests and strategies, and gives them a certain legitimacy and coherence" (Brand, 2012, p. 29). Although the conference failed to reach an agreement on the environment-

development issue, its outcome document, *The Future We Want,* provided the mandate for an Open Working Group (OWG) to shape the Sustainable Development Goals (SDGs) through an inclusive and transparent process that was open to all stakeholders (Monkelbaan, 2019). Following the UN post-2015 process (a process from 2012 to 2015 led by the UN to define the future global development framework to succeed the MDGs), the 2015 UN Sustainable Development Summit in New York (the "UN Summit 2015") adopted the *2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs).* The SDGs provide a blueprint and a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity by 2030 (see Figure 18) (Kanie, 2019).

Figure 18: Sustainable Development Goals

Note. From *SDG poster and individual goals for web and print*, 2019, https://www.un.org/sustainabledevelopment/wp-content/uploads/2019/08/E-SDG-2019-posters.zip.

While the SDGs build on the MDGs, there are significant differences. The SDGs are universal as they include all countries, a major change from the MDGs that mainly focus on developing countries (Kanie, 2019). The SDGs have specified timeframes (2020, 2025 or 2030) that involve planning for present and future generations along with a comprehensive participatory approach with broad groups of stakeholders (UN,

2015b). The SDGs are more comprehensive especially in terms of its environmental dimension and much more integrated as there are implicit and explicit linkages between different goals and targets (Monkelbaan, 2019). Within the SDGs, there are strong linkages to climate change (SDG 13). SDG 13 is linked to other goals such as SDG 1 (no poverty), 2 (zero hunger), 6 (clean water and sanitation), 7 (affordable and clean energy), 8 (decent work and economic growth), 11 (sustainable cities and communities) and 12 (responsible consumption and production) (UN, 2019). This shows how climate action can also contribute to broader sustainable development objectives. The UN states that "valuable opportunities exist to accelerate progress by leveraging the interlinkages across goals" (UN, 2019, p. 3). However, these goals are also politically driven.

The notion of sustainable development emerged from the North-South dialogue on development and environment in the 1970s, making it a politically-driven concept (Mirovitskaya & Ascher, 2001). Olsson et al. (2014) point to how sustainable development emerged as a political vision with *Our Common Future*. Some authors argue that sustainable development is a form of political rhetoric. For example, Stables (2013) observes that sustainable development has been used to attract sympathy and support from an ideologically diverse range of people. Springett and Redclift (2015, p. 10) argue that "sustainable development is an essentially political project with the political power to bring about social change, possessing the agency to challenge the ideology of neo-liberal capitalism". In this sense, all policy goals, aims and indicators are political because they are about values, principles and ideologies; there is always conflict over these in society; and committing to sustainable development is therefore always a political endeavour. Some critics such as Leal Filho et al. (2020) and Swain (2018) have further argued that the SDGs are often ambitious and unachievable, while others claim they are not ambitious enough as existing rates of progress have been slow (UN, 2019). For example, Elder and Olsen (2019) argue that "many environment-related targets – including some of the most important ones – were placed under 'non-environmental' goals' and "[m]ost disappointing, the environmental elements in many targets were not included in indicators, or the indicators lacked ambition, or were watered down" (p. 70). This may

duplicate the limitations of the MDGs (Fehling et al., 2013). Moreover, the SDGs are grounded in international law but not legally binding (Biermann et al., 2017). The ambiguity of the term "sustainable development", though, has allowed global leaders to reach a common ground and attract support from ideologically diverse interest groups and arguably acceptable universal goals.

The political history of sustainable development delineated above has shown that the seriousness of environmental degradation from exploitative use of natural resources shifted attention to the need for a sustainable path towards development from the late 1960s and early 1970s. The concept of "sustainable development" has evolved over the decades as evidenced by the transition from the MDGs to the SDGs. These changes have been marked by the political tension between the North and South about the purpose and ways to achieve sustainable development. It is therefore important to first define the concept of sustainable development.

5.1.2 Definitions of Sustainable Development

Sustainable development has its roots in sustainability, an ecological term to refer to a state or condition that can be maintained over an indefinite period of time (Du Pisani, 2006). The term was introduced into the development discourse before being coined as 'sustainable development' in the early 1970s (Du Pisani, 2006, p. 91). Even so, some scholars argue that the interpretations of sustainability and sustainable development are distinct (Baker, 2016). For example, Dovers and Handmer (1992) define sustainability as "the ability of a human system, natural or mixed, to resist or adapt to endogenous or exogenous change indefinitely" whereas sustainable development is "a pathway of deliberate change and improvement which maintains or enhances this attribute of the system, while answering the needs of the present population" (275). Nevertheless, almost all published definitions of the concept of sustainable development are based on principles of sustainability (Sartori et al., 2014). Sustainable development, in this simplest logic, is thus the interaction between sustainability and development – *sustainable* development. This concept has drawn on the emphasis that development needed to be sustainable (Du Pisani, 2006).

The leading definition of the term *sustainable development* was formulated in *Our Common Future* as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987, p. 43). Sustainable development consists of three pillars: environmental sustainability, social sustainability and economic sustainability (Purvis et al., 2019). The definition, however, has been widely criticised for its ambiguity which has allowed it to be broadly used in different contexts, but made it difficult to implement and measure (Moore, 2011).

Some scholars have tried to resolve the ambiguity by distinguishing between "strong" and "weak" interpretations of sustainable development as illustrated through the concept of "strong" and "weak" sustainability (Dryzek, 2013). The differences between the two perspectives are determined by whether or how much natural capital is substituted for human-made capital (Neumayer, 2013). *Weak sustainability has* been defined as "complete substitutability between all capital types" in contrast to *strong sustainability* that involves no substitutability so that all capital types must be conserved (Ekins, 2014, p. 59). In this sense, sustainable development tends to be divided into weak and strong, but this is limited by its overemphasis on economic models of development, and hence other aspects of sustainable development should also be considered.

A review of *Our Common Future* (WCED, 1987) by Dryzek (2013, p. 158) pointed to elements of social justice and the importance of considering the needs of current and future generations. The latter was explicit in the Report's definition of sustainable development, indicating that for the most part sustainable development is the sustainability of human populations and their well-being rather than of nature. *Our Common Future* also featured cultural and political or institutional aspects to sustainable development (WCED, 1987). These aspects have been supported by other scholars who have argued that there should be a fourth pillar to sustainable development that includes cultural sustainability (Hawkes, 2001) or political sustainability (James, 2015). Within the UN, there has been a narrative to "integrate", "reconcile" and "balance" the three pillars of sustainable development – economic development, social development and environmental protection (Purvis et al., 2019),

including the SDGs (UN, 2015b). Unfortunately, there is difficulty in finding this balance as there is potential for conflict or competition amongst the goals and approaches to sustainable development. Moreover, the definition of sustainable development does not necessarily articulate what it means in practice, such as development for what or for whom and whether this requires trade-offs (Purvis et al., 2019). The uncertainty surrounding the definition further reinforces that there is a broad list of areas to be sustained and developed as sustainable development is undertaken by actors with diverse aspirations.

How sustainable development is defined has consequences for climate change adaptation policy. Nilsen (2010) points out that policy recommendations in line with weak sustainable development have contributed to the rise of greenhouse gases without consideration of the well-being of nature or the critical need for the coexistence of human and nature. The success of climate change adaptation policy will thus require a sustainable development approach that has greater consideration of its environmental and social dimensions, particularly as climate change adaptation involves the use of natural resources and the environment (Tompkins & Adger, 2004). This has been referred to as *sustainable adaptation*, which is defined as adaptation that contributes to socially and environmentally sustainable development pathways, including both social justice and environmental integrity (Eriksen et al., 2011).

Having explored the historical development and definition of the idea of sustainable development, the next section examines the key elements that will form the analytical framework which will be used to guide the analysis for this study. This consists of six elements: the guiding principles, normative values, political and institutional mechanisms, policy processes, change approaches and actors involved. It will also consider their relevance to climate change adaptation policy.

5.1.3 Principles and Values for Sustainable Development

Sustainable development is informed by a set of principles and values. In his influential book, *The 7 Habits of Highly Effective People*, Stephen R. Covey outlined the difference between principles and values. As highlighted by Norris (2017), in Covey's view, "principles are rules or laws that are permanent, unchanging, and

universal in nature. Values are internal and subjective, and they may change over time" (para. 1). Principles are unyielding, while values can change. These vary between countries, ministries and departments and thus are important to how they conceptualise their approach to sustainable development. This is significant to climate change adaptation policy as it dictates which principles and values of sustainable development it may support or challenge.

5.1.3.1 Guiding Principles

Strong guiding principles are needed to deliver sustainable development. They provide the direction on what sustainable development should involve. The following five principles are derived from key UN documents.

Leaving no one behind: Development needs to ensure the inclusion of marginalised, disempowered and excluded groups that exist within and between countries, particularly those "furthest behind first" (Article 4) (UN, 2015b).

Intergenerational and intra-generational equity: Development involves fairness and justice within and across generations to ensure that everyone has access to a life that is meaningful and dignified – and lived within planetary boundaries (Dryzek, 2013).

Human rights and dignity: Development must ensure universal human rights and dignity for every person without discrimination, consistent with the Universal Declaration of Human Rights (UN, 1948) and other international instruments relating to human rights and international law (UN, 2015b).

Right to development: Development involves economic, social, cultural and political processes which aim to improve the well-being of people through "active, free and meaningful participation" in development and their benefits (OHCHR, 1989, p. 1).

Precautionary Principle: "there are threats of serious or irreversible damage, and lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation" (Principle 15) (UN, 1992).

These guiding principles are important for sustainable development as they form what should be recognised by governments to achieve sustainable development. It

also means that government actions that do not follow these principles do not fundamentally align with sustainable development.

5.1.3.2 Normative values

The normative values of sustainable development were difficult to identify in the review as they were not as explicit. For example, the *Charter of the United Nations* does not explicitly identify any values but refers to peace, freedom and equality (UN, 1945). However, texts such as the *Millennium Declaration* refer to explicit "fundamental values" for the twenty-first century: freedom, equality, solidarity, tolerance, respect for nature, and shared responsibility (UN, 2000). This is similar to the five pillars or 5 Ps of the *2030 Agenda* – people, planet, prosperity, peace and partnership (UN, 2015b). While there are several values that could be identified in the texts, they can change over time, so it is important to consider the values that are shared by society today. Sustainable development has consistently been understood as the interlinking of the economy, the environment, and social dimensions (Purvis et al., 2019). This serves as a fundamental normative value, but there are other values that have become important to sustainable development.

Sustainable development not only needs to recognise universal human rights, but it also needs to ensure social justice for everyone – all are entitled access to justice (UN, 2015b). Sustainable development is balancing the efforts to meet human needs while not destroying the natural environment. Social justice is about correcting the misdistribution of natural resources (Bhuyan, 2017). It views environmental damage as having been caused by industrialised countries through unchecked economic growth. While economic growth is necessary in alleviating poverty and to reduce existing inequalities within the developing world, greater measures need to be taken by developed countries to reduce their impact on the environment (Dryzek, 2013). Social justice has also been part of the climate change debate, articulated as "climate justice", which emerged from social movements, climate NGOs and policy debates (Scandrett, 2016). It has often been framed in the context of accountability and burden sharing, but, it looks beyond distributive justice to include procedural justice (Schlosberg & Collins, 2014). Climate justice is also linked to the idea of

environmental justice that has been the central focus of the local environmental struggles of directly oppressed groups (Scandrett, 2016). Such struggles have also been exacerbated by neo-liberal and market-led growth, which has had specific implications for women.

Leach et al. (2016) point out that neo-liberal, market-led economic growth has reproduced gender inequalities. This recognises that the causes and underlying drivers of unsustainability and of gender inequality are deeply interlocked. Sustainable development aims to provide gender equality and empowerment (UN, 2015b). For climate change, though, gender-related measures were not introduced in the field until 2008 (Leach et al., 2016). Women are likely to be more vulnerable to the effects of climate change due to their circumstances, but they have often been cast as victims of climate change rather than their potential roles as agents of change in climate change policies (Arora-Jonsson, 2011). Much of the debate on gender and climate change has focused on adaptation and local-level vulnerabilities. The focus on the vulnerabilities of gender within communities share an important link to gender equality for sustainable development (Leach et al., 2016). The SDGs refer to equality for women and girls, however, they do not extend to other forms of gender or sexual orientation within the LGBTQ+ community (UN, 2015b). In recent years, new feminist political ecology (NFPE), which emphasises the multiple subjectivities of gender, has also drawn on gender with a LGBTQ+ perspective (Leach, 2015). While the notion of climate justice and broader gender issues such as LGBTQ+ have yet to be discussed in the literature, in articles from grassroots networks such as Brady et al. (2019) suggested that trans and queer communities live on the frontlines of climate change and many do not have the resources to face the impacts of climate change, particularly when they are abandoned by family and forced onto the streets.

5.1.4 Institutional Mechanisms for Sustainable Development

Institutions are defined “as systems of established and prevalent social rules that structure social interactions” (Hodgson, 2006, p. 2). Institutional mechanisms involve procedures which coerce or persuade within systems of embedded rules (Hodgson, 2006). Institutional mechanisms needed for sustainable development include a)

democratic governance b) country ownership and c) enabling environment and means of implementation (Glass & Newig, 2019). Countries need to have strong institutional mechanisms to achieve sustainable development.

Sustainable development is attainable through a democratic system of governance in which individual rights and fundamental freedoms are recognised and protected, and the exercise of political power is limited by the rule of law (Glass & Newig, 2019). This includes strengthening democratic institutions and processes, enhancing citizens' participation, and promoting good governance (UN, 2015b). Monkelbaan (2019) points out that countries that consistently rank high on the democracy index are virtually the same countries that are the most sustainable. This shows that democratic governance provides a favourable policy environment for sustainable development. In Thailand, this is worth evaluating as the country has shifted between authoritarian and democratic forms of government for decades (see chapter 2) (NESDC, 2019c). In this sense, the lack of democratic governance may make it difficult for Thailand to achieve sustainable development.

Sustainable development needs to allow countries to take ownership of their development pathway by integrating global targets into national planning and policies. This recognises that development needs to reflect national needs, circumstances and priorities as well as capacities to achieve the targets (UN, 2015b). This recognition tells us that global aims do not necessarily reflect national circumstances. For example, Thailand is not able to link all the SDGs to its national goals as they are not all relevant or there is insufficient data (CSD, 2017). Country ownership respects the sovereignty, policy space and priorities of countries. It also allows countries to meet national and local needs (UN, 2015b). It sets rights and responsibilities for countries to make a tangible commitment to sustainable development and control over domestic resources to address it. Country ownership of sustainable development, importantly, allows freedom for countries to interpret and implement sustainable development (Biermann et al., 2017).

Achieving sustainable development requires ensuring that people have relevant information and awareness as well as the enabling environment and means of implementing sustainable development (UN, 2015b). This, therefore, involves support

through financial resources as well as capacity building and transfer of environmentally-sound technologies for developing countries (UN, 2015b). These institutional mechanisms allow countries to identify challenges, gaps and support necessary to the means of implementation. For instance, Thailand's UNFCCC National Communications point to the support for public awareness, financing, capacity building and technology transfer for climate change including adaptation (OEPP, 2000; ONEP, 2011, 2018b). Overall, while these are positive indicators, the authoritarian nature of military rule undermines the potential for sustainable development.

5.1.5 Policy Processes for Sustainable Development

Public policy involves a course of action or inaction by governments in dealing with an issue such as sustainable development (Anderson, 2014). As suggested by Dovers (2005), "sustainability problems are different in kind" to other policy problems and require "whole of field understanding, capacities, and institutional and policy settings" (pp. 49-50). This is important because mainstream approaches to policy making are not grounded in an understanding of the characteristics of environmental problems, and so are likely to "have limited ability in coping with problems that do [such that] current responses to sustainability have a structural basis, being the products of unsuitable processes" (Stephen, 1996, p. 313). To achieve sustainable development, governments require specific sets of policy processes.

The policy process is normally seen as having a series of sequential stages (Jordan, 2001). However, the policy processes for sustainable development involve more than just stages, they are informed by the types of policy processes that are needed to achieve sustainable development. The policy processes for sustainable development reflect what is understood in the scholarship as good decision-making processes. They include a) open, inclusive and participatory decision-making b) partnerships c) transparency and accountability, and d) policy coherence. These processes allow governments to effectively implement sustainable development.

There are a diverse set of actors with competing interests who are engaged in one or more aspects of policymaking, but the views of those most affected by policies are

sometimes marginalised in policy processes. This means an open, inclusive and participatory approach at all policy levels is required for sustainable development (UN, 2015b). This approach enables all people to access and engage in the decision-making process allowing for wider perspectives and options to sustainable development. For example, the participation of local and indigenous people is crucial to sustainable development as they provide traditional knowledge and practices to managing natural resources (Magni, 2017). Local and indigenous people have often been marginalised in policymaking, so including them allows a more holistic approach to sustainable development.

It is also crucial for sustainable development that policy processes promote partnerships between governments, businesses, civil society, science and academia (UN, 2015b). Partnerships allows strong cooperation and larger pool of resources to implement sustainable development. Most developing countries, especially the poorest and most vulnerable countries, often do not have sufficient domestic resources to achieve sustainable development (UN, 2015b). For instance, due to lack of technical capacity and financial resources, Thailand needs to collaborate with several international agencies to develop its climate change policies (ONEP, 2018b). That said, a collaborative approach does not on its own ensure either transparency or accountability.

Sustainable development needs to have policy processes that enable transparency and accountability. Transparency ensures that information is available that can be used to measure government's performance and to ensure that they are not misusing their powers. Accountability means that governments can be held responsible for their actions. Transparency and accountability are supported by increasing the participation and voices of citizens through the policy process. These policy processes also foster exchanges of best practices and mutual learning which leads to policy coherence (UNFCCC, 2015).

Policy coherence is a critical policy process to the implementation of sustainable development (OECD, 2019b). It requires meaningful and coordinated action across policy sectors and between different levels of government (OECD, 2019b). This recognises that there are multiple competing priorities, so it is important for

policymakers to highlight the synergies, trade-offs and spill overs across different policy areas (OECD, 2019b). For example, policy coherence can ensure that climate policies are compatible with sustainable development, are synergistic and, where possible, are not contradictory with sectoral policies or development plans (Ranabhat et al., 2018). Mainstreaming sustainable development into national and sectoral development plans and budgetary instruments allow for climate change to be easily integrated or adapted (OECD, 2019b). This can provide mutually beneficial effects and be truly conducive to sustainable development as "win-win" solutions (UN, 2015b).

5.1.6 Actors Involved in Sustainable Development

Sustainable development involves actors, from institutions of global governance, through to community-based organisations. There are institutional actors and non-institutional actors involved in sustainable development. In Thailand, the role of the National Committee for Sustainable Development (CSD) is to formulate policies and strategies on national sustainable development and oversight implementation, including the SDGs (MONRE, 2017a). The CSD has a taskforce comprising representatives from line agencies responsible for the implementation of each SDG, which submits the Voluntary National Reviews (VNRs) to the High Level Political Forum (HLPF) annually (CSD, 2017).

The path towards sustainable development increases the need for research and development to advance appropriate science and technology for practical solutions to global development challenges. In addition, the UN in 2012 launched the Sustainable Development Solutions Network (SDSN), an independent global network that aims to mobilise scientific and technical expertise on sustainable development including the SDGs and the Paris Agreement (SDSN, n.d.). At the national level, countries such as Thailand have invested in Science, Technology and Innovation (STI) as part of their development strategy recognising that the implementation of STI policies are essential to achieving the SDGs including climate change (ONEP, 2018b). This shows that the goal of sustainable development has led to a science-policy interface.

5.1.7 Change Approaches to Sustainable Development

Sustainable development requires coordinated and consistent implementation at the global, national, sub-national and local levels. However, the approach and practices of sustainable development varies between different groups and levels as the concept allows open and fluid interpretation. This means that is important to be aware of "the trends of thoughts on sustainable development, their political and policy frameworks and their attitudes towards change and means of change" (Hopwood et al., 2005). This also recognises that individuals and groups change their views over time. Yet all proponents of sustainable development view that society and socio-economic structures need to change. Hopwood et al. (2005) found that the status quo approach sees change through management, top down and incremental within existing structures of decision-making. The transformative approach views change mainly through political action working both in and outside the existing structures. The sustainable development discourse perspective focuses on managerial changes. The ideal change approach to sustainable development then may be all the above but ensuring that they are coordinated and consistent implementation at the global, national, sub-national and local levels.

The review has examined key elements of sustainable development. It has shown that there are many elements to sustainable development that need to be considered and are relevant to climate change adaptation policy. The next section examines the same template of key elements from the perspective of the Thai approach to sustainable development, the sufficiency economy.

5.2 Sufficiency Economy

Sustainable development is not the only approach that informs Thai environmental and climate change policy. The sufficiency economy is a specifically Thai approach to sustainable development, providing a non-Western perspective on sustainable forms of development that considers the political and cultural contexts to the country.

As stated earlier, the *sufficiency economy* is a philosophy developed by the late King Bhumibol Adulyadej of Thailand (UNDP, 2007). Within this philosophy are claims that it guides a resilient and sustainable economy that is equipped to meet the challenges

from globalisation and other global changes. The philosophy has guiding principles for decision-making at individual to country levels. *Sufficiency* embraces moderation, reasonableness and prudence. Through this "middle path", people become resilient to the impacts of internal and external changes in their lives, but to achieve this, knowledge and virtue are also necessary.

This concept is similar to sustainable development as it focuses on integrating economic, social, environmental but also cultural dimensions. The concept is also seen as an alternative and practical way to adapt to the effects of climate change. The following sections examine the sufficiency economy and its key elements, including its relevance to climate change adaptation, in order to develop a holistic analytical framework.

5.2.1 Political History of Sufficiency Economy

The sufficiency economy is an internationally recognised approach to achieving sustainable and balanced development. Its significance has been formally realised within the United Nations (UN) when in May 2006, the then Secretary-General of the UN, Kofi Annan presented the first United Nations Development Programme (UNDP) Lifetime Achievement Award to King Bhumibol Adulyadej for his efforts on the sufficiency economy (UNDP, 2007).

King Bhumibol Adulyadej's work was deemed to have set an example of best practice as envisaged in the principles of the Universal Declaration of Human Rights. The approach has become embedded in the work of various agencies within the UN, such as in 2013 when the United Nations Educational, Scientific and Cultural Organization (UNESCO) promoted sufficiency economy as an ethical paradigm for development (UNESCO, 2013). Sufficiency economy concepts are the linked to the idea of human development as informed the MDGs in 2000 and the SDGs in 2015. As the Chair of the Group of 77 (G77) in 2016, Thailand led a 'G-77 Bangkok Roundtable on Sufficiency Economy: An approach to implementing the Sustainable Development Goals' (Schaffar, 2018). Thailand highlighted the interlinkages of the sufficiency economy to SDGs and its potential to help achieve all the SDGs.

Although the ideas behind the *sufficiency economy* were proposed in speeches by King Bhumibol in the 1970s, it was not until the 1997 Asian Financial Crisis (see chapter 2), when the country was facing unbalanced and unstable growth, that these ideas became formalised (Oxford Business Group, 2016). The Thai government and banks saw that the country was heading towards unbalanced and unstable growth. Growth was rapid without consideration for environmental degradation and debt. In his birthday speech in December 1997, the King argued that being a "tiger" economy is not as important as having a "sufficiency economy" (Grossman et al., 2011). The negative effects of globalisation, over-consumption and reliance on foreign debt on Thailand helped set the tone for the King's ideas for the sufficiency economy which embraced moderation, reasonableness and self-reliance (Grossman et al., 2011). The government saw the necessity in adopting a sufficiency economy approach to manage the crisis.

The sufficiency economy later formed part of the fundamental administration policy of the state after it was first incorporated into the Thai national plan, the Ninth National Economic and Social Development Plan (2002-2006) (NESDB, 2002) and reinforced in subsequent plans (NESDB, 2017). The sufficiency economy now guides all national plans (NESDC, 2019a). These plans focus on a "people-centred" development approach or human development which is a core concept of the idea.

The UN has been a champion of this approach, which places people at the centre of a nation's wealth (Oxford Business Group, 2016). The first UN Human Development report, published in 1990, put a strong emphasis on quality of life as the key determinant of economic progress (UNDP, 1990). The sufficiency economy adds a spiritual development to this concept (Oxford Business Group, 2016). The notion of the sufficiency economy and human development has been publicised in *Thailand Human Development Report 2007: Sufficiency Economy and Human Development* 2007 (UNDP, 2007) and the UN's *Towards a Sufficiency Economy: A New Ethical Paradigm for Sustainability* 2013 (UNESCO, 2013).

Despite these initiatives, it is worth noting that questions have been raised about how Thailand can meaningfully and effectively adopt the philosophy. For example, de

Zoysa (2016) points out that “even though Thailand is promoting the sufficiency economy, the nation’s growth and consumerism based development model does not in any way depict the philosophical aspiration of their king” (de Zoysa, 2016). This statement illustrates the challenge for governments in implementing the SDGs. The SDGs integrate strategies based on sustainability values rather than merely economic benefits.

In Thailand, the sufficiency economy has become part of the constitution, and has been adopted by governments, businesses and individuals (Oxford Business Group, 2016). Moreover, the integration of sufficiency economy in local government policy and community policy has been most effective with organisations that have a stronger presence especially in rural areas where concepts such as the New Theory/ moderation, prudence and reasonableness have been adopted as a way of life (Ubon Rajathanee University, 2007). The effectiveness of sufficiency economy has been evident in local communities and business enterprises where there has been a positive trend in adopting the principles for its practices (Oxford Business Group, 2016). In local communities, success is seen with better environmental management and protection, which has created strong economic structures with good governance principles. In the business sector there are examples where sufficiency economy has been adopted into management practices, allowing companies to become sustainable enterprises (e.g. Siam Cement Group) (Refer to the book, “Sufficiency thinking: Thailand's gift to an unsustainable world”, for more details) (Avery & Bergsteiner, 2016).

The sufficiency economy has been featured or mentioned in the Thai government statements or reports as a way to address climate change in national plans, partnerships and training programmes in Thailand such as the CCMP and Sufficiency Economy for SDGs partnership policy (MFA, 2016). Yet they often do not provide details on the specific elements in which the sufficiency economy informs climate change adaptation. They instead highlight some of the practices or techniques that have been adopted that reflect sufficiency economy, such as vetiver grass planting to reduce pollution (Chan-o-cha, 2016). While the statements and reports mention this technique, they do not often go into detail on how this is distinctively a sufficiency

economy approach. There are a number of smart-agriculture programmes, studies and reports that reflect the sufficiency economy – especially as it is a direct match to the New Theory approach that is specific to the sufficiency economy (Janmaimool & Denpaiboon, 2016; Kasem & Thapa, 2012; Naipinit et al., 2013; Panklang & Piboon; Varnakovida & Messina, 2013). New Theory is an agricultural approach that the sufficiency economy was built on. While the links between the sufficiency economy approach and climate change adaptation policies remain unclear, it is a good starting point to examine the sufficiency economy concept further.

5.2.2 Definitions of Sufficiency Economy

The *sufficiency economy*, or *setthakit pho phiang* in Thai, means "just enough economy" (Grossman et al., 2011). The definition of the sufficiency economy has evolved over the years, shaped by global and national events and reforms such as the 1997 Asian Financial Crisis. However, they tend to be rooted in the definition formulated by a working group in 1999 which the late King then approved (Wibulswasdi et al., 2012). The sufficiency economy stresses the middle path "especially in developing the economy to keep up with the world in the era of globalisation". There are three core elements, namely, moderation, reasonableness and prudence, against internal and external shocks or changes. There are two important conditions to the sufficiency economy: knowledge and ethics. Knowledge implies insight or wisdom. It includes both tacit and explicit knowledge (Wibulswasdi et al., 2012). Ethics challenges the traditional economic theory which does not address moral considerations explicitly (Wibulswasdi et al., 2012). The outcome from the sufficiency economy is that people become self-sufficient, resilient and immune (Avery & Bergsteiner, 2016). This shares a similar approach to climate change adaptation as it also focuses on building adaptive capacity and resilience to the effects of climate change.

The sufficiency economy is a philosophy that can be adopted at all levels of Thai society. At the individual and family level, it means living a simple life, within one's means and refraining from taking advantage of other people. At the community level, it involves joining together to participate in decision-making, developing mutually

beneficial knowledge and appropriately applying technology. At the national level, it is seen as implying a holistic approach, with a focus on appropriateness, competitive advantage, low risk, and avoiding over-investment – this involves being aware of overseas investment and reducing dependency on other countries. There is a progression that allows practices to be replicated and implemented at a larger scale (Avery & Bergsteiner, 2016).

In addition, the concept of sufficiency has been explored mainly in terms of *self-reliance* or *basic self-sufficiency*, an independence from external assistance to meet basic needs. In Western scholarship, the idea of sufficiency has been explored by Thomas Princen in his book *The Logic of Sufficiency* where he defines sufficiency as something that is "enough" or "not too much" (Princen, 2005, p. 6). The idea of sufficiency is an idea, a principle and an ethic for sustainability. This is a similar idea of sufficiency as the Thai King's in its recognition of excess and risks, and self-management or social restraint, as well as its application at all levels (Princen, 2005). The idea of risk is an important aspect of the scientific assessment in climate change adaptation (IPCC, 2014d). In practice, this allows people to be prepared in the event of a climate crisis, such as extreme weather events (Kansuntisukmongkol, 2017).

The idea of *sufficiency* is further advanced by Bergsteiner and Dharmapiya (Piboolsravut) (2016) who state that, "sufficiency describes a state of being that enables individuals, families, organisations and nations to enjoy, at a minimum, a comfortable existence and, if conditions permit, a reasonable degree of luxury that balances economic, social, environmental and cultural conditions" (p. 36). Similarly, it is also "a set of national values, principles, systems and institutions that provide the economic, environmental, social and cultural frameworks and conditions that allow and ensure that 'sufficiency' is within reach of all" (Avery & Bergsteiner, 2016, p. 41). This interpretation shows that the sufficiency economy goes beyond the three pillars of sustainable development to include a cultural or spiritual dimension (Wibulswasdi et al., 2012). Bergsteiner and Dharmapiya (Piboolsravut) (2016, p. 52) further argue that virtues and knowledge should be foregrounded, as articles on the sufficiency economy often provide a basic description or explanation of the concept without much attention on the linkages to the crucial elements of virtues and knowledge. Self-

evaluation is part of adaptative strategies identified by Kansuntisukmongkol (2017), where people evaluate their own knowledge and skills to match them with the surrounding environment that ensures social and ecological responsibility.

5.2.3 Principles and Values of Sufficiency Economy

Avery and Bergsteiner (2016) note that there is a lack of "complexity, theoretical breadth and structural logic" on the *sufficiency economy*. The following therefore attempts to capture the different interpretations and elements of the sufficiency economy. There are key principles that are explicit in the sufficiency economy and multiple normative values that derive from ethical dimensions.

Guiding principles

According to Wibulswasdi et al. (2012), the sufficiency economy is a philosophy which can be used as a guiding principle. This is because it can be applied as a "way of life" in our daily activities or our decision-making (UNDP, 2007; Wibulswasdi et al., 2016). In this philosophy, the "middle path" is an overriding principle for appropriate conduct in society (Wibulswasdi et al., 2012). The approach implies "not too little, not too much" (Oxford Business Group, 2016). As stated previously, the sufficiency economy is guided by the three principles of moderation, reasonableness and prudence. *Moderation* refers to living relative to your means. When the means have expanded, then the level of consumption can increase accordingly as long as it is sustainable. *Reasonableness* demands decisions that are rational and considerate to others. People should make informed decisions that assess the impacts on themselves and other people. *Prudence*[13] ensures that people are able to address turbulent changes (Wibulswasdi et al., 2016). Moderate production and consumption activities have the potential to provide a healthy ecosystem and a range of adaptation options and enhance resilience to climate change.

The sufficiency economy requires a solid foundation. It emphasises the importance of self-reliance at the individual level or a bottom-up approach that allows people to be

[13] *Prudence* is also referred to as "immunity", "risk management" or "resilience" but connotes the same meaning.

resilient and sustainable through their capacity (Wibulswasdi et al., 2012). This recognises that people have internal potential and capabilities. Self-reliance is to not be overly dependent on others. This differs to a trickle-down approach to economic development (Wibulswasdi et al., 2012). Self-reliance is not self-sufficiency, as the King said in his speech (Avery & Bergsteiner, 2016). It is a gradual development from having a solid foundation of basic sufficiency or relative self-sufficiency to advanced sufficiency (Wibulswasdi et al., 2016). The aim is that people have the *immunity*, that is, have the defences needed to resist or protect against internal and external changes in their lives. People also need to become *resilient* with the ability to bounce back from shocks (Wibulswasdi et al., 2012). Resilience is also a significant outcome of adaptation. It is the ability to prepare, recover from and adapt to the impacts of climate change. Through self-reliance, people have the potential to manage adaptation tasks locally or individually.

Two conditions are crucial in the sufficiency economy: knowledge and ethics. *Knowledge* implies insight or wisdom. It involves tacit and analytical knowledge, including experiences and critical thinking (Wibulswasdi et al., 2012). It, however, recognises that theoretical knowledge alone is not enough as there cannot be a single universal formula that can be applied to decisions, but that specific local conditions must also be considered (Wibulswasdi et al., 2012). Local wisdom and knowledge, such as indigenous knowledge, are therefore important. This provides for activities that are locally appropriate such as technology. Kansuntisukmongkol (2017) found that the sufficiency economy allows communities to adapt to climate change through self-assessments of their knowledge and skills to their environment, which provides ecological, social and economic resilience. The adaptation strategies they use are diverse allowing for greater resilience, guided by knowledge that comes from various sources, and through learning and networking processes. *Ethics*[14] refers to the moral considerations in our actions and decision-making. The sufficiency economy views ethics as vital to a sustainable economic system (Wibulswasdi et al., 2016). Some authors have examined the ethics of adaptation to climate change. They

[14] *Ethics* is sometimes referred as “integrity”, “virtues” or “morality”.

have also explored the concept of human virtues relating to how adaptation can support our dignity and decency. For example, Thompson and Bendik-Keymer (2012) argue for a *humanist view of adaptation*. They hope that by adjusting how we conceive ourselves within our new ecological and social conditions, we can understand how we can best adapt to climate change (Thompson & Bendik-Keymer, 2012).

Normative values

As described earlier, *ethics* are important to the sufficiency economy. This seems to critique traditional economic theory as they do not address the moral or spiritual dimensions (Wibulswasdi et al., 2016). Ethics also means *virtues* or *values* (Avery & Bergsteiner, 2016). While they are generally referred to synonymously, virtues are innate good qualities or morals within people (Mitchell, 2015). They are characteristics of people but do not define collective culture. Values reflect what is acceptable in terms of culture, but virtues reflect individual human characteristics. For the sufficiency economy, these values must be shared by the majority of people but must also be reflected in the virtues within people individually (Wibulswasdi et al., 2016). They include honesty, perseverance, tolerance, altruism, wisdom, and insight, self-discipline, diligence and desire to share with others (UNDP, 2007; Wibulswasdi et al., 2016). The sufficiency economy approach offers a different ethical framework or foundation to sustainable development. In this sense, *sufficiency economy* is considered as a sustainable development option that is more "people-centred and caring". This is evident through its strong focus on human development, compassion and peace, which are fundamental to Thailand's religious adherence to Buddhism (UNDP, 2007). Beliefs and values matter in economic contexts because many religions represent or reflect "ingrained social values and beliefs" (Daniels, 1998, p. 969) that are reflected in daily practices.

The *sufficiency economy* is known for its ethical-based approach, capturing some of the teachings of philosophy and religion, especially Buddhism. The "middle path" or "middle way" derives from the Pali Canon of Theravada Buddhism used in Buddha's teachings on the Noble Eightfold Path, which describes the middle way of moderation, between the extremes of sensual indulgence and self-mortification, that leads to

liberation (Oxford Business Group, 2016). This emphasises a focus on the individual in reaching a "sufficiency mindset" in which the person has the inner will or inclination to conduct their life in this way (Wibulswasdi et al., 2016). This is what the King calls for – "an explosion from within" – where people take ownership of their development (Unger, 2009).

The sufficiency economy has been linked to the work of E.F. Schumacher in *Small is Beautiful* on "the middle path" as he saw the detrimental effects of economic growth through overconsumption and exploitation of natural resources within Western capitalist societies (UNDP, 2007). His ideas invigorated Humanist Economics, which first emerged with Jean Charles Simonde de Sismondi who gave the first ethical, liberal critique of early capitalism (Stewart, 1984). He wrote that "sufficiency for living is necessary for life and moral and ethical development in all aspects including development of human intellect and wisdom. These are things that human beings cannot be without" (p. 34). This economic thought argues for ways to improve human well-being above economic gain. Schumacher's work was a critique of neo-classical economics, in which he developed an alternative economics that eventually became known as "Buddhist Economics" (Schumacher, 1973). This Buddhist perspective focused on liberation from the attachment to wealth by living within our means ("just enough") and ensuring the conservative use of natural resources and the environment. He placed greater value on the "sacredness of life" (p. 37) and empowerment in natural ecosystems and human development (Schumacher, 1973). He argued in favour of "appropriate technology" that enabled people to develop without losing their human qualities. Grossman et al. (2011) claim that the King himself drew from Schumacher's work, including the use of the term "appropriate technology".

Schumacher's thinking has also been important in the context of growing concerns about global warming and climatic changes. Anthropogenic climate change and its impacts have emerged from unsustainable economic growth and consumption of non-renewable natural resources. Although Schumacher did not foresee the present challenges of global climate change, he did recognise the effects of energy policy and the need for renewable energy sources. He stated that "Modern economics does

not distinguish between renewable and non-renewable materials, as its very method is to equalise and quantify everything using a money price" (Schumacher, 1973, p. 44). As for adaptation, it has been advanced by other scholars such as Brown (2017) who proposes that Buddhist Economics teaches us that we are part of the ecosystem and that survival means adapting to one's environment and caring for it as part of oneself .

Schumacher's Buddhist "middle path" approach is not exclusively grounded in one philosophy or religion (Puntasen et al., 2009). It also has aspects of other economic philosophies including Gandhian Economics, a humanist economics thinking on meeting material human needs based on ethics and self-sufficiency that emerged during the struggle against colonialism in India, and Gross National Happiness, a new "economics of happiness" that has recently emerged focusing on happiness and well-being rather than wealth (see Layard, (2005; 2006); and Easterlin, 2010 on the Easterlin Paradox)[15]. These authors have argued that "development" must also have a spiritual dimension. This has been extended in Thailand through the sufficiency economy as a humanist and ethical alternative to sustainable development (UNDP, 2007).

Moreover, the sufficiency economy has its implicit focus on present and future generations by advocating for development that protects cultural identity and instils mindfulness, virtues and morals in the next generation (e.g. children) (Dharmapiya & Saratun, 2016).

5.2.4 Institutional Mechanisms for Sufficiency Economy

Practices of sufficiency economy can mostly be found through King Bhumibol Adulyadej's projects. Since the early 1950s, the King travelled widely in the rural, remote and underdeveloped areas of the Thailand to help improve the living conditions and livelihoods of people living there (Grossman et al., 2011). The king researched and experimented on sustainable alternatives in the compound of his

[15] The 'Easterlin Paradox' states that at a certain point in time happiness varies directly with income both among and within nations, but over time happiness does not trend upward as income continues to grow.

residence, Chitralada Villa, leading to over 4000 “Royal Development Projects” in his lifetime (ORDPB, 2014). These projects came to be classified as: a) Projects initiated according to the King’s wishes – projects in which the king conducts and studies experiments himself, b) The Royal Projects – private projects of the king and queen and c) The Projects Under Royal Patronage – projects operated by the private sector using its resources and based on the king’s advice and guidelines. They are divided into eight categories: agriculture, natural resources and the environment, public health, occupational promotion, water resources, transport and communications, social welfare and education, and integrated projects and others (ORDPB, 2014). Some projects also help reduce the severe impacts of climate change (e.g. Monkey’s Cheek Reservoir, Royal Rainmaking, check dams and mangrove reforestation) (MFA, 2017).

Thailand established the Office of the Royal Development Projects Board (ORDPB) in 1981, and, to facilitate the implementation of the Royal Development Projects, the king initiated six “Royal Development Study Centres” in all the regions of the country to serve as a place of conducting study, research and experimentation. The centre also serves as a place for people to come and observe and gain knowledge (ORDPB, 2014). In addition, King Bhumibol founded the Royal Project Foundation in 1969 as an umbrella organisation for his charitable initiatives and research. The focus of the foundation is to improve the quality of life for ethnic highland communities (HRDI, n.d.). In 2005, these were supported by the establishment of the Highland Research and Development Institute (HRDI) to support and strengthen research and development activities (HRDI, n.d.). The King established the Chaipattana Foundation in 1988, a charity organisation, that responds to problems affecting the Thai people by funding development projects (Oxford Business Group, 2016). Overall, these projects support the country towards sustainable social and economic development through careful use of natural resources and appropriate technologies. These projects were initially guided by New Theory which was developed for agriculture in 1994 (Grossman et al., 2011). *Sufficiency economy* practices have later been promoted and disseminated through Training Centres and Model Villages to different sectors in Thailand and other countries (Naipinit et al., 2013). Meanwhile, Thailand

has also integrated the sufficiency economy into the education curriculum such as through sufficiency-based schools and programmes that began in 2008 (Dharmapiya & Saratun, 2016). It is based on the belief that cultivating a sustainability mindset in students encourages a culture that has long-term sustainability in mind, which contributes to long-term sustainable development. This takes a whole-school approach that applies sufficiency thinking in all school practices and includes two levels of school certification established by the Ministry of Education (Dharmapiya & Saratun, 2016). These developments show that there has been some form of institutionalisation of the concept of sufficiency economy in Thailand.

The sufficiency economy, having been developed in Thailand by the late King in the 1970s, has persisted and survived through political conflicts, including authoritarian forms of government. The fact that the "Royal Development Projects" institutions have maintained their presence in Thai society could be based on the power and role of the monarchy in Thailand. Governed by lèse majesté law and with the support of subsequent governments, there has been little room for critical discussion on the sufficiency economy within Thailand (Unger, 2009). In addition, past and present constitutions in Thailand have committed to sufficiency economy (Office of the Council of State, 2007, 2017).

Monkelbaan (2019) points out that democratic countries are generally more sustainable, however, they have not been as effective in addressing climate change. If democracy cannot address climate change, some scholars think that change can come either through more powerful global institutions or authoritarian forms of government (Monkelbaan, 2019).

It is worth noting that the sufficiency economy may be considered as technocratic as the practice of the sufficiency economy was initially based on the 30:30:30:10[16] ratio model that the King developed based on his calculations (Grossman et al., 2011). The ratio suggested that land is divided into four parts with a ratio of 30:30:30:10. The first 30% is designated for a pond to store rainwater during the rainy season while during

[16] The 30:30:30:10 ratio is commonly used in sufficiency economy practices in Thailand but it is difficult to identify precisely where the King derived the formula from.

the dry season it serves to supply water to grow crops and raise aquatic animals and plants. The second 30% is set aside for rice cultivation during the rainy season for the family's daily consumption throughout the year to cut down on expenses and allow the farmers to be self-reliant. The third 30% is used for growing fruit and perennial trees, vegetables, field crops and herbs for daily consumption. If there is any surplus, it will be sold. The last 10% is set aside for accommodation, animal husbandry, roads and other structures (Grossman et al., 2011).

Despite the seeming rigidity of this prescribed ratio, there are claims the model is meant to serve as a guide and is adaptable to specific circumstances such as the philosophy itself (ORDPB, 2014). Another perspective is that it serves a populist role as it has been focused on rural populations that made up most of Thai society particularly in the 1960s and 1970s (Grossman et al., 2011). The King made effective changes for farmers who were being exploited and struggling from the expanding capitalist economy and deterioration of natural resources. At the same time, the sufficiency economy was exemplified by the popular and respected figure of the King in Thai society (Unger, 2009). Some of his well-known projects continue to be used by people and the government. These strong institutions have the potential to contribute to climate change adaptation policy but depend on how it is implemented by the government.

5.2.5 Policy Processes for Sufficiency Economy

The sufficiency economy has affects in national policymaking. The Tenth Plan (2007-2011) attempted to integrate the concept of sufficiency economy more coherently. It allowed for a more open and participatory decision-making process. The principles of sufficiency economy apply to public service and policy planning. *Moderation* implies balancing competitiveness and self-reliance in the use of resources. This is similar to the three pillars of sustainable development. *Reasonableness* dictates a need for drawing on the domestic potential while attending to social needs within external limits. *Prudence* highlights building internal strengths within the nation to cope with external changes, pressures and shocks (UNDP, 2007). These point to improving standards of public administration through good governance that is informed by

ethics. This is a way to eradicate persistent corruption and money politics in past Thai governments (UNDP, 2007). The most recent example of this is expressed by PM General Prayut Chan-o-cha, who claims that the application of the sufficiency economy principles will help in the battle against corruption in Thai society. He contends that “If people are content with what they have, they will not have to seek anything excessively through corruption practices and cheating, or exploitation from various projects” (The Government Public Relations Department, 2017).

The principles are considered as an antidote to crony capitalism, corruption, consumerism and indebtedness. The sufficiency economy aims to create greater transparency in government decision-making and budget allocations. However, the propagation of sufficiency economy may be at risk of reinforcing the power of bureaucrats and technocrats who advocate for the concept within government.

Wibulswasdi et al. (2016) further explain that the decision of government is seen as similar to a household level. The sufficiency economy can be applied to government decision-making processes, including a) macroeconomic management of the economy, b) policy design and c) alternative development strategy (Wibulswasdi et al., 2016). Macroeconomic policy deals with policies such as fiscal policy, prudent monetary policy and caution regarding external stability. These policies ensure that the government does not spend excessively and has enough reserves for future contingencies. The government argues that prudence measures could lead to increase in the overall economic resilience of the country. These have implications for designs of megaprojects, village funds and farmer-debt forgiveness programmes. Based on the sufficiency economy, the government should invest in projects that would benefit in the long-term and ensure that such incentives also encourage behaviours of society that are consistent with the sufficiency economy. Such policy designs particularly at the village level should help communities to be able to support themselves before financial help is provided (Wibulswasdi et al., 2016). To ensure that these incentives are fostered in society, such guidance is provided at school from an early age to higher education (e.g., sufficiency economy model schools) and are reinforced through improved designs through government programmes (Wibulswasdi et al., 2016). The government has also developed a partnership called “SEP 4 SDGs”

to link sufficiency economy to sustainable development. This includes SDG 13 on climate action (MFA, 2016).

Sufficiency economy practices are derived from The New Theory, a philosophy that was also developed by the King, which applied *sufficiency economy* concepts first to agricultural practices (UNDP, 2007). Even so, Wibulswasdi et al. (2016) argue that it is a misconception that the sufficiency economy is only applicable in the agriculture sector and rural areas and that it can be applied to all sectors of the economy. Another misconception, according to the authors, is that it is anti-globalization and leads to the closing-up of the economy. There are two stages to the process of sufficiency economy. The sufficiency economy suggests that to cope with globalisation, we first need to build a strong domestic economy and improve competitiveness. Then we open up the country gradually at appropriate pace with awareness of shocks and volatility arising from external factors (Wibulswasdi et al., 2016).

There is some evidence of the sufficiency economy in the business sector. Following the 1997 Asian Financial Crisis, many firms went bankrupt or taken over. Companies like Siam Cement, Hanna Electronics, Hana-Nippon Pack and Golden Palace have been cited for their success in restructuring and refocusing their business model from competitiveness to risk management to build greater resiliency, as promoted by the sufficiency economy (Wibulswasdi et al., 2016). The firms exercised prudent investment and gave priority to the interests of their customers and employees (Wibulswasdi et al., 2016). The sufficiency economy aims for corporations to propagate its principle as an organisational model. That is, they are expected to include sufficiency economy principles such as moderation, reasonableness and prudence, in their organisational model. The sufficiency economy model encourages corporations to support community projects as part of corporate social responsibility (UNDP, 2007). According to (Issarawornrawanich & Wuttichindanon, 2019) the sufficiency economy and Buddhism are two important underpinnings of corporate social responsibility in Thailand. The adoption of the sufficiency economy and the promotion of employee engagement in voluntary work has been part of the corporate

social responsibility principles within corporations. These corporate practices seem to reflect social dimensions derived from the sufficiency economy.

The sufficiency economy promotes community empowerment and strengthening of communities for the national economy (UNDP, 2007). It promotes long-term sustainability and local capacity building, allowing community development efforts to become decentralised. This development aims to ensure that local government provides opportunities for community participation and facilitates efforts to share learning and best practices (UNDP, 2007). Kansuntisukmongkol (2017) observes that adaptation strategies also include sustainable use of resources and cooperation within the communities, recognising that there are also collective risks to the impacts of climate change, but such actions will also involve the use of sharing knowledge and resources among the communities.

While originating in Thailand, both the sufficiency economy model and its concepts have been recognised by foreign government officials, international organizations, and community organisations within Thailand and globally. Through South-South and triangular cooperation, sufficiency economy has been shared globally with various government agencies and ministries through “SEP for SDGs partnerships”. This is led by Thailand International Cooperation Agency (TICA) which provides monetary support, expertise and support in kind (MFA, 2017). The knowledge of sufficiency economy concepts and practices from practitioners’ involvement in training centres and site visits in different sufficiency economy villages in Thailand has allowed its integration into other states’ national policies and practices. For example, there are similarities between sufficiency economy and the Lao traditional farming and development (that being the Thammasat Way – an approach that aims to balance economic growth with social development and conservation of natural resources) which allows for sufficiency economy to be easily integrated (UNDP & MFA, 2017). Thailand has worked in the Asia-Pacific regions and beyond through projects and scholarship grants. Currently, it is also delivering “SEP for SDGs Youth Partnership” via programmes to younger people globally (UNDP & MFA, 2017).

5.2.6 Actors Involved in the Sufficiency Economy

The key actors involved in the sufficiency economy include the late King in developing the sufficiency economy philosophy and practice, and establishing the Royal Development Centres, Projects and other functions. The other actors involved include the government and ministries, particularly those that endorse and encourage the use of the sufficiency economy in their practices.

5.2.7 Change Approaches to Sufficiency Economy

The change approaches within the sufficiency economy present a theory of an ideal state that could be used in practice. The sufficiency economy approach focuses on instilling changes to individual and collective attitudes, behaviours and ways of life (Wibulswasdi et al., 2016). Individual and collective attitudes refer to changes to people's view towards a more sustainable approach to their practices. The changes in people's attitudes result in changes in behaviours which are reflected in their practices. Through the changes in attitudes and behaviours, practices become engrained within people, which in turn changes their way of life.

There have been discussions by the Thai government and academics of how sufficiency economy occurs in practice: rural practices and businesses. The dominance of the sufficiency economy in rural practices is because it primarily informs the New Theory approach which applies the sufficiency economy to agricultural practices. Because New Theory is often applied in rural areas, within small groups of communities, it allows the sufficiency economy approach to encourage changes within small-scale settings. From several small-scale changes then becomes larger-scale changes. This transition from narrow locale to wider locale is the essence of the sufficiency economy. The sufficiency economy focuses on making changes from an individual level to a country level.

As for corporations, changes occur in large organisational settings. One of the key examples often used to illustrate the application of the sufficiency economy in a large corporation in Thailand is the Siam Cement Group. The unique context of the sufficiency economy is its relevance to financial situations such as the 1997 economic crisis which the Siam Cement Group experienced and to refocus towards investing

and spending their money according to their risk capabilities (Limsamarnphun, 2016). During that period, the late Thai king also encouraged people in Thailand to apply the sufficiency economy as a way to recover from the crisis. In this way, the Siam Cement Group was able to easily adopt the sufficiency economy and apply it to its corporation. This example show that sufficiency economy can start from a wide-scale change that is incentivised by prominent people in society such as a large corporation in a country and a popular King and towards a business setting.

Having discussed the key elements of sustainable development and the sufficiency economy, the next section turns to a discussion of the similarities and key differences between sustainable development and sufficiency economy which informs the analytical framework used in this thesis.

5.3 Analytical Framework

This thesis aims to investigate key discourses of climate change adaptation policy in Thailand and their implications for sustainable development. The following section compares and contrasts sustainable development and sufficiency economy frameworks on their key elements: principles, values, institutional mechanisms, policy processes, actors involved, and change approaches. This analysis aims to understand what overlaps, if any, the sufficiency economy has with sustainable development, and the unique characteristics of each. Drawing out these distinctions contributes to creating the holistic analytical framework (see Table 2) which is an ideal form of sustainable development and used in this thesis as a way to reflect on the implications of adaptation discourses for sustainable development (see Chapters 7, 8 and 10). The section begins the comparisons between both frameworks within the literature which provides the case for refinement. I then evaluate similarities between both frameworks. Since they both aim to achieve sustainable development, they share many similarities. The differences between both frameworks are also discussed. There are some distinct differences particularly in terms of principles, values and change approaches.

Table 2: Holistic Analytical Framework

	Sustainable Development	Sufficiency Economy
Guiding principles	• Economic, social and environmental interlinkages • No one is left behind • Precautionary principle • Right to development	• Moderation, reasonableness and prudence • Local wisdom and knowledge • Middle path • Economic, social, environmental and cultural interlinkages
Normative values	• Intergenerational and intra-generational equity • Social and distributive justice • Human rights and dignity • Gender equality and empowerment	• Self-reliance • Resilience against external uncertainties • Internal potential and capabilities • Local appropriateness • Ethics, virtues and morals in all decisions • Human development
Institutional mechanisms	• Democratic governance • Country ownership • Enabling environment and means of implementation	• Partially democratic, technocratic and populist governance • Anti-corruption • Knowledge exchange, training and capacity building
Policy processes	• Global partnerships • Open, inclusive and participatory decision-making • Mainstreaming/Policy coherence and cross-sector areas • Transparency and accountability	• Individual and collective action • Participatory decision-making • Multiple policy sector areas
Change approaches	• Global, national, sub-national and local practices	• Organisational and individual attitudes, behaviours and way of life
Actors involved	• National, international and transnational institutions • Businesses and corporates • Bureaucrats and technocrats • Local and community-based actors	• Individual, local and community-based actors • Businesses and corporates • Bureaucrats and technocrats

5.3.1 Comparisons of Sustainable Development and Sufficiency Economy Frameworks in the Literature

There have been statements that point to the notion of "sufficiency economy *as* sustainable development" or the sufficiency economy is consistent with sustainable development (Mongsawad, 2012). This analysis accepts that both the sufficiency economy and sustainable development ultimately aim to achieve the overall goal of sustainable development. It also implies that both are one in the same. However, the analysis of the similarities and differences show that they are separate frameworks that share some overlaps.

There has been a lack of studies that have explored the relationship between sustainable development and the sufficiency economy. Shone (2014) observes that the common definition of sustainable development as "meeting the needs of the present without comprising the ability of future generations to meet their own needs" supports the pillars of sufficiency economy – reasonableness, moderation and self-reliance (WCED, 1987, p. 43). He also compared the three dimensions of sustainable development to the dimensions he identified for sufficiency economy (see Table 3).

Table 3: Comparison of the Dimensions of Sustainable development and Sufficiency Economy

Sustainable Development	Sufficiency Economy
Social Dimension	Social Dimensions, Education Dimension, Moral and Cultural Dimension (internal and external well-being)
Economic Dimension	Economic Dimension, Science and Technology Dimension, Management of Public and Private Sectors Dimension
Environmental Dimension	Resource and Environment Dimension, Moral and Cultural Dimension

Note. Adapted from *National Sustainable Development Policy Under the Approach of the Sufficiency Economy Philosophy: A case study of the Lao P.D.R.* (p. 86), by J.J. Shone, 2014.

Shone (2014) also distinguished the specific dimensions of *sufficiency economy* to SDG13 on climate change as: a) resource and environmental dimension; b) reasonableness; and self-reliance; c) social dimension (human security and the strength of social capital). Interestingly, Shone (2014) has not found other dimensions or pillars to be directly relevant to climate change, particularly economic dimension, science and technological dimension and moral and cultural dimension. However, climate change in the context of the sufficiency economy in Thailand means that the high degree of influence of economic and political priorities of the elite (like rulers and military), the science and technological capacity of the country, and ethics and moral values from Buddhism impact on the decision-making process and determine how climate change is perceived and addressed.

The complexity and depth of the issues on climate change encompass broader dimensions which are beyond those identified by Shone (2014). Therefore, a new analytical framework is needed to capture sufficiency economy and sustainable development better. The next sections discuss my evaluation of the similarities and differences of both framework which inform the holistic analytical framework developed in this chapter. This new framework will help identify whether the key discourses of adaptation policy in Thailand reflect sufficiency economy or sustainable development frameworks in the analysis.

5.3.2 Similarities

There are many similarities between the sustainable development and sufficiency economy frameworks, as both seek to achieve overall sustainable development. These overlaps are found in all elements including guiding principles, normative values, institutional mechanisms, policy processes, change approaches and actors involved.

Guiding principles. Sustainable development and sufficiency economy frameworks share a number of principles. Both frameworks fundamentally recognise that economic, social and environmental dimensions are interlinked, and that development needs to integrate these elements in a way that ensures long term sustainability. However, while the three dimensions are explicit in sustainable

development such as in its general definition, they are implicit in the sufficiency economy.

Both frameworks promote inclusiveness. Sustainable development aims to “leave no one behind” while the sufficiency economy targets poor and rural communities. The frameworks view that disadvantaged groups are less likely to be on the path towards sustainable development. In contrast, the sustainable development framework views disadvantaged groups broadly while sufficiency economy primarily looks at poor and rural communities (such as farmers).

Normative values. Sustainable development and sufficiency economy frameworks focus on future generations. The idea of future generations forms part of the definition of sustainable development, making it an intrinsic element of the framework. Future generations are implied in the sufficiency economy.

Institutional mechanisms. Sustainable development and sufficiency economy frameworks promote context-based development. Sustainable development supports country ownership, while sufficiency economy supports local appropriateness. In this sense, both frameworks view that development needs to meet the needs of the country including its local communities.

Both frameworks promote knowledge exchange, public awareness and capacity building. Sustainable development tends to do this more broadly through multilateral and bilateral partnerships that feed into the national structures or organisations. Sufficiency economy also promotes partnerships, as seen with countries such as Cambodia, Afghanistan and Kenya, but it is often on the ground through small projects (Shone, 2014).

Policy processes. Open, inclusive and participatory decision-making are crucial to both frameworks. Sustainable development promotes equal opportunities and multiple channels to access information, be consulted or participate. The sufficiency economy has been conducted through organisations such as Royal Development Projects that have staff on the ground to work with local communities (HDRI1). There is evidence in the literature that the local communities have been consulted in deciding the nature of the projects (Jitsanguan, 2009). However, for the sufficiency

economy, it is difficult to determine if the approach has been "open, inclusive and participatory" as it is often implemented under an authoritarian, partially democratic system. Schaffar (2018) observed that an interpretation of the politics of sufficiency economy in recent years is characterised by Thabchumpon (2017) as *pracharat* ("state of the people") which is "the co-option of civil society into the state – as a feature of neo-authoritarian developmental state" (p. 406). Although this may the case, the ideal policy process is focused on one that is democratic in nature.

Both sustainable development and sufficiency economy claim to be universally applicable. This means that the concepts within these frameworks can be applied to different levels of governments and sectors. For sustainable development, this was implemented through country-led initiatives and addressing the SDGs, while for the sufficiency economy, this was readily promoted as practices that can be applied to organisational, family and individual levels.

Change approaches. Both frameworks promote bottom-up development. Sustainable development places importance on local initiatives that can guide national development. Sufficiency economy advocates changes to the "way of life" of individuals through a sufficiency mindset (Wibulswasdi et al., 2016). Individual practices can help feed into family and organisational practices.

Actors involved. The actors identified by both frameworks share similarities such as they both involve governments, businesses, civil society and local communities.

Since both frameworks lead to overall sustainable development, it is not surprising that they share several similarities. However, there also differences that can be found in both frameworks.

5.3.3 Differences

There are a number of differences between the sustainable development and sufficiency economy frameworks. The differences between the two frameworks come down to their fundamental principles, values and change approaches. These may be because each framework emerged as a response to different effects. Sustainable development grew from the UN endorsed, global context that focused on environment-development conflicts, while sufficiency economy grew from a local Thai

context that focused on the effects of rapid growth and globalisation. Both frameworks consider the conflict between environment-development tension, but they vary in the specific triggers.

Guiding principles. The frameworks also differ in terms of key principles. The principles of moderation, reasonableness and prudence are emphasised in sufficiency economy, but not in sustainable development. These principles reflect an approach that is narrower and more rigid than principles found in sustainable development. Principles in sustainable development tend to be more universal.

The sufficiency economy focuses on ethics and knowledge as key guiding principles. The focus on ethics is informed by the religious context in Thailand which applies Buddhist teachings on ethics to sustainable development. The sufficiency economy views ethical responsibility as lying with the individual or collective. No one but ourselves is to be blamed for our actions. In sustainable development, ethics is often viewed in terms of justice where responsibility for the existence of inequality and inequity and addressing it lies with specific actors. For sustainable development, at the global level, for example, this may be understood in the context of development histories and the responsibility of developed countries to developing countries.

Normative values. Sustainable development has a central focus on human rights, fundamental freedoms and gender equality, while sufficiency economy does not. This may be because such rights and values have often been denied people in Thailand. The sufficiency economy instead focuses on human development, but more so on expanding development through people's well-being rather than the economic growth. The idea of "people-centred" approach is key to sufficiency economy as this also promoted by the Thai government.

Institutional mechanisms. There are differences in governance systems that are found in the two frameworks. Successful implementation of sustainable development involves democratic governance, while sufficiency economy does not question authoritarian, and partially democratic systems.

Policy process. The sufficiency economy has a broader approach to sustainable development as it integrates spiritual or cultural dimensions including ethics and

virtues (Wibulswasdi et al., 2016). The sufficiency economy recognises individual goods, while mindful of collective goods. This idea of collective goods is derived from the Buddhist influence where individual actions have wider impacts on the collective.

Change approaches. To make the changes required, the sufficiency economy strongly advocates for a "sufficient mindset" through organisational and individual attitudes, behaviours and "way of life". This reflects the Buddhist influence on the framework. The "way of life" is dramatically different to sustainable development as, in a sense, it enforces a particular way of living for people. This seems to reflect the type of political system in Thailand which is mostly authoritarian and partially democratic. The changes in attitudes and behaviours for sustainable development are implicit which occur mostly through practices. The idea of practices does not mean it is non-existent in the sufficiency economy. In general, sufficiency economy is more prescriptive – it views the way of life, principles and values that people should adopt and practices that can deliver sustainable development outcomes for people. Sustainable development is more open and iterative – it includes normative goals that countries aspire to that are more shifting and fluid.

Actors involved. The main differences between the actors involved in both frameworks are the role of monarchy and military in the sufficiency economy. Since the sufficiency economy approach was developed by the late King and the military have been promoting it as sustainable development in the Thai context, and they hold the most power in using such frameworks.

5.4 Chapter Summary

This chapter has reviewed the theoretical concepts of sustainable development and the sufficiency economy to build an analytical framework for the analysis in this study. Both ideas can be dated to their origins in the 1970s when economic growth and the rate of natural resource and environmental deterioration was high, and both became prominent from the late 1980s. Both concepts attempt to promote a development approach that gives greater weight to the environment alongside economic and social conditions, and this is reflected within their key elements. The sufficiency economy approach, however, places greater emphasis on the cultural and spiritual dimensions

in development. Both concepts can be seen as informing Thailand's approach to national development, and both are relevant to its climate change adaptation plans.

Chapter 6: Methodology

The overarching objective of this study is to identify the key discourses that inform climate change adaptation policy in Thailand and reflect on their implications for sustainable development. This requires identifying the discourses, their elements and the actors working within them, before analysing the implications for sustainable development. This chapter describes the methodological considerations underpinning the research. It begins with a brief overview of the qualitative research paradigms that informed the research – interpretivism, social constructionism and critical theory. This is clarified through a discussion of a CDA approach, the primary methodological approach used in the research, before elaborating on the case study, the location of the fieldwork and research methods deployed to gather and analyse data.

6.1 Interpretivism and Social Constructionism

This research takes a critical interpretive approach to qualitative research to study the meaning of lived experiences and social reality. These are represented through key discourses of climate change adaptation policy, focusing on different perspectives, values and norms (Yin, 2015).

An interpretivist paradigm views reality as socially constructed through the meanings created from interactions within a specific social context. The paradigm emphasises understanding the experiences and perspectives of participants to advance knowledge (Neuman, 2013). In this sense, this research views that people's understanding of climate change adaptation policy and the meanings they give to it are constructed through their interactions in society such as public consultations or climate change protests.

Interpretive traditions critique positivism for its objectivism and accept how people construct subjective social reality (Neuman, 2013). Interpretivism is associated with approaches such as social constructionism, phenomenology and hermeneutics that reject the objectivist view (Yin, 2015). Social constructionism shares the interpretivist belief that "reality and knowledge are constructed and reproduced by people through communication, interaction, and practice" (Tracy, 2020, p. 51). It recognises that

there are multiple meanings in which reality is represented. Such representations are inherently embedded in socio-cultural processes. This shows that there are multiple meanings to climate change adaptation in Thai society and culture.

Social constructionism has been influential in research approaches such as discourse analysis. Discourse analysis is underpinned by a social constructionist view to knowledge with the assumption that multiple realities exist and that texts are open to multiple interpretations (Parker, 1998). This view on knowledge can be explained by Haraway (1988) notion of "situated knowledge", which involves the idea that all forms of knowledge reflect the particular conditions in which they are produced, and at some level reflect the social identities and social locations of knowledge producers.

The primary focus of the research within this social constructionist approach is on the way that participants construct the meaning of climate change adaptation policy through key discourses. People's understanding of climate change is mediated by the information available to them, the discourses within which it is embedded, and the ways that these discourses construct the issue. Various discourses of climate change are created within different social groups using different types of language and privileging different concepts. Each social group or discipline advocates one way of constructing climate change over others (Fleming et al., 2014).

Social constructionists use research methods in qualitative research to focus on the meanings of words and experiences by participants. The primary tools within this paradigm include interviews, where participants construct meanings of their experiences. It is recognised that reality is changing and subject to interpretation by participants and researchers themselves. However, such interpretations are also shaped by underlying power dynamics and domination, which requires a critical lens to unpack.

6.2 Critical Theory and Critical Discourse Analysis

Like interpretivism, critical theory sees the world as constructed and reconstructed, but within shifting power-laden contexts (Hesse-Biber, 2016). Critical theory emerged out of the Marxist tradition and was developed by the sociologists of the Frankfurt School (Denzin & Lincoln, 2017). The Frankfurt School dismissed aspects of

interpretivism, arguing that the meaning and reality being constructed are as a result of oppression and power structures. Critical theory seeks to challenge worldviews and the underlying power structures that create them. This approach is crucial to the Thai context as climate change adaptation policy is shaped by political, social and cultural dimensions. Critical theorists view that the researcher and society are influenced by their perceptions and experiences but that these are also shaped by power structures, culture, politics, race, gender, class and the mass media (Howells et al., 2013).

Critical theory challenges the traditional scientific process in creating knowledge that is used to maintain the status quo and dominant ideology by focusing on conflict, power, and injustice in society. Critical theory teaches that knowledge is power. This means that understanding the ways one is oppressed enables one to take action to change oppressive forces. This approach to knowledge is useful for this research as climate change adaptation policy is faced with competing understandings of adaptation which have consequences for how actors choose to respond to climate change.

Unlike interpretivism, critical theory proposes a critical approach to discourse analysis as it is also interested in analysing dominance, discrimination, power and control. For CDA, this is manifested in language that is socially shaped and embedded in cultural and historical attitudes, values, and assumptions (Wodak & Meyer, 2009). It is through these social meanings that comprise of discourses, and it is these discourses that produce or become constitutive of social reality. Critical discourse analysts are interested in how texts of different kinds reproduce power and inequalities in society (see Wodak & Meyer, 2009). Climate change adaptation policy involves people at many different levels of society engaging in policymaking such as government, NGOs, local communities. Some of these groups have been historically disadvantaged by national environmental policies, so understanding how power and inequalities work in Thai society will help uncover the ways adaptation discourses may favour one group over others.

Like critical theory, CDA recognises that social research cannot be truly neutral or value free (Neuman, 2013). Critical theory proposes that the object of study and the

subject of study are inextricably linked, and that the researcher is always part of the object of inquiry. Researchers recognise that their backgrounds shape their interpretation, so it is important to establish my position as researcher in this research.

6.3 Cultural Sensitivity as a Bicultural Researcher

Cultural sensitivity is an important issue in researching with people from different cultures as there are likely to be identity, language and power tensions. Having lived in New Zealand for most of my life (from childhood to adult), this affects my position as a researcher in this study. My Thai heritage as well as my New Zealand identity have influenced my perspectives. This means that while I relate to and understand Thai culture and society, I do not see the world exactly as someone in Thailand. In addition, this research involves participants who belong to diverse ethnic communities in Thailand. Thus, I would need to have a sound understanding of the cultural norms and behaviours of central Thai and ethnic highland communities for insightful interpretation of the data. Although I have a basic understanding of this, there is much about these cultures that I do not know. Furthermore, Irvine et al. (2008) observe that there needs be “a reflexive stance, which involves being sensitive to how the researcher as an individual, with a particular social identity and background, has shaped the data collected” (p. 37-38).

As a researcher, I do not share a preferred language with all my participants. Accurate translation is crucial as the use of translated data may compromise the depth of analysis and credibility of findings. There are several approaches to translation that can be used to enhance validity including triangulation of the responses from the participants which is the method applied in this research. Similarly, being immersed in my translation process has allowed me to gain deeper insight and connection to the original data. Effectively, sharing the preferred language and ethnicity with most participants has assisted me in establishing rapport and increased the willingness of participants to respond to my research.

There is a power differential involved in the relationship between the researcher and the participants in the research. This may involve the communication styles such as asking questions where the researcher may have control over the flow of the

interview process and how data are presented (Liamputtong, 2008). However, participants may have insider knowledge of the work and organisations in the enquiry and be in a position of power to choose how they are represented. This includes access to knowledge that researchers may have from these participants. These dynamics depict the differing role that the researcher has as an insider or outsider in the research process (Aiello & Nero, 2019).

Having established my position, I turn to how the knowledge I create contributes to the literature. Social constructionism takes a specific approach to knowledge as socially constructed and shaped by social processes (Tracy, 2020). Knowledge, within this post-positivist tradition, also reflects the conditions within which it is produced and the social identities and social practices of knowledge producers (Haraway, 1988). Therefore, the knowledge I am producing is also a construction of reality. Critical research recognises that there are several representations of reality and expands on that further by examining the power and dominance of knowledge within social contexts. My research offers partial insights into this complex reality through the key discourses. I hope that it adds to the critical debate around climate change policies, allowing for better adaptation policymaking. While the social constructionism paradigm is useful to identify the knowledge that participants form within discourses, this is complemented with a critical theory paradigm which underpins the *critical* approach to the analysis of discourses that is used in this research.

6.4 Critical Discourse Analysis

CDA emerged in the early 1990s and has become an established interdisciplinary approach to the study of discourse (Wodak, 2013). CDA is different to other forms of discourse studies as it is *critical*, that is, it questions prevailing arguments or ideas to examine the connections and causes that are hidden.

There are several approaches to CDA each with its distinct theoretical framework or methodology (Hewitt, 2009). However, they are united by the shared interest in the dimensions of power and ideology in society.

6.4.1 Historical Developments

The study of discourses has a long history and can be traced back to language philosophers and social theorists as identified by Rogers (2011) such as Bakhtin (1981); Foucault and Kremer-Marietti (1969); Pecheux (1975); Voloshinov (1973); Wittgenstein (1953). CDA developed historically from critical linguistics, an approach that attempts to explore relationships between language and wider social connotations of language that was beyond traditional descriptive linguistic (Rogers, 2011).

Some of the well-known approaches to CDA include: French discourse analysis (Foucault, 1972; Pecheux, 1975); systemic functional linguistics (Fairclough, 2003; Halliday & Kress, 1976; van Leeuwen, 2008); socio-cognitive studies (van Dijk, 1993); discourse-historical method (Reisigl, 2017; van Leeuwen & Wodak, 1999; Wodak, 2001); social semiotics (Hodge & Kress, 1988; Kress, 2009); and critical ethnography of communication (Blommaert, 2001; Collins & Blot, 2003). Much of these approaches build on the work of Foucault (1972). Foucault examined the notion of knowledge and power. He argues that the structure of knowledge is contingent to the historical social system. Discourses are produced by effects of power within a social order and these define what knowledge and truth are seen as legitimate. He posits that statements provide language with the way of talking about something and way of representing knowledge about a particular subject matter at a particular given historical period. These statements become accepted knowledge. Foucault (1972) contends that physical objects have no meaning, they only take on meaning when they become institutionalised.

While some scholars refer to CDA as their preferred term, other scholars have favoured the term critical discourse studies (CDS). However, in this thesis, the term CDA is used. CDA is rooted in many areas of linguistics as well as closely-related fields of philosophy, psychology and cognitive science (Wodak, 2013). Flowerdew and Richardson (2017) agree to an early observation that CDA is “not restricted to applied analysis, but also included philosophical, theoretical, methodological and practical developments” (p. 2). CDA with its varying analytical perspectives has been

applied to many disciplines in the social sciences (including political science, education, sociology) to investigate specific issues (such as racism, gender/sexuality, globalisation, and the environment).

In climate change research, the analysis of discourse has often revolved around the representations of climate science and policy debates relative to public communication (Smith & Jenkins, 2013; Torcello, 2016) and agendas of media outlets (Broadbent et al., 2016; Molek-Kozakowska, 2018; Roxburgh et al., 2019). The application of ecology (Jaskulsky & Besel, 2013; Stibbe, 2017) and eco-linguistics (Stibbe, 2014) on climate change studies has also been noted. For example, a critical eco-linguistic approach, influenced by eco-linguistic and CDA disciplines, examines "the discourse about the environment and various forms of discourse and their ideology which concerns people and the environment" (Yuniawan et al., 2017, p. 291). Several critical studies on climate change policy have focused on narratives (Fløttum & Gjerstad, 2017; Hayes & Knox-Hayes, 2014) and framing (Jang, 2013; Knight & Greenberg, 2011; Marks, 2011; Nolan & Crowe, 2010; Popke et al., 2016) as well as political debates (Isaksen & Stokke, 2014; Roper et al., 2016). Notably, there have also been critical studies on climate scepticism and denial (Roper et al., 2016; Tynkkynen & Tynkkynen, 2018). CDA has been used in prior studies relating to climate change policy, but less so in studies of climate change policy in developing countries.

On climate change adaptation, there are fewer explicit critical approaches to discourse analysis. The few focus on policy and practice (Klepp & Chavez-Rodriguez, 2018), other related theory such as sustainability (Bhatasara & Nyamwanza, 2018) and change (Ireland, 2012) or country-specific politics and strategies (Popke et al., 2016; Romsdahl et al., 2017; Smith & Jenkins, 2013). Studies on developing countries often concern equality, justice and morality (Rübbelke, 2011). According to Rogers (2011, p. 3):

> CDA is a broad framework that [is]… concerned with critical theory of the social world, the relationship of discourse in the construction and representation of this social world, and methodology that allows them to describe, interpret and explain such relationships.

Because there are a variety of perspectives on applying CDA, the following section describes the key ideas and approaches used in this research.

6.4.2 Discourse, Society, Ideology and Power

The term *discourse* in CDA may be used to refer to "language use" or "discourse as a flow of knowledge through time" in general. The term may be defined as a "specific ensemble of ideas, concepts, and categorizations that are produced, reproduced and transformed in a particular set of practices" (Hajer, 1995, p. 44). In other words, discourse may be abstractly described as a specific set of "common sense" meanings that are expressed through ways of representing particular institutions or social groups. We can discuss discourse concretely, such as political discourse, nationalist discourse, media discourse etc. which are identified by the ideology they convey and the linguistic and other semiotic structures through which they are expressed. These semiotic systems are not just language but includes other multi-modal aspects of discourse. The concept of discourse in CDA draws on Foucauldian discourse theory that "characterises discourse as systematically organised sets of statements that give expression to the meanings and values of an institution" which define and limit socio-cultural practices (O'Halloran, 2003, p. 11).

CDA assumes that discourse is an expression and form of social practice; language is constructed by social interactions that involve struggles over power and hegemony (Wodak, 2013). It recognises the bicameral relationship of language – "it is socially constitutive as well as socially shaped" (Fairclough & Wodak, 1997, p. 258). This views discourse as a "social construction of reality" which recognises that discourse not only reflects but determines reality. CDA therefore is not simply an analysis of meanings but the ongoing conceptualisation of reality. It further presupposes that language and texts are embedded in specific contexts. In this sense, the terms "discourse" and "text" is used differently by research in differing academic cultures. In the English-speaking world, 'discourse' is often used both for written and oral texts (Wodak, 2004).

Discourse is underpinned by *ideology*, which is a set of beliefs and values belonging to particular social groups. For van Dijk (2006), ideologies are defined as "shared

representations of social groups" (p. 115) including their "shared beliefs about [their] fundamental conditions and ways of existence and reproduction"(p. 116). One of the crucial social practices influenced by ideologies is language use and discourse, which in turn also influence how we acquire, learn or change ideologies. Ideology does not just reflect reality but partially helps to constitute it. Ideology affects both how we relate to people in society and the discourse(s) with which we engage. Ideology is more than individual ideas formed through experience – ideology may be disseminated to promote the interests of specific social groups. It can come to be accepted as part of "common sense" through a process of legitimisation: a set of beliefs and values becomes normative by accepting the authority of those disseminating them.

CDA posits that there is *intertextuality*, whereby the meanings of the texts will be shaped by other texts. This is informed by the knowledge and experiences of both the discourse users and the analyst as well as the history of the topic (Fairclough 2001). This recognises that the research systems and CDA itself are dependent on social structures, and that criticism cannot be purely objective, but is well integrated within social fields. Furthermore, researchers, scientists and philosophers themselves are subject to the societal hierarchy of power and status in society.

According to Jager and Maier (2003), discourses "exercise power in a society because they institutionalise and regulate the ways of talking, thinking and acting" (p. 35). There is power *of* discourse and power *over* discourse. In terms of *power of discourse*, discourses form individual and collective consciousness that led to an established knowledge which has sustained effects. Regarding *power over discourse*, discourses are supra-individual, whereby different individual and groups have different influences, but none have full control over the discourses. When people in power form a conception of people, they have power over, they can take on that conception as their own, or they can try to resist. CDA attempts to analyse these power relations and their effects.

Since CDA has many different approaches and interpretations, there are a few fundamental components. Fairclough and Wodak (1997) offer several principles. These include a) social and political issues are constructed and reflected in

discourse; b) power relations are negotiated and performed through discourse; c) discourse both reflects and reproduces social relations; and d) ideologies are produced and reflected in the use of discourse. These principles highlight how CDA can help identify the conceptualisation of climate change adaptation and sustainable development in Thailand. CDA recognises the ways that discourse shapes and is shaped by power relationships in social institutions and societies. It can help reveal the ways class structure and other inequalities are simultaneously furthered in policymaking. This can assist in unpacking the underlying biases and ideologies of the actors in the texts.

CDA aims to question and criticise discourses. CDA reveals the contradictions within and between discourses such as the underlying values, norms and assumptions that have been discursively constructed. The main principles of CDA help reveal the meanings, ideologies and interpretations that inform and shape politics and policymaking, and explore the power dynamics, dominance and tensions between different stakeholders within the Thai context (Woodside-Jiron, 2011). Fairclough (2017) contends that “Academic critique alone cannot change reality, but it can contribute to political action for change by increasing understanding of existing reality and its problems and possibilities” (p. 12). This is important to the climate change adaptation policy issues in Thailand. However, there are many approaches to CDA and not all are relevant to the research. Therefore, the choice of approaches or selective parts of the approaches are chosen based on how well they examine those aspects of power and ideology as well as how appropriate they are to answer the research questions.

6.4.3 Approaches and Methods

CDA tends to address the problems faced by oppressed groups, yet the problems are no longer just social but also ecological such as climate change. This moves away from the Marxist notion of capitalist imperialism as exploitation by humans of other humans but also of natural resources (Stibbe, 2017). The rise of new disciplines in ecological humanities and the social sciences in general have shifted the motivation from equitable societies towards sustainable societies (Stibbe, 2017). The use of

language among these disciplines have moved away from treating ecological issues as technical, scientific problems to questioning stories or narratives of societies that are told through discourse and cognitive structures (Stibbe, 2017).

Stibbe (2017) offers a CDA approach to ecology through an ecolinguistic analysis with cognitive lens. He claims that this type of analysis considers a wide range of oppressed groups including animals, current generations and future generations of humans, and considers the impact of discourses on wider systems that support life. His approach provides a good starting point on how CDA can be applied to climate change adaptation. I will create a critical discourse analytic framework that draws on the works of Fairclough (1992), van Dijk (2008) and Dryzek (2013).

6.4.4 Conceptual Foundations: Fairclough's Three-Dimensional Framework and van Dijk's Socio-Cognitive Approach

Fairclough (1992) three-dimensional framework and van Dijk (2008) socio-cognitive framework are used as conceptual foundations to the discourse analysis approach proposed by Dryzek (2013). These frameworks were used to develop the CDA framework used in this thesis.

Fairclough (1992) developed a three-dimensional framework for studying discourse, where the aim is to link the three levels of analysis. The analysis seeks to link the text (micro-level) with the processes of text production and consumption, and the underlying power structures (macro level) through discursive or sociocultural practices upon which the text was drawn (meso level).

Fairclough (1992) three-stage system of CDA comprises:

1. Description: identifying the formal properties of text
2. Interpretation: identifying the relationship between the text and interaction
3. Explanation: identifying the relationship between the interaction and social context

This approach adds to Dryzek (2013) discourse analysis approach by linking the text to the interpretation and explanation of the text. In doing so, it highlights that it is important to identify the relationship between discourse and its production and

consumption, which is something Dryzek's approach does not make explicit. It examines the genre and hegemony of the discursive practice. *Genre* "implies not only a particular text type, but also particular processes of producing, distributing and consuming texts" within the discursive practice (Fairclough, 1992, p. 126), while *hegemony* points to how the discursive practice is shaped by the exposure and dominance of discourses within discourse communities and reveals the underlying power and influence of actors in producing and reproducing the discourses (Blommaert & Bulcaen, 2000). In addition, the analysis of the discourse is an explanatory process about historical, social and cultural contexts. Fairclough (2017) contends that "CDA offers better explanatory understanding of relations between discourse and other components of social life" (p. 13). Moreover, "CDA combines critique of discourse and explanation of how it figures within and contributes to the existing social reality, as a basis for action to change that existing reality in particular respects" (Fairclough, 2015, p. 6). Here, the author reinforces that while CDA allows us to critique and explain the discourse, it must crucially contributes to action within our social reality.

In addition, to produce and understand discourse, people need a vast amount of knowledge. Knowledge is relative and people construe the meaning of texts in their minds. CDA through a socio-cognitive approach involves a form of social constructionism, "which holds that social and political 'reality' are constructions of social members" (van Dijk, 2017, p. 28). According to van Dijk (2017, p. 34) "the core of the socio-cognitive account of discourse consists of the personal and socially shared knowledge of language users as social actors and members of epistemic communities". While knowledge is socially constructed by communities, there are different groups of communities with varying identities. Therefore, how identity is constructed such as hierarchy in Thai society can inform the ways members of different groups construct and position themselves concerning each other in the discourse.

By utilising a general application of the socio-cognitive approach, this research is complemented with an analysis of the language users' mental understanding thereby not limiting to what has been produced through language or texts themselves. It

integrates the ideas around knowledge as well as beliefs – two concepts that have been distinguished in sufficiency economy – but both are equally worth of evaluation.

These approaches work together as they all examine the text and are concerned with meaning represented within discourses from social contexts. They complement each other by filling in the gaps, by focusing more on those missing key areas. The work by Fairclough (1992) emphasises the different level of analysis which must be considered in CDA. The approach allows this research to analyse from a broader yet critical lens, and not entirely linguistic. I have a greater understanding of the role of text production and dissemination. van Dijk (2008) socio-cognitive framework captures the critical concept of knowledge and discourse communities. This is important in the Thai social setting as the discourse communities are representative of this social context. The author makes an explicit assumption on how this might produce political and policy change. There is scope for the role of knowledge in contributing to social change. Having established the analytical approach to the research, the next section turns to the description of the research methods.

6.4.5 Practice: Dryzek's Discourse Analysis

John Dryzek, in *The Politics of the Earth: Environmental Discourses*, develops a discourse analysis approach to examine the dominant discourses on the environment (Dryzek, 2013). He developed four key structural elements which he uses to define each of the discourses in more detail:

1. Basic entities whose existence is recognized or constructed
2. Assumptions about natural relationships
3. Agents and their motives
4. Key metaphors and other rhetorical devices (Dryzek, 2013, p. 20)

The first step examines the "ontology" of a discourse, which recognises that different discourses see different things in the world. This step involves identifying the entities that are recognised or constructed. The second step views that all discourses have notions of what is natural in the relationships between different entities. For example, these relationships may include dominance of one entity over another. The third step identifies the key actors or agents that are part of the discourse. They can be

individuals or collectives and are mostly human but can be non-human. The last step investigates the metaphors and other rhetorical devices such as framing, narratives and stories (Dryzek, 2013). The last step requires elaborating on as there are common but underlying features within discourses before describing the "critical" aspect of Dryzek's approach.

Metaphors and *frames* exist in a wide range of areas including climate change. Stibbe (2017) discusses the many ways that climate change can be framed. He provides an example of an idea of "climate change is a problem to be solved" which exists in many types of discourses, which suggests that once a solution is found, the problem will disappear. Instead, if this is framed as "climate change is a predicament", it assumes that there is no response that would allow the predicament to disappear. Another device frequently used is the metaphor. As Lakoff and Johnson (1980) point out, "the essence of metaphor is understanding and experiencing one kind of thing in terms of another"(p. 5). Metaphors give a similar effect to frames as they can define humans as separate or part of the natural world which affects our perspectives. Frames and metaphors are "important to how we think about issues and how we act on them. It uncovers how different actors with power shape public understanding of climate change and build support for specific conclusions" (Stibbe, 2017).

In politics, metaphors suggest a likeness between two things and for this reason imply that solving an issue can be fixed with the same methods. Stone (2012) provides a list of metaphors that inform policy decision-making such as "organisms, disease, natural laws, machines, wedges, containers, and wars" (p. 159). The use of metaphors is always strategic as they define a problem in a way to give one group an advantage over another. It influences the understandings of those issues, constraining social and political action which contributes to the institutionalisation of ideas and values that contributes to the production of discourse(s) on climate change. Some studies have shown that since the late 1980s, politicians have attempted to control the definition of climate change and played a crucial role in shaping media discourses in several countries (Methmann, 2010). Similarly, intergovernmental organizations have discursively constructed climate change in ways that justify the continuation of their policies and practices. "Climate politics" and depoliticising have seen how climate

change policy have become more of techno-managerial endeavour rather than those that concern public engagement (Methmann, 2010). To understand the responses of governments, it is vital to explore the role of climate change adaptation discourses.

Through *narratives*, CDA examines how 'stories' are produced, reproduced or structure our conceptualisation of the world. Stone (2012) refers to 'causal stories' or 'causal ideas' to demonstrate how difficult conditions or circumstances are transformed into political problems. It is also about how political actors choose to take control or shift responsibility. From this causal framework, Stone (2012) offers the types of narrative stories that can be found in political discourses. There are two types of stories in politics, namely, 'stories of decline' and 'stories of control' (p. 159). 'Stories of decline' describe a situation, usually through statistics, that has become worse, and certain solutions will help. This can be further illustrated by the 'stymied progress story' or 'change-is-an-illusion story' (p. 165). On the other hand, 'stories of control' describe a situation in which fate can be changed. It includes 'conspiracy story' or 'blame-the-victim story' that we are all too familiar with (p. 159) . These narratives offer different storylines on climate change within discourses. In addition, framing climate change as an "environmental issue" may create a narrative that reduces it to the scope of nature and the environment, which detaches climate change from the economic, social and political factors that produce it.

Dryzek (2013) refers to his analytical framework as "discourse analysis". However, he also proposes a "critical comparative scrutiny" of competing discourses (p. 21). Such scrutiny was informed by the following checklist of items for assessing the effects of discourses:

1. Politics associated with the discourse
2. Effect on policies of governments
3. Effect on institutions
4. Social and cultural impact
5. Arguments of critics
6. Flaws revealed by evidence and argument (Dryzek, 2013, p. 21)

The analysis in Chapters 7, 8 and 9 considers implicitly and explicitly the effects of discourses, particularly the first four effects, as they are most relevant to the Thai context. Dryzek (2013) discusses the effects that each discourse has had on environmental policy making. He also discusses how the discourses relate to each other. Thus, his framework can be essentially interpreted as a CDA approach. Dryzek's work seems to fits under CDA approaches that Wodak and Meyer (2009) conceptualise as "broad linguistic operationalization" that focuses on the structure, like Dialectical-Relational Approach (Norman Fairclough), or focuses on agency such as Sociocognitive Approach (Teun van Dijk) and perhaps Dispositive Analysis (Siegfried Jäger and Florentine Maier) (p. 22).

6.5 Research Methods

This study is based on a qualitative approach to research. Given that problems like climate change constitute "wicked problems" (Rittel & Webber, 1973)[17] or even "super-wicked problems" (Levin et al.), scholars are using qualitative research methods to unpack these complex issues. Qualitative researchers are concerned with the *meaning* created by people. The social meaning people attribute to their experiences, circumstances, situations, as well as the meanings people embed into texts, images, and other objects are the focus of qualitative research. Therefore, qualitative researchers extract the co-created meanings they gather from their participants' data to get at multiple accounts. The focus of this research is generally words, texts, and images as opposed to the gathering of statistical data. However, this does not mean that qualitative researchers do not use numbers or that quantitative researchers do not use words (Hesse-Biber, 2016). This fits well with the CDA approach described in the previous section.

[17] The phrase 'wicked problem' was first coined by Horst Rittel and Melvin Webber, theorists of design and social planning respectively, in 1973.

6.6 Research Questions

In setting out to examine how the notion of sustainable development has been understood and applied in climate change adaptation policy in the Thai context, the main research questions are:

- How has climate change adaptation policy been developed in Thailand?
- How have sustainable development and the sufficiency economy been approached in Thailand?
- What are the overlaps between the sustainable development and sufficiency economy approaches?
- What are the dominant discourses that inform Thai climate change adaptation policy and practice?
- What are the implications of dominant discourses of Thai climate change adaptation policy for sustainable development?

The research aims to examine if and in what ways competing understandings of sustainable development are embedded and articulated in climate change adaptation initiatives in Thailand. The focus is on how key discourses of climate change adaptation policies are articulated, negotiated and disputed at different levels of government, and the implications for sustainable development and sufficiency economy. It involves the analysis of documents and interviews on climate change adaptation policies at the international level, the national level, and a case study of the United States Agency for International Development (USAID) Mekong Adaptation and Resilience to Climate Change (Mekong ARCC) project at the local level.

6.7 Research Location

Thailand's climate change adaptation policies submitted to international forums and implemented at the national level are developed by the Office of Natural Resources and Environmental Policy and Planning (ONEP) under its Climate Change Management and Coordination Division (CCMC). Referred to as the main government agency responsible for climate change in Thailand, ONEP works with key sectors on adaptation involving other government agencies and ministries. Adaptation policies are, thus, not solely confined to one policy area or agency, so this research integrates

data from other policy areas. In addition, ONEP works with other key agencies when submitting climate change documents to international forums such as the Ministry of Foreign Affairs. Before documents are submitted, they must be approved by Cabinet. Policies submitted through this process must align to key national plans and legislation including the 2017 Constitution, 20-Year National Plan and the Twelfth Plan alongside key international agreements. Finally, as the implications of sustainable development are considered in the analysis, key agencies and frameworks on sustainable development must be examined. This includes the role of the National Economic and Social Development Council (NESDC) and the late King Bhumibol in his work on sustainable development and his sufficiency economy approach. Overall, the analysis of policies at these levels must consider the influence of wider policy areas to the key discourses. Having established the upper levels for the location of adaptation policies, the next section turns to the case study which examines the adaptation at the local level.

6.7.1 Case Study

Since adaptation initiatives occur across different communities and areas at the local level, a case study provides a useful way to examine wider policy questions in a narrow context. A case study is an in-depth exploration of a subject from multiple angles in context to generate knowledge and may also inform policy development, practice and civil or community action (Simons, 2009). Yin (2018) states that a case study is used to understand complex social phenomena, often to answer “how” or “why” questions. Case studies allows an in-depth focus on particular area, “to retain a holistic and real-world perspective” (p. 5) with free-rein in the design from a breadth of data collection techniques and approaches to data analysis. In designing and conducting the case study, I am able to capture the different perspectives of different participants and focus on how their different meanings illuminate the focus of my research. In doing so, the analysis is guided by an interpretivist epistemological orientation.

The case project on the Mekong ARCC encapsulates scientific assessment, climate change adaptation strategies, and cooperation amongst authorities, NGOs and

villagers. These include a diverse range of scientific, technical and community perspectives that reflect the tradition of a case study research.

Case study research is richly descriptive because it is grounded in deep and varied sources of information. Case study research is generally more illustrative than comparative or predictive, as it normally seeks to identify themes or categories of behaviour. Because it involves collecting and analysing information from multiple sources, such as interview transcripts and existing documents, case study research sometimes requires the researcher to spend more time in the environment being investigated than is the case with other types of research (Hancock & Algozzine, 2016). Case study research involves unpacking what is known based on careful analysis of the multiple sources of information about the "case". In addition, insights from the case can directly influence policy, procedures and future research.

The Mekong ARCC project provides an entry point to how national adaptation policies might be integrated at the local level and the implications that this has on sustainable development.

6.7.2 Overview of the Case Study

The Mekong ARCC was a project funded by USAID during 2011-2016 in the Lower Mekong Basin. There were five pilot sites: Chiang Rai and Sakon Nakhon in Thailand, as well as sites in Vietnam, Cambodia and Laos. The project focused on building community resilience that would ensure the livelihoods of the villagers. It involved a scientific and community assessment of climate vulnerability and risks in the selected areas which informed adaptation measures as developed in the *Community Adaptation Plan* for each village. The specific location for this case study is in Chiang Rai, Thailand. This case study was selected as it had several variables such as three key villages representing lower to higher mountainous villages (Lahu, Lisu and Akha tribes) as well as diverse adaptation activities that could provide fruitful analysis and comparison. The villages represent the ethnic communities in Thailand which can add value to indigenous people's considerations. Further, the project was funded by an external agency – USAID, implemented by an international agency – Development Alternatives Inc (DAI), and coordinated by a national based organisation – IUCN

Thailand. It also involved collaboration of local government and organisations. The diversity of actors is a further strength of the case study because it allows me to explore the types of discourses, the differences in the dominance of the discourse, the power dynamics between different actors in producing and disseminating the discourses. Having established the location of the research, the following describes how data was collected.

6.8 Data Collection

The research questions seek to analyse the key discourses of climate change adaptation policies in Thailand and their implications for sustainable development in the location described above. To answer these questions, this research is largely based on qualitative data from texts relating to climate change and adaptation policy in Thailand, sustainable development and the sufficiency economy in Thailand, and the Mekong ARCC project. While qualitative research and case study research are traditionally distinctive, the use of qualitative data collection in this study refers to the use of describing the phenomenon rather than quantifying it. Due to qualitative data collection often being time consuming, the case sample is smaller (that is one case project). This method was chosen as it is appropriate to the objectives of the study, that is, to identify the discourses and understand the different perspectives of sustainable development in climate change adaptation policy in Thailand. There are a variety of methods of data collection in qualitative research, including observations, textual or visual analysis (such as from books or videos) and interviews (individual or group). For this research, two main data collection methods were deployed including document analysis and semi-structured interviews.

6.9 Document Analysis

Document analysis is a systematic procedure for reviewing or evaluating documents – both printed and electronic material. Document analysis requires that data be examined and interpreted to elicit meaning, gain understanding and develop empirical knowledge (Bowen, 2009). This can provide written data to be analysed with CDA.

Document analysis is useful for this research as it may be used for systematic evaluation as part of a study. The method is often used in combination with other qualitative research methods as a means of triangulation (Bowen, 2009). By examining information collected through different methods, I can corroborate findings across data sets and thus reduce the impact of potential biases that can exist in a single study (such as the Mekong ARCC project).

As a research method, document analysis has immense value in case study research. Documents can provide the background information and historical insight to the research. They can provide supplementary research data from other sources such as semi-structured interviews (Bowen, 2009). Such data provides the means of tracking change and development. I can compare a series of documents to identify changes. For example, a draft to the Climate Change Master Plan (2015-2050) reflects key changes in the policy process. Similarly, periodic and final reports such as National Communications capture how Thailand has fared over time. In this sense, documents can be analysed not just to provide the context to the research but also to verify findings or corroborate evidence from other sources (Bowen, 2009). In addition, documents can suggest further questions and observations. For example, document analysis can help generate new interview questions. It is important to note that documents also have some inherent weaknesses, including the original purpose for which they were created that reflects the priorities and interests of politicians or bureaucracies, as well as issues of how official statistics are collected, who controls access to data, among other concerns (Neuman, 2013, p. 530). Furthermore, qualitative research requires robust data collection techniques and the documentation of the research procedure (Bowen, 2009). This is discussed in the next section.

6.9.1 Document Collection

The different sources of data for data analysis consulted in this study included primary and secondary sources that provides that historical and development accounts of the research focus. Primary sources included the English version and Thai versions of original documents generally available on the government websites

or agencies. English versions of data are used when available. These comprise of policy documents, national reports, legislation and press releases. Several primary documents were originating from the central government on its intentions towards national adaptation policy, published between 2000 and 2019. There were no provincial or local climate change plans in Thailand to analyse. Other primary sources submitted to international forums were available from the UNFCCC website. These comprise of National Statements, national reports and key agreements such as the Paris Agreement and the UN 2030 Agenda. Documents from other UN agencies such as UNDP and UNEP were also used when appropriate. These documents were published between the adoption of the UNFCCC in 1992 to 2019. Table 4 is a summary of the core groups whose documents were analysed:

Table 4: Summary of Key Documents

International Reports	
SDG	Thailand's VNR 2017, 2018, 2019
UNFCCC	National Statements by Thailand at the High-Level Political Forums (HLPF) 2009-2019
	Thailand's National Communications (NC) 2000, 2011, 2018
	Thailand's Biennial Update Report (BUR)
Central Government Reports	
National Development Plans	2017 Constitution
	20-Year National Strategy 2018-2037
	National Reform Plan 2018-2030
	National Social Economic and Development Plans (NESDP)
	Thailand 4.0
National Climate Change Plans	National Strategic Plan on Climate Change 2008-2012
	Climate Change Master Plan (CCMP) 2015-2050
	Nationally Determined Contribution (NDC) 2015
	National Adaptation Plan (NAP) 2018-2037
Sectoral Climate Change Plans	National Adaptation Plan on Climate Change and Health (H-NAP) 2018-2030
	Climate Change Strategic Plan for the Agricultural Sector (ASPCC) 2017-2021
	Integrating Agriculture in National Adaptation Plans (NAP-Ag) programme 2016-2018

National Environmental Plans	National Environmental Quality Promotion & Conservation Policy and Plan 2017-2036
	Environmental Quality Management Plan 2017-2021
	Master Plan on Integrated Biodiversity Management 2015-2021

In some cases where there was no English version of key policy documents available, unofficial translations by reputable sources were used. Examples of these policy documents include the 2017 Constitution. If unofficial translations were unavailable, then the Thai version was used. These included the NAP and the H-NAP.

Primary sources at the local level comprise of scientific and community-based reports from the case study project. These documents were initially available through the project's official website www.mekongarcc.net, but after the website closure in late 2016, some documents were available through international adaptation websites or directly from former project facilitators at USAID, IUCN Thailand or DAI. These documents were published between 2013 to 2016. The key documents analysed are outlined in Table 5.

To gain background information, I also examined sources from the Thai media. I consulted Thai and English newspapers with an English-speaking perspective concentrating on articles published between 2000 to 2019. This included Thai newspapers such as *The Bangkok Post* and *The Nation.* These provided important sources for tracking updates on global and national climate change policies relevant to Thailand.

Table 5: Summary of USAID Mekong ARCC Project Reports

USAID Mekong ARCC Project Reports	
Scientific Reports	USAID Mekong ARCC Climate Change Impact and Adaptation Study for the Lower Mekong Basin – Main Report (ICEM, 2013)
	USAID Mekong ARCC Vulnerability Assessment Report - Thailand IUCN Thailand (Cadena et al., 2014)
Community Reports	Community Adaptation Plan: Huai Kang Pla Village, Hae Ko Village, and Loh Yo Village, Chiang Rai Province, Thailand (DAI & IUCN Thailand, 2014a)
Supplementary Reports	Integrating Gender Considerations into Community-based Adaptation in Agrarian Communities in the Lower Mekong Basin: Lessons learned from Cambodia, Lao PDR, Thailand and Vietnam (Lehman, 2016)
	Harnessing Climate Finance for Rural Adaptation in the Lower Mekong Basin: Opportunities, constraints and prospects (McCluskey et al., 2016)
Evaluation Reports	Planning and Implementing Rural Adaptation Initiatives in the Lower Mekong – Methods Applied to Integrate Climate Science and Local Knowledge (Dugan et al., 2016)
	Lessons from Implementing Adaptation Plans in the Lower Mekong Basin (Chaudhury, 2016)
	Endline Report (author unknown)[18]

Secondary sources include writings of other scholars on the piece of history in question. In my case this included the adaptation research in Thailand and the history of Thailand. An advantage of using secondary data is that it provides a wider and critical perspective on the topic and may help fill the gaps with the absence of primary sources. There has been little reporting on adaptation initiatives in Thailand. Assessment reports provide helpful accounts of studies from key international

[18] I was unable to obtain a copy of this report as the project facilitators no longer had a copy.

agencies such Asia-Pacific Adaptation, ADB and the World Bank on adaptation in Thailand and country assessments on its progress in this area. Similarly, working papers from research by individuals and technical experts in the field were used.

6.9.2 Document Data Analysis

In carrying out this study, I analysed data from the field including undertaking historical and thematic analysis of primary and secondary documents and interviews with key actors. This type of document analysis is a systematic procedure for reviewing or evaluating documents. Like other analytical methods in qualitative research, document analysis requires the data to be examined and interpreted to elicit meaning, gain understanding, and develop empirical knowledge (Bowen, 2009). This largely involved the analysis of the documents identified above. Therefore, as part of the CDA approach adapted for this study, firstly I identified and skimmed relevant sources on the background and historical context to the research. Secondly, I thoroughly examined the content, tracking changes, development and contradictions between texts. Thirdly, I reviewed them critically searching out the key arguments and underlying assumptions in the texts. Fourthly, I evaluated the interpretations within the data to identify emerging themes, placing them into categories for analysis. Also, I took careful note of the timespan and chronology of events around the phenomenon I was investigating (Bowen, 2009). The final step does not imply the completion of the analysis as this is a continuous process during the research.

From the discourses identified, I used the analytical framework (identified in Chapter 5) to examined how they may contribute to sustainable development and sufficiency economy. As part of this effort, it is important to detect and determine bias both in the source of information and in ourselves as researchers; to identify unstated assumptions; to find ambiguous or equivocal claims or arguments; to recognise logical inconsistencies or fallacies in a line of reasoning; and to determine the strength of the argument (Danto, 2008).

6.10 In-Depth Semi-Structured Interviews

Interviews are a useful tool when a researcher is seeking to understand how values, perceptions and beliefs influence or shape policy decisions. Quantitative methods would not help gain these understandings. However, qualitative interviews such as semi-structured interviews allow the thoughts and ideas that were formulated to flow to other questions that may arise during the interview. The interviews were in-depth as they seek to understand the implicit beliefs and assumptions that were offered by the participants.

Semi-structured interviews were undertaken with key actors that were selected because of their knowledge and expertise or concern climate change adaptation, sustainable development, the sufficiency economy and the USAID Mekong ARCC project. In the semi-structured interview, I prepared several questions beforehand for the participants. In the interviews, these questions were not presented in any specific order to allow a degree of flexibility and unexpected line of enquiry. It was important to negotiate and discuss with the interviewee how questions could be asked during the interview. My goal in using this research method was to generate a depth of understanding. As the researcher, I created further questions based on what had already been heard. Many of the questions asked emerged only during the research and were pursued to find detail or definitive understanding.

To guide my research, I obtained approval for conducting the interviews from the *Faculty of Arts and Social Sciences' Human Research Ethics Committee*. The interviews were conducted under the guidelines the University of Waikato's human research ethics guidelines. These guidelines ensure that my work respects participants and fairly represent them in the final thesis. Informed consent was obtained for all interviews. The consent forms outlined the rights of the participants and made clear that the research had ethical clearance from the University of Waikato. The consent forms were signed by the participants and the researcher before the interviews. All participants were guaranteed anonymity in the research. Most participants agreed to the interviews being recorded on a digital voice recorder and the data from the interviews being used in the research. For two interview

participants, permission was not granted, so handwritten notes were taken during the interview and transcribed more fully afterwards. The interviews typically took between one to two hours; they were subsequently transcribed. The data that was produced was socially constructed as the semi-structured interviews allowed the interviewee and researcher to build understanding of the social actor's experience, knowledge and worldviews. Refer to the Appendices for all the documents used during the interview process.

6.10.1 Interview Selection and Procedure

Potential participants were initially contacted by email or phone. The cover letter and information sheet about the research were given to the participants. Snowballing sample method was later used to obtain additional participants from the respondents. The interviews took place between 2018 to 2020. The first round of fieldwork was undertaken between January and February 2017, the second between November and December 2018 and the third between November and December 2019. Once participants had agreed to be interviewed, a time was set up for an interview at a mutually agreed location. This arrangement required travelling to Thailand, especially to conduct the interviews with the villagers, while audio interviews were done from a private location at my base in New Zealand, and a few were at the UNFCCC COP24 in Poland that I attended. An interview guide with a schedule of questions was prepared. The questions were framed in such a way as to elicit responses that would provide answers to key questions on the respondents' views on climate change adaptation and sustainable development.

To capture the national approach to climate change adaptation policies in Thailand, it was important to talk to institutional actors involved in the development and implementation of climate change policies. Within these central government and regional government agencies, there were 26 people in total interviewed (see Table 6). Four participants were from the Office of the National Economic and Social Development Council (NESDC)[19], two from the 20-Year National Strategy and

[19] Formerly known as the Office of the National Economic and Social Development Board (NESDB).

National Reform Plan. Six participants were from Office of Natural Resources and Environmental Policy and Planning (ONEP), plus one in attendance, three from Office of Agricultural Economics (OAE), three from Health Impact Assessment (HIA), three from Office of Natural Water Resources (ONWR), one from Department of Public Works and Town & Country Planning (DPT), one from Ministry of Tourism & Sports (MOTS) and one from Forest Climate Change. One participant from OWNR was at the time a representative of the Mekong River Commission (MRC). There was one participant at the regional level who was from the Environment Regional Office 1 (ERO 1). The interviews were expected to be up to an hour, but some respondents allowed additional time to around two hours. One respondent participated twice because they helped facilitate the second interview.

Most interviews were conducted in person at their respective offices in Bangkok, Thailand, but when that was not possible, they were facilitated through audio call on the LINE app, which is a popular instant communication application in Thailand. Alternatively, two respondents preferred answering the questions via email although this proved difficult. While most of the interviews were recorded on digital devices and later transcribed, two respondents preferred that I only took notes during the interview. All respondents were given anonymity and so are not referred to by name in this study. In addition, I attended the UNFCCC COP 24 in Poland and took notes of presentations by the Thai delegation. I attended as part of the Aotearoa Youth Leadership Institute (AYLI) Delegation, where we could follow our own purpose at the conference. The analysis also made use of additional materials provided to me by some respondents. For example, participants from NESDC provided books on sustainable development. In addition, to capture the details that were only hinted at in other interviews, I accessed publicly available materials from their respective organisations.

To gain further insight into the development of the NAP, it was crucial to speak to key partners that worked on the NAP process with ONEP. GIZ is one of the most important partners working closely and sharing the office with ONEP. I secured interviews with four GIZ specialists working on climate change integration and adaptation planning. All interviews were conducted in person, three at ONEP and one

in a group at another government department. All interviews were audio recorded taking up to two hours. Additional materials in file formats or physical copies were provided by all respondents, which allowed better insight into the work.

For the Mekong ARCC project, interviews were conducted with multiple agencies and local villagers involved in the project. A total of 25 people interviewed. One was from USAID, three contracted by DAI, four from IUCN, one from the Patung Sub-district Administration Organisation, one from the Mae Salong Royal Project Initiative by HRDI, one from the Land Development Office, and one from Huai Hong Khrai Royal Development Study Center. I was unable to secure interviews with officials in Chiang Rai Provincial Administration Organisation, but the 13 villagers interviewed represented the three villages sites in Chiang Rai. The interviews were between one to three hours. One participant in the village helped translate the response of the villagers in Hae Ko village. All interviews were audio recorded and the anonymity of participants is protected. In the villages, as some respondents were unable to read or write, they gave me their audio consent, which was asked prior and later captured in the recording. The diverse range of participants provide a comprehensive insight into how different actors approach adaptation.

Other NGOs have played an integral part of adaptation at the local level, so I needed to gain a sense of their perspectives on the process. In Chiang Mai, I was able to secure an interview with a facilitator working on adaptation at Raks Thai Foundation. This allowed me to understand how other organisations are implementing adaptation at the local level and the key learnings from the project. Similarly, I secured an interview with a facilitator at the Thailand Sustainable Development Foundation (TSDF) who provided much needed explanations on the sufficiency economy. These interviews were between one to two hours long, audio recorded, and anonymity protected. Additional materials were also provided by the participants.

Finally, the perspectives of those working on adaptation studies at research institutions were sought for alternative interpretations on the progress of adaptation in Thailand. One respondent was from Thailand Development Research Institute (TDRI) and another at The Southeast Asia START Regional Center (SEA-START) at the University of Chulalongkorn. One interview was conducted via LINE while the other

was in person. The interviews were between one and two hours long, audio recorded, and anonymity protected. They provided academic and critical insights into national and local adaptation.

6.10.2 Interview Data Analysis

In total, I interviewed 59 people (see Appendices for more details of interview participants). Once the interviews were completed, I simultaneously transcribed and translated any interviews that were recorded. This means that any quotations from interview participants are presented as only in translation. The transcript of each interview was read through several times. Through the readings, I searched for repetitions and themes that emerged from the participants. Specifically, I examined interview responses on their understanding of "climate change adaptation" and "sustainable development" in Thailand. For most interview participants, I asked them about what they understand when they hear those terms or related terms. As these terms were not often common knowledge to the villagers, I asked them about what they understand about the changes in the weather and the environment, how they have responded to those changes, and how has that affected the development in the village. In addition, I sought participant opinions on the development and implementation of climate change and adaptation in Thailand or through the Mekong ARCC project.

To complement the analysis of all the data from above, I used Nvivo to help categorise the initial themes. I noted down the genre for each data type. I synthesised the data and interpreted the meanings extracted from them.

The similarities and differences being presented by themes were evaluated and analysed against the CDA framework. In addition, the implications for sustainable development were then analysed using the analytical framework developed in the previous chapter.

Table 6: Summary of Interview Participants

Categories	Interview location	Number of persons interviewed	Positions	Notes taken or audio recorded
Government	In person, email, LINE app	30	Senior and junior official	Notes taken Audio recorded (Notes taken only)
Research Institute	In person, LINE app	2	Principal researcher	Notes taken Audio recorded
NGO	In person	2	Principal researcher and senior official	Notes taken Audio recorded
Project	In person, LINE app	12	Senior official and junior official	Notes taken Audio recorded (Notes taken only)
Village	In person	13	Elders and adults	Notes taken Audio recorded
Total		59		

6.11 Chapter Summary

This chapter has made the case for a CDA approach within a qualitative research paradigm for this research. This research involved developing a critical discourse analytical framework based on the conceptual works of Fairclough (1992) and van Dijk (2008) with the analytical framework of Dryzek (2013). The analysis is explored in-depth through the documents and interview data from the Thai national government, academic institutes, NGOs as well as a case study on the Mekong ARCC project. The analysis is guided by the research questions that sets out to examine how the notion of sustainable development has been understood and applied in climate change adaptation policy in the Thai context. Through the chapter, I provided the rationale to the research design and methods used in the thesis. Having established the core elements of this research, the next chapter begins with the findings and discussion of climate change adaptation policy in Thailand and their implications for sustainable development at the international level.

Chapter 7: Climate Change Adaptation Policy at the International Level: An Analysis of Key Discourses

Thailand's approach to climate change adaptation is evident in a series of international climate change agreements, National Statements and national reports that have been submitted to the UNFCCC and other UN entities. This chapter reviews the key discourses on climate change adaptation within these texts to identify how Thailand presents itself within international settings, focusing on the way the state endorses and rejects certain actions on adaptation. This focus is crucial to understanding Thailand's response to adaptation in the global context, and whether it is reflected at the national level. To uncover this idea, this chapter uses CDA, as discussed in the last chapter, to analyse the texts. The analysis identified four key discourses: *climate crisis discourse, global climate governance discourse, climate equity discourse*, and *national development discourse*. The chapter offers a discussion of the implications of these discourses for sustainable development within Thailand and for national climate adaptation. Before delving into the analysis, the next section introduces the key texts that form the basis of the analysis.

7.1 Key International Agreements, National Statements and National Reports

Following the signing of the UNFCCC Convention in Rio in 1992, Thailand has been party to subsequent international agreements on climate change with a focus on adaptation. As a party to these agreements, Thailand has produced a series of National statements on its approach to climate change. These statements are a part of meeting the agreements and associated reporting requirements on national progress on climate action. Thailand has also submitted national reports to the UNFCCC as part of its obligation as a non-Annex I party. National reports include the National Communication (NC) and Biennial Update Report (BUR), and additional reports include the GHG Inventory and Assessment Reports (UNFCCC, 2002). While they provide information to assess the progress on efforts to address climate change, they are useful here as an indication of national planning and development processes. To date, Thailand has submitted Biennial Update Reports, and GHG Inventory and

Assessment Reports to the UNFCCC National Communications (ONEP, 2018b). References to climate change adaptation are mostly found in the National Communications. Lastly, countries are also encouraged to report on how their climate actions serve the overall global goal for sustainable development. These are presented in the Voluntary National Reviews (VNRs) (MFA, 2019). What follows is an analysis of key discourses in these agreements, statements, and reports.

The following section begins by outlining the key international agreements, National Statements and national reports to UNFCCC and other UN entities that are relevant to Thailand's priorities and response on adaptation. It provides a brief description of each document, the genre, key actors and the importance of the document as a way of identifying Thai climate change adaptation discourses.

7.1.1 UNFCCC and Other International Agreements

The UNFCCC and other international agreements reflect a genre of formal written commitments between countries to regulate their interests by international law. International agreements may be bilateral or multilateral, legally binding or non-binding, and signed or ratified by member countries. The texts are negotiated by countries or groups of countries. During international negotiations, Thailand represents its domestic interests as well as the interests of groups it is a member of, such as the G77 and China, or ASEAN. The key actors within international agreements include Heads of State or Government who act on behalf of their country. Because the texts involve international law, they often use technical language making them difficult to be understood by a wider audience. International agreements are important for identifying discourses in adaptation policies as they set general principles and norms on climate change and determine the obligations to be met by countries and support provided to countries.

7.1.2 National Statements at UNFCCC

National statements reflect a genre of short political text designed to generate support for state views and policies. The National Statements at UNFCCC COPs are delivered during a High-Level Segment and have a time limit of 2 mins for each party and 3 mins for each group of parties (UNFCCC, n.d.-b). The key actors for National

Statements include Heads of State or Government, ministers and heads of other delegations who deliver the National Statements on behalf of a party or group of parties. In the context of Thailand, 11 National Statements were delivered between COP 15 and 25, including 1 Prime Minister (COP 15), 7 Ministers of Natural Resources and Environment (COP 16, 20 – 25), 1 Vice Minister of Natural Resources and Environment (COP 17), 1 Permanent Secretary to the Ministry of Natural Resources of Environment (COP 18) and 1 Advisor to the Ministry of Natural Resources and Environment (COP 19). National statements are important for identifying discourses in adaptation policies as they reflect the political ambition and national priority for adaptation by states and groups.

7.1.3 National Communications (NCs)

National communications reflect a genre of reports that provide an account of the progress on climate change made by countries (UNFCCC, n.d.-a). The Initial National Communication (INC) follows the UNFCCC guidelines (see decision 10/CP.2), while the Second National Communication (SNC) and subsequent communications, including the Third National Communication (TNC), follow the revised guidelines (see decision 17/CP.8) (UNFCCC, 2009). The core elements include relevant information on national circumstances, GHG inventories, a vulnerability and adaptation assessment, mitigation assessment, financial resources and transfer of technology, and education, training and public awareness (see the annex to decision 17/CP.8). Non-Annex I parties are required to submit their first National Communication within three years of entering the Convention, and every four years thereafter. This ensures that parties "communicate information in a consistent, transparent, comparable and flexible manner to the COP" (UNFCCC, 1992). Thailand has submitted three National Communications to date – 2000, 2011 and 2018.

The key actors in National Communications include stakeholders such as government ministries, private sector, donors, NGOs, research institutions, scientific community, academia and community representatives (UNDP et al., n.d.). For Thailand, its National Communications have been written by OEPP (2000) and ONEP (2011, 2018b) with support from government ministries, international organisations and

research institutions. As an authoritative source on Thailand's progress on climate change, the content of National Communications is relevant to identifying discourses of adaptation policies.

7.1.4 Nationally Determined Contributions (NDCs)

Nationally Determined Contributions reflect a genre of reports that present voluntary post-2020 efforts to reduce national emissions and adapt to the impacts of climate change by countries. To ensure that the long-term goals of the Paris Agreement are met, countries are required to submit Nationally Determined Contributions every five years, with successive reports building on previous progress. Thailand submitted its INDC in 2015, which became its Nationally Determined Contribution. The length and level of detail in the reports vary across countries, but they are "not necessarily an indication of the level of ambition or likelihood of implementation" (Röser et al., 2020, p. 416). Thailand's Nationally Determined Contribution, six pages in length, includes details on mitigation and adaptation. The key actors in Nationally Determined Contributions include government representatives, international and national consultancies, businesses, and civil society organisations (Röser et al., 2020). Thailand's current Nationally Determined Contribution was prepared by ONEP and involved sectoral agencies, academia and the private sector (ONEP, 2015b). Nationally Determined Contributions are important to identifying discourses in adaptation policies as they are "both instruments of assent to international climate ambition as well as declarations of individual party goals, priorities, and capacities" (Stephenson et al., 2019, p. 1243). In addition, many reports indicate other priorities that contribute to broader sustainable development.

7.1.5 Voluntary National Reviews (VNRs)

Voluntary national reviews are a genre of reports that provide voluntary updates on the progress on the SDGs by countries. It is part of the follow-up and review mechanisms under the 2030 Agenda for Sustainable Development. The voluntary national reviews are guided by reporting guidelines (such as the Handbook for Preparation of Voluntary National Reviews) that inform the general sections in the reports. The voluntary national reviews are reviewed annually by the High-Level

Political Forum on Sustainable Development. Thailand has submitted three voluntary national reviews to date – 2017, 2018 and 2019 (CSD, 2017; MFA, 2018, 2019). The reports are concerned about how to advance the SDGs in a way that is most appropriate to the Thai context (CSD, 2017). The key actors in voluntary national reviews include multiple stakeholders in all sectors across 17 SDGs including government, private sector, civil society, academia, and local communities. Thailand's voluntary national reviews are prepared by the National Committee on Sustainable Development (CSD) along with government departments from designated focal points from 17 SDGs. Voluntary national reviews are important for identifying discourses in adaptation policies as they provide a follow-up process that recognises country ownership of the implementation of sustainable development. The approach is expected to be voluntary, transparent and participatory as well as based on robust evidence. The aim is to strengthen accountability to citizens as well as to facilitate the sharing of experience, including successes, challenges and lessons learned.

7.1.6 Summary of Key Documents at the International Level

Overall, the international agreements, National Statements and national reports all share similar features as they are voluntary, country-driven, and are prepared by both developed and developing countries. The review of these texts shows that they fall within different genres, each with their own specified requirements (see Table 7 for summary). For all the texts, the key actors include the Heads of Government or State as well as government ministries. The voluntary national reviews, however, are far-reaching and involve a wide range of actors from broader sectors. All the texts are important to identifying key discourses of adaptation policies at the international level as they inform how Thailand produces and disseminates its adaptation responses. However, the key discourses at the international level are mostly found in National Statements and National Communications. The next section discusses these findings.

Table 7: Documents from Thailand at the International Level

Document Type	Years	Genre	Actors
UNFCCC and other international agreements	1992-2015	Conventions, agreements, protocols etc.	Heads of State or Government
National Statements to UNFCCC	2009-2019	High-level segment speech (Restricted to 2 mins each party or 3 mins each group of parties)	Heads of State or Government, ministers and other heads of delegations
National Communications (NCs) to UNFCCC	2000, 2011, 2018	National reports (Guided by 1996 reporting guidelines and 2002 revised reporting guidelines)	States, ministries
Nationally Determined Contributions (NDCs) to UNFCCC	2015	National reports	States, ministries
Voluntary National Reviews (VNRs) to High-Level Political Forum on Sustainable Development	2017-2019	National reports	States, ministries

7.2 Findings on Key Discourses of Climate Change Adaptation Policy at the International Level

This section identifies and describes four discourses that frame Thailand's approach to climate change adaptation policy as they are articulated in policy statements at the international level. The analysis identifies the components of each discourse in terms of the basic entities whose existence is recognised or constructed, the assumptions about natural relationships, the principal agents and their motives, and the key metaphors and other rhetorical devices. Four discourses are identified at the international level: *climate crisis discourse, global climate governance discourse, climate equity discourse* and *national development discourse*.

7.2.1 Climate Crisis Discourse

The *climate crisis discourse* emerges from several National Statements from Thailand at past COPs. The discourse is most evident in the National Statement delivered at COP 15 (2009) with references made at COP 19 (2013), COP 22 (2016) and COP 25 (2019). For example, in the Thai National Statement at COP 15, the Prime Minister of Thailand urged that "we should realise the great sense of urgency in combating climate change" (Vejjajiva, 2009). References to the climate crisis are most apparent through the use of rhetorical or language devices. The discourse presents climate change as requiring urgent action, particularly for vulnerable countries such as Thailand. To adequately respond to the crisis and to ensure that it can continue with its existing development objectives, adaptation is crucial for Thailand. As further reflected in the Thai National Statement at COP 15, the Prime Minister warned that "climate change could undermine our ability to contribute to food security for the world population" (Vejjajiva, 2009). To understand how the Heads of State or Government, ministers and other heads of delegations have constructed this *climate crisis discourse*, we need to examine the key elements of this discourse. The findings of the analysis are presented in Table 8.

Table 8: Discourse Analysis of Crisis Discourse

1. **Basic entities whose existence is recognized or constructed**
   - States (collectively and individually)
   - Economy
   - Society
2. **Assumptions about natural relationships**
   - Collective action
   - Political alliance
   - Control and authority
   - Incrementalism
3. **Agents and their motives**
   - Government as ambitious, responsible, and capable
   - Developing countries emphasise their lack of capacity and the responsibility of developed countries
   - Scientists and technical experts alleviate the threat of the crisis
4. **Key metaphors and other rhetorical devices**
   - Aristotle's "Modes of persuasion" – logos, pathos, ethos and kairos
   - Climate change as "a crisis"
   - Story of decline and causal stories
   - Synonyms, idioms and phrases to deliver a sense of crisis

Basic entities whose existence is recognized or constructed

States, collectively, are recognised as entities that can fix or make an effective change to address the crisis. They are not only considered as policymakers but as an authority with considerable capacity to address the crisis (Eckersley, 2020). Individually, *developed countries* have "historical responsibility" for the impacts of climate change and are viewed as the *cause* of the crisis, while *developing countries* are mostly constructed as the *victims* of the crisis, although this is implied as indicated in the Thai National Statement at COP 15 (Vejjajiva, 2009). In the National Statements, the Thai state claims that "developing countries are the least contributors to climate change, however, we are the most affected" as found in the Thai National

Statement at COP 22 (Karnjanarat, 2016), and they are "highly vulnerable to climate change" as indicated in the Thai National Statement at COP 19 and 22 (Karnjanarat, 2016; Pookaman, 2013). Specifically, the *economy* and *society* are recognised as entities that are affected and vulnerable to the crisis, while *ecosystems* are given little attention in this discourse except in terms of climate change impacts which is highlighted in the Thai National Statement at COP 17 (Pookaman, 2011).

Assumptions about natural relationships

The crisis is framed as a way of compelling competing and divergent actors to act on a mutual threat through *collective action*. This promotes *political alliances* among developing countries such as G77 and China, and ASEAN as stated in the Thai National Statements at COP 22 and 25 (Karnjanarat, 2016; Silpa-archa, 2019). For example, the National Statement at COP 22 began, "I have the honour to deliver this statement on behalf of the Group of 77 and China" (Karnjanarat, 2016). This reinforces Thailand's political ties to the group. To address the crisis, there is an implicit sense of *control* and *authority* that states possess to enact effective climate change policies and measures. However, the demand for urgent action amidst a high degree of uncertainty has – perhaps counter-intuitively – given rise to the dominance of *incrementalism* through pilot studies and projects (MFA, 2018). As highlighted in the TNC, "ONEP is implementing the NAP draft into regional and provincial pilot areas. The results will be used to improve the NAP draft for practical local base implementation" (ONEP, 2018b, p. 84). Incrementalism has also involved adopting environmental conservation and protection measures while concrete climate change policies are being developed. In more frequent cases, climate change has been subsumed into disaster management as climate change impacts also involve climate variability and extreme weather events as found in the SNC (ONEP, 2011). For instance, the SNC states that "Thailand has introduced climate factors into disaster management and further research and development in this area are urgently needed" (ONEP, 2011, p. 15).

Agents and their motives

The identities of agents shape how they respond to the crisis. The *government* is presented as delivering promising policies to tackle the crisis to show that they are ambitious, responsible and capable as shown in the Thai National Statements at COP 15 and 25 (Silpa-archa, 2019; Vejjajiva, 2009). However, for *developing countries*, the lack of capacity against the crisis means that they need technical and financial assistance from *developed countries*, thereby implicitly imposing *moral responsibility* on the latter. For example, the National Statement at COP 22 highlighted, "Developing countries are the least contributors to climate change, however, we are the most affected" (Karnjanarat, 2016).

Apart from state-level actors, *scientists and technical experts* are crucial to pointing to the threat of climate change and raising the level of concern for governments as shown in all three National Communications (OEPP, 2000; ONEP, 2011, 2018b). Meanwhile, there was little attention on the voices of *citizens*, and instead, there are references in National Statements and reports to "Thai people" or "local Thai communities" as found in the Thai National Statement at COP 17 (Pookaman, 2011).

Key metaphors and other rhetorical devices

There are rhetorical devices that are used to enact this discourse such as logos (logic), pathos (emotion), ethos (ethics) and Kairos (timeliness) which are terms originating in Aristotle's "Modes of persuasion" (Fortenbaugh, 1992). These provide the speaker's appeals to the audience, which in this case is climate change as a "crisis". This rhetorical appeal notes that persuasion is achieved by the speaker's personal character, which results in persuasion through the audience from their emotions and effected through the speech itself (Fortenbaugh, 1992). The authority and credibility of the speaker is evident from the National Statements which were delivered by Heads of States or Government or Ministers.

In addition, narratives have been deployed to enhance the discourse. A *story of decline* (Stone, 2012) presents the dire situation of the world in which there is a climate change crisis in the relative future, where something good has turned for the worse and something must be done. For example, the Thai National Statement at

COP 17 states, “The most visible manifestations of the changing climate are extreme weather fluctuations which have increased in their frequency. Thailand has not been spared of those climate aberrations” (Pookaman, 2011).

Similarly, *causal stories* (Stone, 2012) can also be found where developing countries place *blame* on developed countries for the cause of climate change. For example, the Thai National Statement at COP 15 states, “ASEAN urges the developed countries to take deeper and earlier cuts on their emissions to enhance the implementation of their commitments, as these countries have historical responsibility, economic strength and capabilities especially in terms of technology to do so” (Vejjajiva, 2009).

Moreover, *synonyms, idioms and phrases* have been used to deliver this sense of crisis such as “urgency”, “priority”, “immediate”, “critical”, “vital”, “stress”, “need” and “must”. There were also phrases such as “great sense of urgency”, “the worse”, “before it is too late”, “undermine our ability”, “security for the world population”, “without delay”, “right here, right now”, “we do not have time to waste” along with “neither an option nor luxury we can afford” and “not been spared” which were found in National Statements at COP 15, 16, 17, 18, 22, 24, 25 (Karnjanarat, 2016, 2018; Khunkitti, 2010; Pookaman, 2011; Silpa-archa, 2019; Trachu, 2012; Vejjajiva, 2009). These quotes imply that countries need to quickly act on the crisis.

7.2.2 Global Climate Governance Discourse

Climate change impacts are multi-level, cross-sectoral and transboundary. They affect the diversity of stakeholders and lead to a multitude of global environmental and societal challenges. The Thai government claims that “Climate change is not a problem of any particular country. All of us are fighting the same battle” and this statement represents the global climate governance discourse. It contends that “our individual efforts may not be enough to combat climate change” so countries would need to “join in the global endeavour to save tomorrow today” as stated in the National Statement at COP 15 (Vejjajiva, 2009). For the Thai government, global climate governance has become an important measure that promotes “open”, “transparent” and “inclusive” processes to undertake climate action as found in

National Statements at COP 16, 17, 21-23 (Karnjanarat, 2015, 2016, 2017; Khunkitti, 2010; Pookaman, 2011). This includes a strong focus on international commitments for adaptation, noticeably with numerous references[20] (34 times) to the UNFCCC throughout the national reports, particularly in SNC (OEPP, 2000; ONEP, 2011, 2018b). In addition, the UNFCCC has emphasised the importance of adaptation to climate change through various decisions and agreements, including the Marrakesh Accord, Buenos Aires Programme of Work on Adaptation and Response Measures and the Nairobi Work Programme. Thailand has mentioned a number of these in its national reports (ONEP, 2011). These international commitments are enforced by global or multilateral institutions and power dynamics. To understand how Thailand has constructed this global climate governance discourse, we need to examine the key elements of this discourse. The findings of the analysis are presented in Table 9.

Basic entities whose existence is recognised or constructed

Thailand has constructed entities through the collective term "we" in its National Statements. This ambiguous term has referred to not only Thailand itself but also people, world leaders and countries. For example, in the National Statement at COP 25, it refers to Thailand when it says "we are formulating Thailand's first Climate Change Act, and the Long-term Low Greenhouse Gas Emission Development Strategies" (Silpa-archa, 2019), while in the National Statement at COP 15, it refers to ASEAN countries when it says "ASEAN countries have already taken measures to reduce our emission growth even though we have only a small share of historical responsibility" (Karnjanarat, 2015). The use of the term "we" implies that climate change affects global entities rather than individual entities.

Within these are *global groupings* such as G77 and China, and ASEAN (ONEP, 2018b; Silpa-archa, 2019). What all these global entities have in common is that they demand collective action and governance on climate change. The difference is how they promote collective interests and their negotiating capacity. Apart from state-level

[20] The references include those relating to Vulnerability and adaptation to climate change and its impacts (Article 4) (Articles 4.8 and 4.9) (Article 12); Technology transfer (Article 4.5); Systematic observation network (Article 5); Education, training and public awareness (Article 6) (Article 10 (e) – Kyoto Protocol); and Capacity building (Article 4.8 and 4.9) (Article 9).

entities, there are other important global entities in this discourse. *Global institutions* or *multilateral institutions* (e.g. UNFCCC, GCF, Adaptation Fund and GEF) are recognised by all states and have a key role in supporting adaptation at global and national levels as found in the TNC (ONEP, 2018b).

Table 9: Discourse Analysis of Global Climate Governance Discourse

1. **Basic entities whose existence is recognised or constructed**
   - "We"
   - States
   - Global groupings
   - Global institutions and multilateral institutions
2. **Assumptions about natural relationships**
   - Collective action, cooperation, collaboration
   - Partnership
   - Multilateralism
   - Power and authority
3. **Agents and their motives**
   - States and the aim for collective action on global and national climate change objectives
   - Global institutions with varying interests
   - Scientists and technical experts with their authoritative position on climate change information
4. **Key metaphors and other rhetorical devices**
   - Common goal
   - Good governance

Assumptions about natural relationships

Collective action and *cooperation* are critical to this discourse (Khunkitti, 2010). The call for *cooperation* was emphasised, explicitly or implicitly, at the end of nearly all the National Statements:

- COP 15 – "let us work together to write a new chapter" (Vejjajiva, 2009)

- COP 16 – “Thailand will work in consultation and cooperation” (Khunkitti, 2010)
- COP 18 – “Thailand is committed to work constructively with all parties” (Trachu, 2012)
- COP 19 – “strengthen our common resolve and cooperation” (Pookaman, 2013)
- COP 20 – “utmost efforts to join with global community” (Ratanasuwan, 2014)
- COP 23 “strong partnership at all levels and calls for swift actions by all to fight this common challenge together” (Karnjanarat, 2017)
- COP 24 “constructively work with all partners” (Karnjanarat, 2018)
- COP 25 “work in the spirit of solidarity with all Parties” (Silpa-archa, 2019)

As for the national reports, *cooperation* has been used in the second National Communication (ONEP, 2011) while *collaboration* in the TNC (ONEP, 2018b). Although these two terms have different meanings, they imply collective action amongst parties and international agencies. The National Communications themselves have been in collaboration with national experts and relevant stakeholders (such as UNDP, USAID, UK, EU). A more recent term has been *partnerships* used as a mechanism to deliver effective climate change response (as used in Private-Public-Partnership (PPP) and South-South Cooperation). Partnerships depict a relationship between stakeholders that are beyond collaboration and cooperation. These occur between government agencies, the private sector, NGOs, civil society and local communities as found in the TNC (ONEP, 2018b). Moreover, collective action is established through “multilateral rule-based climate regime” which is the UNFCCC process, and “multilateral supporting mechanisms” and “multilateral processes” as described in the national reports (Karnjanarat, 2016; Silpa-archa, 2019; Vejjajiva, 2009). Part of this also occurs through *bilateralism*, although under this discourse, there is more attention to *multilateralism.* These involve research, technical, capacity building and financial support at regional and national levels (like via DEQP) that are implicitly influenced by the *power and authority* of global entities. For instance, the National Statement at COP 22 states “Direct access of all developing country parties of the convention and Paris Agreement to means of implementation

including finance, technology transfer and capacity building provided by multilateral supporting mechanism should be simplified and granted" (Karnjanarat, 2016). The word "granted" implies that it needs permission from the power or authority of global entities.

Agents and their motives

Individual *states* are key actors in this discourse as they make up the *global community of states*. Their interests lie in accumulating collective action on global and national climate change objectives. These involve *global alliances or groupings* such as G77 and China, and ASEAN that Thailand belongs to that seek to assist one another in their climate action, including adaptation through knowledge exchange and transboundary initiatives (ONEP, 2018b). In addition to these groupings, there are several actors within *global institutions* with varying interests such as *UN entities* (like UNDP) and *financial institutions* (like GEF, GCF and Adaptation Fund) as included in the TNC (ONEP, 2018b). Thailand depends on these institutions to support its adaptation. Meanwhile, *scientists and technical experts* are given authority within this discourse, such as the *IPCC*, an intergovernmental body that provides authoritative scientific information on climate change. Thailand refers to assessments from the IPCC in its National Statements and national reports (Karnjanarat, 2018; ONEP, 2018b).

Key metaphors and other rhetorical devices

This discourse assumes that there is a *common goal or* "common endeavour" or "common challenge" in addressing climate change (Karnjanarat, 2017; Vejjajiva, 2009). It implies that nations work towards the same goal with universal tools (meaning UNFCCC mechanisms). These are further dictated by international negotiations where countries often need to reach consensus through compromises, sacrifices and gains. In addition, a key metaphor in this discourse relates to *good* governance. This is informed by terms such as "open, transparent, inclusive, meaningful, balanced, comprehensive, clear, and strong" as shown in the National Statements:

- COP 16 "open, transparent and inclusive process" (Khunkitti, 2010)

- COP 17 “driven, inclusive and transparent process” (Pookaman, 2011)
- COP 21 “meaningful, balanced and comprehensive global climate change agreement” (Karnjanarat, 2015)
- COP 22 “clear and strong outcome” (Karnjanarat, 2016)

The following echo the above statements:

- COP 16 “comprehensive, fair, ambitious and legally binding outcome” (Khunkitti, 2010)
- COP 22 “transparency, inclusiveness, Party-driven process and balance of all issues and across all work plans” (Karnjanarat, 2016)
- COP 23 “inclusiveness, transparency, solidarity and… a comprehensive and balanced progress and outcome” (Karnjanarat, 2017)

These quotes imply or assume that processes in delivering climate action globally and nationally would be informed by good governance processes which will deliver good outcomes for all.

7.2.3 Climate Equity Discourse

Underlying National Statements and national reports are explicit and implicit references to a climate equity discourse. For example, the INC explicitly stated, “Efforts to balance efficiency and equity considerations must always be endeavoured” (OEPP 2000, 19). However, most references have been expressed implicitly through equity-related principles and mechanisms under the UNFCCC. Principles have included common but differentiated responsibility (CBDR), historical responsibility and respective capabilities or national capabilities and circumstances as described in several National Statements (Karnjanarat, 2016; Khunkitti, 2010; Pookaman, 2011; Ratanasuwan, 2014; Trachu, 2012; Vejjajiva, 2009). As for mechanisms, these have focused on restrictions or barriers to trade and investment on climate change that impede development of developing countries (Vejjajiva, 2009). Thailand urged that “the effort to combat climate change should not hinder their developmental process” and reinforced the “right to sustainable economic growth and development for all Parties” (Vejjajiva, 2009). Similarly, climate equity generally involves implicit equity-related measures such as technology transfer, climate finance and capacity building

where “the effectiveness of how the developing countries could do their part in combating climate change depends inevitably on supports from the developed ones” (Vejjajiva, 2009). Thailand claims that as one of the “highly vulnerable developing countries, it will be necessary to secure adequate means of implementation… for adaptation” (ONEP, 2015b, p. 6). The key elements are presented in Table 10.

Table 10: Discourse Analysis of Climate Equity Discourse

1. **Basic entities whose existence is recognized or constructed**
    - Non-Annex I countries or Global South
    - Annex I countries or Global North
    - Present and future generations
    - Social and ecological systems
2. **Assumptions about natural relationships**
    - Common-but-differentiated responsibility, historical responsibility and respective capabilities
    - Trade and investment barriers or restrictions
    - Technical and financial mechanisms
    - Authority and hierarchy
3. **Agents and their motives**
    - Developing countries encourage sustainable growth for all countries
    - Developed countries to shoulder the burden of historical responsibility
    - Citizens are concerned with equitable support for “quality of life”
4. **Key metaphors and other rhetorical devices**
    - Causal stories (blame and responsibility)
    - Equity and equality
    - Human development

Basic entities whose existence is recognized or constructed

Developing countries are constructed as Non-Annex I countries (ONEP, 2018b). They are considered the most vulnerable and disadvantaged to the impacts of climate change despite having contributed the least to the cause. Meanwhile, developed countries, who contributed the most to climate change are categorised as the Annex I

countries (ONEP, 2018b). For example, the different categorisation determines the differences in how Thailand approaches its compliance as highlighted in the TNC, “A relevant step forward is the Third National Communication of the Kingdom of Thailand, which laid out compliance and guidelines for the preparation of National Communication for Parties, which are not included in Annex I to the Convention and is composed of six chapters” (ONEP, 2018b). Annex I countries are viewed as *elites* as they have more power, skills and resources for adaptation, despite (or perhaps, because of) their historical responsibility for causing climate change.

Through another categorisation, developing countries are increasingly being discussed as the Global South, and developed countries as the Global North in national reports, although implicitly. The use of the terms Global South and Global North is a socio-economic and political division of countries that is an “established way of thinking about global difference since the end of the Cold War” (Müller, 2020, p. 734). Thailand highlights its use of South-South Cooperation in the TNC, “Thailand places high importance on the role of South-South Cooperation to achieve climate change goals and sustainable development goals” (ONEP, 2018b, p. 114). Rosales (2008) highlights that an “equity-based framework promises to be more inclusive and therefore more effective because it accounts for the disparate developmental conditions of the global north and south” (p. 1409). The TNC also described, “The role of South-South Cooperation is to step up and extend the development cooperation from neighboring countries to countries in other regions, such as South Asia and the Pacific Islands” (ONEP, 2018b, p. 114). The narrower focus on South-South Cooperation reinforces the distinctive circumstances and needs of countries within the area.

Meanwhile, *present generations* are recognised as those crucially needed to having a quality of life and adaptive capacity (ONEP, 2018b). There is an explicit focus on *future generations* which are recognised as those who will have to adapt to the future impacts of climate change (Vejjajiva, 2009). Adaptation then must meet the needs of both present and future generations. Social and ecological systems are implicitly recognised by the state but mostly as an entity in the future (Silpa-archa, 2019;

Vejjajiva, 2009). They have an important role in providing useful adaptation and have been discussed in terms of their contributions for human benefit.

Assumptions about natural relationships

Climate equity principles are highlighted in National Statements and national reports. They include *common but differentiated responsibility (CBDR)*, *historical responsibility* and *respective* capabilities (Karnjanarat, 2016; Khunkitti, 2010; Pookaman, 2011; Ratanasuwan, 2014; Vejjajiva, 2009) as well as *national capabilities* and *circumstances* (Trachu, 2012). In addition, there are climate equity mechanisms. These include *trade and investment barriers or restrictions* that will have negative implications for "the level of development, trade and investment programmes, as well as poverty alleviation" (Vejjajiva, 2009). *Technical and financial mechanisms* such as financial resources, transfer of technology and capacity building are reinforced in this discourse. This generally assumes direct support from Annex I countries to non-Annex I countries. For example, the National Statement at COP 22 describes "Technology mechanism needs to be enhanced to support the rapid transfer of technologies from developed countries to developing countries, helping them to innovate and develop their own technologies". Additionally, the National Statement also points out: "In order to increase adaptive capacity and resilience, we require the implementation of guarantees of the Paris Agreement in terms of the means of implementation" (Karnjanarat, 2016). These statements highlight the implicit interplay of *authority and hierarchy* of the UNFCCC structure and process in enforcing predetermined parameters and obligations for countries in their climate action.

Agents and their motives

Developing countries are dominant in this discourse. They recognise that the effort to combat climate change should provide the "right to sustainable economic growth and development for all Parties" (Pookaman, 2011) but especially for developing countries (Vejjajiva, 2009). Thailand claims that "Developing countries are reluctant to announce ambitious targets" when there is a lack of equitable measures in place (Vejjajiva, 2009). The focus from this perspective shows that *developed countries* have to shoulder the burden based on historical responsibility such as to emission

cuts, financial and technical support. *Interest groups and NGOs* are paid little attention in this discourse. Meanwhile, there is an implicit focus on *citizens* and climate change measures. *Citizens* are concerned with receiving support that is equitable to ensure their "quality of life" but they are often considered through this discourse as human "resources", "development", "survival" and "lives" (ONEP, 2011). This conceptualisation of people in this discourse is that people are quantifiable as "resources" or for "development" or as part of statistics such as "lives".

Key metaphors and other rhetorical devices

Causal stories relating to *blame* and *responsibility* reflect the climate equity principles: CBDR, historical responsibility and respective capabilities (Karnjanarat, 2016; Vejjajiva, 2009). They suggest that there are victims deserving support and perpetrators to be blamed for the causes of climate change. It also implies that compensation must be given to the victims. In this case, these include financial resources, transfer of technology, and capacity building (Vejjajiva, 2009). These sentiments are clearly described in National Statements such as COP 22:

> Developing countries are the least contributors to climate change, however, we are the most affected. In order to increase adaptive capacity and resilience, we require the implementation of guarantees of the Paris Agreement in terms of the means of implementation (Karnjanarat, 2016).

The terms *equity* (OEPP, 2000; ONEP, 2011) and *equality* (ONEP, 2018b) have been discussed in the National Statements and national reports. Both terms are synonyms that reflect poverty and inequality in Thailand, particularly from the urban-rural divide. For example, the TNC observes that "Inequality in urban areas is higher than in rural areas" (ONEP, 2018b, p. 19). The discourse recognises that climate change can exacerbate these existing inequalities. Other related terms such as *justice, moral responsibility, environmental ethics* and *distributive equity* which are normally found within climate change adaptation literature (Klinsky & Dowlatabadi, 2009) were not deeply discussed.

Human development is an implicit metaphor in this discourse and serves as a key approach to sustainable development in Thailand. It assumes that the Thai people

have potential capabilities to help tackle climate change, but they lack the knowledge, resources and capital to achieve them (OEPP, 2000; ONEP, 2011, 2018b).

7.2.4 National Development Discourse

Climate change adaptation can be understood as a development approach. The approach is discussed within national reports explicitly as “development”, “sustainable development”, “green growth” and “low-carbon economy” and implicitly as “climate resilience” (ONEP, 2018b). In terms of adaptation, this has mostly been discussed in terms of “development” and “sustainable development” and “climate resilience” (ONEP, 2018b). Climate change is considered as a cross-sector or cross-divisional issue, meaning that it will have effects on development across sectors and at different levels in Thailand (ONEP 2018, v-vi). The critical case is when climate change undermines Thailand’s ability to continue its development efforts, particularly through economic growth and human development (ONEP, 2011, 2018b). The impacts of climate change will also lead to the lower adaptive capacity for Thailand as the country still lacks progress in science, technology, research and innovation and international cooperation (ONEP, 2011, 2018b). In addition, the potential effects of climate change measures that produce trade barriers will affect Thailand’s development progress (Vejjajiva, 2009). The key elements of this discourse are presented in Table 11.

Basic entities whose existence is recognized or constructed

National governments are recognized for their role in supporting their national development planning through country-specific and country-driven climate change adaptation (Karnjanarat, 2016). This planning is supported by *socio-economic systems* which are recognized as important factors in climate change adaptation planning (OEPP, 2000; ONEP, 2011, 2018b). National communications such as the SNC describes that “Socio-economic scenarios for vulnerability analysis in all sectors” need to be addressed (ONEP, 2011, p. 66). Socio-economic systems provide crucial non-scientific assessments on the impacts of climate change. The SNC further highlights, “Development of techniques for preparing socio-economic scenarios that

are consistent with climate change for use in the vulnerability analysis" are needed (ONEP, 2011, p. 99).

Citizens are reduced to *human resources and capital* deemed necessary for national development (ONEP, 2011). Thailand sees the potential for society to develop its capacity to achieve adaptation. This presents human society as dominant over nature. Thus, *nature and ecosystems* are given little attention in this discourse except as the means to tackle anthropogenic climate change.

Table 11: Discourse Analysis of National Development Discourse

1. **Basic entities whose existence is recognized or constructed**
    - National governments
    - Socio-economic systems
    - Human resources and capital
2. **Assumptions about natural relationships**
    - Mainstreaming
    - Cross-sector and co-benefits relationships
    - Partnerships
3. **Agents and their motives**
    - National governments frame climate action to support national development objectives
    - Sectors (government, public and private) and integrating climate change and national development objectives to their specific area
    - Provincial and local governments and integrate climate change measures into their development planning
4. **Key metaphors and other rhetorical devices**
    - Eradicating poverty
    - Right to development
    - National ownership
    - Green growth, low-carbon economy and climate resilience

Assumptions about natural relationships

National reports and National Statements show that climate change adaptation has been integrated into several national development plans (ONEP, 2018b; Silpa-archa, 2019) and *mainstreamed* into sector-specific plans and policies (Karnjanarat, 2018). This occurs by identifying *cross-sector and co-benefits* relationships in key sectors such as water resources, agriculture, health, tourism, human settlement, and environmental and natural resources. The 2017 VNR further indicates that mainstreaming will be in line with the sufficiency economy and SDGs (CSD, 2017). This mainstreaming allows "improved coordination among key ministries involved in sectoral climate change planning and between central and local government agencies, as well as, the engagement of non-state actors" (ONEP, 2018b, pp. v-vi). It encourages climate action in sectors that do not normally work on climate change and promotes *partnerships* amongst different stakeholders (ONEP, 2018b).

Agents and their motives

National governments are key actors in this discourse as they frame climate action to support national development objectives such as economic growth and human development (ONEP, 2011, 2018b). *Government sectors, the public sector and the private sector* are affected by both climate change and national development objectives. They are concerned with integrating both objectives in their planning that are specific to their area. Similarly, *provincial and local government* also have a keen interest in national development objectives as they are encouraged to integrate climate change measures into their development planning. As well put in the TNC, "Climate actions are increasingly recognized as part of sustainable development. Mitigation and adaptation activities, with a wide range of stakeholder engagements, are being integrated into national development strategies" (ONEP, 2018b, p. 115). However, the progress on this is still slow, particularly in Thailand as "some important gaps and barriers remain, especially weak cooperation among related ministries and a lack of reporting and monitoring systems" (ONEP, 2018b, p. 127).

National development serves the needs of *local communities;* however, they are implicit actors in this discourse. Climate change adaptation needs to support broader

community development interests and initiatives, but these are dictated by national actors described earlier.

Key metaphors and other rhetorical devices

Metaphors are mostly found in this discourse – an area of focus or concept is used to describe a number of different terms. The development of human society has been described explicitly as "human development" and implicitly as "human survival", "human resources" and "human capital" (ONEP, 2011, 2018b). These terms reflect how people are not recognised as simply people within society, but as human beings that could exist or be used for a number of ways. One example is people as entities that are able to develop or survive from the impacts of climate change. Another example is as resources and capital to deal with impacts of climate change in order to achieve national development.

National ownership of the adaptation process is promoted as allowing climate change to be "country-driven", "country-specific" or "party-driven" and within national capacities (Karnjanarat, 2016). It also supports the *right to development* as implicitly promoted in National Statements, which provides "inalienable human right… [to]… economic, social, cultural and political development" (Article 1.1) (OHCHR, 1989). Such entitlement pushes development into the foreground of climate change adaptation. Meanwhile, there are terms such as *green growth*, *low-carbon economy* and *climate resilience* that point to particular notions of national development. However, the path to development is slightly different as they each reflect varying development pathways or drivers such as economic growth (green growth), mitigation (low-carbon economy) and climate resilience (adaptation) (Pookaman, 2011; Vejjajiva, 2009). These terms, however, are all relevant to adaptation.

7.2.5 Summary of Findings at the International Level

The analysis of documents indicates the discourses "available" to Thai political actors in the international context. Discourses are shaped by the social practices which it occurs, and the discourses themselves shape the social practices. These social practices include the ideologies that inform the discourses as well as the genres that discourses are perpetuated. Some discourses are more prevalent in certain texts

than others. The *climate crisis* and *climate equity discourses* are evident mostly in National Statements and less in national reports, while *global climate governance* and *national development discourses* are discussed more evenly in both the National Statements and national reports. The genre of the texts explains these differences. Discourses within National Statements are produced on the political stage at international forums. The nature of these texts allows for discourses that demand attention or compel action. Meanwhile, discourses within national reports reflect national efforts on climate action so it does not necessarily insist on action.

The review of the key discourses at the international level shows that there are similarities and differences across the discourses. Discourses share similar entities and key actors but are different in how they are framed. All discourses focus on developed and developing countries within the international context. Hence, the power struggles are concentrated between these entities. However, the discourses reflect the ideologies and identities of developing countries, of which Thailand is a member. Meanwhile, there is a greater focus on future generations in the *climate equity discourse* than in the *climate crisis discourse*. The greater focus on future generations in the *climate equity discourse* indicates the deeper links with ethics and morality in that discourse. The natural relationship most prevalent in the *climate crisis* and the *global climate governance discourses* was collective action by the global community of states. However, such a relationship is reflected most in *global climate governance*. This is perhaps a given as such discourse demands global structures and mechanisms to support climate action. These observations in turn have implications for adaptation policy.

The review shows that some discourses are more dominant than others. The *national development discourse* strongly reflects the drive towards development. The idea of development is supported by other discourses which focus on progress in developing countries. National development is a priority in many countries, indicating that the drive towards development is not unique to Thailand. These ideas at the international level can shape the discourses of individual countries like Thailand. They do so by dissemination through the media (newspaper, radio, television, posters, promotional materials), campaigns, educational programmes or awareness building. Most of the

key discourses are to encourage climate action across all countries. However, some are rhetorical gestures, indicating that they are less effective in providing a practical implementation. These findings are important to national adaptation policy which has several implications for sustainable development in Thailand.

7.3 Discussion on Key Discourses of Climate Change Adaptation Policy at the International Level and their Implications for Sustainable Development

The findings from the analysis indicate that there are four key discourses of adaptation policies at the international level with distinctive entities: natural relationships, key actors and rhetorical devices. However, what do these discourses mean for adaptation policy in Thailand and what are their implications for sustainable development? From these discourses, four themes emerged: a) Thailand's position and commitments in the UNFCCC shape its national approach to adaptation, b) Climate equity is a central issue for adaptation in developing countries, c) National Statements and national reports by Thai officials do not necessarily mandate meaningful adaptation policy, and d) Adaptation is a key element of national development planning. Discourses from international forums inform national adaptation policymaking, and the next section turns to a discussion of the findings along with their implications for sustainable development.

7.3.1 Thailand's Position and Commitments in the UNFCCC Shape its National Approach to Adaptation

Thailand is influenced by collective identities and social relationships within the UNFCCC such as its membership in the G77+China and ASEAN. The *global climate governance discourse* shows that as members of these global groupings, the position of the group on adaptation shapes Thailand's position on adaptation. For example, in a National Statement at COP15, the Prime Minister of Thailand explicitly supported the view of G77+China and ASEAN on the importance of developed countries assisting developing countries with necessary funding and technology transfer (Vejjajiva, 2009). The *climate equity discourse* highlights that Thai officials claim in the national reports that financial assistance and technology transfer is necessary for the

country to adapt (OEPP, 2000; ONEP, 2011, 2018b). This demonstrates that Thailand's position in the UNFCCC, as a non-Annex I country, shapes its national approach to adaptation.

Thailand's commitments to the UNFCCC shows that international mechanisms are being translated into national adaptation policies and structures. First, the *global climate governance discourse* highlights that the reporting requirements under the UNFCCC shape Thailand's priorities on climate action. In general, the sections included in the national reports are defined by the UNFCCC's reporting guidelines which means that countries will likely prioritise those focus areas. Second, the institutional frameworks in the UNFCCC influence Thailand's institutional structures. For example, Thailand's Third National Communication states: "To fulfil Thailand's commitments under the Convention, a set of institutional frameworks have been established, including the National Committee on Climate Change Policy (NCCC)" (ONEP, 2018b, p. 1). These findings are similar to Hermwille et al. (2017) who found that the UNFCCC structure allows domination, legitimisation and signification of shared norms and meanings within climate change policy at the national level. This signals that countries' adaptation policies and structures are implicitly or explicitly influenced by international entities, which may have consequences for national ownership. For example, Thailand may lack national ownership of its climate change adaptation policies because of specific framings, obligations or power dynamics that are shaped by international entities. National ownership is an important part of sustainable development as it ensures that countries are willing to commit to climate action and are accountable to their actions. Without national ownership of climate change adaptation policies, Thailand may not be proactive, fully committed or accountable to adaptation in the country.

The authority of knowledge through mechanisms within the UNFCCC influence Thailand's approach to adaptation. Thailand has cited the IPCC reports, an authoritative scientific source on climate change, in its National Statements and reports. The authority of the IPCC reports about climate change and their impacts as they relate to Thailand may be legitimately questioned since the IPCC process is inherently political (Hulme et al., 2010). "Both disciplinary distribution and

geographical distribution of the impact of the reports are skewed, the former towards geophysical sciences, the latter towards western/developed countries" (Vasileiadou et al., 2011, p. 1052). Not all sources of knowledge are included in the IPCC reports, so there may be inadequate research or knowledge from the Thai context. This means that the IPCC may influence Thailand's climate action that is informed by insights that are irrelevant to Thailand's national and local contexts. This potential lack of relevance further highlights that global adaptation assessments may not have much relevance to country-specific issues and local communities (Uppanunchai et al., 2018). For Thailand to achieve adaptation, it needs to integrate knowledge at all levels. This means co-producing climate change knowledge with governments, international agencies and local communities which are important to sustainable development. Local wisdom and knowledge are also important to the sufficiency economy. Without addressing local appropriateness, or individual and local decision-making, Thailand may fail to adequately or appropriately support sustainable development and sufficiency economy.

7.3.2 Climate Equity is a Central Issue for Adaptation in Developing Countries Within the UNFCCC

The findings make explicit the North-South divide with an emphasis on historical responsibility and common-but-differentiated responsibility for climate change (Hurrell & Sengupta, 2012). They highlight an attempt by developing countries to introduce mechanisms that address perceived inequities (Friman & Linnér, 2008). The findings are in line with Klinsky and Winkler (2014) who point out that equity is deeply rooted in the North-South divide[21] attempts to redress have been through technology transfer, financial resources and capacity building. These measures support knowledge exchange, training and capacity building under sustainable development (ONEP, 2015b). It recognises the differing capabilities and needs of countries for adaptation, which has potential benefits to national ownership under sustainable development. However, a potential complication is that such principles on equity present a pre-requisite entitlement for developing countries. The Thai state

[21] North-South divide broadly refers to the socio-economic and political divide.

implies that it can only fulfil its obligations under the Convention if equity principles are recognised. Thailand's NDC states that "the level of the contribution could increase up to 25 percent, subject to adequate and enhanced access to technology development and transfer, financial resources and capacity-building support" (ONEP, 2015b, p. 1). However, for countries such as Thailand that depend on international assistance, there is a risk that they become reliant on such assistance and unable or unwilling to increase efforts on climate action themselves. This in turn can limit the progress for developing countries to achieving sustainable development.

The notion of equity makes the *climate equity discourse* inherently concerned with human rights and dignity, and this includes the rights and dignity of communities that are typically excluded through systemic racial and gender inequalities. However, there is little focus on systemic inequalities within Thailand within this discourse, and this has potential to weaken resulting sustainable development initiatives. For example, if there is little recognition of the systemic inequities experienced by indigenous communities, and of their local environmental knowledge and its potential to contribute to effective climate adaptation, climate adaptation initiatives are likely to be less effective. However, these have not been fully captured in National Statements and reports. There has been little focus on systemic inequities such as racial and gender inequality, the use of local wisdom and knowledge from indigenous communities, or specific measures to protect the environment for future generations. Without identifying how these systemic inequities relate to climate action, the discourse may not be able to effectively support sustainable development.

There has also been inadequate recognition of nature and ecosystems despite such entities being crucially important to the sustainability of the planet and life itself, and a strong part of spiritual and religious beliefs and values (Curry, 2011; Jax et al., 2013). The spiritual and religious dimensions such as ethical and moral values are inherently tied to the sufficiency economy within Thai society (Oxford Business Group, 2016), yet they are not adequately captured in this discourse. It can be interpreted that in attempting to keep National Statements and national reports objective and scientific, it has dismissed important spiritual and religious aspects of the Thai culture which influence this discourse.

The *climate equity discourse* fails to call for a stronger case for "justice". In the climate change literature, discussions have involved procedural and distributive justice, inter-and intra-generational justice and social justice (Forsyth, 2014). These have explored equity under the scope of justice and, in some cases, both terms have been used synonymously (Thomas & Twyman, 2005). This seems to indicate that justice and equity have been deliberated in the literature as well as international climate change agreements such as the Paris Agreement, but only equity has been explicitly discussed by the Thai government within international forums. It seems that "equity" tends to be used by states within the UNFCCC while "justice" often is used by non-state actors. This is in line with Cameron et al. (2013) who observed that the debate over equity principles within the UNFCCC has "failed so far to enable the level of cooperative commitment" (p. 2). The authors argue "in favour of climate justice as a powerful narrative to mobilize domestic constituencies of demand in support of an equitable and ambitious global agreement" (p. 3). This argument shows that non-state actors, through social and climate justice movements, are elevating climate change to the top of the political agenda while states remain hesitant to push for more behind the less effective approach of equity. Klinsky et al. (2017) notes an address by Keohane (2016) that "while equity is important generally, it's a potential distraction from addressing climate change, and could undermine collective action in the face of this urgent public good crises" (p. 1). While Klinsky et al. (2017) refute the argument by Keohane (2016), the authors states, "Justice, and its flipside injustice, are central to the intersection of climate change and human wellbeing, and to political systems at all levels" (p. 3). In Thailand, the absence of "justice" within international forums could be explained by the claim that in the Thai culture, there is a perception that dissent causes moral stalemate and that in Buddhism, happiness is often sought over justice. The concept of "middle way" in the sufficiency economy encourages actors to reach a mutual agreement on climate change rather than being divided (Pisuttisarun, 2020).

7.3.3 National Statements and Reports by Thailand Within the UNFCCC Do Not Necessarily Translate into Mandated Adaptation Policy

The *climate crisis discourse* showed that the Thai state has constructed climate change as a "crisis" to reinforce the demands of developing countries for greater urgency on climate action. While this definition helps create political motivation amongst states globally, the rhetoric of crisis in the discourse shows that it is symbolic, leading to business-as-usual, short-term adaptation initiatives in Thailand. The evidence of the symbolic nature of this discourse lies in the nature of actual climate change policies that Thailand has adopted – incremental, short-term oriented planning, which fails to recognise climate adaptation as requiring urgent attention.

Thailand's climate change policy is focused on mitigation where it aims to "reduce its greenhouse gas emissions by 20 per cent from the projected business-as-usual (BAU) level by 2030" (ONEP, 2015b, p. 1). As reflected in the National Statements, Thailand needs to comply on mitigation. This finding reinforces the view of Peters et al. (2017) who observe that even with scientific evidence about the likely impacts of climate change, policymakers tend to address crises incrementally. The discourse also suggests that once the "crisis" is tackled, efforts on adaptation may slow down which is detrimental to long-term adaptation. This has implications for sustainable development as previous research has found that "quick fixes fail to do the trick" to pressing policy problems (Ansell et al., 2017, p. 480).

The Thai state has already adopted an incremental approach to adaptation through the integration of national adaptation with disaster risk reduction. Thailand's voluntary national reviews indicate this is also being applied at the provincial and municipal levels (CSD, 2017). The integration allows cross-sector policymaking which supports participation and transparency that aligns with sustainable development. However, such integration is in danger of defining adaptation within a disaster management scope and within a short timescale. This may reduce accountability for the Thai government to acting on climate change adaptation.

7.3.4 Adaptation is a Key Element of National Development Planning

The *national development discourse* recognises the links between climate adaptation and national development in developing countries. The links build on existing research that suggests climate change will impede existing and new development efforts, with adaptation as a crucial component of development (Tanner & Allouche, 2011). The discourse also recognises the links between climate change and sustainable development (ONEP 2018, v). These are discussed in National Statements with dedicated sections in the national reports, including the voluntary national reviews (CSD, 2017; MFA, 2018, 2019). There are several national plans where climate change is being mainstreamed into sectoral and sub-national planning such as in health and agricultural sectors (ONEP 2018, 101). These plans consider the long-term consequences of current and future climate-related risks to sustainable development, which builds on existing evidence and research on mainstreaming adaptation in development planning in Thailand (Lebel, Li, et al., 2012; Uppanunchai et al., 2018).

The integration of climate measures into national development planning demands national ownership and the "right to development" which crucially support sustainable development. However, they need to be the right *kind* of development that supports sustainable development. These measures recognise that states have the right to pursue climate action alongside their national development objectives within their national interests and respective capacities. National adaptive capacity is determined by social, political, economic, technological and institutional factors that differ from the country to individual level (Vincent, 2007). This indicates that international climate agreements must respect states' decisions but also suggests that states should take responsibility for their climate change measures. However, the legitimacy provided to states does not necessarily equate to effective climate action at the national level. Despite ambitious international commitments to climate change, domestic climate action in many countries is yet to achieve their targets. As evidenced in Thailand, national adaptation policy is in its early stages as it has been stalled by political and institutional challenges.

Climate change adaptation contributes to human development. Thailand has embraced a human development or "people-centred approach" in its national development planning. This approach resulted in the shift in national development in Thailand which began to recognise "people as mechanisms for growth" (ONEP, 2011, p. 26) and "people as the core of development" (ONEP, 2011, p. 27). Thailand adopted the sufficiency economy philosophy to guide this trajectory, which has been emphasised in National Statements and national reports. This is an attempt for "balanced development among the human, social, economic and environmental aspects" (ONEP, 2011, p. 38), which is in line with the three pillars of sustainable development. The balance amongst the pillars also corresponds to Thailand's sustainable development and the sufficiency economy approaches (Bunnag, 2013). In this sense, the *national development discourse* supports human rights through a stronger international commitment to adaptation (Gasper et al., 2013). The discourse has the potential to support vulnerable and poor groups as part of sustainable development (Leichenko & Silva, 2014). However, it prioritises human systems over natural systems, particularly through socio-economic contexts, which could lead to a lower priority for the environment (OEPP, 2000; ONEP, 2011). This prioritisation in turn can produce imbalance among the three pillars of sustainable development. These observations challenge the discrepancy between what is ideal and the actual reality.

7.3.5 Summary of Key Discourses at the International Level and their Implications for Sustainable Development

All four discourses have implications for sustainable development in multiple ways. Discourses projected by Thailand at the international level shape or reflect national circumstances, so climate change requires action at all levels. For national adaptation policy, this means that adaptation needs to be integrated across sectors and scales. In addition, all discourses highlight the need for financial resources, technology transfer and capacity building to assist in national adaptation, requiring collective action at global and national levels. At the same time, all discourses underpin the significance of the environment and sustainability, reflecting an ideological acceptance of a capitalistic economic system and little desire for fundamental

systemic change. This shows that national efforts and resources alone are not able to tackle this problem. However, the discourses highlight that reports by Thailand at the international level do not fully reflect its national reality.

Nevertheless, the discussion shows that national adaptation policy can assist in national development planning, which can support elements of sustainable development at global and national levels. The reports indicate that SDGs can be advanced to most appropriately suit the Thai context (CSD, 2017). However, the review shows that there is a greater focus on the Western concept of sustainable development than of the Thai concept of sufficiency economy at the international level. These elements will be further explored in the next chapter.

7.4 Chapter Summary

The negotiations on climate change and related agreements on the world stage has provided a discursive location for leaders to frame the issue of climate change adaptation. The review of international agreements, National Statements and national reports on climate change has shown that adaptation policy, plans and measures are influenced and shaped by several discourses. The analysis shows that there are several discourses that Thailand is projecting through international forums. This is partly shaped by international agreements on adaptation and reporting requirements. The analysis identified four key discourses: *climate crisis, global climate governance, climate equity*, and *national development*. National statements involve discourses that use "modes of persuasion" which adhere to the speaker's personal character and the audience's emotion. National reports tend to build on National Statements but capture national priorities and their links to international agreements and obligations. The discourses generally reflect broader climate change discourses with less specific focus on adaptation. Thus, the implications for sustainable development are broad, capturing contested principles and means of implementation as well as the responsibilities for developing countries such as Thailand. The implications for sustainable development are further shaped by the genre of the texts such as reports, statements, and policies and plans. The characteristics of the genre frame the discourses in specific ways, by enabling or limiting the discourses' potential to

achieve sustainable development. The next chapter explores these themes further through the analysis of key discourses of climate change adaptation at the national level.

Chapter 8: Climate Change Adaptation Policy at the National Level: An Analysis of Key Discourses

The national policy response on climate change came out of a recognition of the urgent need to address extreme weather events and UNFCCC obligations. This chapter begins by describing the key documents that will be analysed in this chapter: climate change, environmental and national development plans and strategies. It provides a brief description, the genre, the key actors involved and the importance of identifying the key discourses. As in the previous chapter, the key discourses from these documents are assessed based on CDA framework developed by focusing on the basic entities, assumptions about natural relationships, agents and motives, and key metaphors and other language devices. This chapter focuses on discourses at the national level and considers their linkages to international and local levels.

8.1 Key National Climate Change, Environmental and National Development Strategies and Plans

The development of the National Strategy on Climate Change (2008-2012) saw, for the first time, a strategic plan for the state and its departments. This was potentially a response to pressure from recent climatic events and their impacts on economic growth and sustainable development. More likely though, it was a result of membership in the UNFCCC and the commitments it had signed up to in the international climate change agreements referred to in the previous chapter (ONEP, 2016). The National Strategy on Climate Change plan informed the Climate Change Master Plan (2015-2050), and this current plan is positioned as a long-term framework for climate change policy in Thailand. The plan includes objectives for key sectors such as agriculture, water management and health. Other national plans also inform the Climate Change Master Plan including the 12th Economic and Social Development Plan (2017-2021), the 20-Year Strategic Plan (2017-2036) and the Constitution of the Kingdom of Thailand 2017. While these plans may not be directly linked to climate change, they recognise climate change as an issue and include climate-related objectives. In addition, other national environmental policies and plans,

including the Environmental Quality Management Plan (2012-2016), have been relevant to climate change policy in Thailand.

The following section begins by outlining the key climate change, environmental and national development plans that are relevant to Thailand's priorities and response on adaptation. It provides a brief description of each document, the genre, key actors and the importance of the document as a way of identifying Thai climate change adaptation discourses.

8.1.1 Climate Change Plans

Six key climate change plans in Thailand support adaptation. Three are national climate change plans: National Climate Change Strategic Plan 2008-2012, Climate Change Master Plan 2015-2050 (CCMP), and National Adaptation Plan 2018-2037 (NAP). Two are sectoral climate change plans: Climate Change Strategic Plan for the Agriculture Sector 2017-2021 (ASPCC) and NAP-Ag, and National Adaptation Plan on Climate Change and Health 2018-2030 (H-NAP). One is a city climate change plan: The Bangkok Master Plan on Climate Change 2013-2023 (BMP). These plans detail goals, objectives and measures for adaptation.

Climate change plans reflect a genre of policy text that is designed to provide the government with a clear direction on priorities and actions on climate change. Key actors in climate change plans primarily include government ministries and departments (like ONEP), sectors (such as agriculture, water resources, health etc), and territorial authorities (like Bangkok Metropolitan Administration). They also include international agencies that support adaptation (such as the Japan International Cooperation Agency [JICA]) through bilateral and multilateral partnerships. Climate change plans are important to identifying key discourses in adaptation policy as embedded with their short- to long-term timeframe for adaptation, classified by timescale and acceptability level of impact, are insights into the priorities, values and assumptions of the government. The plans also include concrete action plans on adaptation and recognise cross-cutting issues such as information, research and technology – these support the work on adaptation [ONEP4].

8.1.2 Environmental Plans

Climate change adaptation relates to other key national environmental plans as they both concern natural impacts on human systems. There are five key national environmental plans that concern adaptation: National Environmental Quality Promotion and Conservation Policy and Plan (NEQPCPP) 2017-2036, National Environmental Quality Management Plan (NEQMP) 2017-2021, Master Plan for Integrated Biodiversity Management 2015-2021, Natural Resources and Environmental Management Strategy 2017-2021 and The Strategic Plan on Thailand's Water Resources Management 2015-2026. Some plans have few references to adaptation, while others have more.

Environmental plans reflect a genre of policy text that provides the government with a clear direction on priorities and actions on natural resources and environment. Key actors include government ministries and departments (such as ONEP), sectors (like forestry and biodiversity) and territorial authorities (like local government) that are involved in natural resources and environmental management. National environmental plans highlight the importance of complementary natural systems that contribute to adaptation in identifying key discourses of adaptation policy.

8.1.3 National Development Plans

Some key national development plans concern adaptation: 20-Year National Strategy 2018-2037, National Reform Plan 2018-2030 and National Economic and Social Development Plan 2017-2021 (Twelfth Plan). There is also the 2017 Constitution and national economic model, Thailand 4.0 (early 2018) which may also affect adaptation. These plans have a similar overall goal but varying directions on national adaptation. They also have different authority over implementation.

The national development plans reflect a genre of long-term documents for development planning. The plans range from 5 years (e.g., NESDB plans) to 20 years (20-Year National Strategy). Some plans are reviewed every 5 years (such as the National Reform Plan). Selected plans are legally-binding (such as the 2017 Constitution). The key actors in national development plans include the government ministries and departments (like the NESDC). The national development plans are

important for identifying adaptation discourses because they are documents that have significant authority over other plans. The plans provide the long-term strategy and vision for the country's development having a spillover effect in other sectors such as climate change. They are also are key documents that inform Thailand's position within international agreements on climate change.

8.1.4 Summary of Key Documents at the National Level

Overall, climate change, environmental and national development texts share a common vision for Thailand to be resilient and adaptive to the impacts of climate change to achieve sustainable development (see Table 12 for summary). Distinct to these texts is that they all must conform with the 20-Year National Strategy 2018-2037 (NESDB, 2019). The review of the texts shows that the genre of texts across key documents at the national level are generally rolling plans (for example, five-year rolling plans). The key actors are also similar in all the texts, except for climate change plans that involve international agencies. All the texts are important to identifying key discourses of adaptation policies at the national level as they inform how Thailand produces and disseminates its adaptation responses. However, the analysis of key discourses at the national level is mostly found in climate change plans with few references in environmental and national development plans. The next section discusses these findings.

Table 12: Documents from Thailand at the National Level

Document type	Years	Genre	Actors
Climate change plans National Climate Change Strategic Plan 2008-2012 Climate Change Master Plan 2015-2050 (CCMP) National Adaptation Plan 2018-2037 (NAP) Climate Change Strategy for the Agriculture Sector 2017-2021 (ASPCC) and NAP-Ag National Adaptation Plan on Climate Change and Health 2018-2030 (H-NAP) The Bangkok Master Plan on Climate Change 2013-2023 (BMP)	2008-2050	Plan	Government, ministry, international agencies
Environmental plans National Environmental Quality Promotion and Conservation Policy and Plan (NEQPCPP) 2017-2036 National Environmental Quality Management Plan (NEQMP) 2017-2021 Master Plan for Integrated Biodiversity Management 2015-2021 Natural Resources and Environmental Management Strategy 2017-2021 The Strategic Plan on Thailand's Water Resources Management 2015-2026	2017-2036	Strategy, plan	Government, ministry

National development plans 20-Year National Strategy 2018-2037 National Reform Plan 2018-2030 National Economic and Social Development Plan 2017-2021 Constitution of the Kingdom of Thailand 2017	2017-2037	Strategy, plan, legislation	Government, ministry

8.2 Findings on Key Discourses of Climate Change Adaptation Policy at the National Level

This section analyses the key discourses of climate change adaptation policy at the national level. Like the previous chapter, a CDA developed in Chapter 6 is used in the analysis of the discourses. Thus, the review begins with a brief historical description of the discourse. Critical discourse analysis is used to identify the components of discourse: basic entities whose existence is recognized or constructed; assumptions about natural relationships; agents and their motives; and key metaphors and other rhetorical devices. Although the analysis is guided by these elements, it assumes that all the discourses recognise the existence of climate change, the impacts and the need for adaptation. Three discourses are identified at the national level: *climate resilience discourse, holistic national development discourse* and *competitiveness discourse*.

8.2.1 Climate Resilience Discourse

As the impacts of climate change become more evident, the government has shifted towards climate *resilience* in adaptation. *Resilience* broadly refers to the ability to adapt to changes, to anticipate future events and absorb shocks (IPCC, 2014c, p. 127). However, the terms *resilience* and *adaptation* frame discussions on tackling the impacts of climate change in competing ways. According to Wong-Parodi et al. (2015), “Resilience includes the ability to acquire new capabilities, perhaps emerging stronger from the struggle, whereas adaptation entails preserving existing resources”, (p. 1). Yet, to achieve resilience, adaptation measures are required. Adaptation and resilience are being mainstreamed across policy areas from urban infrastructure and planning to as far as national development planning. In Thailand, resilience, as a goal, is integrated into the vision, mission and objectives of the Climate Change Master Plan (CCMP), the National Adaptation Plan (NAP) and key sectoral adaptation plans. In the NAP, *resilience* is defined as the potential of social, economic and environmental systems for dealing with dangerous events, trends, or disturbances, in which the system can respond or organize and can still maintain the structure, uniqueness, necessary duties. Meanwhile, the system can still adapt through learning

and change (ONEP, 2016). In some cases, resilience aims to tackle the risks and security to resources, human lives and livelihoods, and state boundaries.

Examining how resilience is framed in national adaptation policy is crucial in understanding this discourse. As McDonald (2013) contends:

> this is why an analysis of discourse is so important: it allows us to recognize how different interpretations of climate change and its security relationship encourage particular political responses to them, legitimize those actors undertaking such responses, and even defines the terms of debate regarding the issue itself. (p. 44)

The findings of the analysis are presented in Table 13.

Table 13: Discourse Analysis of Climate Resilience Discourse

1. **Basic entities whose existence is recognized or constructed**
   - Systems
   - Sectors
   - Local communities
   - Ecosystems
2. **Assumptions about natural relationships**
   - Risk management
   - Uncertainty
   - Transformation
3. **Agents and their motives**
   - Government with a vision for resilient society to achieve sustainable development
   - Sectors and communities aim to be more resilient to the impacts of climate change as they are vulnerable
   - Stakeholders are all those actors impacted by national government policies
4. **Key metaphors and other rhetorical devices**
   - Immunity
   - Security

Basic entities whose existence is recognized or constructed

There is a recognition by the Thai state of the link between the resilience of *systems* and climate change. For example, there is a goal to "Increasing the resilience of health systems" (MOPH, 2018, p. 33). Improving systems also recognises the existence of *sectors*. The Thai state aims "to ensure that all sectors are equipped with the resilience and adaptive capacity that is necessary to deal with climate change" (ONEP, 2016, p. 106). Within these systems and sectors are also *local communities.* So "Risk and vulnerability maps are to be created by assessing the capabilities and resilience of local communities" (ONEP, 2016, p. 77). Local communities also rely on ecosystems, and so the Thai state aims to "bolster the resilience of ecology and biodiversity" (ONEP, 2016, p. 74).

Assumptions about natural relationships

The Thai state views that the "various systems and sectors—social, economic, and environmental—require risk management as a foundation" (ONEP, 2016, p. 48). *Risk management* is a significant relationship in this discourse. Effective management of risk allows systems to build and strengthen their resilience by considering the interrelationships between sectors (ONEP, 2016). As a Thai academic states, adaptation is about managing the risks (START1). Moreover, this relationship is influenced by the risk framework from IPCC AR5 as shown in Figure 19. In the CCMP, this framework is summarised as:

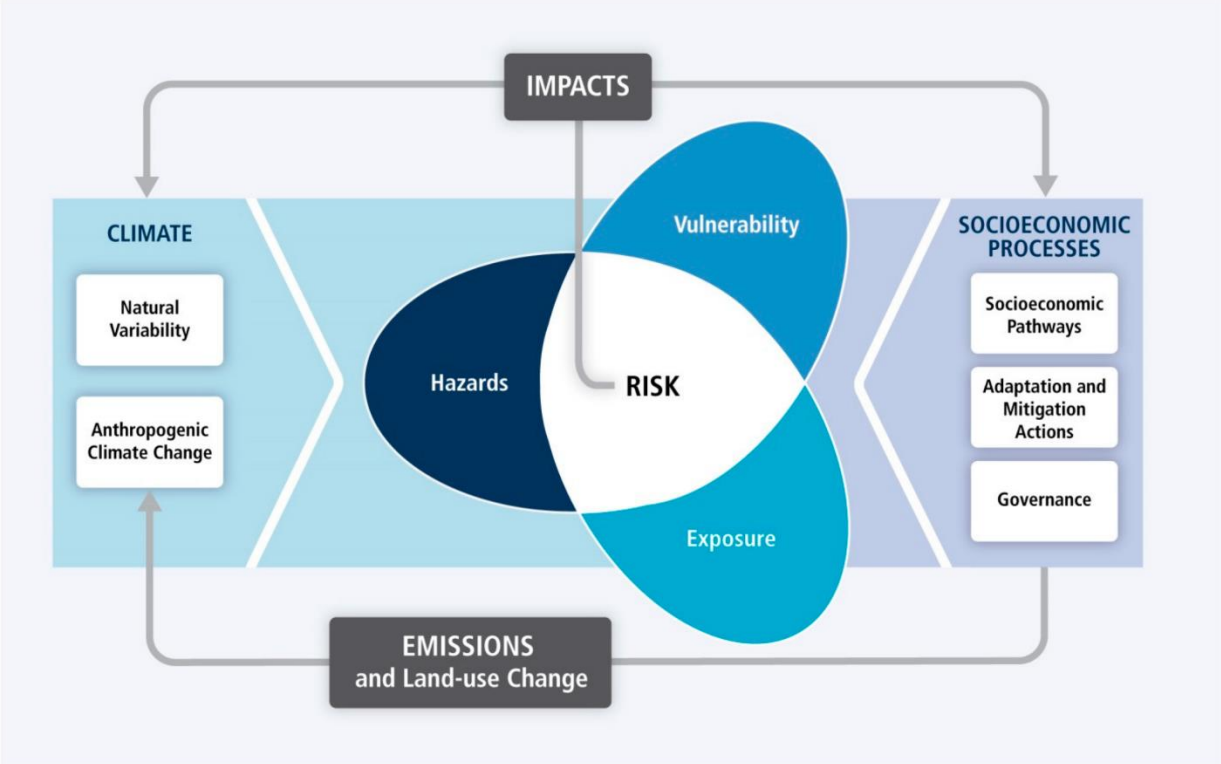
$Risk = Exposure \times Sensitivity$ and

$$Vulnerability = \frac{Risk}{Coping\ Capacity} = \frac{Exposure \times Sensitivity}{Coping\ Capacity}$$

From "Climate Change Master Plan 2015-2050" (p. 49), CCMP, 2018.

As a NAP policymaker commented, "I think of this equation" when thinking about adaptation and risk (OAE2). This risk framework is reflected in the CCMP and NAP (ONEP, 2016, 2018a).

Figure 19: Illustration of the Core Concepts of the WGII AR5



Note. From "Summary for Policymakers," in Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (p.3), IPCC, 2014.

Risk management emerges from *uncertainty.* Climate change comes with varying degrees of uncertainties resulting from changes and variations in the global and regional climate system and projections. For instance, the Thai state realises that "climate change projections, based primarily on global climate simulations with different scenarios of GHG emissions, pose certain limitations in terms of uncertainty; this includes… impacts at the local level, and adaptations to constant changes experienced by natural ecosystems and human ones" (ONEP, 2016, pp. 48-49).

To achieve resilience, systems will need to *transform* into systems that can respond, recover and bounce back better. For example, the Thai state refers to "transformational adaptation" which the H-NAP cites IPCC (2013) "is changes in the components of the system in response to impacts from climate change" (MOPH, 2018).

Agents and their motives

The *government* is a key actor in this discourse as their vision for climate change policies is that "Thailand is resilient to the impacts of climate change…" (ONEP, 2016, p. 58). Other key actors include *sectors* and *communities* who are exposed and vulnerable to the impacts of climate change. For example, the CCMP includes "low-income citizens, communities in areas with natural disasters risks, agricultural and business groups relying primarily on weather and natural resources" (ONEP, 2016, p. 55). Similarly, in the NAP, there is a focus on low-income, children, elderly, disabled people and women (ONEP, 2018a). Moreover, the objective of the NAP points to resilience for "all stakeholders and levels" (ONEP, 2018a). This means this discourse not only involves key actors as described above but implies that it includes individuals, groups or organisations that are impacted by the government's adaptation policies.

Key metaphors and other rhetorical devices

In the Thai version of Thailand's national climate change plans, the term *resilience* is closely translated to *immunity* (การภูมิคุ้มกัน) (ONEP, 2016). This term generally involves fighting against an invasion of something unwelcome or harmful or to protect something. This metaphor recognises climate change impacts as a threat to Thailand with the need to defend against and later recover from the threat. It also implies that the country needs to be protected from this threat. The English version of the H-NAP refers to *immunity* instead of *resilience* in the same context (MOPH, 2018). The area of health is advantageous as resilience has been part of its regular terminology, particularly on the idea of "bouncing back" from health problems which is also an inherent part of the sector (MOPH, 2018).

Security exists as a key metaphor to describe the impacts of climate change and the security of different sectors that contribute to economic growth and human development. Security implies that there is a threat against existing and future safety net. This includes areas such as food security, water security, health, social capital and human capital (MoAC, 2017; MOPH, 2018; ONEP, 2016, 2018a).

8.2.2 Holistic Development Discourse

Holistic development refers to a holistic approach to development that considers climate change impacts and adaptation. The path to holistic development requires identifying the co-benefits, having cross-sector collaboration and mainstreaming adaptation across levels and into development planning. For climate adaptation plans to be readily integrated into government policy, policymakers need to identify how climate change adaptation can be matched with existing government objectives. This is known as the co-benefits or synergies. This idea is often discussed and proposed by policymakers as an effective policy tool and is described in climate change and adaptation policies. The CCMP highlights that priority has been given to implementable projects that can deliver concrete results, lead to essential changes, and generate co-benefits (ONEP, 2016, p. 145). Several adaptation measures in one sector also overlap in others. Policies are most effective if strategies are coordinated across sectors. The success of adaptation seems to rely on the ability to deal with cross-cutting, cross-sector and cross-border issues (MoAC, 2017; MOPH, 2018; ONEP, 2016, 2018a). This ensures that work is not duplicated or replicated by other agencies and makes work more efficient and cost-effective (ONEP, 2016, p. 203). In addition, the outcome must be linked to national, provincial and local development agendas to reduce overlaps (ONEP, 2016, p. 259). The findings of the analysis are presented in Table 14.

Basic entities whose existence is recognized or constructed

The *government* is recognised as an entity that delivers development outcomes through measures such as adaptation. The CCMP views that “implementation [of climate change plans] is connected to development directions to better adapt to climate change and achieve low-carbon growth” (ONEP, 2016, p. 56). To deliver development objectives across the country, *sectors* are recognised as key entities, that contribute to social, economic and environmental aspects of development. These involve high-priority sectors (such as water management, agriculture and food security, tourism, public health, human settlement and natural resources) as identified in the NAP (ONEP, 2018a).

Table 14: Discourse Analysis of Holistic Development Discourse

1. **Basic entities whose existence is recognized or constructed**
   - Government
   - Sectors
2. **Assumptions about natural relationships**
   - Mainstreaming
   - Cross-sector collaboration
   - Co-benefits
3. **Agents and their motives**
   - Ministries aim to align with overarching national development framework
   - International agencies help countries to achieve their adaptation and development objectives
   - Research institutions assist the government and international agencies in developing climate adaptation policies
4. **Key metaphors and other rhetorical devices**
   - Repetition

Assumptions about natural relationships

Mainstreaming of climate change measures into national development planning across all levels and scales have been a driving force in climate change policy including adaptation in Thailand. Mainstreaming occurs across different policy levels: "central, regional and local levels of administration and organisation within the nation"(ONEP, 2016, p. 105). Government officials noted that while mainstreaming is ideal, it does not often occur smoothly, requiring prior contact and relationship building between key departments and officials (ONEP1, ONEP4).

The threat of climate change concerns all sectors (ONEP, 2016), however, the path to addressing the impacts are different for each sector, thus *cross-sector collaboration* is important (ONEP, 2018a). Sectors are familiar with their own needs and capacities but recognise that some impacts and measures occur across sectors. Collaboration across sectors would allow work to be implemented and managed more succinctly (ONEP1, ONEP4). Sectors need to identify the *co-benefits* that exist in their climate

change measures, which involve advantages gained in addition to adaptation or mitigation for development objectives (MOPH, 2018). For example, in the H-NAP, “Co-benefits can occur environmentally, economically, socially or healthwise” (MOPH, 2018, p. 8). This shows that adaptation can help vulnerable groups become more resilient to climate change impacts and thus more likely to contribute to development objectives.

Agents and their motives

A holistic approach to adaptation and development requires an understanding of the impacts of climate change on development at national and international levels. The overall motivation for the key actors is to “increase the resilience to climate change of national development by calling for an integrated approach to climate change adaptation measures between stakeholders at all levels” (ONEP, 2016, p. 58).

Ministries at all levels and scales are the key actors in this discourse. They include officials from ONEP, and the six key sectors identified in the NAP and other domestic and international actors. These actors are responsible for developing adaptation measures and plans that must align plans with the overarching national development framework (ONEP, 2018b). Other domestic actors include central government organisations working on national development strategies and plans, such as NESDC who develop the National Economic and Social Development Plans. Government officials usually partner with international agencies to deliver adaptation and development objectives. For example, the H-NAP refers to cooperating with “FAO, WMO, UNDP, UNEP, UNFCCC and other agencies of the United Nations” in achieving sustainable development goals related to health (MOPH, 2018, p. 34).

Research institutions are also an important actor in this discourse as they work with ministries and international agencies in developing and implementing adaptation policies and helping to pilot them (ONEP, 2016, 2018a).

Key metaphors and other rhetorical devices

This discourse depends on the use of repetition across government policies and plans, on the links between adaptation and development objectives. Across all visions

of key climate change and adaptation policies are the idea that adaptation can help Thailand achieve sustainable development (ONEP, 2016, 2018a).

In addition, there is an assumption across national policies, including on climate change, that all policies will achieve *sustainable development*. Sustainable development could be a metaphor to mean any government vision, goal or objective. The holistic sense of development suggests that development through climate change, environmental and national policies will be sustainable. Yet, the sustainable form of development may not be achievable in some policies where there is tension between development objectives and the sustainable development framework. For example, economic growth in Thailand in the short-term may be reliant on natural gas, but this fossil fuel leads to higher emissions (ONEP, 2016). The holistic notion of development across all policies could provide the *ambiguity* that is necessary to achieve sustainable development. Ambiguity as described by Stone (2012) provide people different reasons to support the same thing.

8.2.3 Competitiveness Discourse

Competitiveness discourse is usually associated with economic development and growth as national pressure builds on shifting the country beyond a middle-income nation. However, climate change is pushing back on such competitiveness. The CCMP depicts *"*climate change as a hindrance to Thailand's integration in the global economy" (ONEP, 2016). Such hindrance is based on the responsibilities associated with trading regulations and environmental standards at the regional and sub-regional levels. These include carbon tax, benefit schemes, carbon fund, domestic carbon credit markets with international trading options, GHG emission limits, GHG emission allowances while satisfying the criteria for GHG management, technology transfer and environmental management (ONEP, 2016, p. 98). It could be argued that the Thai competitiveness discourse in climate policy reflects the UNFCCC's orientation towards using market tools and mechanisms to address mitigation. Many critical scholars have argued that using the market (reflecting of the status quo of a capitalist economic system) is fundamentally unsustainable. So, the language of competition can be critiqued from the perspective of sustainable development. These have

relevance in adaptation policy as mitigation outcomes also determine the priority and intensity of adaptation policy and measures.

It could also be argued that should Thailand become a high-income country; it might view climate change efforts as a hindrance. Amongst several factors, this includes decreasing Thailand's ability to have a competitive capacity to become a leader in development and climate change adaptation in the ASEAN region. The ASEAN region is an important geographical, political and economic centre for Thailand. The plan refers to the ASEAN Economic Community, the East-West Corridor, North-South Corridor and the greater interdependence that these avenues provide for countries at the regional and sub-regional levels (ONEP, 2016, p. 9). As further highlighted, "Over the next 20 years, the ASEAN sub-regions will demonstrate high growth potential. Making adjustments so that Thailand has an appropriate role within ASEAN is essential to moving forward " (ONEP, 2016, p. 9). What the CCMP means on the "appropriate role" was not spelled out but it suggests that the country develops policies and directions that will enable Thailand to increase its economic bargaining power within ASEAN. In this sense, Thailand is probably not different to other states in its goal of economic growth and competitiveness. The findings from the analysis are presented in Table 15.

Basic entities whose existence is recognized or constructed

The *markets* are a key entity that is recognised in this discourse. Competitiveness requires Thailand to have strong domestic and international markets to drive climate change measures. While there is a relatively strong market for mitigation measures, there is potential to increase a similar market for adaptation where all actors compete to deliver the best products and services. Moreover, the market itself can also be a hindrance to adaptation, so improved adaptation measures could "reduce vulnerability to market and climate fluctuations for the individual households as well as the local communities" (ONEP, 2016).

Table 15: Discourse Analysis of Competitiveness Discourse

1. **Basic entities whose existence is recognized or constructed**
   - Markets
   - Trade and investment barriers
   - ASEAN
2. **Assumptions about natural relationships**
   - Competition
   - South-South cooperation
   - Trade-offs
3. **Agents and their motives**
   - Government aims to build adaptive capacity to create strong economic structures
   - Sectors attempt to increase their competitiveness
   - Industries
   - International agencies help establish or connect communities to markets
4. **Key metaphors and other rhetorical devices**
   - Best practices
   - Disruptive innovation
   - Hindrance

The Thai government argues that Thailand faces challenges to competitiveness such as *trade and investment barriers* often imposed by developed countries within the UNFCCC (ONEP, 2016) (implicitly stated on p. 54). The CCMP highlights that improving trade and investment promotion policies can help achieve the "goal of becoming a hub in ASEAN for environmentally friendly goods and services" (ONEP, 2016). Thailand aims to become a leader in the region, so *ASEAN* is recognised as an entity or arena in which Thailand competes with other Southeast Asian countries. To achieve its goal, Thailand aims to transition the country from an upper-middle-income country to higher-income country status (NESDB, 2019). To transition to a higher-income country may mean that Thailand would need alleviate its capacity building such as adaptive capacity for adaptation.

Assumptions about natural relationships

Competition can encourage entities to contend for better adaptation measures. In this sense, entities could develop adaptive capacity, allowing Thailand to mature and improve their status and resources. In the CCMP, Thailand aims to "increase the competitiveness of the industrial sector by promoting clean manufacturing, life cycle assessment, the carbon footprint of products, green labelling, and green design" (ONEP, 2016, p. 104). While this aim is focused on mitigation, there is potential for it also in adaptation. In doing so, *South-South cooperation* is increasingly important in driving regional cooperation in Asia and the Pacific. For Thailand, such cooperation has resulted in increased South-South trade, foreign direct investment flows and technology transfer. For adaptation, this could have an overflow effect on Thailand's competitiveness as it enables competition and produces win-win outcomes (ONEP, 2016). For example, gains in competitiveness may be realised by supporting the adoption of technology and awareness regarding the benefits of environmental-friendly practices (ONEP, 2016). Competitiveness, however, may also result in *trade-offs*. This refers to transactional deficits in achieving an overall better outcome. The 20-Year National Strategy highlighted "Such natural resource and environment challenges have posed key concerns over the country's ability to sustainably maintain and improve production and service bases, as well as competitiveness in the future" (NESDC, 2019a, p. 50). In terms of adaptation, Thailand may experience struggles over power and resources, whereby certain individuals, groups or institutions benefit at the exclusion of others.

Agents and their motives

The *government* has a crucial role in building the capacity for Thailand to change its economic structure (ONEP, 2016). To achieve this, the government can push to increase competitiveness within *sectors*. For adaptation, this is particularly aimed at creating opportunities to expand the resource base for production and enhancing competitive capacity at the regional and sub-regional economic levels (ONEP, 2016). To achieve these economic objectives, Thailand is also concentrating on "quality and sustainable growth" which means industries need to add value from innovation and environmental standards, support skilled workers and reduce movement of

production base (ONEP, 2016). These creative, sustainable and environmental approaches provide "opportunities to create new markets for new products" such as new adaptation initiatives (ONEP, 2016, p. 14). New markets will involve other agencies including *international agencies* in delivering adaptation services. International agencies in Thailand tend to be well-established at all levels and often have greater capacity and resources in implementing adaptation initiatives. One of the ways which Thailand is addressing this potential issue is by "establish[ing] a national mechanism to facilitate financial, technological and capability-building support from international partners" (ONEP, 2016, p. 60).

Key metaphors and other rhetorical devices

Competitiveness implies that *best practices* in adaptation demand key agents to be innovative. For example, the CCMP aims to "establish networks for environmentally friendly and low carbon productions and services between the public, private and academic sectors to exchange knowledge, best practices and research on technology and innovations with commercial potential" (ONEP, 2016, p. 102). This allows Thailand to increase the range of options for adaptation while ensuring its quality and effectiveness. However, a potential disadvantage is that it may provide one-size-fits-all solutions. The CCMP recognises that adaptation needs to best suits specific contexts (ONEP, 2016).

To achieve competitiveness for Thailand, some interviewees have referred to the concept of *disruptive innovation* or *disruptive technology* (20-Year National Strategy, NR1). Disruptive innovation, in simple terms, refers to "a process whereby a smaller company with fewer resources can successfully challenge established incumbent businesses" (Christensen et al., 2015). In this sense, adaptation will require technological innovation that may not emerge from government policies but from smaller companies which later make inroads into the mainstream market at a rapid pace (Christensen et al., 2015). This disruption could deliver on the government's economic objectives on innovative growth and transform societies in the way we adapt to the impacts of climate change.

Hindrance of climate change actions on competitiveness appeared to be a metaphor. Hindrance, in other words, means something that prevents progress. Within this discourse, competitiveness for the Thai state is important for progress through economic growth, but "disadvantages from stricter environmental standards" or trade barriers relating to climate change could be seen as reducing progress (ONEP, 2016, p. 45).

8.2.4 Summary of the Findings at the National Level

The findings show that there are three key discourses of climate change adaptation policy in Thailand: *climate resilience discourse, holistic development discourse and competitiveness discourse.* In Thailand, *climate resilience discourse* has been reproduced within adaptation plans and policies and seen as being able to support sustainable development. However, the analysis reveals there are underlying meanings of resilience, which are generally resilience of human systems and sectors with less emphasis on ecosystem resilience. This result shows that there are risks and security issues from the impacts of climate change. To adapt well to these impacts, Thailand would need to build a strong adaptive capacity that not only responds but bounces back.

The analysis also reveals that development must be climate proofed and climate action must be development friendly. Thailand has advocated this through a *holistic development discourse*, which highlights the need for mainstreaming adaptation in development planning, identifying the co-benefits and cross-cutting issues between adaptation and development. These tools will help Thailand adopt adaptation measures that are cost-effective and efficient.

Finally, the competitiveness discourse shows that the competitiveness of adaptation measures has been overlooked by mitigation measures. The analysis shows that Thailand faces significant challenges to its competitiveness due to trade and investment barriers to climate change measures. To address these barriers, Thailand needs to increase its competitiveness within domestic and international markets and could be through adaptation incentives. In doing so, it could help Thailand achieve its

economic incentives such as becoming a leader in ASEAN and transitioning to a high-income country.

8.3 Discussion of Key Discourses in Climate Change Adaptation Policy at the National Level and their Implications for Sustainable Development

The results indicate that there are three key discourses of adaptation policies at the national level with distinctive entities: natural relationships, key actors and rhetorical devices. The analysis of these key discourses highlights that Thailand reproduces and expands on existing discourses within the adaptation field while also re-constructing new ones from other fields. Critical discourse analysis has been useful in unravelling underlying meanings that have been put into practice and how they influence adaptation action. The following discusses the key findings from the discourses and their implications for sustainable development.

8.3.1 Resilience is Viewed as an Important Goal for National Adaptation Policy in Thailand

There is a strong focus on achieving resilience in Thailand's adaptation policies as it is seen as providing the opportunities and capacities to not only prevent and recover from climate change impacts but also allow the country to develop and grow (MOPH, 2018; ONEP, 2016, 2018a). Resilience is seen not only as a desirable goal of adaptation but also as achieving sustainable development. Increasing resilience has the potential to support environmental and social dimensions of sustainable development. For example, building the resilience of natural systems to the impacts of climate change allows natural environments to regenerate and improve their adaptive capacities. In another example, health adaptation to climate change involves increasing the resilience of health systems as well as the environmental and social determinants of health to climate risks (MOPH, 2018). In this way, the increase in resilience means improving health equity within generations by providing opportunities for the least advantaged (Bahadur et al., 2013).

However, resilience needs to carefully account for vulnerability and risk in adaptation policy. Cannon and Müller-Mahn (2010) argue that "the notion of resilience… is dangerous because it is removing the inherently power-related connotation of vulnerability and is capable of doing the same to the process of adaptation" (p. 623). This claim suggests that resilience underplays the risks of climate change on adaptive capacity and ability to develop by viewing adaptation as a scientific construct rather than people-centred (Cannon & Müller-Mahn, 2010). This argument highlights that Thailand may aim to adapt to climate change impacts but may not address the underlying issues that cause the vulnerability or risk in the first place. From this perspective, adaptation policy may fail to address the social dimensions of sustainable development.

Resilience is a concept that is used in the sufficiency economy as a goal and often interchangeably with the term immunity. This terminology presents the idea that policymakers should aim to consider the external shocks from climate change (UNDP, 2007). These shocks may be political, economic, social and environmental and an account of these dimensions may support the interlinkages of the three pillars under sustainable development. Resilience from a sufficiency economy perspective means to be able to protect ourselves or be "immune" to externalities. This may expose the political and institutional mechanisms under sustainable development which have been poorly considered within Thailand's adaptation policies. In addition, adaptation through the sufficiency economy "provides ecological, social, and economic immunity to local communities" (Kansuntisukmongkol, 2017).

8.3.2 National Adaptation Measures are Framed as Risk Management

The *climate resilience discourse* recognises that the risk of climate change impacts is greater in areas and for populations that have higher exposure, sensitivity and vulnerability to climatic changes. The recognition is exacerbated in an environment of growing risk and uncertainty (Smith & Fischbacher, 2009). Risk assessments, maps and reduction strategies have been developed and applied to climate change as well as development and disaster-related policies (Gaillard, 2010). Thailand is mostly "reducing risks and damages from natural disasters and building preparedness and

capability through the actions and measures" (ONEP, 2016, p. 77). This statement shows that in Thailand, adaptation has often been described as a form of risk management particularly in the context of disaster risk reduction. This approach, however, leads to short- to medium-term adaptation responses driven by scientific and technocratic considerations, but may pay less attention to social processes and systemic failures.

Climate change impacts have also been posed as a security risk particularly for human systems. For example, one of the key areas that will be affected by the impacts of climate change is health, so one of the main aims for the health sector is to reduce the health risks from the effects of climate change (MOPH, 2018). Other risks to human systems include the impacts on natural resources and their effects on human well-being, income and livelihoods (ONEP, 2016). These challenges encourage Thailand to adopt a risk management approach to its adaptation. The notion of security risk is similar to the *crisis discourse* at the international level as identified in Chapter 7. The idea of security risk at the national level presents a sense of long-term protection against a potential or future threat, while the idea of crisis at the international level aims to address an immediate threat. In this sense, the longevity of human systems through risk management has the potential to contribute to sustainable development.

8.3.3 Mainstreaming Adaptation into National Development Planning is Crucial for Thailand but there are Significant Barriers

The *holistic development discourse* shows that mainstreaming adaptation into national development planning is crucial for Thailand as it allows for a holistic approach to adaptation across sectors. The integration of adaptation across sectors has several benefits such as avoiding duplication and using resources efficiently. This observation is in line with the adaptation literature as the development approach is not new in Thailand (Lebel, Li, et al., 2012). In addition, cross-sector policymaking supports policy processes that align with sustainable development as it recognises that climate change impacts and responses in multiple sectors are interconnected. However, in practice, the policy process is often slow as other priorities take over and

climate change measures get side-lined. The climate change policy teams within government sectors are often small and have lower capacity and influence over development plans. Even if climate change was given priority in these plans, they do not necessarily get implemented due to lack of resources, slow timeframe or knowledge or expertise by officials. This builds on earlier research that observed that mainstreaming faces significant constraints in developing countries (Uppanunchai et al., 2018).

To support effective mainstreaming of climate change measures into development planning, increasing the knowledge on climate impacts and adaptation is crucial. Currently, there is a lack of knowledge on climate change data, projections and measures on Thailand leading to a lack of adaptive capacity (ONEP, 2016). To transform this status quo, Thailand has promoted awareness of climate change information and the capacity to complement developmental planning (ONEP, 2015a, 2016, 2018a). The *holistic development discourse* recognises that an up-to-date database at different scales can help manage, prepare and prevent the effects of climate change impacts and improve policy planning (ONEP, 2016). This involves establishing a database and monitoring system for natural resource and biodiversity in vulnerable areas across the country within the local context which can be integrated into regional and international databases (ONEP, 2016). Expanding the knowledge database on climate change results in knowledge exchange and partnerships between national and international experts which support sustainable development (ONEP, 2016, 2018a).

Better climate education or climate literacy can also help increase knowledge and awareness of climate change. For example, the Thai health sector offers to strengthen community capacity and people skills in health literacy and coping with health risks from climate change, including self-reliance to successfully reduce illnesses and deaths caused by climate change (MOPH, 2018). This action is in line with a study by Halady and Rao (2010), who assessed whether awareness of health impacts of climate change lead to behavioural changes to undertake initiatives to minimise or mitigate the impacts. The study concluded that “awareness does impact behavioural change towards strengthening the environment and alleviating the

potential and existing threats of the climate change phenomenon" (Halady & Rao, 2010, p. 20). The consequences on individual attitudes, behaviours and way of life on individual actions and wider society support sufficiency economy.

8.3.4 Competitiveness in National Adaptation Policy is Seen as Necessary for Economic Growth and Development

The *competitiveness discourse* recognises that Thailand is at a disadvantaged position in meeting its international climate change commitments. Adaptation measures can have implicit implications for trade, technology and finance in developing countries (ONEP, 2016). Thailand seeks to remain competitive even if it adopts adaptation measures. Adaptation may have serious effects on the economic dimension of sustainable development. However, the effects of climate change have seen increased competition over natural resources. It states its desire to maintain the long-term viability of ecosystems and natural resources to ensure that economic opportunities are kept open for future generations (ONEP, 2016). Economic growth is not an end in itself, but a means to achieve human development (UNDP, 2007). This growth strongly contributes to sustainable development as one of the objectives is for the development of society. Continued competitiveness and economic growth are recognised by the Thai government as essential factors for supporting living standards and wellbeing. In addition, "Competitiveness is not just about growth or economic performance but should take into consideration the "soft factors" of competitiveness, such as the environment, quality of life, technology, knowledge, etc" (Balkyte & Tvaronavičiene, 2010, p. 344).

There is evidence in the Twelfth Plan that the Thai government take soft factors into consideration:

> In moving towards the goal of being a developed country, the targets of increasing income, creating a just society, reducing inequality, expanding the middle class population group, and creating a quality society with good governance and environmental friendliness are set (NESDB, 2017, p. 6)

Although these soft factors of competitiveness are desirable for the Thai government, in practice, the environment has been inadequately prioritised.

Competitiveness may imply that the government and sectors are passionate to deliver the 'best' policies, plans and services to the public for adapting to climate change impacts (MOPH, 2018). However, this is generally removed from the purpose of adaptation and geared towards alleviating other indicators such as a country status and income disparity (ONEP, 2016). Thailand has attempted to achieve a competitive advantage over other countries in its adaptation, through South-South Cooperation and Triangular Cooperation models (ONEP, 2016, 2018a). This adaptation has provided an opportunity for developing countries to forge mutually beneficial partnerships in the common endeavour to achieve the SDGs. Moreover, the sufficiency economy approach is being promoted by the Thai government through the South-South partnerships (such as SEP4SDGs). Through these partnerships, the sufficiency economy supports increasing the competitiveness amongst developing countries in achieving and exchanging "best" practices on sustainable development.

The notion of "best" practices through a competitiveness discourse could lead to greater commitment and create improved measures and standards on adaptation. It can also guide the partnership activities to help with knowledge exchange, public awareness, technology transfer and capacity building for sustainable development that specifically support developing countries. The successful delivery of these adaptation initiatives may in turn push more financing for sustainable development. Conversely, there are critiques of competitiveness as it is contrary to the sufficiency economy which views competition unfavourably. Rather than construing adaptation as a competition it aims to teach people to be mindful of others and treat them well (UNDP, 2007).

8.3.5 Summary of Key Discourses at the National Level and their Implications for Sustainable Development

The *climate resilience discourse* is produced and reproduced in national development and climate change plans and policies. Through a climate adaptation lens, this is perhaps the most dominant discourse. Similarly, the *holistic development discourse* is dominant in Thailand's adaptation policies. However, it is influenced and shaped by national development planning which provides an overarching framework

for all national plans in the country and thus has greater policy authority. Meanwhile, the *competitiveness discourse* is an underlying discourse that has relevance for adaptation. While competitiveness does not seem to be dominating other discourses, it does resonate with Thailand's ambition to be a high-income country. The aim towards a high-income country status has strong links to the 20-year National Strategy (NESDC, 2019a). However, the dissemination of the discourse is only in specific sectors or policy areas. Because of its focus on trade restrictions and economic development, *climate resilience discourse* has links to discourses at the international level, such as *climate crisis* and *climate equity discourses*. All of these discourses are mostly produced and disseminated among government agencies. They are part of the language used within these discourse communities and generally capture audiences such as other government officials and those from its key partners (nationally and overseas).

The discourses identified at the national level are mostly around growth and development in different forms. *Climate resilience discourse* looks at protection and prevention but also transformation leading to growth for society. *Holistic development* explores socio-economic growth through knowledge and sub-national development planning. *Competitiveness discourse* focuses on economic growth. This discourse is the least obvious as it is implicit within policies.

These discourses are not a distinctive Thai approach but reinforce existing discourses that are found in other countries. However, the construction of the discourses is unique to the Thai context.

The findings show that there are several implications from the key discourses at the national level for sustainable development. All the discourses exhibit a strong sense of adaptation for national development. The *climate resilience discourse* projects most on long-term sustainable development, particularly social and environmental dimensions of development. This discourse has the strongest links to sufficiency economy as "resilience" is similar to the concept of "immunity" in the sufficiency economy. However, "resilience" generally portrays a sense of positive nature of resilience to climate change (aiming to regenerate and improve), while "immunity"

has a slight negative connotation of resilience to climate change (seeking to be immune to externalities).

Meanwhile, the *holistic development discourse* was directly linked to sustainable development as adaptation is important for development at national and sub-national levels. This discourse explicitly supports sustainable development through its cross-policy policymaking and mainstreaming. However, while there is far greater incentive for these policy processes at the national level, there is less indication of how such processes would occur at the sub-national level. So, while sustainable development is explicit amongst the narrative of national government policies, how it occurs beyond that level, could be ineffective for sustainable development. The link to the sufficiency economy in this discourse is not so clear, except for its possible connection to knowledge exchange.

Finally, the *competitiveness discourse* has the most relevance to the economic dimension of sustainable development but is also relevant implicitly to other elements. This discourse has the potential to deliver on social and environmental dimensions if factors to achieve competitiveness allow. For example, economic growth and markets will need to correspond to "soft factors" of this discourse to be beneficial for other areas such as the environment, quality of life, technology, and knowledge. The notion of competitiveness as found in this discourse, however, may contrast with the fundamental aspects of the sufficiency economy. From a Buddhist perspective, the sufficiency economy views competition unfavourably. The sufficiency economy encourages adaptation to come from a place of mindfulness and moral responsibility rather than through competition.

Overall, the discourses generally have stronger links to sustainable development and weaker links to sufficiency economy. The links to sustainable development are clear such as social, economic and environmental dimensions, the policy processes and institutional mechanisms. The links to the "immunity" and knowledge exchange parts of sufficiency come through, but not other parts such as the ethics and virtues. These findings show that while national policies and reports have explicitly referred to the vision that the sufficiency economy will help achieve sustainable development for Thailand, there is weak indication through these discourses on how the sufficiency

economy occurs in practice and achieve sustainable development. This in turn makes climate change adaptation difficult to determine links to the frameworks under the sufficiency economy and which discourses are more likely to achieve the key elements under the framework of sustainable development.

8.4 Chapter Summary

This chapter builds on the analysis from the previous chapter. It does this by examining the key discourses from national policies that are relevant to adaptation. The analysis identified three discourses: climate resilience, holistic development and competitiveness. These discourses show that there are adaptation-centric, development and economic discourses. *Climate resilience discourse* is primarily linked to adaptative capacity, making it the dominant discourse on adaptation. Its focus on resilience, risk management and security promote adaptation tools. *Holistic development discourse*, as the name suggests, is focused on national development planning through adaptation. It does not specifically focus on adaptation itself but on the means by which adaptation assists in the country's development. *Competitiveness discourse* shows that related regulations on climate change hinder Thailand's ability to stay competitive while, at the same, the country intends to remain competitive through its adaptation. The first discourse recognises the intrinsic value of adaptation and engages with adaptation measures while the latter two derive from the outcome of adaptation rather than from its value itself. The chapter also identifies several positive implications of these discourses for sustainable development such as cross-sector policymaking, mutually beneficial partnerships and interlinkages of the three pillars under sustainable development. However, there were fewer positive implications for sufficiency economy. Overall, these national discourses resonate with some of the discourses on adaptation that are evident at the international level but reinforce that there is an absence of relevant policies and frameworks that are focused on implementing adaptation projects in an integrated and coherent way across the country. The next two chapters examine a case study of the Mekong ARCC on local adaptation and consider its relevance, if any, on national adaptation policies.

Chapter 9: Climate Change Adaptation Policy at the Local Level: The Mekong ARCC Project

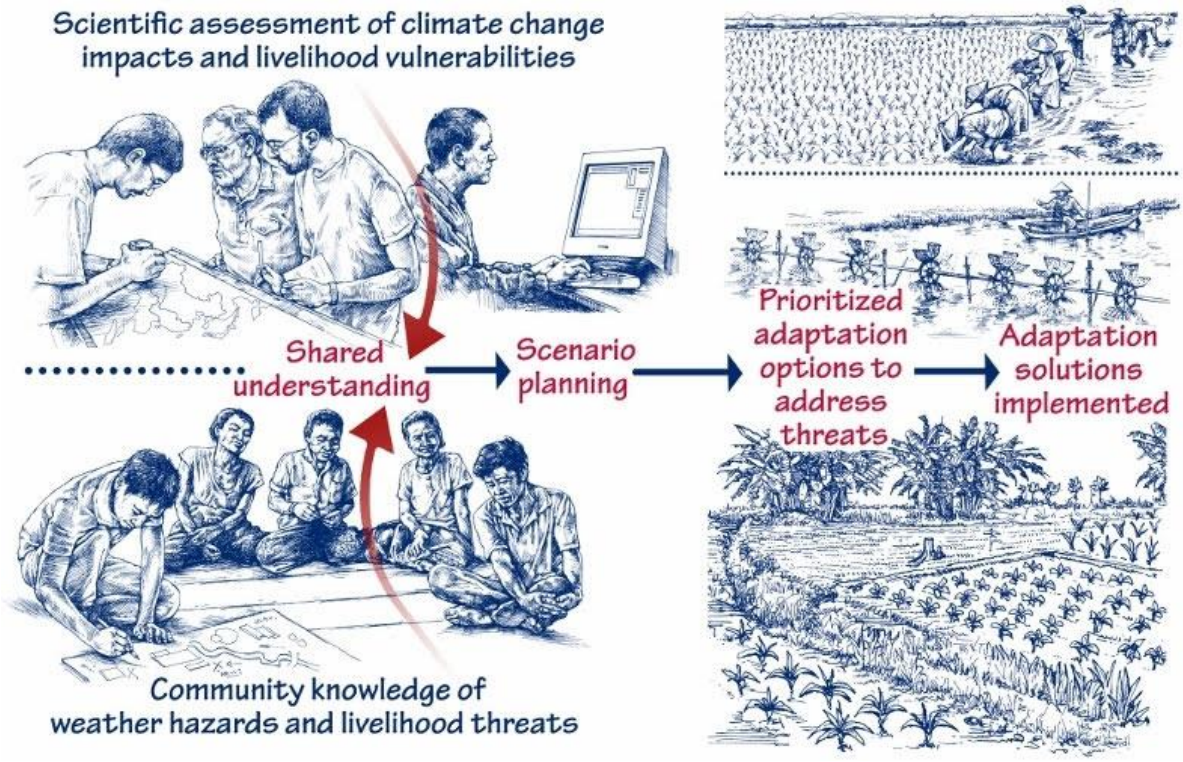
Having analysed Thailand's climate change adaptation policies at the international and national levels, the thesis now turns to adaptation initiatives through funded projects in local communities. The Mekong ARCC project is one such policy and it provides a local perspective on adaptation in Thailand. It also provides an opportunity to consider how local government is involved in implementing climate adaptation initiatives. While the project does not explicitly state that it seeks to contribute to sustainable development efforts in Thailand, it considers the implications of local adaptation to long-term sustainability and the three dimensions of sustainable development – social, environmental and economic (DAI & IUCN Thailand, 2014a). This chapter begins with an overview of the case study, the Mekong ARCC project, its work in Thailand, and its approach to climate change adaptation. It describes the phases to the project and how it has been conducted in the pilot sites in Chiang Rai, Thailand. This chapter offers an in-depth assessment of the Mekong ARCC project and the pilot sites in Chiang Rai and its implications for sustainable development.

9.1 Background to the Mekong ARCC Project

The USAID Mekong Adaptation and Resilience to Climate Change (USAID Mekong ARCC) project (2011-2016) was a regional climate adaptation programme that focused on identifying the climate change impacts and increasing the climate resilience of the rural communities in the Lower Mekong Basin (LMB) across four countries – Cambodia, Laos, Thailand and Vietnam (Dugan et al., 2016). The five-year project was funded by the USAID Regional Development Mission for Asia (RDMA) which saw an investment of USD $9.4 million in the pilot communities. The project was implemented by Development Alternatives Inc. (DAI) with scientific assessment and community adaptation conducted by implementing partners. The project involved the use of climate change forecast and scientific tools to help communities build ecosystem-based adaptation strategies alongside indigenous knowledge and gender equality considerations. The USAID Mekong ARCC Integrated Vulnerability Assessment and Adaptation Decision Making framework was used to guide the

project (see Figure 20) (McCluskey et al., 2016). The framework merged climate science with local expertise and knowledge to create a holistic approach to develop adaptation strategies that suit the needs of the communities (Dugan et al., 2016). These efforts were part of the United States government's "fast-start" commitments under the UNFCCC's Copenhagen Accords (United States Embassy in Thailand, 2011).

Figure 20: The USAID Mekong ARCC Integrated Vulnerability Assessment and Adaptation Decision Making Framework



Note. From *Harnessing climate finance for rural adaptation in the Lower Mekong Basin: Opportunities, constraints and future prospects* (p. 8), by D. McCluskey, O. Manuamorn, P. Hartman, S. Dugan and K. Carlucci, 2016. Reprinted with permission.

The goal of the USAID Mekong ARCC project was "to increase adaptive capacity and resilience of communities to the negative impacts of climate change" (DAI, 2016, p. 88).

The specific objectives of the project were:

1. Increase human and institutional capacity to develop and implement climate change adaptation plans and strategies

2. Strengthen policies, tools, methodologies and practices for ecosystem services valuation and climate resilience
3. Demonstrate and scale-up model actions for integrated approaches to climate change adaptation
4. Support and sustain regional learning networks to share and replicate best practices (DAI, 2016, p. 88).

9.2 Phases in the Mekong ARCC Project

The Mekong ARCC project can be divided into 5 main phases: a) the climate impact and vulnerability study for the Lower Mekong Region, b) integration of local scientific and community vulnerability assessment for pilot sites in Chiang Rai, c) implementation of adaptation initiatives, d) scaling up rural adaptation, and e) monitoring and evaluation of the project. In the first two years, climate projections and assessments of vulnerabilities were conducted which resulted in the Mekong ARCC Climate Change Impact and Adaptation Study Report Series. This data provided relevant information on the exposure, sensitivity and adaptive capacity at the provincial and partly at the site-specific level, for both ecosystems and livelihoods. The next two years involved merging scientific data with local knowledge to develop adaptation strategies, involving consultation with involved parties and the local communities. This stage used a variety of strategies, such as Desk-Based Vulnerability Assessment (VA), Communities Climate Story and Scientific Climate Story, Shared Understanding and Scenario Development. The final year of the project was dedicated to the implementation, monitoring and evaluation of the adaptation strategies through the development of community adaptation plans and scaling up the initiatives (Chaudhury, 2016).

9.2.1 Climate Impact and Adaptation Study for the Lower Mekong Basin

The Climate Change Impact and Adaptation Study for the Lower Mekong Basin (Mekong Climate Study) was the first phase (2011-2013) to the Mekong ARCC project conducted by a team of international and regional specialists from the International Centre for Environmental Management (ICEM), a climate change

technical service centre. The Mekong Climate Study provided the scientific evidence base for the project by identifying climate change impacts and highly vulnerable areas in the Lower Mekong Basin to guide the selection of the pilot sites (ICEM, 2013). Five pilot sites were selected (from the eight hotspots identified) based on areas most vulnerable to the projected changes in temperature, drought, rainfall and sea-level rise (Dugan et al., 2016). The study examined the impacts on five key areas: agriculture, capture fisheries and aquaculture, livestock, natural systems and socioeconomics. It also examined their implications for ecosystem integrity, livelihoods and development. The findings from the study helped define adaptation options and priorities for the pilot sites (ICEM, 2013).

The findings from the study were disseminated through the Mekong ARCC Climate Change Impact and Adaptation (CCIA) Study Report Series. ICEM in November 2013 began with the main reports, *Climate Change Impact and Adaptation Study: Summary* and *Full Report*. Later in February 2014, they were followed by the *Agriculture Sector Vulnerability Report, Livestock Sector Vulnerability Report, Fisheries Sector Vulnerability Report,* and *Non-Timber Forest Products and Crop Wild Relatives Vulnerability Report*. Lastly, in April 2014 two more reports were produced: *Protected Areas Vulnerability Report* and *Socio-Economic Sector Vulnerability Report.* These reports not only provide the scientific evidence for the Mekong ARCC project but are a valuable resource for climate change impacts and vulnerability assessments data in the region.

9.2.2 Integration of Local Scientific and Community Assessment for Pilot Sites in Chiang Rai

Having established the basin-wide assessment for the Lower Mekong Basin, the second phase (2013-2015) of the project involved the integration of local scientific and community-based vulnerability assessments for pilot sites in Chiang Rai to assist communities in developing their adaptation initiatives and community adaptation plans (e.g. *Desktop Vulnerability Assessment (VA), Community Climate Story (CCS), Scientific Climate Story, Shared Understanding and Scenario Development)* (ICEM,

2013). A portion of the findings was described in the *Vulnerability Assessment Report – Thailand,* prepared by DAI and IUCN Thailand in June 2014 (Cadena et al., 2014).

These assessments allowed communities to participate and engage with facilitators in developing awareness and understanding of the potential climate change impacts in their communities. The process also enabled communities to identify key aspects of their community to be protected and enhanced, and to evaluate the threats to their livelihoods by integrating scientific evidence. Through this process, communities strategised specific steps towards achieving long-term community goals. This final stage shaped the *Community Adaptation Plan* for the pilot sites which detailed the adaptation priorities and activities to be implemented in the villages. The plans were found in the *Community Adaptation Plan: Huai Kang Pla Village, Hae Ko Village, and Loh Yo Village, Chiang Rai Province* produced by IUCN Thailand in November 2014 (DAI & IUCN Thailand, 2014a).

A sustainability and monitoring plan were defined for each activity, with inputs from the villagers to ensure the long-term sustainability of the adaptation measures beyond the lifetime of this project.

In addition, the project facilitators wrote Country-Specific Guidelines for Cambodia, Lao PDR, Thailand and Vietnam on how Ecosystem Services Value (ESV) analysis can strengthen government capacity to conduct, review and analyse development investments in their respective countries. For Thailand, these are discussed in the report, titled *Valuing Ecosystem Services in the Lower Mekong Basin - Country Report for Thailand* was produced by DAI and World Resources Institute (WRI) in March 2015 (Talberth, 2015).

9.2.3 Implementation of Adaptation Initiatives

The assessments as described above identified several suitable adaptation actions to be piloted within the communities. The third phase (2015-2016) of the project saw the implementation of adaptation strategies within six categories: Water Infrastructure and Management, Climate Smart Agricultural Techniques, Livestock Management, Aquaculture, Forest Restoration and Management and Community Organisation and Capacity Building (Dugan et al., 2016). Not all of these categories were relevant in

each of the pilot communities – they were dependant on the village context and need. Specifically, the activities that were implemented in the villages included the installation of water filtration systems; training and follow-on projects focused on integrated farming and crop diversification techniques; and the introduction of community forest regulations. The activities also included weather monitoring to inform farming and Non-timber forest products (NTFP) harvesting activities. The details of the activities implemented in the pilot communities are presented later in the chapter.

This part of the project was mostly described in the reports *Lessons from Implementing Adaptation Plans in the Lower Mekong Basin* prepared by DAI and WRI in April 2016 (Chaudhury, 2016) and *Planning and Implementing Rural Adaptation Initiatives in the Lower Mekong – Methods Applied to Integrate Climate Science and Local Knowledge* by DAI in June 2016 (Dugan et al., 2016). The activities involved project facilitators, implementing partners and villagers.

9.2.4 Scaling Up Rural Adaptation

The fourth phase of the project involved scaling up successful approaches across larger landscapes. The project facilitators realised that upscaling would be the key to mainstreaming rural adaptation into government planning across the LMB (DAI, 2016, p. 12). This sentiment was shared in an interview with a project facilitator (DAI1, IUCN1, IUCN2 & IUCN 4). This particular sentiment is discussed and summarised in the project's *Final Report* which was produced by DAI in September 2016 (DAI, 2016). The focus was on *replicable* and *scalable* adaptation initiatives. This report was examined from the basin-wide perspective.

The report also highlighted that scaling occurred through four primary strategies: *knowledge products, ground-up pathways, financing pathways* and *thematic scaling*. The scaling-up process also considers other cross-cutting elements such as gender and finance. Gender in adaptation decision making is described in the report *Integrating Gender Considerations into Community-based Adaptation in Agrarian Communities in the Lower Mekong Basin* by DAI expert, Sarah Lehman in November 2016. It offers a detailed overview of how gender roles and social constructs

influence the vulnerability of particular social groups to climate risks (DAI, 2016, p. 83). The guiding principle of a gender-responsive approach to climate change adaptation is social inclusivity (DAI, 2016).

Altogether, the USAID Mekong ARCC team spent much of year 5 focused on enabling scale not only for the activities at project sites but importantly for LMB governments and development partners in the region. While there are limits to scale for a "modestly sized" USAID project like USAID Mekong ARCC, the team intended to use the lessons and best practices from the project to guide future rural adaptation planning, design, and implementation in the LMB (DAI, 2016, p. 13).

9.2.5 Monitoring and Evaluation

The last phase of the project involved a cost-benefit analysis of the activities (such as raising black pigs, raising black and layer chickens and diversified agriculture) and assessment of the overarching performance and site-specific indicators (like aquaculture and livestock survival rate, management committees of community assets, diversification of climate-resilient income sources, and access to water for household consumption) (DAI, 2016). The USAID Mekong ARCC team also surveyed local communities to measure the change over time in their adaptive capacity (DAI, 2016). This surveying can mostly be found in the reports: *Lessons from Implementing Adaptation Plans in the Lower Mekong Basin* prepared by DAI and WRI in April 2016 (Chaudhury, 2016); *Planning and Implementing Rural Adaptation Initiatives in the Lower Mekong – Methods Applied to Integrate Climate Science and Local Knowledge* by DAI in June 2016 (Dugan et al., 2016); and *Final Report* also produced by DAI, in September 2016 (DAI, 2016).

The lessons learned from the project were:

- Livelihood diversification or modification is the most common strategy to adapt to climate change among farmers in target communities across all five USAID Mekong ARCC sites (Chaudhury, 2016, p. 20)
- Water infrastructure to improve water distribution, storage and quality is a promising way to combat drought and increase in heavy rainfall (Chaudhury, 2016, p. 20)

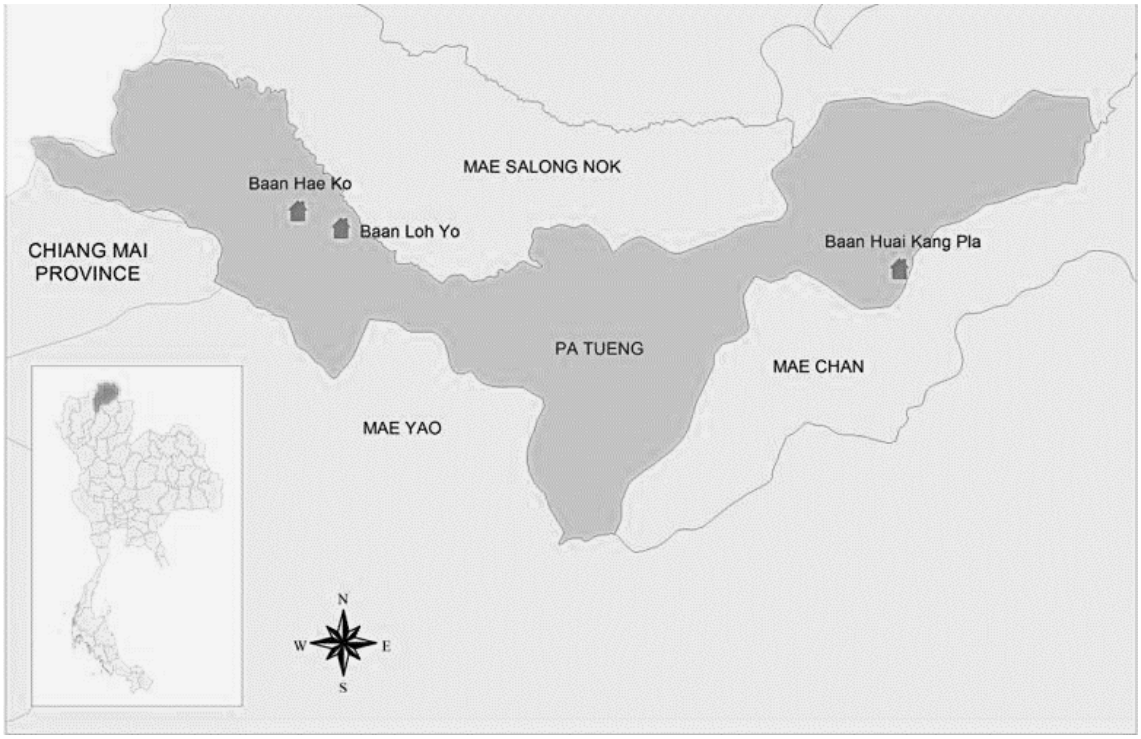
- Forests control water flows, reduce landslides, improve soil condition, and provide NTFPs, which can help adapt to effects of climate change and provide long-term benefits (Chaudhury, 2016, p. 20; Dugan et al., 2016, p. 47)
- Governments and donors should invest in establishing early warning systems and weather monitoring stations to reduce the impact of potential climate disasters (Chaudhury, 2016, p. 21)
- Community adaptation options must show an economic gain as key barrier have been financial costs and low return on investment and remoteness of communities (Chaudhury, 2016, p. 22; DAI, 2016, p. 67; Dugan et al., 2016, p. 46)
- Small alterations to existing systems are more likely to be replicated as they generally involve less risk and are therefore more attractive to neighbouring farmers and/or other communities (DAI, 2016, p. 67; Dugan et al., 2016, p. 46)
- Training and capacity building are critical for enhancing community knowledge and adaptive behaviours (DAI, 2016, p. 67; Dugan et al., 2016, p. 46)
- Project cycle (DAI, 2016, p. 68; Dugan et al., 2016, p. 46) and partnerships and engagement between the government and communities in the adaptation activity are key factors influencing success (Chaudhury, 2016, p. 21)
- Important co-benefits from the adaptation activities were found such as increased food security and nutrition (DAI, 2016, pp. 67-68; Dugan et al., 2016, p. 46)
- Practical adaptation is incremental, given the socioeconomic context of community leaders and the timeframes around how climate impacts unfold on the ground (DAI, 2016, p. 67)

This phase also involved communicating and disseminating the findings from the project. The reports highlight that the small team in Bangkok spent time and resources disseminating the project through publications, blog posts and communication pieces. Their stated goal was for these to serve as a useful resource for research and academic community, LMB policymakers and private sector, and developmental partners and practitioners for future adaptation programming work in the LMB (DAI, 2016).

9.3 Review of Mekong ARCC Project Pilot Sites in Chiang Rai, Thailand

For the Mekong ARCC project in Thailand, three villages in Pa Teung sub-district, Mae Chan District, Chiang Rai Province were selected. The villages of Hae Ko, Loh Yo and Huai Kang Pla are connected through the Mae Chan watershed, a sub-basin of the Me Kok River Basin (see Figure 21). This agricultural and forested area of northern Thailand is inhabited by a culturally diverse population of ethnic highland communities. The project attempted to include different ethnic communities at different scales to be represented in the study (DAI & IUCN Thailand, 2014a).

Figure 21: Location of Hae Ko, Loh Yo and Huai Kang Pla villages in Pa Tueng Sub-District, Chiang Rai



Note. Adapted from USAID Mekong Adaptation and Resilience to Climate Change (USAID Mekong ARCC): USAID Mekong ARCC Vulnerability Assessment Report - Thailand IUCN Thailand (p. 33), by Cadena et al., 2014, USAID Mekong Adaptation and Resilience to Climate Change (USAID Mekong ARCC). http://mekongarcc.net/sites/default/files/vca_report_iucn_thailand_30jun14.pdf.

Hae Ko and Loh Yo are both satellite villages of Santisuk village. At the time of the project, there were 49 households and 282 individuals in Hae Ko. Meanwhile, there were 60 households and 600 individuals in Loh Yo (DAI & IUCN Thailand, 2014a).

Huai Kang Pla village included Huai Kang Pla and five satellite villages: Huai Pla, Lua Pattana, Pa Bong Ngam Lang, Pa Bong Ngam Bon and Huai Ya No. At the time of the study, there were 326 households and 2,177 individuals.

Several ethnic communities live in these villages. Hae Ko was inhabited by the Lisu while Loh Yo was inhabited by the Akha. Huai Kang Pla (including satellite villages) were inhabited by the Akha, Lahu, Lawa, Yao and local Thai ethnic groups (DAI & IUCN Thailand, 2014a).

The three villages are located at different altitudes in the sub-district. Huai Kang Pla is composed of Huai Kang Pla village (480-500 metres above sea level), Hae Ko village (920-950m above sea level), and Loh Yo village (950-1,000m above sea level) (DAI & IUCN Thailand, 2014a).

Table 16 provides a brief explanation of each village at the time of the project.

Table 16: Overview of Villages in Chiang Rai, Thailand

Village	Huai Kang Pla Village	Hae Ko Village	Loh Yoh Village
Location	Mae Chan watershed (480 to 500m above sea level)	Upper Mae Chan watershed (920 to 950m above sea level)	Upper Mae Chan watershed (950 to 1000m above sea level)
Sub-village	Six satellite villages: Huai Kang Pla, Huai Pu, Lua Pattana, Pa Bong Ngam Lang, Pa Bong Ngam Bon, Huai Ya No	Satellite village of the Santisuk village	Satellite village of Santisuk village
Tribe	Akha, Lahu, Lawa, Yao and local Thai ethnic groups	Lisu Migrated from Mae Salong in 1975	Akha Migrated from a nearby area in 1966
Population	326 households (2,177 people)	49 households (282 people)	60 households (600 people)
Religion	Buddhism, Christianity	Animism, Buddhism, Christianity	Buddhism, Christianity,
Food	Upland rice, paddy rice, vegetables, chicken, pigs, cows, NTFPs: bamboo shoots, banana flowers, galangal, and honey	Upland rice, paddy rice, cabbage, chicken, pigs, NTFPs: bamboo shoots, mushrooms and others	Upland rice, paddy rice, vegetables, sesame, local chicken, pigs, ducks, wild fish, NTFPs: vegetable fern, seasonal vegetables
Income	Maize, upland rice, ginger, NTFPs: bamboo shoots, NTFPs: broom flower, galangal, banana, flower, and honey	Groundnuts, maize, red beans, Arabica coffee, plums, bamboo shoots, honey	Maize, plums, Japanese apricots, NTFPs: bamboo shoots, bamboo worms, Indian gooseberries, ants' eggs, honey

Note. This table has been adapted from project reports (Cadena et al., 2014; DAI & IUCN Thailand, 2014a).

9.3.1 Climate Impact and Adaptation Study for Pilot Sites in Chiang Rai

The project activities in the villages were carried out from November 2013 until December 2015. The first stage involved understanding the communities' vulnerabilities to current and future climate change impacts and their capacity to address both climate-related and non-climate related stressors affecting their livelihoods, food and water security, health and infrastructure (Cadena et al., 2014). The *Mekong Climate Study* and *local VAs* identified climate and non-climate factors that could threaten the livelihood of those living in the pilot sites (Cadena et al., 2014). These are summarised in Table 17.

The forests connected to Huai Kang Pla had experienced increased temperature and dry seasons alongside overharvesting and encroachment. This change can lead to a decrease in productivity and fertility of NTFPs, loss of biodiversity and an increase in natural disasters. The community needed to build resilience, food security, reduce soil degradation, diversify and increase incomes and reduce reliance on monocultures. At the same time, the poor water quality during heavy rainfalls events means that the community is exposed to water-borne diseases that can impact on the livelihoods of people in the community (DAI & IUCN Thailand, 2014a).

For Hae Ko village, water quality is also an issue and is particularly important to reduce the exposure of pregnant women and children to water-borne disease. Pigs have been a primary food source and form of capital savings and income generation for the village. However, pig farming is highly vulnerable to increased temperatures and the risk of flash floods and storms. Similarly, fish culture, where people own and look after stock of fish, is vulnerable to increased water temperatures, decreased water availability, droughts, flooding and flash flooding (DAI & IUCN Thailand, 2014a).

A similar situation is experienced in Loh Yoh village in terms of the need to build resilience, food security, reduce soil degradation, diversify and increase incomes and reduce reliance on monocultures. To diversify income and crop from monocultures, the Doi Mae Salong area has existing Oolong and Assam tea plantations that are highly suitable to the conditions (DAI & IUCN Thailand, 2014a).

Table 17: Climate and Non-Climate Factors Threatening Livelihoods in the Pilot Sites

Huai Kang Pla Village	Hae Ko Village	Loh Yoh Village
• Flooding, landslides and heavy rain could threaten infrastructure and upland rice, the main food crop (climate factors) • Heat stress, flash floods and storms could threaten chicken and pigs (climate factors) • Overharvesting and habitat loss could affect the availability of NTFPs (non-climate factors) • Water shortage in the dry season (climate and non-climate factors) • Lack of access to markets, new varieties and extension services (non-climate factors)	• Landslides and flash floods could threaten infrastructure and upland rice, the main food crop (climate factors) • Heat stress, flash floods and storms could threaten pigs, chicken and fish (climate factors) • Overharvesting and habitat loss could affect the availability of NTFPs (non-climate factors) • Vulnerable to watershed degradation, water shortages and water pollution (climate and non-climate factors) • Lack of access to markets, new varieties and extension services (non-climate factors). Maize, the main cash crop, is vulnerable to market price fluctuations	• Landslides and flash floods could threaten infrastructure and upland rice, the main food crop (climate factors) • Heat stress, flash floods and storms could threaten pigs, chicken and fish (climate factors) • Overharvesting and habitat loss could affect the availability of NTFPs (non-climate factors) • Vulnerable to watershed degradation, water shortages and water pollution (climate and non-climate factors) • Lack of access to markets, new varieties and extension services (non-climate factors). Maize, the main cash crop, is vulnerable to market price fluctuations

Note. This table has been adapted from the reports (Cadena et al., 2014; DAI & IUCN Thailand, 2014a)

The table shows that nearly all the climate and non-climate factors are shared by all communities. The only difference is that for Huai Kang Pla village, the community experiences water shortage in the dry season, while the other two villages are vulnerable to watershed degradation, water shortages and water pollution. Non-climate factors were included in the project as they may be indirectly affected by climate factors or maybe a crucial socio-economic factor for determining adaptation activities.

9.3.2 Integration of Local Scientific and Community Assessment for Pilot Sites in Chiang Rai

The second stage involved the *Climate Change Story (CCS), Scientific Climate Story (SCS)* and *Shared Understanding* processes which were undertaken through a series of workshops held in Huai Kang Pla village by IUCN Thailand between June and August 2014 (DAI & IUCN Thailand, 2014a). Additional consultation was undertaken in September 2014 with the village leader, and again with village representatives in November 2014. The results from the CCS and SCS for each village are presented in Table 18, 19 and 20.

The *Climate Change Story (CCS)* and *Scientific Climate Story (SCS)* for Huai Kang Pla village are identified in Table 18.

In the outcome mapping exercise, the villagers identified activities that would help them address their vulnerabilities and achieve the vision that they had defined for their community. In an initial priority setting exercise, the villagers defined the following priorities from the Shared Understanding exercise.

1. Livelihoods and income diversification
2. Establishment of check dam
3. Forest restoration
4. Organic fertiliser production
5. Mixed cropping and agroforestry
6. Improving village water supply
7. Prevention of soil erosion

Table 18: Summary of Community Climate Story and Scientific Climate Story for Huai Kang Pla Village

	Community Climate Story	Scientific Climate Story
Main climate threats	• Lack of drinking water • Drought • Erratic rainfall • Diseases	• Increased temperature • Flash floods • Landslides • Storms
Most vulnerable livelihoods	• Fruit trees • Chicken and pigs • Upland rice • Maize • Ginger	• NTFPs • Chicken and pigs • Upland rice • Maize

Note. From Mekong Adaptation and Resilience to Climate Change (USAID Mekong ARCC): *Community Adaptation Plan* - Kok Klang Village, Sakon Nakhon Province, Thailand (USAID Mekong Adaptation and Resilience to Climate Change (p.3), by DAI and IUCN Thailand, 2014.

In addition to the priority setting exercise, the villagers were asked to reconsider the different activities based on additional criteria such as cost, low use of chemicals, benefits for women and environmental sustainability. Based on these additional criteria, priorities were re-ordered from the initial ranking. IUCN further analysed adaptation options according to different criteria, including their potential to address the identified climate and non-climate threats, and their social, environmental and economic costs and benefits (DAI & IUCN Thailand, 2014a, p. 4).

Due to the limited timeframe of this project (project ended in December 2015), and a lengthy approval process as a USAID subcontractor, an initial set of activities were selected by the project team together with the village leader based on discussion with the villagers as the first phase to the project (Cadena et al., 2014, p. 5):

1. Establish a forest management committee
2. Establish a check dam

3. Exchange visit to Royal Development Centres to identify crop diversification opportunities
4. Improve community water filtration system

Although the construction of a check dam was not approved by the funders, the report highlighted that the other three activities expected to enable the community to address some of the key threats and vulnerabilities identified in the community climate story and scientific climate story workshops. The villagers also identified activities that could be potentially included in the second phase of the project although they were not implemented (DAI & IUCN Thailand, 2014a, p. 6).

Next, the *Climate Change Story (CCS)* and *Scientific Climate Story (SCS)* for Hae Ko village are identified in Table 19.

Table 19: Summary of Community Climate Story and Scientific Climate Story for Hae Ko Village

	Community climate story	**Scientific climate story**
Main climate threats	• Irregular rain/lack of rain • Landslides • Diseases • Hailstorms • Storms	• Increased temperature • Flash floods • Landslides • Storms
Most vulnerable livelihoods	• Upland rice • Maize yield • Groundnuts • Plums • Chicken and pigs	• Chicken and pigs • Maize • Upland rice

Note. From Mekong Adaptation and Resilience to Climate Change (USAID Mekong ARCC): *Community Adaptation Plan* - Kok Klang Village, Sakon Nakhon Province, Thailand (USAID Mekong Adaptation and Resilience to Climate Change (p.32), by DAI and IUCN Thailand, 2014.

In the outcome mapping exercise, the villagers identified activities that would help them address their vulnerabilities and achieve the vision that they had defined for their community. In an initial priority setting exercise, the villagers defined the following priorities from the Shared Understanding.

1. Clean water
2. Sustainable agriculture including multi-cropping
3. Improving road access for transport purposes and market access
4. Prevention and control of soil erosion and landslides
5. Improved occupations for women
6. Sustainable landscapes including forests

Similar to the other Huai Kang Pla village, priorities were re-ordered from the initial ranking based on additional criteria identified earlier. IUCN further analysed adaptation options according to different criteria[22] (DAI & IUCN Thailand, 2014a, p. 4).

The limited timeframe and lengthy approval process on the project meant that an initial set of activities was selected by the project team and villagers for the first phase of the project:

1. Installing a filtration system for the village water supply
2. Conducting an exchange visit to identify crop diversification opportunities
3. Raising pigs
4. Raising fish
5. Developing a women's handicraft group
6. Improving community forest management for climate change adaptation

However, only the first three activities were initiated to avoid overwhelming the village resources at the beginning. The villagers also identified activities that could be potentially included in the second phase of the project (DAI & IUCN Thailand, 2014a, p. 6). Some of the activities such as Improved Occupations for Women were not implemented as it was not approved by DAI as they were not directly relevant to climate change adaptation (DAI & IUCN Thailand, 2014a).

[22] The criteria was not found during the research.

Lastly, the *Climate Change Story (CCS)* and *Scientific Climate Story (SCS)* for Loh Yoh village are identified in Table 20.

Table 20: Summary of Community Climate Story and Scientific Climate Story for Loh Yoh Village

	Community climate story	Scientific climate story
Main climate threats	• Irregular rain or lack of rain • Diseases • Forest fires • Lack of drinking water	• Increased temperature • Flash floods • Landslides • Storms
Most vulnerable livelihoods	• Fruit trees • NTFPs • Upland rice • Maize yield • Chicken and fish • Water availability	• NTFPs • Maize • Chicken and pigs • Wild fish • Upland rice

Note. From Mekong Adaptation and Resilience to Climate Change (USAID Mekong ARCC): *Community Adaptation Plan* - Kok Klang Village, Sakon Nakhon Province, Thailand (USAID Mekong Adaptation and Resilience to Climate Change (p.74), by DAI and IUCN Thailand, 2014.

In the outcome mapping exercise, the villagers identified activities that would help them address their vulnerabilities and achieve the vision that they had defined for their community. In an initial priority setting exercise, the villagers defined the following priorities from the Shared Understanding.

1. Sustainable agriculture
2. Sustainable forests
3. Income and livelihoods
4. Drinking water and water for household consumption

Again, similar to the other villages, the activities were re-ordered from the initial ranking. IUCN further analysed adaptation options according to different criteria (DAI & IUCN Thailand, 2014a, p. 4).

The project timeframe and approval process were restrictive, so an initial set of activities has been selected by the project team and villagers in first phase to the project:

1. Exchange visit to identify crop diversification opportunities
2. Assam Tea
3. Raising Black Pigs

The villagers also identified activities that could be potentially included in the second phase of the project (DAI & IUCN Thailand, 2014a, p. 76).

The integration of scientific and community perspectives allowed the project facilitators and villagers to select and prioritise activities that would best suit their needs. In all the activities, the report stated that there was an attempt to include women in the various initiatives. However, not all of the activities identified were implemented due to the limited timeframe of the project. While villagers identified activities that could potentially be included in the second phase of the project, they were not implemented.

9.3.3 Implementation of Adaptation Initiatives

The selected adaptation activities in all the villages were implemented over three to six months, between late 2014 and late 2015. The number of participants depended on the activities which determined the number of households or participants involved (ranging from 20 villagers to 85 households) (DAI & IUCN Thailand, 2014a). The following describes the implementation of adaptation initiatives in each of the villages.

The indicative total project activities budget for Huai Kang Pla was US$10,500 or around THB 336,000 (DAI & IUCN Thailand, 2014a, p. 2). This is the largest amount received by a pilot site in Chiang Rai and this is likely due to the larger number of people in the village. The reports indicated that the project also involved participation of women in the village, but there is no evidence of what this entailed. The details for each activity are discussed below.

Establish a Forest Management Committee

National forest reserve and community forests provide an important source of ecosystem services and NTFPs for consumption and income for the village. Regulation of the use of NTFPs, therefore, is important and this project facilitated the establishment of a village forest management committee in collaboration with the District Forestry Office. The committee was responsible for creating the forest management regulations and for overseeing the forest management, restoration and monitoring activities (DAI & IUCN Thailand, 2014a). However, the information on the make-up of the committee was not available so it was difficult to determine the number of women members.

Exchange visit to identify crop diversification opportunities

The exchange visit to the Huai Hong Krai Royal Development Study Center, Doi Saket District, Chiang Mai allowed communities to learn about integrated agricultural techniques on crop and livestock diversification such as agroforestry practices, soil and water management, ecosystem and river basin management. The villagers were able to develop and implement activities that suited their communities and disseminate information to others in the village. They also gained access to the support networks of the Royal Initiative Projects (DAI & IUCN Thailand, 2014a).

Improve Community Water Filtration System

This project involved the procurement and installation of drinking water filtration systems in two-higher elevation-sub villages to complement existing water filtration systems in other sub-villages. The villagers were required to coordinate the installation of the water tanks and monitor the periodic cleaning system maintenance (DAI & IUCN Thailand, 2014a).

Meanwhile, the indicative total project activities budget for Hae Ko was US$6,000 or around THB192,000 (DAI & IUCN Thailand, 2014a, p. 31). Hae Ko and Loh Yoh both received the same amount of funds for the implementation of the project and this is likely due to a similar number of people in the village. The reports highlighted that project facilitators ensured to include women in the project, although how this occurred, was not evident. The details for each activity are discussed below.

Improving the village water supply

Before the project, there was no water filtration system in any households. The activity involved the procurement and installation of a drinking water filtration system similar to the activity in Huai Kang Pla. The activity required a community member to be responsible for coordinating with the villagers at the time of installation and for regular maintenance of the filtration tank.

Exchange visit to identify crop diversification opportunities

Similar to the activity in Huai Kang Pla, this activity involved an exchange visit for Hae Ko villagers to the Angkhang Royal Agricultural Station in Chiang Mai to learn about integrated agricultural techniques on crop and livestock diversification. The station is the first highland agricultural research station initiated by the King Bhumibol in 1969 and provides knowledge on integrated farming and management practices following the sufficiency economy. In the report, villagers adopted ecosystem-based techniques and disseminated practices to others in the village.

Livestock raising – Black pigs

Raising livestock provided a short-term option to increase resilience in the village. The black pigs were a breed of pigs that have been found by researchers at the Royal Development Study Centers to be more heat-tolerant and resistant to diseases than normally farmed pigs. In the project, villagers underwent training on raising black pigs under climate conditions including appropriate housing, efficient cleaning system and necessary vaccinations. Black pigs were distributed to villagers and provided benefits to the communities. Apart from increased resilience to climate change, additional benefits included increased income, an additional source of meat and protein, soil conditioning from the supply of manure and recycling of household food waste. Vaccinations would be required annually and deworming on a seasonal schedule but the offspring from the black pigs allowed villagers to distribute or sell to others (DAI & IUCN Thailand, 2014a).

Raising fish

This project supported the villagers by providing tilapia and catfish fingerlings to stock the existing fishponds. The fish were raised for sustenance and sale to others within the village and subsequently outside the village. No other ponds were able to be dug because of land tenure issues, but the report indicated that the IUCN planned to seek support from Land Development Department (LDD) to identify other potential locations for additional fishponds (DAI & IUCN Thailand, 2014a).

Lastly, the indicative total project activities budget for Loh Yo was US$6,000 or around THB192,000 (DAI & IUCN Thailand, 2014a, p. 73). The project attempted to ensure that there was adequate participation by women in the village. The details for each activity are discussed below.

Exchange visit to identify crop diversification opportunities

Like in Hae Ko, the villagers also participated in an exchange visit to the Angkhang Royal Agricultural Station in Chiang Mai. By adopting the ecosystem-based adaptation approach and disseminating the practices, the villagers were stated as more resilient to projected climate change impacts.

Growing Assam Tea

To diversify income and crop from monocultures, the villagers grew tea as part of the project. The tea provided a sustainable income for the villagers as it has higher value income per area of land, while it improved the forest-agricultural landscape as it can be grown in a range of agroforestry settings (such as intercropping). In addition, farmers were able to produce compost to supplement the use of chemical fertilizer. Training for this crop collaborated with other villagers in Chiang Rai, the LDD and the Highland Research and Development Institute (HDRI) (DAI & IUCN Thailand, 2014a).

Income and Livelihoods - Raising Black Pigs

Similar to Hae Ko, the village of Loh Yo changed their practices to adopting black pigs which were more heat tolerant and resistant to diseases. In addition, the black pigs were more profitable providing large and faster returns on investments for the villagers (DAI & IUCN Thailand, 2014a).

Overall, some of the activities were shared across the pilot sites. However, others were specific to the culture and conditions of the villages. For example, Hae Ko and Loh Yoh traditionally raised pigs for the livelihoods so the activities chosen provided an alternative breed to their existing practices.

9.3.4 Scaling Up Rural Adaptation

It was clear that some activities were able to be expanded to other households in the village or surrounding villages. For example, the offspring from black pigs were distributed to other households in the communities (HK1). The scaling up of the findings from the activities specific to these pilot sites is not easy to measure. The findings from these activities were likely to have been "packaged" into the overall project findings and scaled up through the four primary strategies as identified earlier in the chapter: *knowledge products, ground-up pathways, financing pathways* and *thematic scaling*. However, the specific focus of this study offers relevant entry points on its impact to local adaptation and this could provide useful pathways such as ground-up pathways that allow governments to build lessons and techniques from the pilot sites.

9.3.5 Monitoring and Evaluation of the Pilot Sites in Chiang Rai

The monitoring of these activities was anticipated in the *Community Adaptation Plan*. For each of the activities, the IUCN field coordinator monitored and reported on the rates (for example, diarrhoea and other water-borne diseases in the village), participation and progress of the villagers. IUCN facilitated and guided in the implementation of these activities to ensure that they meet the needs of villagers in the present and future. In addition, villagers further defined monitoring plans for the activities to measure their effectiveness. However, monitoring of the implementation of the activities by IUCN was considered important to ensure that knowledge and techniques were being applied correctly (DAI & IUCN Thailand, 2014a).

Cost-benefit rationale and long-term sustainability were evaluation tools for the project. The cost-benefit rationale of the project indicated that activities were low-cost compared to the significant losses without action (like medical treatment costs and loss of income from poor water quality). The activities were deemed to provide a

multitude of benefits to the community, such as food security, increased income, knowledge transfer, social well-being and health of the community, particularly women and children (DAI & IUCN Thailand, 2014a). Ultimately, the activities were expected to build the capacity and capital of the villagers and hence provide significant benefits to the entire community. For example, villagers have increased income from higher-value crops with reduced fertilizer and pesticide usage (DAI & IUCN Thailand, 2014a).

For long-term sustainability, the project anticipated that with greater understanding and participation by the communities in the activities, villagers would be able to record changes in weather and livelihood options and prepare for weather events. Communities would also be able to apply the techniques that they have learned from the project to adapt to the changes. The low-cost activities would allow villagers to maintain the systems that were set in place in the long-term, which will provide continuous benefits to the communities. In addition, there was the possibility of extending these activities by other agencies such as the Forest Department and local universities (DAI & IUCN Thailand, 2014a). The implications of this opportunity for sustainable development are discussed further in the next section.

Lastly, the activities were assessed against the criteria of the USAID Environmental Mitigation and Monitoring Plan (EMMP) checklist. The *Community Adaptation Plan* states that if managed according to the Sustainability and Monitoring Plan, the activity does not have any negative impacts on the environment and society (DAI & IUCN Thailand, 2014a).

Specific data for each of the villages for other monitoring and evaluation stages as identified in the section on phases in the Mekong ARCC project are likely found in the *Endline Report*, however, I was not able to obtain a copy of the report from the project facilitators.

9.3.6 Sustainability of the Adaptation Activities in the Pilot Sites in Chiang Rai

The project itself has activities and measures that have implications for sustainable development, but such implications are fundamentally shaped by the ways people

understand the meaning of sustainable development. It determines whether and in what ways they give priority to sustainable development, the consideration for sustainable development in their plans, policies or projects, and the application of it in those activities. The application in turn has implications for how much or how well sustainable development has been integrated into climate change adaptation. This result is captured through the reports and interviews. The following provides a preliminary review of sustainable development in the reports that will be critically assessed in the next chapter.

In the reports, the term “sustainable development” was not mentioned. However, notions of “sustainable development” can be found in several statements. The reports referred to livelihoods that are “sustainable” such as “sustainable agriculture”, “sustainable crops” and “sustainable growth of crops”. There were also “sustainable practices” for agriculture, land use, production and water governance (McCluskey et al., 2016). More specifically, the Scenario Development exercise aims to develop “a rough roadmap listing adaptation measures designed to set each village on a sustainable course to a community-defined ideal future” (Dugan et al., 2016, p. 4). Sustainable development has also been considered in terms of the “sustainability” of project activities. Throughout the reports, “sustainability” has been considered for the “long-term sustainability” of the project. Expert panels also evaluated project activities in Chiang Rai, examining factors related to sustainability, including the sustainability of management committees and natural resources (Dugan et al., 2016). Certainly, both concepts look at the long-term period of a project or activity, but sustainability does not equate to sustainable development per se.

The understanding of the concept of sustainable development was also asked in the interviews. Most, if not all, project facilitators can point to the balance of the three dimensions – economic, social and environmental. However, more details and its application were not often well understood. The interviews also showed that sustainable development was sometimes referred to and confused with “sustainability” or “sustainable” practices. “Sustainability” may mean for something to be continue in the long-term, while something may be “sustainable” form of practices, such as sustainable agriculture. These examples show that there is a greater understanding of

sustainable development for people that engage at international and national levels and frameworks. While going down the different levels to the local levels, there is a lesser understanding of sustainable development. This may be because of the background, role and exposure to use of the concept in their everyday interactions and social practices. This uncertainty shows that sustainable development is difficult to define and apply in practice.

The *Community Adaptation Plan* had a breakdown of social, economic and environmental costs and benefits for each adaptation activities that were implemented in each village (see Table 21). The consideration of these three dimensions is an inherent part of sustainable development that aims to achieve a balance between social, economic and environmental dimensions. In addition, each activity was ranked from low to high based on their long-term sustainability. Nearly all the activities were ranked as high for long-term sustainability with few ranked as medium-high (DAI & IUCN Thailand, 2014a). Although it is not clear how the rankings were identified, the implementation period of the project provided an indication. Each activity in the project was considered for their implementation period: a) now, b) next planting season, c) 1-2 years, d) 5 years and e) 20 years. This shows that the long-term sustainability of the project must be sustained for at least or up to 20 years (DAI & IUCN Thailand, 2014a). There was also a desire from project facilitators that the villagers will be able to take ownership after the project ended (IUCN1).

Table 21: Long-Term Sustainability of the Adaptation Initiatives in Chiang Rai

	Social	Environmental	Economic
Forest restoration and management	• Social capital and social cohesion • Custodianship • Knowledge gain • Empowerment and leadership for women and youth	• Carbon sequestration • Improved ecosystem health, resilience and biodiversity • Improved water quality • Improved forest governance	• Income from a diversity of NTFP harvest
Establishment of check dams	• Greater time available due to system efficiencies	• Habitat created for wildlife • Increased infiltration to groundwater • Reduced erosion • Improved polyculture	• Income from crop irrigation in the dry season • Income from fish reproduction • Reduced damage cost • Income from alley harvesting
Prevention and control of soil erosion	• Less strain on livelihoods • Build capacity of community using low tech bio-engineering solutions • Food security • Greater time available due to system efficiencies	• Reduced soil and fertility loss • Use of plants instead of infrastructure materials • Carbon sequestration • Increased productivity	• Reduced damage cost • Reduced cost for chemical inputs and removal activities • Diversified income
Organic fertilizer production	• Less reliance on chemical inputs • Better health	• Improved soil fertility • Reduced waste to landfill and burning • Reduced CO2 and methane	• Less money spent on chemical inputs • Income from increased vegetable and crop production
Livelihoods and income diversification	• Empowerment and leadership of women and youth	• Appreciation for locally made products	• Potentially large source of income • Diversified local economy

	Social	Environmental	Economic
	• Improved livelihoods • Reliable and diversified income	• Climate smart species resilient • Increased bird and aquatic invertebrate life • Reduced waste to land full and burning • Reduced CO2 and methane	• Reduced damage cost in case of weather events • Additional income
Mixed cropping and agroforestry	• Diversified livelihoods • Food security • Reliable source of protein • Long-term land use sustainability • Greater time available due to system efficiencies	• Increase infiltration to groundwater • Reduced soil erosion • Polyculture landscape resilience • Increased soil fertility • Nutrient recycling • Reduced waste	• Greater income security • Diversified local economy • Long-term income growth and diversity • Access to broader range of goods and services • Reduced damage costs from erosion or crop loss • Income during dry season
Improving village water supply	• Hygienic water • Less health issues • Improved water system • Water security • Hygienic water for women	• Reduced waste • Less pressure on natural water supplies	• Reduced cost of health issues and disease outbreak

Note. Adapted from Note. From Mekong Adaptation and Resilience to Climate Change (USAID Mekong ARCC): *Community Adaptation Plan* - Kok Klang Village, Sakon Nakhon Province, Thailand (USAID Mekong Adaptation and Resilience to Climate Change (p. 99-103), by DAI and IUCN Thailand, 2014.

9.4 Chapter Summary

The review of the Mekong ARCC project shows that adaptation activities for the local communities were not able to fully achieve the goal of sustainable development in practice. This was due to a number of challenges and constraints such as financial cost and low return on investments, remoteness of communities, lack of participation and the unsustainability of activities after the project. The project shows that narrowly identifying the social, economic, and environmental benefits may be possible due to the small-scale implementation of adaptation activities in the villages in comparison to country-wide projects. The identification of the long-term sustainability of the project and the social, environmental, and economic dimensions from the project activities (as shown in Table 21) was useful in pointing to the long-term component of the activities. However, there was no adequate monitoring and evaluation after the project, which is necessary in ensuring that the project's activities continue to be implemented and effective for the local communities. The monitoring and evaluation would allow either project facilitators or local communities to conduct a failure analysis and take corrective measures. This would help guide activities to allow communities to be better suited for achieving sustainable development. Yet, even with monitoring and evaluation, sustainable development is not guaranteed. To achieve sustainable development, there are other factors or means of implementation that need to be identified, implemented and sustained such as principles and values, institutional mechanisms and policy processes that support sustainable development. The next chapter explores some of these points further by identifying the discourses of climate change adaptation policies at the local level and their implications for sustainable development.

Chapter 10: Climate Change Adaptation Policy at the Local Level: An Analysis of Key Discourses

Having laid out the context of the USAID Mekong ARCC project and the pilot sites in Chiang Rai, this chapter analyses discourses of climate change adaptation and the implications for sustainable development within the local context of the ARCC project. It also seeks to understand the links between national climate adaptation policy and policy at the local level - whether national adaptation policy discourses are similar, different or applicable at the local context. Analysis of the local project is also a useful way of understanding the adaptation priorities and power dynamics evident in the relationships between international and national agencies, and the communities involved.

As in the Chapter 7 and 8, CDA is used in the analysis of the discourses. Thus, for each discourse, the review begins with a brief historical description of the social practice – where the discourse is found, how it is perpetuated and so on. Again, the CDA focuses on the following components: basic entities whose existence is recognized or constructed; assumptions about natural relationships; agents and their motives; and key metaphors and other rhetorical devices. Four discourses are identified at the local level: *ecosystem-based adaptation discourse, community-based adaptation discourse, livelihood discourse,* and *development assistance discourse*. The discourses identified in this review are unique to the case and the specific local context in Chiang Rai, Thailand, but they may inform national climate change adaptation policy.

The discourses found at the local level were uncovered through the analysis of reports from the Mekong ARCC project and semi-structured interviews carried out mainly in Bangkok, Chiang Mai and Chiang Rai in Thailand. These interviews were with respondents from a range of groups involved including local villagers, project facilitators, implementing partners, local government officials, and local authorities. The interviews were from the project implementers and villagers in the three pilot sites in Chiang Rai (Huai Kang Pla, Hae Ko and Loh Yo) which were conducted between December to January 2017 and November 2019. The interview transcripts

were closely examined to draw out the respondents' assumptions about climate change adaptation, sustainable development and the sufficiency economy.

This chapter reviews the discourses on climate change adaptation policy at the local level and examines the implications for sustainable development. It ends with a comparative analysis of the discourses and discussion of the implications for sustainable development with national climate change adaptation policy.

10.1 Key Scientific Assessments, Community Adaptation Plans, Special Reports and Evaluation Reports

10.1.1 Scientific Assessments Reports

Scientific assessment reports reflect a genre of scientific accounts of climate change vulnerability and risks, and the need for adaptation in regional and local areas. The International Centre for Environmental Management (ICEM) conducted a scientific assessment of the hotspots in the Mekong region for the project, which led to the report *USAID Mekong ARCC Climate Change Impact and Adaptation Study for the Lower Mekong Basin – Main Report* (ICEM, 2013). In 2014, project facilitators contracted by USAID through DAI, a non-profit organization engaged in research and action for sustainable development, produced the *USAID Mekong ARCC Vulnerability Assessment Report - Thailand IUCN Thailand* (Cadena et al., 2014). Other scientific assessment reports were part of the USAID Mekong ARCC Climate Change Impact and Adaptation Study series, which had little relevance to this study. The key actors in these reports include primarily climate scientists and project facilitators. Scientific assessment reports are important to identifying discourses in adaptation policies as they provide the hard evidence or scientific basis for adaptation in local villages.

10.1.2 Community Adaptation Plans

*Community Adaptation Plan*s reflect a genre of community-led plans, developed through consultation between project facilitators and local communities (communities have their comprehensive plan put together by the community with the assistance of the project facilitators). DAI and IUCN Thailand, the country division of the international organization working in the field of nature conservation and sustainable use of natural resources, produced the *Community Adaptation Plan: Huai Kang Pla*

Village, Hae Ko Village, and Loh Yo Village, Chiang Rai Province, Thailand (DAI & IUCN Thailand, 2014a). The key actors include project facilitators and local villagers. Community adaptation plans are important for identifying discourses in adaptation policies as they form the bottom-up assessment or approach for adaptation in local villages.

10.1.3 Special Reports

Special reports reflect a genre of policy lessons or best practices from the project that are additional to the main reports that give special attention to a particular issue. They are included to support different outcomes of the project. Special reports were produced by DAI, including *Integrating Gender Considerations into Community-based Adaptation in Agrarian Communities in the Lower Mekong Basin: Lessons learned from Cambodia, Lao PDR, Thailand and Vietnam* (Lehman, 2016) and *Harnessing Climate Finance for Rural Adaptation in the Lower Mekong Basin: Opportunities, constraints and prospects* (McCluskey et al., 2016). The key actors for these reports include project facilitators, external consultants and local villagers. Special reports are important for identifying discourses in adaptation policies as they focus on other priorities and outcomes that the project contributes to.

10.1.4 Evaluation Reports

The evaluation reports reflect a genre of written documents that describe how a programme or project is monitored and evaluated. It presents the findings, conclusions, and recommendations from a particular evaluation, including recommendations for how the results can be used to guide improvements and decision-making. At the end of the projects, three evaluation reports were produced: *Planning and Implementing Rural Adaptation Initiatives in the Lower Mekong – Methods Applied to Integrate Climate Science and Local Knowledge* (Dugan et al., 2016), *Lessons from Implementing Adaptation Plans in the Lower Mekong Basin* (Chaudhury, 2016) and *Endline Report* (author unknown). The key actors include project facilitators and local villagers. Evaluation reports are important for identifying discourses in adaptation policies as they described the success and shortcomings of the project from the perspective of the project facilitators. Their perspectives provide insights into how international and local actors contribute and view the project.

10.1.5 Summary of Key Documents from the USAID Mekong ARCC Project

The Scientific Assessments, *Community Adaptation Plan*s, Special Reports and Evaluation Reports all are crucial parts that form the entirety of the Mekong ARCC project (see Table 22 for summary). However, they tend to have different genres and actors depending on the role that they have in the project. The Scientific Assessments provided the scientific and technical overview of the impacts of climate change in the local project site and includes mostly climate scientists and project facilitators. The *Community Adaptation Plan*s integrate the scientific assessments with the community-based assessments so they involve project facilitators and local villagers. The Special Reports were vignettes into additional focus areas of the project, so they include project facilitators, external consultants and local villagers. Lastly, the Evaluation Reports, which examined how well the project met the set objectives, involved both project facilitators and local villagers since the results from the project were experienced by these actors.

Table 22: Key Documents from the USAID Mekong ARCC Project

Document type	Years	Genre	Key actors
Scientific Assessments USAID Mekong ARCC Climate Change Impact and Adaptation Study for the Lower Mekong Basin – Main Report (2013) USAID Mekong ARCC Vulnerability Assessment Report - Thailand IUCN Thailand (2014)	2013-2014	Assessments	Climate scientists and project facilitators
Community Adaptation Plans Community Adaptation Plan: Huai Kang Pla Village, Hae Ko Village, and Loh Yo Village, Chiang Rai Province, Thailand (2014)	2014	Plans	Project facilitators and local villagers
Special Reports Integrating Gender Considerations into Community-based Adaptation in Agrarian Communities in the Lower Mekong Basin: Lessons learned from Cambodia, Lao PDR, Thailand and Vietnam (2016) Harnessing Climate Finance for Rural Adaptation in the Lower Mekong Basin: Opportunities, constraints and future prospects (2016)	2015-2016	Reports	Project facilitators, external consultants and local villagers[23]

[23] Local villagers involved men and women.

Evaluation Reports Planning and Implementing Rural Adaptation Initiatives in the Lower Mekong – Methods Applied to Integrate Climate Science and Local Knowledge (2016) Lessons from Implementing Adaptation Plans in the Lower Mekong Basin (2016) Endline Report	2016	Reports	Project facilitators and local villagers

10.2 Findings on Key Discourses of Climate Change Adaptation Policy at the Local Level

10.2.1 Ecosystem-Based Adaptation Discourse

The local villagers in the Mekong ARCC project adopted agroforestry, integrated water resource management, livelihood and crop diversification and sustainable forest management that use nature to reduce vulnerability to climate change. These approaches fall into the scope of ecosystem-based adaptation because they integrate nature-based measures or natural infrastructure to adapt rather than hard infrastructure. Interventions such as check dams employed in Huai Kang Pla village tackle water scarcity during the dry season and increased temperature that affects reproduction of upland stream fish and crop irrigation (DAI & IUCN Thailand, 2014a). At the same time, they provide greater water infiltration and groundwater recharge for rice and fruit trees. This showed that such interventions provide co-benefits apart from adaptation. To understand how Thailand has constructed this climate crisis discourse, we need to examine the key elements of this discourse. The findings of the analysis are presented in Table 23.

Basic entities whose existence is recognized or constructed

Human resilience depends critically on the integrity of ecosystems. Ecosystems are recognised for their role in providing *ecosystem services* such as “provision of food, fresh water and fuel, watershed protection, air quality, maintenance, storm protection and cultural aspects of recreation, spirituality, and aesthetics” (Dugan et al., 2016, p. 47). Ecosystems services from *forests*, in particular, are renewable resources that sustain life and livelihoods. Forests also “control water flows, reduce landslides, improve soil condition, and provide non-timber forest products (NTFPs), which can help adapt to effects of climate change” (Chaudhury, 2016, pp. 20-21). In addition, they are sinks for pollution thereby providing oxygen in areas with smog [my translation from Thai] (HK1). However, the “relationships between and within communities and ecosystems in the Lower Mekong Basin are also being affected by population and economic growth, environmental degradation and development projects, such as hydropower dams, in addition to climate change” (Lehman, 2016, p.

12). Within this discourse, communities refer to *local villagers* whose existence is constructed as a constitutive part of the natural system, however, a project report indicated, “Despite this reliance on natural systems by tens of millions of people in the LMB, economic development is often given precedence over conservation” (DAI & IUCN Thailand, 2014a, p. 24).

This system is maintained if local villagers apply nature-based practices in their adaptation. The government, project facilitators and experts are *facilitators* for local villagers. The project facilitators view their role as allowing local villagers to use nature-based approaches themselves in the implementation (DAI & IUCN Thailand, 2014a).

Assumptions about natural relationships

Local villagers emphasise the important relationship that people have with forests. People have a *custodianship* to protect and grow the forests (LY1). Project facilitators stated that, “Through these activities, a sense of greater forest custodianship can be achieved, through which the learning and connection with the forest as a resource can be built” (DAI & IUCN Thailand, 2014a, p. 60). At the same time, local villagers may use the substantial long-term benefits of forests and their ecosystems services for their adaptation. As described in a project report, “Ecosystem services are the benefits people receive from nature” (Talberth, 2015, p. 1).

However, ecosystems are often protected by national environmental laws, so the government has *authority* over access and rights to natural resources and land. Local villagers are restricted from harvesting in natural reserves and conservation areas. That is, they are required to “use the forests according to the regulations” (DAI & IUCN Thailand, 2014a, p. 60) within designated settlement areas and community forests (HRDI1). In this discourse, *rights* to ecosystem services are crucial although not always attainable, such as past *conflicts* between the army and local villagers. Although the government has authority to exercise legal and physical control, it does not have such power over the *intrinsic value* that forests, and ecosystems hold for local villagers (HK1).

Table 23: Discourse Analysis of Ecosystem-Based Adaptation Discourse

1. **Basic entities whose existence is recognized or constructed**
   - Ecosystem services
   - Forests
   - Local villagers
   - Facilitators
2. **Assumptions about natural relationships**
   - Custodianship
   - Human effects on ecosystems
   - Rights to ecosystems services
   - Conflicts
   - Intrinsic value
3. **Agents and their motives**
   - Local villagers depend on ecosystems as the *means* to adaptation, particularly through their existing knowledge and connection
   - Project facilitators have high capacity to promote ecosystem-based adaptation activities in the project delivery
   - Partners to the project are influential in the design and implementation of the adaptation activities
   - Ecosystems are highly regarded by local villagers and project facilitators for their intrinsic and inherent value
4. **Key metaphors and other rhetorical devices**
   - Conservation
   - Natural resources or natural capital

Agents and their motives

Local villagers depend on ecosystems as the *means* to adaptation, particularly through their existing knowledge and connection. As a project report highlighted, “Societies of the Lower Mekong Basin are predominantly ecosystem dependent” (DAI, 2016, p. 24). Their motives include sustaining their livelihood and existence from the impacts of climate change. Local villagers comprise ethnic highland communities of mainly agrarian rural people, who have *agency* in implementing the

adaptation activities through their current practices that directly involve natural resources for subsistence and as part of a cash economy (Dugan et al., 2016). As described in the project report.

> Seventy percent of the people living in the LMB region rely on agrarian or traditional livelihoods. Together with the local ecosystems that sustain them, these communities make up the fabric of a regional economy that faces uncertainties due to the impacts of climate change and rapid economic development. (DAI, 2016, p. 15)

However, they must rely on technical experts, funding and external resources for activities that are beyond the capacity of villagers and/or ecosystems. While the local villagers are involved in the selection of the adaptation activities, there is considerable *power* that rests with the project donor and predetermined criteria. The project highlighted:

> Subsequently, IUCN analyzed the different adaptation options according to different criteria, including their potential to address the identified climate and non-climate threats, and their social, environmental and economic costs and benefits (DAI & IUCN Thailand, 2014a, p. 74).

> The villagers were asked to reconsider the different activities based on additional criteria, such as cost, low use of chemicals, benefits for women, and environmental sustainability (DAI & IUCN Thailand, 2014a, p. 4).

If a deliberative and inclusive process of decision making is followed, donor criteria need not necessarily be a problem. In the second quote, for example, villagers being asked to take into account gender potentially a very good thing (depending on how well this is done and with what likely consequences for the villagers).

Project facilitators have a *high capacity* to promote ecosystem-based adaptation activities in the project delivery. For example, IUCN has often used ecosystem-based approaches in their initiatives (IUCN, n.d.-a). Nature-based approaches may be an attractive and advantageous approach as they are often *cost-effective* and *readily adaptable* to local villagers. There were examples from the project reports that indicate these benefits:

> It is vital to choose a water filtration system that requires little maintenance at low cost (DAI & IUCN Thailand, 2014a, p. 39).
>
> Integrated agriculture techniques is seen as a small cost when compared with dissemination of this knowledge to others in the village (DAI & IUCN Thailand, 2014a, p. 44).
>
> "Pig raising is a familiar practice to the community and construction of pens can easily be achieved using readily available and free materials which can be implemented by the villagers" (DAI & IUCN Thailand, 2014a, p. 49).

Project facilitators may expand on such existing practices to fit adaptation needs. This underlines feasible and quicker implementation by project facilitators due to the low cost and a higher likelihood of success. This shows that project facilitators thus have multiple motives.

Partners to the project are influential in the design and implementation of the adaptation activities, including IUCN which has work streams on ecosystem-based interventions that have been influential in the framing of the adaptation activities (IUCN, n.d.-a). These partners have *agency* not only through their work but their existing relationships with local villagers as they have a *strong presence* in the area making their suggestions easily accepted by villagers (HK4). As described in the project report:

> "IUCN and its local partners have a long-standing relationship with [Huai Hong Krai Royal Development Study Center]" (DAI & IUCN Thailand, 2014a, p. 13).
>
> "Through the Royal Initiative Projects' presence in Chiang Mai, this is considered a sustainable and long-lasting learning and networking opportunity" (DAI & IUCN Thailand, 2014a, p. 13).
>
> "To enhance the efficiency of working with communities on the ground level, USAID Mekong ARCC chose to work with project partners who already had a presence in the target provinces to provide programming, research and analysis, and overall project facilitation at the pilot sites" (Dugan et al., 2016, p. 7).

Ecosystems are highly regarded by local villagers and project facilitators for their intrinsic and inherent value; however, ecosystems may inadvertently be burdened through new techniques introduced in the project. The adaptation initiatives integrate nature-based initiatives but require *changes* to the landscape and diversity of the natural resources and environment. Techniques such as intercropping through crop diversification introduce new or additional plant species into the ecosystem (DAI & IUCN Thailand, 2014a). It appears, however, that most of plant species used in the project were indigenous or local to the area such as Assam tea, a variety of tea that is commonly grown in Northern Thailand (DAI & IUCN Thailand, 2014a). Moreover, "The villagers will be introduced to new cropping techniques that are more sustainable and better adapted to a changing climate" (DAI & IUCN Thailand, 2014a, p. 78). This may be beneficial for adaptation purposes, but perpetuates dominance of human systems over natural entities. As indicated in the project report, "The benefits of improved forest management extend to the improvement of ecosystem services, collection of NTFPs and commercial crops, which are related to income and also personal safety and reduced stress about fire occurrence" (DAI & IUCN Thailand, 2014a, p. 60).

Key metaphors and other rhetorical devices

C*onservation* is promoted by the government and civil society organisations as a metaphor for adaptation (HK1, LY1). In this case, adaptation can be read as the conservation of environmental areas. This, however, may be a guise to address environmental issues or deep-seated habitation and boundary issues relating to ethnic highland communities. This may be similar to what Peluso (1993) calls "coercive conservation" where the language of conservation is used to deny local communities access to their lands, forests and/or resources. This coercion has historically occurred in the region but perhaps implicitly today.

Ecosystems services are viewed as services provided by *natural resources* and *stocks of natural capital*. A project report states, "Framed as such, ecosystem services are the services provided by stocks of natural capital such as forests, wetlands, estuaries, marine ecosystems, grasslands and other ecological communities" for long-term livelihood needs (Talberth, 2015, p. 3). Here, the

metaphor is “capital”. It views ecosystems as resources or assets that can be utilised for profits and other benefits. For example, the report on Valuing ecosystem services in the Lower Mekong Basin observed that “significant ongoing capital and resources required…could be quite profitable” (DAI & IUCN Thailand, 2014a, p. 67). Yet, the *Community Adaptation Plan* indicated that an “Appreciation for the natural environment may lead to greater recognition of environmental issues in northern Thailand” (DAI & IUCN Thailand, 2014a, p. 101). This latter quote posits a tension between the metaphor of “capital” and the value that communities could possess.

10.2.2 Community-Based Adaptation Discourse

The Mekong ARCC project aims to merge scientific data with community-based assessments. To achieve this goal, the activities implemented through the project encouraged participation and engagement from the communities in the decision-making process (Dugan et al., 2016). Village participants also received climate education and technical training as part of the project activities. These initiatives reflect a community-based adaptation discourse. Project facilitators also work within existing village structures and practices such as community leadership and community meetings where villagers discuss the proposed plans and activities from the project. Since villagers often make autonomous and mutual decisions for the communities, community-based adaptation discourse is already an inherent part of the villages. To understand how the project facilitators have constructed this community-based adaptation discourse, we need to examine the key elements of this discourse. The findings of the analysis are presented in Table 24.

Basic entities whose existence is recognized or constructed

Communities are recognised as a village or a group of sub-villages, comprising individual villagers. However, these villages may have more than one ethnic group with different cultures and religions. The villagers may be part of a larger central village in the sub-district. Communities thus provide a *cohesive unit* necessary for adaptation and provide *networks* to expand adaptation activities. Based on their location, they are also known as *ethnic highland communities* or *rural communities* (Dugan et al., 2016). The term “rural communities” is found in several project reports. For example, “to present the adaptation strategies applied in rural communities of the

LMB along with lessons learned through their implementation and monitoring" (Dugan et al., 2016, p. 7).

Table 24: Discourse Analysis of Community-Based Adaptation Discourse

1. **Basic entities whose existence is recognized or constructed**
   - Communities
   - Project facilitators
   - Ecosystems
   - Local government and authorities
   - Civil society
   - Scientists
2. **Assumptions about natural relationships**
   - Participation
   - Collaboration
   - Community interests or collective ends
   - Networks
3. **Agents and their motives**
   - Communities are supportive of the environmental and development benefits from the adaptation activities
   - Project facilitators as guiding the process for developing and implementing adaptation activities
   - Scientists have hierarchy over non-scientific actors as they shape the knowledge and understanding of climate change impacts and adaptation needs in the communities
4. **Key metaphors and other rhetorical devices**
   - Participation
   - Empowerment
   - Collectivism

Meanwhile, IUCN Thailand, DAI and other implementing partners are considered as *facilitators* in the project. There are several cases where the term "facilitators" is mentioned in the project reports. For example, the report refers to "Project facilitators, village leaders, and other representatives of community members walk along a pre-

defined transect to collect information and form a map" (DAI, 2016, p. 36). Facilitators are often part of *civil society organisations* and their role is to advocate, promote and support community-based initiatives. Limited attention is given to the *local government* and *local authorities* in this discourse. They are external *enablers* to adaptation and are *supporters* or *intermediaries* to both communities and facilitators. They also provide the legal and administrative powers for communities to implement adaptation (e.g., land rights). *Scientists* have an important role but less visibility in this discourse. Their climate assessments are significant in shaping the adaptation activities in the communities. Communities, project facilitators and local government and authorities do not challenge their findings although they may question it depending on their level of understanding. *Ecosystems* are an important *natural resource* for communities. In this discourse, ecosystems generally have lesser cultural or spiritual significance than in ecosystem-based adaptation discourse. For the communities, ecosystems are the means of adaptation.

Assumptions about natural relationships

This discourse views *participation* and *collaboration* with communities as beneficial to adaptation. The *Final Report* highlighted:

> Through a participatory process, this aspect of the *USAID Mekong ARCC Decision Making Framework* elucidates stakeholder concerns regarding their own experience and observations of climate change at the ground level. It also helps to characterize the community's biophysical and socioeconomic context, livelihood options, and decision-making processes (DAI, 2016, p. 33).

Project facilitators assume that these approaches will effectively empower the communities.

Empowerment in simple terms:

> presupposes that someone has lost power or is in a deficit of power, thus, someone has the ability to transfer "the power" to the person assumed to be powerless. This powerlessness may result in an inability to, for example, negotiate, make decisions, influence policy, take control of some aspects of life, or to make an informed judgement (Makuwira, 2018, p. 426).

Empowerment in this discourse means that agencies need to, at least, provide the communities with the opportunity to be involved in the decision-making. However, as the project was initially designed and final decisions were facilitated by implementing partners, external entities tend to have hierarchy over communities. Communities may not understand or share the overarching goals of the project. A project report highlighted, “Because many rural villagers in the LMB have had relatively little formal education and are not accustomed to thinking beyond near-future timeframes, it can be challenging to improve their awareness and understanding of potential climate change impacts in their communities” (Dugan et al., 2016, p. 26).

Communities decide, through their village meetings, on who participates and benefits from the initial adaptation activities within the villages. *Community interests* or *collective ends* are important (HKP1). The *Community Adaptation Plan* highlighted

> IUCN will ensure that representatives on the committee do not have vested interests and that they cannot manipulate the committee for their purposes. Regular monitoring and progress checks of the committee at quarterly intervals by the IUCN field coordinator should help to achieve this (DAI & IUCN Thailand, 2014a, p. 9).

While communities make decisions based on the benefit for the whole communities, the power rests with the elites such as the village leader and/or the village committees. This power structure may exclude specific groups of people from the decision-making process and/or participation in the activities, such as women, youth and children. An interviewee shared that in their village committee, there were no women (LY1). While project facilitators specifically attempt to involve women (DAI, 2016), the ultimate decision on their participation rests on several factors including the leadership within the communities. These groups of people may already have poor education or participation in governance roles (LY1)(Dugan et al., 2016), and such processes may reinforce these further. These observations were highlighted in an evaluation report:

> Within the communities in Chiang Rai, a highly tribal and ethnically diverse province of Thailand, sociocultural norms regarding gender differed across ethnic groups. Gender roles and responsibilities were rigid and traditional in

> some villages, and looser in others. But generally, opportunities and constraints related to individuals' mobility and ability to access education, healthcare, economic opportunities and assets such as land were not as divided by gender as by ethnicity or Thai citizenship (Lehman, 2016, p. 14).

Given that the villages were predominantly of ethnic minority backgrounds, the adaptation project attempted to improve their access primarily to economic opportunities. In most cases, attempts to build resilience and economic opportunities for the villagers were focused narrowly on specific adaptation activities such as introducing new crops and irrigation facilities. The focus on the latter may be an issue on determining whether adaptation projects can contribute to sustainable development if people's rights to "education, healthcare, economic opportunities and assets such as land" are not guaranteed.

Scientists may have *hierarchy* over non-scientific actors as they shape the knowledge and understanding of climate change impacts and adaptation needs in the communities. Scientists may have more dominance over communities in comparison to project facilitators. However, these dynamics may be less visible due to the limited interaction they have with the villagers.

Agents and their motives

Communities are central actors in this discourse. They were involved in the project as they see the environmental or development benefits to *their communities*. Part of this motive is driven by the project proposal; however, climate adaptation is secondary to their interests as they initially had little perception of climate change before the project (HKP1, HKP2, HK1, HK1, LY1, HK4, HK5). Those who serve as complementary actors are the project facilitators. IUCN staff consider themselves as facilitators [พี่เลี้ยง] whose role is to guide the process for developing and implementing adaptation activities (IUCN1, IUCN 2). Project facilitators aim to increase the level of community participation and empower the villagers. As described in the *Final Report*:

> The ultimate objective of this element of the project—the applied decision framework—is to gain community buy-in and empower them to monitor, adjust,

> measure, learn and adapt to shifts in the local climate that impact their livelihoods and wellbeing (DAI, 2016, p. 31).

Yet in practice, communities can exercise limited agency due to the very limited knowledge and capacity on climate change and adaptation and final activities having to be approved by the donor (DAI & IUCN Thailand, 2014a, p. 6). In addition, the project was supported by implementing partners such as HDRI, LDD and Royal Project (DAI, 2016). These partners have their ideal vision for the communities. HDRI aims to improve the livelihoods of people by linking them to markets (HDRI1); LDD aims to increase effective land management (LDD1), and the Royal Project aims to build livelihood options for people (HHK1).

Other external partners have varying motives in this discourse. Scientists provide the scientific assessments that inform the adaptation activities which are often dictated by the prerogative of the funding agency. In this sense, the framing of the climate change problem and adaptation options were initially brought forward by external interests, rather than community-led interest. Similarly, local government and local authorities have a role in enabling the implementation of adaptation activities. In some cases, approval must be given for the activities where land-use is concerned. Local government interests in this area may need to align with local government plans.

Key metaphors and other rhetorical devices

The notion of communities implies *collectivism* which is a metaphor for community goals and interests. This discourse provides a social construction of community participation and empowerment for adaptation. For example, in the *Community Adaptation Plan*, one of the adaptation activities states, “The community collectively provides each household an amount of money (408 THB each) which would together equal 20,000 THB to buy the next year’s supply of raw materials” (DAI & IUCN Thailand, 2014a, p. 56).

Participation in this sense allows communities to contribute ideas and expertise in the decision-making process with varying agency in the ultimate decision-making. Participation can be found throughout the *Community Adaptation Plan*. In another example, “A total of 20 pilot farmers (20 households) will participate in this activity” (DAI & IUCN Thailand, 2014a, p. 85). It is a metaphor for the inclusivity of local people

in adaptation projects and programmes. The level of participation must be critically examined to see whether it reflects adequate participation; however, this is also a subjective process. For example, the *Community Adaptation Plan* mentions, "Both women and men will participate jointly as members of the household" (DAI & IUCN Thailand, 2014a, p. 85) or "At least 50% of the participants should be women" (DAI & IUCN Thailand, 2014a, p. 48) but it does not indicate how many men and women actually participated.

Empowerment is also another common metaphor in community-based initiatives. The term suggests that agencies provide the communities with the opportunity to make informed decisions which the project facilitators will implement. As highlighted in an evaluation report:

> The ultimate objective of this element of the project—the applied decision framework—is to gain community buy-in and empower them to monitor, adjust, measure, learn and adapt to shifts in the local climate that impact their livelihoods and wellbeing" (DAI, 2016, p. 31).

Communities may be empowered to conduct their adaptation practices but, in reality, communities are likely to face barriers to community-led initiatives due to their existing vulnerabilities and capabilities. The *Final Report* indicated:

> These climate vulnerabilities of farm households and farming communities can be reduced by **diversifying their production systems**, which may include field crops, home gardens, livestock and/or aquaculture. Diversification does not guarantee that the farmers' agricultural production will increase, or even be maintained at the same level over time; but it does reduce the risk of catastrophic crop failures resulting in farm families experiencing increasing hardships, or even being forced into bankruptcy (DAI, 2016, p. 57).

This quote emphasises how adaptation activities do not guarantee that communities will not experience existing vulnerabilities or capabilities.

10.2.3 Livelihood Resilience Discourse

Livelihood resilience discourse is concerned with having livelihood mechanisms that can cope and bounce back from the effects of climate change. Livelihood strategies

often involve interventions that enhance people's income-generating capacities by increasing their assets through the provision of cash transfers, infrastructure, support services, market expansion activities and training. Livelihood resilience thus fits with the analysis of socio-economic factors that are increasingly important to vulnerability assessments, so it has become a key part of adaptation. This suggests that there are external threats that are significant to community livelihoods in facing the impacts of climate change. In the Mekong ARCC project, adaptation activities focused strongly on livelihoods. This involved agriculture, NTFPs, livestock, fisheries, health and infrastructure. In my interviews with villagers, there was also an eagerness towards building better livelihood capabilities for their communities. The findings of the analysis are presented in Table 25.

Basic entities whose existence is recognized or constructed

Individuals and collectives are recognized as *economic actors* within their communities and in the wider markets (HDRI1, LDD1). They mostly consist of subsistence farmers and those who have transformed into merchants. *Collectives* include groups of villagers either within their own villages or the larger network of villages. The idea of collectives was proposed and thus constructed by HDRI and LDD to market local produce nationally and globally (HDRI1, LDD1).

Renewable resources for livelihoods are recognised. These include agriculture, NTFPs, livestock, fisheries, health and infrastructure. These resources become *capital* for individuals and collectives to sustain their livelihoods. This discourse recognises the existence of *natural resources*. A Special report highlights, "Ecosystem services are the benefits people receive from nature. They have immense economic value" (Talberth, 2015, p. 1). Dryzek (2013) sees the importance of establishing the right kinds of property rights to these resources in his *economic rationalism discourse*, which would not necessarily dismiss the existence of limits to human activity imposed by finite resources (pp. 135-136).

Table 25: Discourse Analysis of Livelihood Resilience Discourse

1. **Basic entities whose existence is recognized or constructed**
   - Economic actors (individuals and collectives)
   - Livelihoods (agriculture, NTFPs, livestock, fisheries, health and infrastructure)
   - Renewable resources and capital
   - Markets
   - Project facilitators and partners
2. **Assumptions about natural relationships**
   - Hierarchy
   - Competition
   - Partnerships
   - Skills, labour and economic knowledge
3. **Agents and their motives**
   - Local villagers as economic actors who sustain their income and livelihoods from the onset of climate change
   - Partners are interested in expanding and exchanging knowledge, practices and experience
   - Local government and local authorities provide the necessary resources and training for local villagers
4. **Key metaphors and other rhetorical devices**
   - Commodities
   - Climate literacy

Generally speaking, in settings where women's opportunities are more constrained than men's and their responsibilities are closely tied to natural resources, their livelihoods are more likely to be negatively affected by climate and non-climate-related changes in their environment (DAI, 2016, p. 85)

Markets are an important means for the exchange of goods and services that enable livelihood resilience (HK4). These markets exist within national borders and outside the country. *Project facilitators* are crucial as they are the gateway to increase knowledge and technology for communities to achieve livelihood resilience. *Partners*

and *businesses* are also part of this discourse. As highlighted in an evaluation report, "Partnerships between the government and communities are an essential enabling factor" (Chaudhury, 2016, p. 21). *Partners* include the Royal Project whose role is to deliver the goods to the markets. They act as *enablers* for the communities' livelihood resilience. As stated in an evaluation report, "In an effort to increase adaptive capacity of people in rural areas, the USAID Mekong ARCC project brought together communities and implementing partners to co-design and implement adaptation plans in five sites around LMB" (Chaudhury, 2016, p. 1).

Businesses on the other hand are external actors as they do not directly provide the capacity for communities to achieve livelihood resilience, but they are also important. Businesses provide the channels for communities to expand their livelihood options through employment, trade or innovation. For example, the *Final Report* stated that, "Outside of the household, some women earned income running a small business or selling handicrafts, or working on plantations as casual laborers, in beauty salons, garment factories or construction" (DAI, 2016, p. 40).

Climate change impacts are primarily the effects on the ability for communities to sustain their production for their livelihoods. Climate is considered as an external factor in adaptation. They enable and disable communities to achieve economic livelihoods.

Assumptions about natural relationships

Similar to the economic rationalism discourse as described by Dryzek (2013), this discourse also assumes there is *hierarchy* implicit between humans and the natural world. In such an anthropocentric view, nature exists only to provide inputs to the socioeconomic machine, to satisfy human wants and needs. This suggests that natural resources are subordinated to a human problem.

Competition is significant to this discourse. A competitive relationship exists in different ways. It can occur within communities and the markets. *Partnerships* between these entities are generally anthropocentric. Ecosystems or nature are depicted as means for human livelihoods. This discourse depends on a multi-layered system that binds communities to markets to consumers. Communities are also

linked to local partners for knowledge, technical expertise and resources. The USAID Mekong ARCC Project Description confirms that:

> The U.S. Agency for International Development's Mekong Adaptation and Resilience to Climate Change (USAID Mekong ARCC) is a five-year program (2011-2016) implemented by DAI in partnership with the International Centre for Environmental Management, World Resources Institute, (WRI), International Union for Conservation of Nature (IUCN), Asian Management and Development Institute (AMDI), and the United Nations World Food Programme (WFP) (DAI, 2016).

Similarly, businesses unintentionally drive *innovation* and serve as *inspiration* for local villagers to enact new ways to achieve livelihood resilience. For example, one of the interviewees shared that one of the neighbouring villages adopted a similar approach used in farming chicken in the project to create a successful chicken farm business (HKP2, HKP3).

Agents and their motives

Several actors are found within this discourse who have agency in achieving livelihood resilience in their adaptation. The main actors are *economic actors – the local villagers*, motivated by *sustaining income and livelihoods* from the onset of climate change. Such motivation may also be potentially seen as *material self-interest* driven by the globalisation of local produce. Through the *collectives*, they can trade their produce globally into wider markets (for instance, with China). Economic actors thus have economic agency in achieving a level of livelihood resilience by themselves. At the same time, livelihood resilience is not the only reason and could be for other gains such as personal business endeavour and profits.

Partners entail a particular structure. The Vulnerability Assessment Report indicated that adaptation

> can be done by using existing knowledge and networks, for instance through the District Offices of Agriculture, HRDI, and the Royal Initiative Projects. Through IUCN's partner ISOC, the project has access to the knowledge and

> experience of the Royal Initiative Project Learning Centres in each province" (Cadena et al., 2014, p. 99).

This expanded network for knowledge exchange resembles economic systems. It provides for economic growth and development of the industry as well as of the national and local economy. The *Final Report* highlights, "Key takeaways for accessing adaptation financing include the paramount importance of 'packaging' program proposals as well as aligning national NAPs, INDCs, and objectives of funding mechanisms" (DAI, 2016, pp. 82-83).

Local government and *local authorities* also have a role in building livelihood resilience for communities. They are often the first agents in providing the necessary resources and training. They often work alongside partners. As described in an evaluation report:

> *Training and capacity building are critical for enhancing community knowledge and adaptive behaviors.* Farmer field schools and other educational platforms allow for continued adaptation following project closeout. However, it is important to screen beneficiaries to avoid involving community members who cannot complete training programmes due to seasonal migration and other constraining factors. Also, involving "model farmers" and influential community members to help facilitate on-going training and dissemination of knowledge post-project enhances longer-term sustainability (Dugan et al., 2016, p. 46).

This discourse assumes that local villagers have existing *skills and labour* available or are able to easily obtain them. For livelihood resilience to occur, local villagers must be able to have adequate *economic knowledge* to be able to adapt to the changing economic conditions to sustain their livelihoods against climate change. However, local villagers often have low capacity and capital to begin any economic venture even if there were local business opportunities available. As an evaluation report stated, "In order to be successful, community adaptation options must show an economic gain" (Dugan et al., 2016, p. 46).

Key metaphors and other rhetorical devices

Within this discourse, metaphors that define "nature" or "environment" are often circumscribed as *commodities*, resulting in valuing nature only for its instrumental utility. For example, the economic value of livestock and crops were discussed in the *Community Adaptation Plan*s as essential natural resources for community livelihoods. The livestock and crops were to be sold within neighbouring villages or in the local markets (DAI & IUCN Thailand, 2014a).

The case for *climate literacy* within discourse could be a metaphorical genre for education on managing climate and non-climate risks that affect livelihood resilience. This means that the discourse attempts to educate people in general and upskill them so that they can sustain their livelihoods in the face of climate or non-climatic challenges. In this sense, climate literacy is not only literacy for climate but for other essential survival areas for the villages. This could be seen as a positive outcome from this metaphorical genre. The learnings could also benefit villagers as climate literacy is used as a way to develop thought and communicate climate change to non-scientific communities by attaching them to the impacts to their livelihoods.

10.2.4 Development Assistance Discourse

Climate change affects developing countries disproportionately and puts past and future development at risk. Development assistance thus increasingly needs to take climate change into account. While this assistance for adaptation to climate change should in principle be "new and additional", in practice much of it comes as "regular" official development assistance (ODA), or adaptation aid. Climate change adaptation-related aid is defined as an activity that aims "to reduce the vulnerability of human or natural systems to the impacts of climate change and climate-related risks, by maintaining or increasing adaptive capacity and resilience" (OECD, 2011, p. 4). Efforts to address climate change have been an important part of USAID's development assistance programme since 1990. The objective of USAID is to build the capacity of its partners to become "self-reliant and self-sufficient in their development" (USAID 2018b). The Mekong ARCC project is part of the USAID Regional Development Mission for Asia (RDMA) global climate change programmes. Since 2003, USAID RDMA has worked on transnational and bilateral issues including

in Thailand (USAID 2017b). RDMA supports the implementation of President Barack Obama's Global Climate Change Initiative (GCCI) and USAID's Global Climate Change Strategy (USAID 2017a) which from November 2008 saw increased action on climate change by the United States. The initiative saw a commitment of USD $2.5 billion to adaptation from 2010 to 2015. It also included the Fast Start finance commitment which paved the way for the Mekong ARCC project. This saw USD $18 million invested through the project. Unique for development assistance discourse in the context of climate change adaptation is that it is "emerging as a new development priority with timelines that extend well beyond existing development targets" such as the SDGs (Ireland, 2012, p. 93). The findings of the analysis are shown in Table 26.

Table 26: Discourse Analysis of Development Assistance Discourse

1. **Basic entities whose existence is recognized or constructed**
   - Target communities, villages and sites
   - Development agencies
   - Ecosystems
2. **Assumptions about natural relationships**
   - Administrative or management
   - Collaboration
   - Facilitation
   - Change
   - Best practices
3. **Agents and their motives**
   - Donors is interested in achieving their objectives, goals and criteria
   - Local villagers want to have good relationships with project facilitators and gain benefits from the adaptation activities
   - Project facilitators desires range from altruistic to self-interest and strategic
4. **Key metaphors and other rhetorical devices**
   - Best practices
   - Progress and improvement
   - Rewards and incentives
   - Adaptive capacity

Basic entities whose existence is recognized or constructed

Development assistance discourse recognises villages mostly as *target communities*, *target villages*, *target sites* and *target areas*, as identified mainly in the VCA report (Cadena et al., 2014; Chaudhury, 2016; DAI, 2016; Dugan et al., 2016). Targets are typically identified in development projects and programmes. Targets are considered as the means of achieving the overall vision of the agencies. On the other hand, USAID, DAI, IUCN and other agencies are constructed as *development agencies* instead of simply *government agencies or international aid organisations* (Dugan et al., 2016). This shift towards a neutral term such as "development assistance" for foreign aid aims to recognise such agencies as *facilitators*, *implementers* and *partners* depending on their role. The agencies that were *facilitators* were those that developed the project and guided its implementation while *implementing partners* were those that mostly worked during the implementation phase of the project (Dugan et al., 2016). Overall, these implementing agencies were further classed as *partners*. Based on the USAID framework, it *partners* with different organizations including faith-based and community organizations, the private sector, colleges and universities, and non-governmental organizations to achieve its mission. They are recognised within this discourse as they support development agencies in their work. However, limited attention is provided to local government and authorities as they are recognised in the same way as partners.

Meanwhile, *ecosystems* exist as part of the nature-based tools for adaptation as there is a greater focus on the improvement of the human condition. Their intrinsic value is less visible unless they are part of the beliefs of the communities.

Assumptions about natural relationships

There is a sense of an *administration* and *management* relationship between agencies and communities. Throughout the reports, management tools can be found. Project facilitators work on meeting project goals and deadlines through adaptation. An evaluation report remarked,

> "Due to the limited timeframe of this project (the project ends in December 2015), and a lengthy approval process as a USAID subcontractor, an initial set of activities has been selected by the project team together with the village

> leader based on discussions held with the villagers" (DAI & IUCN Thailand, 2014a, p. 74).
>
> "For similar future initiatives, the project evaluators recommend careful planning to adequately anticipate the timeframe and costs that are associated with such remote, and difficult-to-access project locations" (Dugan et al., 2016, p. 40).

The funding from the project was distributed based on project needs and timelines. A cost-benefit analysis was used to assess adaptation activities. An evaluation report highlighted, "Planning Adaptation Initiatives — with cost-benefit analyses and assessments of sustainability and soundness, from both local development and climate change adaptation perspectives" (DAI, 2016, p. 5).

Lessons learned and *best practices* from projects are typical at completion. The evaluation reports stated, "The overall aim of this report is to capture lessons learned from implementing the adaptation plans throughout 2015" (Chaudhury, 2016, p. 1). While one of the objectives is to "Support and sustain regional learning networks to share and replicate best practices (DAI, 2016, p. 88).

However, best practices are implicit assumptions that practices can be found that are "best" for all (Eyzaguirre et al., 2014). This relationship between entities is external to adaptation itself and are linked to meeting project and programme requirements set by the donor. It has the potential to remove the value of adaptation.

> The report targets government agencies and donors who would like to know what adaptation activities reduce vulnerability in order to help scale such activities. The report also targets project implementers so that they are aware of the various barriers and enabling factors that can influence successful implementation of adaptation projects (Chaudhury, 2016, p. 1)

The collaboration was strongly encouraged by the project facilitators in the project. For example, the *Final Report* referred to the Shared Understanding exercise where "in collaboration with the facilitators, participants explore the similarities and differences between the scientific- and community-derived vulnerability lists and discuss reasons for discrepancies" (DAI, 2016, p. 36). However, the local villagers

may choose to cooperate with project facilitators in the project for the exchange of resources and funding. This represents an essentially transactional relationship between *recipients* and *funders*. For instance, the *Final Report* emphasised, "Large funds, like the Green Climate Fund (GCF), look for scale in the adaptation program designs that seek financing" (DAI, 2016, p. 73). Scale in a programme design implies a transactional relationship as a programme is used to develop a fit for benefit such as funding rather than purely for the outcome of the programme itself. In addition, national governments, such as Thailand, are often unable to develop and implement adaptation across the country. As explained in the *Final Report*, "National governments need scale for adaptation programming out of necessity, given they lack the resources to design and implement highly customized adaptation programming across their territory" (DAI, 2016, p. 73).

There appears to be *facilitation* between development assistance agencies and communities. In general, facilitation is often used in situations where material help is provided, while aid is used in cases where the person receiving help is in dire need of it. Development assistance agencies claim they are facilitating adaptation in the communities (Dugan et al., 2016). However, development assistance entails *changes* to practices that are deemed to help communities become more climate resilient. These changes show that agencies do not simply facilitate adaptation, but they may compel communities to make changes to meet overall project goals. As highlighted by Mosedale (2014, p. 1119) "Most development agencies define themselves as non-political and so obscure the complicated network of power relations in which they are inevitably embedded".

Agents and their motives

Perhaps the most dominant actor in this discourse is the donor, USAID. The design and implementation of a project are determined by USAID's framework on climate change:

> This detailed process—called the USAID Mekong ARCC Integrated Vulnerability Assessment and Adaptation Decision Making Framework—was used at the target project sites to ultimately select and design context-specific

> technical solutions for strengthening livelihood resilience in the face of climate change (DAI, 2016, p. 5).

The selection criteria may favour specific projects over other proposals or give priority to proposals submitted by certain beneficiaries. They must also fulfil the "mission" for USAID (USAID, n.d.-a). The various kinds of organisations that USAID works with shows that the project likely serves political and strategic interests. Thailand is a key United States' ally and plays a critical role in Southeast Asia such as fostering stability and security (USAID, n.d.-b, p. 1). This indicates that the project goes beyond improving the climate resilience of the communities in the LMB.

Facilitators, implementers and partners are key actors in this discourse. Their motives range from altruistic to self-interest and strategic. Furthermore, the *target audience* in the project "comprises [of] development practitioners, donors and policymakers who are involved in formulating, implementing and evaluating climate change adaptation in the region" (Lehman, 2016, pp. 25-26). These *practitioners*, *donors* and *practitioners* consist of those in the development field who would likely adopt the lessons learned from the project to their development or related project, programmes or practices (Lehman, 2016).

Villagers are considered mostly as *targets* by the agencies (Cadena et al., 2014). It gives the impression that these communities are the *stakeholders* in the delivery of a certain programme. An evaluation report observed, "Through a participatory process, this aspect of the USAID Mekong ARCC framework elucidates stakeholder concerns regarding their own experience and observations of climate change at the ground level" (Dugan et al., 2016, p. 2). The communities have an interest in gaining the benefits from the project, such as financial, technical and livelihood resources. Through the project, communities may become reliant on facilitators and development assistance to continue implemented activities. Villagers from the interviews expressed that it was difficult to maintain the activities once the project had ended (HKP1, HKP 2, HK1, HK4, LY1).

Key metaphors and other rhetorical devices

Two common metaphors within this discourse are *lessons learned* and *best practices.* They imply that projects provide learning, and adaptation activities can produce "best"

practices for all. An evaluation report highlighted, “The USAID Mekong ARCC proof of concept—connecting climate science with local adaptation decision making—unfolded with successes and failures at different sites, leading to a robust set of lessons learned and best practices for rural adaptation” (DAI, 2016, p. 12). However, findings are not always replicable or scalable in other projects.

The development aspect of projects suggests *progress*. Adaptation then is considered as progress for communities and often seen as positive. However, at the end of the project, villagers note that they were improving their livelihoods and resilience to climate change but slowly reverted when the project facilitators left (HKP1, HKP2, HKP3, HK1, HK4, LY1). Communities are thus inadvertently stuck in an endless cycle for support without the ability to function independently.

Adaptation aid may actually be a guise for development assistance. Adaptation aid is a part of adaptation finance which is a subset of climate finance. The *Valuing Ecosystem Services in the Lower Mekong Basin – Country Report* for Thailand suggested:

> In Thailand, green economic growth policies have the potential to enhance the net present value of ecosystem services from natural forests, freshwater wetlands, mangroves and coral reefs by US$ 2.06 billion, an increase of 7.8 percent over a business as usual economic growth scenario (Talberth, 2015, p. 15).

Similarly, adaptive capacity may translate to *development*. These are rhetorical terms arising from the links between development and adaptation. Increasing the adaptive capacity of local villages allows them to be able to meet their local development objectives. The *Final Report* suggests that reduced vulnerabilities from climate change can lead to good development for the local villages such as economic wellbeing, health wellbeing and social strengthening (DAI, 2016). The report also pointed to a view that adaptation scaling leads to “local stakeholders influencing national government planning” (DAI, 2016, p. 69).

10.2.5 ***Summary of the Findings at the Local Level***

Four key discourses were identified at the local level, but each is dominant amongst certain users or communities. The findings show that both *ecosystem-based adaptation discourse* and *community-based adaptation discourse* are dominant within rural, ethnic communities. As for the *livelihood resilience discourse*, it also has been deployed within local communities, but it has less wide usage. Unlike the previous three discourses, the *development assistance discourse* can be linked to networks around established foreign aid, being reproduced and disseminated by development agencies or donor countries. This discourse is often located within local communities but not necessarily part of their discourse. In addition, the findings reveal that *ecosystem-based adaptation* and *community-based adaptation discourses* have greater support for indigenous knowledge and ecosystems. Meanwhile, the *economic livelihood discourse* has the potential to benefit economic growth for rural and ethnic communities. The *development assistance discourse* is likely to build better adaptive capacity in line with community development. The differences in the priorities and dominance amongst the discourses constitute its hegemony within discourse communities at certain periods.

10.3 Discussion of Key Discourses of Climate Change Adaptation Policy at the Local Level and their Implications for Sustainable Development

The following section describes the implications of the discourses on climate change adaptation identified in the USAID Mekong ARCC project by focusing on four key findings. The first is that the project was portrayed as a merger of scientific and community assessments of adaptation plans. Next, despite a discursive endorsement of community and women's empowerment, in practice, women and children were often excluded from participation in decision making processes. Thirdly, project facilitators view local adaptation as a way to scale out and scale up adaptation and attract funding for adaptation in Thailand. Lastly, local adaptation activities are seen as a way to extend the interests and power of donors.

10.3.1 The Project is Portrayed as a Merger of Scientific and Community Assessments of Adaptation Plans that Contributes to Effective Local Adaptation

The project framework is portrayed by project facilitators as effective local adaptation that involved merging climate science with local expertise and knowledge to create a holistic approach to develop adaptation strategies that suited the needs of the communities (Dugan et al., 2016). The efforts to integrate scientific and community assessments were described as an important step in the development of local adaptation strategies. It enabled the villagers to understand how climate change would affect them now and, in the future, and allowing project facilitators to incorporate local knowledge and practices in adaptation plans. These portrayals were evident in the *community-based adaptation discourse and development assistance discourses* and implicit in the *ecosystem-based adaptation discourses* (Dugan et al., 2016).

The integration of scientific and community assessments in the adaptation plans were described by project facilitators as strengthening community-level adaptive capacity by bringing together “top-down” and “bottom-up” approaches. The “top-down” approach involved the communication of the scientific assessments to the communities, while the “bottom-up” approach involved the articulation of community assessments and their integration with the scientific and technical information. The bottom-up approach to adaptation is important for sustainable development, providing greater local participation and agency in the decision-making process. The approach also enabled the villagers to integrate traditional practices such as nature-based interventions and local knowledge and techniques in the adaptation activities (Santasombat, 2013). This integration of traditional practices reinforces the argument by Kansuntisukmongkol (2017) that the use of the sufficiency economy approach allows communities to engage in self-evaluation. They can “evaluate their knowledge and skills and match them with the surrounding environment to live their lives with social and ecological responsibility” (p. 58). The self-evaluation also occurred in the villages in my study.

Moreover, the project facilitators saw that the integration of scientific and community assessments was appropriate for ethnic highland communities. It was cost-effective, provided co-benefits, created win-win outcomes, avoided maladaptation and contributed to a "no-regrets" approach and "no one is left behind" principle to address climate change (Cadena et al., 2014, p. 10; Munang et al., 2013). These benefits were possible as there would be an efficient use of resources, more local sourcing, better integration between adaptation and development activities and avoidance of adaptation measures that reinforces existing vulnerabilities and inequities. Such considerations by the project facilitators allow adaptation activities to address wider social, economic, and environmental dimensions of sustainable development and emphasises local wisdom and knowledge under sufficiency economy.

10.3.2 Despite a Discursive Endorsement of Community and Women's Empowerment, in Practice, Women and Young People Were Often Excluded from Participation in Decision Making Processes

The aim of the project was "to gain community buy-in and empower them to monitor, adjust, measure, learn and adapt to shifts in the local climate that impact their livelihoods and wellbeing" (DAI, 2016, p. 31). While there are many definitions of empowerment in the literature, Mosedale (2005, p. 244) refers to the four generally accepted aspects of empowerment:

> firstly, to be empowered one must have been disempowered, secondly, empowerment cannot be bestowed by a third party, thirdly, definitions of empowerment usually include a sense of people making decisions on matters which are important in their lives and being able to carry them out and finally, empowerment is an ongoing process rather than a product.

The project facilitators attempted to empower local communities by engaging the villagers early and throughout the process. This was in the hope that local communities, who were historically excluded, could work alongside project facilitators

and be involved in the decision-making and implementation of the adaptation activities.

The findings highlight nearly all activities in the project included special consideration of gender issues and greater inclusion of women (DAI & IUCN Thailand, 2014a, p. 4). However, I observed that the participation of women in the adaptation process varied. In some cases, women were excluded from decision-making processes as they were not part of the village committee involved in the activities. In other cases, women were excluded due to language barriers, limitation of group size and marital status. Importantly, several women in one of the villages highlighted that specific activities such as "improved occupations for women" were not approved in the project due to time constraints and as they were deemed irrelevant (DAI & IUCN Thailand, 2014b). These findings showed that while the project empowered the local communities overall, given the systemic gender inequality and biases within the communities themselves, women were often excluded from the adaptation process. Such outcomes undermine the achievement of gender equality and women's empowerment for sustainable development in practice.

Similarly, a distinct group that was missing in the adaptation process were young people. There is evidence in the literature that young people are more receptive to climate change education which allow them to better capture and translate adaptation techniques or initiatives for their communities (Borg et al., 2017; Lawson, 2019). This is crucial as adaptation is critical to future generations, so adaptation needs to empower young people in the process. However, young people such as school children and teenagers were not involved in the process and were not specifically considered by the project facilitators. Young people may have participated alongside their parents or other adults in the communities although this too was unclear. Failing to involve young people in the adaptation process may weaken the "no one is left behind" principle under sustainable development. This may potentially exclude collective action on adaptation that is promoted by sustainable development.

In addition, Tschakert and Machado (2012) highlight the "continuing impact of social biases and institutional practices that shape unequal access to and control over household and community decision-making processes undermining timely, fair, and

successful adaptive responses" (p. 275). This means that for the project, the varying participation of groups of people in the communities in the decision-making processes could lead to disempower those groups in their adaptation. This disempowerment could potentially be compounded by existing social, cultural and institutional inequities.

10.3.3 Project Facilitators View Local Adaptation as a Way to Scale Up and Scale Out Adaptation and Attract Funding for Adaptation in Thailand

The project facilitators maintained that the "lessons learned" and "best practices" from the local adaptation project could be scaled up to sub-national and national levels and scaled out to other communities (Chaudhury, 2016; DAI, 2016). However, the analysis revealed that as adaptation activities were small-scale, localised and short-term, they were more likely to be scaled out rather than scaled up. These findings were found mostly in the *community-based adaptation discourse* and *development assistance discourse*.

Firstly, the adaptation activities in the case study were carried out in a way where the benefits were available only to those within the communities and surrounding areas. For example, raising black pigs provided villagers with offspring that were taken up by others in the village and in surrounding villages (DAI, 2016). These new practices were easily shared at the local level. However, it was difficult to expand the benefits from this scale to the national and sub-national levels because of the lack of relevant policies and institutional frameworks for adaptation (as discussed in chapter 8). The interviews with local authorities also showed, however, that there were no local or provincial adaptation policies (ONEP4, SAO1). Without supporting policies and institutional frameworks for adaptation, it was unlikely they would be adopted at sub-national or national levels. The absence of relevant policies at these levels were discussed from the findings of national level discourses.

Secondly, the adaptation activities were localised to the pilot sites making it easier to scale them out. The villages in the Chiang Rai, particularly in the Mae Chan district, were mostly made up of ethnic highland communities (DAI, 2016, p. 15), and the

adaptation activities could be adapted by surrounding villages. Moreover, many adaptation activities were focused on nature-based approaches such as forest and water management (DAI & IUCN Thailand, 2014a), using the resources that were readily available in the area. Despite this focus, project facilitators claimed that there was scope for adaptation activities from the project to be implemented elsewhere. They maintained that the projects were a basis to attract further funding, particularly from international donors.

As the adaptation activities were implemented in a short-to-medium term timeframe, few initiatives have been continued. Many activities were not sustained due to declining interest, cost and time. As observed by Chaudhury (2016) many "farmers are busy due to a wide variety of reasons, and therefore, they may not have time or the means to engage" (p. 2). The villagers also voiced that without continual facilitation and support, the activities were not able to be sustained. This also made it more difficult for the adaptation activities to be scaled up as it would require ongoing engagement by the project facilitators and participants at those levels. Need for ongoing engagement seemed contrary to the earlier results by the project facilitators. They found that with regard to "the participatory assessment and plans, … the communities started to own these initiatives and taking them forward, and it was also empowering them to request things, from the local government" (IUCN1). This assessment may be due to the close engagement of project implementers during the early phases where villagers may feel more confident to use the networks and tools from the project.

10.3.4 Local Adaptation Activities are Hindered by Implementation Approaches of the Donor

During and after the project, project facilitators held workshops with practitioners and disseminated findings to international, national and local government and organisations to sustain the legacy of the project (DAI, 2016). They focused on "lessons learned" and "best practices" to guide future adaptation projects and national adaptation policy and planning. In so doing, they were making the case for further investment in adaptive capacity for vulnerable communities that would not otherwise receive support from local authorities. The project was, therefore, a means

of promoting the need for further financing for development, public awareness, technology transfer and capacity building for sustainable development.

However, development assistance can have limited or even negative impact on growth where resources are not able to be maintained by the communities. Reid and Huq (2014) observed that local projects are often facilitated by "larger multilateral and bilateral agencies, national governments, and representatives from major government and non-government agencies". Development agencies (such as USAID, DAI, IUCN and others) may have power over communities as they have funded extensive work on development and environment in rural communities, including climate change and adaptation, with long-standing relationships between agencies and local authorities (IUCN, n.d.-b). Projects end up reinforcing the differing motives, frameworks, structures and mechanisms of involved agencies. For example, the Mekong ARCC project is guided by the USAID's Theory of Change (DAI, 2016) involving a roadmap based on logical interventions which are guided by a set of beliefs and assumptions that support the expectations on how the change will occur (Valters, 2015). The Theory of Change used in the project reflected a Western process where project facilitators identified *activities, outputs, community activity phase, short-term outcomes, outcomes, intermediary outcomes and impact* - the kind of measures that does not reflect traditional practices found in indigenous communities. Gupta (2009) observes, "using aid to promote and project western practices and solutions on other cultures also might be ineffective" (p. 103) as Western approaches may go against local norms and practices, and may fail to shape individual attitudes and behaviours that could only occur within the local Thai context. For example, the prominence of respect towards the monarchy, including royal teachings or incentives will likely lead to ready adoption of the sufficiency economy-based adaptation activities by the local Thai communities (or even ethnic highland communities). In turn, this may cause tension over national ownership, and local circumstances may have negative implications for sustainable development.

10.3.5 Summary of Key Discourses at the Local Level and their Implications for Sustainable Development

There were four key discourses of climate change adaptation policy identified at the local level. They were *ecosystem-based adaptation, community-based adaptation, livelihood resilience* and *development assistance discourses*. They all have varying implications for sustainable development.

The *ecosystem-based adaptation discourse* enables villagers to integrate traditional practices such as nature-based interventions and local knowledge and techniques in the adaptation activities. These benefits support several dimensions of sustainable development such as the recognition of indigenous knowledge, along with the emphasis on local wisdom and knowledge and local appropriateness under sufficiency economy. This discourse focused strongly on the relationship between the environment and human beings. The *community-based adaptation discourse* could be seen as an extension of the previous discourse but with greater potential to empower local communities, reduce systemic inequalities and biases within the communities themselves. However, if those elements that exist within communities are not well considered, the discourse could undermine the achievement of gender equality and women's empowerment for sustainable development in practice. Another discourse was the *livelihood resilience discourse* which considered how adaptation influences the economic livelihoods of local communities. The discourse considered the role of the market, competitiveness of resources and inequities faced by communities from economic incentives. While providing greater agency for communities within local or provincial markets, the existing inequities, if unchallenged could hinder the economic dimension for communities in their path towards sustainable development. Lastly, the *development assistance discourse* examines the role of the donors and project facilitators in implementing local adaptation activities. The way project facilitators view local adaptation, as a way to scale up and scale out adaptation at national and sub-national levels, could contribute to mainstreaming and exchange of knowledge amongst practitioners and participants involved in adaptation. However, if donors or project facilitators have too strong a hold on the direction of the

adaptation activities, it could potentially be detrimental for sustainable development in terms of local appropriateness or ownership of adaptation plans and policies.

Moreover, key discourses of climate change adaptation policy identified at the local level also had implicit links to the discourses found at the national and international levels. The local level discourses provide insights of climate change adaptation policy from an implementation phase that were delivered directly to the communities. These insights at the grassroots, particularly through *ecosystem-based adaptation discourse* and *community-based adaptation discourse* could help guide national and sub-national policies. For instance, at present, national adaptation policies are beginning to consider ideas of "ecosystems" and "communities" that are found within local level discourses but are inadequately reflected in national and international level discourses. This may be because discourses at the local levels have greater proximity to local communities where those ideas are dominant. Discourses at the local level could help highlight the ways in which national and sub-national adaptation policies could include local communities and how they could be implemented. For example, they could consider the participation of local communities in the decision-making processes and using more natural approaches to adaptation that is appropriate to local capacity. If these local discourses are taken into account within national and sub-national policies, then they could potentially allow better implementation of national adaptation policies on the ground.

Despite varying positive and negative links to national and international level discourses, the implications of discourses at the local level share several similarities to the national and international levels. For example, local appropriateness through a local level discourse, such as in *community-based adaptation discourse*, could be found in national and international level discourses. These links imply that the implications for sustainable development are not necessarily confined or unique to a level or in the case of local appropriateness, to the local level. There is potential for sustainable development to emerge from any level and have an effect on any level. Yet, it is important to note that the local level discourses tend to have comparable recognition of sufficiency economy as sustainable development to national and international level discourses that generally have fewer clear effects on the

sufficiency economy. These effects refer to notions such as change approaches which at the local level focuses on changes in attitudes and behaviours of individuals which national and international level discourses may not have scope to focus in detail.

10.4 Chapter Summary

Local adaptation discourses strongly focus on adaptation measures for communities. The key discourses at the local level through the case of the Mekong ARCC project were *ecosystem-based adaptation, community-based adaptation, livelihood resilience* and *development assistance discourses.* These discourses show that climate change adaptation is prioritised but framed in different ways. *Ecosystem-based adaptation* and *community-based adaptation discourses* both concern the needs and capabilities of local communitie. However, while the former gives more recognition and authority to ecosystems and nature, the latter focuses crucially on the communities themselves. Meanwhile, economic growth and development of local communities are influential in the *livelihood resilience discourse*. Livelihood diversification not only supports adaptation but other economic development for the communities in a wider market. Development and aid agencies are key entities in shaping *development assistance* discourse. The discourse highlights the crucial role of development and aid agencies in guiding adaptation initiatives in local communities. Adaptation becomes a continuation of development objectives with increased funding through adaptation framing.

The implications for sustainable development overall saw that discourses are generally supportive in terms of social and environmental dimensions. This was to be expected as, for local communities, adaptation responds to societal vulnerability, equity issues, livelihoods, and dependency on natural resources, thereby bringing about social and environmental concerns to the foreground. The discourses also provide for participation by local communities in their adaptation process and local appropriateness of the adaptation measures. In addition, there are stronger implications for sufficiency economy at the local level, perhaps due to the adaptation activities using sufficiency economy practices through the practitioners. At the same time, the direct use of the sufficiency economy may in turn be challenging for local

ownership of adaptation activities by the local communities. Likewise, the interest and power of international agencies over the implementation of local adaptation activities could be detrimental to the positive outcomes of the purpose of the project and the long-term success of sustainable development. These implications need to be considered when developing and implementing local adaptation policies.

Chapter 11: Conclusion

Climate change poses a significant threat to sustainable development (UNFCCC, 2015). Increases in temperatures and frequency of droughts are leading to higher occurrences of wildfires, while more extreme storm events alongside sea-level rises are resulting in the increasing incidence of devastating floods. These climatic changes will occur to different extents across the world throughout this century and beyond, but are expected to have more impact on those who are most vulnerable, those in developing countries and disadvantaged groups everywhere (UNDESA, 2020). The impacts of climate change include exacerbating a multitude of existing and future vulnerabilities such as poverty and hunger (UN, 2015b). The multiple linkages between climate change and sustainable development are reflected in two agreements adopted by countries in 2015, the 2030 Agenda for Sustainable Development and the Paris Agreement. The 2030 Agenda includes a specific goal on climate action, SDG 13, but recognises that climate change is also linked to other SDGs as achieving all other SDGs will be much more challenging without urgent climate action (UN, 2015b; UNFCCC, 2015).

Climate change adaptation is fundamental for building resilient and equitable socio-economic and ecological systems. It is an important part of efforts to implement not only the Paris Agreement and the Sendai Framework for Disaster Risk Reduction, but also the 2030 Agenda for Sustainable Development (UN, 2015a, 2015b; UNFCCC, 2015). For example, achieving zero hunger or delivering universal access to safe water will require additional resources, actions and investments in the face of climate variability, longer-term change and impacts of climate extremes (OECD, 2019a). At the same time, progress towards the SDGs will strengthen the capacity to adapt to a changing climate by, for example, eliminating poverty in ways that also reduce vulnerability to climate change. Sound adaptation policy and practice, which requires good decision-making processes, is therefore important to ensure that the multifaceted goals of sustainable development can be met.

In the context of Thailand, the country is facing increased temperatures, higher frequency of floods and droughts, and sea-level rise as a result of climate change (ONEP, 2016, 2018a). Yet, climate change adaptation policy in Thailand, like most

countries, has only recently become a political priority for the Thai government despite the country being part of the UNFCCC since it ratified it in 1994 (NESDB, 1997). Thailand began its national planning on climate change in 2007 when it first adopted its national strategic plan on climate change. However, it was not until 2018 that it developed its first NAP that specified in detail strategies for adaptation (see chapter 4). Importantly, the plan emphasises that climate change will have detrimental effects on Thailand's national development efforts. The potential effects of climate change impacts in Thailand are mentioned in its national development policies including the 20-Year National Strategy and the Twelfth Plan (NESDB, 2017; NESDC, 2019a).

This thesis set out to examine climate change adaptation policy in Thailand and the implications for sustainable development. In approaching these topics, it asked the following questions:

- How has climate change adaptation policy been developed in Thailand?
- How have sustainable development and the sufficiency economy been approached in Thailand?
- What are the overlaps between sustainable development and sufficiency economy approaches?
- What are the dominant discourses that inform Thai climate change adaptation policy and practice?
- What are the implications of the dominant discourses of Thai climate change adaptation policy and practice for sustainable development?

The purpose of the research was to understand the key discourses that guide Thailand's climate change adaptation policy and practice, and their implications for sustainable development and the distinctive Thai notion of the sufficiency economy. To identify these dominant discourses, I used a CDA approach to understand how climate change adaptation policy is perceived and prioritised in Thailand. Critical discourse analysis provides a way of grasping the ways in which climate change adaptation policy in Thailand is shaped by the political, economic, and social developments in the country (see chapter 2).

I drew on the conceptual foundations for CDA laid by Fairclough's (1992) three-dimensional framework and van Dijk's (2008) socio-cognitive approach to power and knowledge, with the analysis of the discourse and their elements informed by Dryzek's (2013) discourse analysis (chapter 6). With these frames, I aimed to capture the underlying dominant constructions and related power dynamics that shape climate change adaptation policy at the international, national, and local levels in Thailand. The research methods I used in the study also involved thematic analysis of documents, as well as semi-structured interviews with actors involved in climate change adaptation policy and the case study of the Mekong ARCC project. These methods helped uncover the discourses shaping climate change adaptation policy and the implications for sustainable development at international, national, and local levels in Thailand.

11.1 Review of Findings

Key insights from the findings

The key findings show that Thailand's response to climate change is shaped by its status as a developing country, by its international obligations, and by the country's specific development contexts. For example, in terms of its developing country status, the discourses are informed by an assumption that Thailand has low technical, technological, and financial capacity to respond to the impacts of climate change. Its adaptative capacity, or lack of it, is at the forefront of the discourses such as the *climate crisis discourse* (chapter 7) and *holistic development discourse* (chapter 8). These findings show that within these discourses, the implications for sustainable development, and to a lesser degree, the sufficiency economy tend to be anchored in the recognition of Thailand's low adaptive capacity. Examples of this are the lack of national ownership over the country's adaptation process, local appropriateness of the adaptation measures, participation of all people in the decision-making process, and accountability and transparency of government's adaptation policymaking.

In addition, the findings revealed that international obligations strongly shape the recognition and framing of climate change adaptation measures in Thailand. As the UNFCCC obligations on adaptation increases, so has Thailand's priorities on adaptation increased. The push from the UNFCCC on Thailand's obligations has thus

improved its adaptation measures, helped by the technical, financial, and technological provisions it has received as a developing country. Yet, these international obligations and provisions may lead to a lack of national ownership of the adaptation process at the national and sub-national levels. They also may not bring out the systemic inequities within the country that has created its lack of adaptive capacity in the first place. The *climate crisis discourse* (chapter 7) and *development assistance discourse* (chapter 10) are examples of international obligations, which should lead to better adaptation, but have not resulted in sufficient climate action and adaptation implementation by Thailand.

The impact of Thailand's distinctive political, economic and social contexts on its approach to climate adaptation is a key insight. Thailand's political struggles have shown that both authoritarian and democratic regimes have shaped the priority on the environment and climate change (as discussed in chapter 3). In terms of policymaking, the discourses exemplified the incremental approach taken by the Thai state on climate change adaptation (as reflected in *the climate crisis discourse* in chapter 7). This finding perhaps is not surprising, particularly as the focus on economic growth in Thailand has fundamentally been driven by the attempt to transition from an upper middle-income country to high-income status. The economic direction, as a result, has historically been detrimental to the environment, leading to continued increases in GHG emissions (see chapter 3 for deeper time horizons). This in turn has resulted in low priority being given to climate action, particularly adaptation. In terms of the implications for sustainable development and the sufficiency economy, the Thai context has questioned the potential support (or lack thereof) for environmental dimensions of sustainable development.

Meanwhile, the strong pillars that underpin traditional social and religious structures, known as "nationalism, religion and monarchy", have influenced how Thailand perceives efforts on adaptation. The findings show that these have both positive and negative implications for sustainable development as well as the sufficiency economy. "Nationalism" or strong national values and traditions in Thailand may help explain the "people-centred" approach to the sufficiency economy (and sustainable development). For the discourses of climate change adaptation policy, the focus on

human development means that there is greater push for awareness-building, behaviour change and knowledge exchange, which are strong elements of the sufficiency economy. As such, the "religion", referring to Buddhist traditions and values, as well as the "monarchy" which generally refers to the late King of Thailand, provide a distinct context and opportunity to extend the notion of the sufficiency economy within the discourses. For example, within local communities, there was clear evidence of adapting sufficiency economy thinking and approaches to local adaptation activities. This was evident in *community-based adaptation* and *ecosystem-based adaptation discourse* (chapter 10). The same evidence was found in *national development discourse* (chapter 7) and *resilience discourse* (chapter 8), where the former focussed on people-centred approaches and the latter on resilience or immunity – both of which are crucial elements in the sufficiency economy.

The findings showed that as there was generally a greater focus on "people-centred" or human development, the discourses often had less recognition or value for ecosystems. The *competitiveness discourse* (chapter 8) and *economic resilience discourse* (chapter 10) both revealed that ecosystems are "the means" to adaptation, rather than part of the adaptive system or adaptive capacity itself. In terms of the implications for sustainable development and sufficiency economy, this finding clearly is not supportive of the economic dimension of sustainable development.

As highlighted by the ability of the discourses to be realised in practice, it becomes difficult to evaluate their implications across the policy cycle, particularly as the discourses derive from texts that emerged from different stages of the policy cycle and from different genres. The international level discourses emerged from texts such as *climate crisis discourse, global climate governance discourse, climate equity discourse* and *national development discourse* that evaluated the progress of climate change mitigation and adaptation policies in Thailand to an international audience. The national level discourses emerged from texts such as *climate resilience discourse, holistic development discourse* and *competitiveness discourse* that described climate change and adaptation policies during its definition, formulation, or development stages. The local level discourses emerged from texts such as *ecosystem-based adaptation discourse, community-based adaptation discourse,*

livelihood resilience and *development assistance discourse* that responded from the conception to the implementation of the project. These different stages mean that the discourses and their implications for sustainable development and sufficiency economy could be limited to how far a text is within the policy cycle as well as the time when the text emerged. For example, the text at the international level included reports from the early 1990s, while texts at the local level included reports from mid-2010s. In addition, discourses found at the local level, could potentially be more supportive of sustainable development and the sufficiency economy, as there is greater clarity on how adaptation could achieve overall sustainable development. Discourses that emerged at an earlier stage of the policy cycle could also be dominant and relevant to the time that it emerged, but they will evolve or change when they reach a later stage of the policy cycle, even if they were produced and disseminated by the same actors. This is also because priorities, knowledge, power and resources will progress over time, shaping the values, worldviews and ideologies of discourses.

Linkages across international, national and local levels

While several discourses of climate adaptation policy in Thailand exist at international, national and local levels, the ideas that they propagate and their level of dominance vary across these levels. Dryzek (2013) argues that there are no hegemonic discourses at any one time, and policy debates are characterised by the presence of multiple active discourses. Although Fairclough (2013) states that there may be a dominant discourse as well as complementary, marginal, oppositional and alternative discourses. For the discourses found within this research, I agree with Fairclough as there has been strong recurrence of “national development” discourses across the three levels. Understanding this dynamic is important as the dominance of a discourse is significant to how and why it occurs. The discourses at all levels point to mainstreaming adaptation into development plans. The *national development discourse* as identified at the international level highlights that climate change measures need to ensure that adaptation can support national development. Similarly, the *holistic development discourse* at the national level refers to the importance of mainstreaming into national development planning. Finally, *development assistance*

discourse at the local level highlights that adaptation needs to support development in local communities. There are, therefore, links across the three different levels (international, national and local).

Meanwhile, the discourses that were also significant, but not dominant like the "national development" discourses, were "resilience" discourses and "economic" discourses. The "resilience" discourses include the *climate crisis discourse* at the international level and the *climate resilience discourse* at the national level. These discourses recognise the urgency in addressing the climate change impacts and point to adaptation as a significant long-term need for Thailand. The "economic" discourses include the *competitiveness discourse* at the national level and the *livelihood resilience discourse* at the local level. These discourses focus on the need for adaptation to be able to provide long-term economic benefits for Thailand. The significance of these discourses reveal that they reflect oppositional discourses but also alternative discourses to the hegemonic discourse as described by Fairclough (2013).

Overall, the insights above showed that discourse is "an ensemble of ideas, concepts and categorisations that are produced, reproduced and transformed in a particular set of practices and through which meaning is given to physical and social realities" (Hajer, 1995, p. 44). This quote suggests that discourse is also shaped by the genre of the texts, the key actors involved and the social practices (such as international negotiations or local community adaptation) through which the discourse is being produced and disseminated. These elements were important to identifying the features of the discourse as well as understanding the discourse and how they are linked at the three levels.

The goal of development, which all countries aspire to, is being shaped in the face of climate change. But in the Thai case, it seems that climate adaptation initiatives remain small, fragmented, and ad hoc, because the state is continuing to prioritise other economic and social development goals. This is because the discourses at the international and national levels are primarily driven by the mandate of the Thai government that they must align with the 20-Year National Strategy. The discourses identified at the local level are distinct from those at the international and national

levels due to the narrower context of the case study. The discourses at the local level focused more on addressing vulnerabilities and existing inequities within the communities and encouraged community involvement in decision-making, whereas there is less potential for direct participation at international and national levels.

Currently, the national adaptation policy does not adequately consider how adaptation will be implemented at the local levels, while local adaptation projects such as the Mekong ARCC project do not refer to national climate change or adaptation policies. This finding suggests that there is a different focus between international agencies which are active at the local level, and the national government in Thailand. This is significant for climate change adaptation as the different approaches lead to different outcomes. The differences in the outcomes will also have different implications for sustainable development and sufficiency economy. For instance, the international agencies may aim to use community and natural approaches to adaptation which support local sustainable development. The approaches, however, may not feed into national and sub-national adaptation policies. This is a potential loss for contributing to sustainable development at the national level. The analysis of national adaptation policies showed that they are beginning to mention community and natural approaches but how they will be integrated into policy and practice is still unclear. The gaps from the distinct focuses of national and local level adaptation by different actors could be addressed by policymakers and they provide an opportunity for better integration or linkages of adaptation policies across all policy levels.

An important insight from the findings is that adaptation in Thailand is more likely to achieve sustainable development than sufficiency economy. In all the discourses, there are stronger links to sustainable development than the sufficiency economy. This may be because there are clearer linkages in the texts to sustainable development than the sufficiency economy. For example, the *holistic development discourse* supports the principles and policy processes of sustainable development, but only the principles of sufficiency economy, resulting in less visible linkages of the discourse to the sufficiency economy (see chapter 8). Another possible reason for the lack of linkages to sufficiency economy, particularly at the national and international

level, is the limited ways in which the concepts of sufficiency economy were articulated at those levels and integrated in practice. The sufficiency economy was better integrated into adaptation activities at the local level – the Mekong ARCC project provided training to villagers that explicitly used and was guided by sufficiency economy concepts and practitioners. The concept of sufficiency economy at the national and international levels was often only briefly referenced or mentioned, and so was vague and non-specific.

Lastly, the review of the texts at the international and national levels also show that the goal of sustainable development is complex and evolving, particularly through the review process at the UN High-Level Political Forum for Sustainable Development to match changes in priority, technology, society and law (Espey et al., 2015). The values and goals of sustainable development may also change over time, requiring adaptation agencies to adopt new or better approaches to adaptation. Government and international agencies may attempt to address the changes over time in their consideration of socio-economic factors in their adaptation planning. However, once a project is started, it will often take a few years if not more to be completed. During that time, it may be difficult to adapt to new sustainable development standards.

Overall, the findings in the thesis highlight that the discourses show there are many perspectives on adaptation and many ways to achieve adaptation. The findings also demonstrated that the discourses reinforce existing discourses and invent new discourses. These findings imply that discourses could complement or contradict at different levels. The discourses related to national development were implicit but ran through all levels. In addition, the findings from the three levels suggest that there is a greater focus on human development for sustainable development rather than any acknowledgement or recognition of the intrinsic value of ecosystems and nature. These entities are seen in a functional sense as the means towards human growth and well-being, recognising how human beings influence the impacts of climate change. The scholarship on sustainable development shows that such a functional approach to nature and the environment is an aspect of “weak sustainable development” (Ang & Van Passel, 2012). At all levels, there is a lack of understanding on what sustainable development truly means for practitioners and how their work

achieves sustainable development. This is worse for the sufficiency economy where there were few links between the concept and adaptation. The possible implications for the sufficiency economy were only explicit in reference by the state to the concept, but beyond that, there were only implicit indications arising from the analysis. These are discussed further in the next section.

11.2 Theoretical Contributions to the Scholarship

The review of the theoretical approach in this study showed that the elements from the concepts of the Western version of sustainable development and the Thai version of sufficiency economy provided useful insights into discourses. The holistic analytical framework for sustainable development and the sufficiency economy was developed (chapter 5) and applied in the analysis of the key discourses (chapter 7, 8, and 10). The research showed that distinct frameworks such as these could be integrated as an analytical framework, derived from the differences and similarities between sustainable development and sufficiency economy and based on the various elements of discourse. By unpacking these elements, the analytical framework enabled the researcher to easily distinguish instances where the discourses have implications for sustainable development or sufficiency economy or both. This research goes even further by considering the linkages between sufficiency economy and sustainable development concepts and exploring the potential relationships between these concepts. The sufficiency economy framework was useful in identifying the religious and cultural elements of sustainable development that was not so visible in a Western sustainable development perspective. In addition, given there has been hardly any scholarship on the sufficiency economy in English, this study makes a significant contribution.

There has previously been little conceptualisation of the sufficiency economy as an analytical framework. This research developed an analytical framework based on the "elements of discourse" on the sufficiency economy. Developing this framework involved unpacking and identifying the key elements of sufficiency economy. This kind of work has not been done for the sufficiency economy before, so this research provides a theoretical and analytical framework that could potentially be applied in other research.

From these insights, this research adds to what is known about sustainable development in developing countries, specifically on how national governments are likely to achieve sustainable development through climate change adaptation measures. The research has contributed to climate change adaptation studies, particularly in developing countries and Thailand, and critical policy studies. It also has relevance for other disciplines, particularly sustainability studies. To a lesser extent, it is relevant to ethics theory from the insights on the ethics and virtues principles within the sufficiency economy, social theory from the dynamics on social behaviour, power and social structure. Additionally it informs gender studies and ethnic studies through the insights into the role and status that women and ethnic communities have in climate change adaptation within local contexts.

From this research, it was found that the analytical framework on the sufficiency economy worked well enough for the purpose of this study. However, there were some limitations to the analytical framework on the sufficiency economy. One was the broad conceptualisation of the elements of the sufficiency economy. In some cases, it was difficult to determine whether a key aspect of the sufficiency economy fits properly in one element category or another or even multiple element categories. For example, there was a judgement call on whether “knowledge and virtues” was a guiding principle or a normative value. Another limitation is the element category itself. These observations contribute to a better understanding of the limitations of using the sufficiency economy in an analytical framework.

As shown in the research, the analysis was beneficial in drawing out the underlying political, economic, and social dynamics in the Thai context that influence and shape climate change adaptation policy. As described earlier in this chapter, Thailand’s political, economic and social developments have been instrumental in shaping its climate change adaptation policies. The political struggles and hybrid political system, the drive for economic growth and becoming a high-income country, and the entrenched “nationalism, religion and monarchy” pillars have shaped the historical environmental degradation and infused attempts to deliver on climate action through relatively slow and incremental climate policies. These developments have played out through the various discourses found at international, national, and local levels. The

discourses found within the Thai context subscribe to the well-established scholarship on Thai politics, society, and economy. This thesis adds to the growing literature on the environment and climate change, particularly adaptation, in Thailand.

This research also contributes to the use of CDA in research on climate change adaptation policy and sustainable development. This study applies Dryzek (2013) discourse analysis theory into an analysis of climate change adaptation policy for the first time and provides a good exemplar of how it could be conducted. In this study, Dryzek's key elements of discourse analysis was used in the analysis of climate change adaptation policy discourses at international, national and local levels. This approach was useful in unpacking the key entities, their natural relationships, the key actors and the metaphors and rhetorical devices used within those discourses. In many studies using discourse analysis, the analysis often involves a focus on finer details of linguistic use, which were too detailed for the purpose of this study. By using only four key elements to analyse the discourse, I was able to ascertain the broad but crucial elements of the discourse, which suited the purpose of a critical policy analysis.

In addition, Dryzek's (2013) discourse analysis appears to have seldom been used for a study of environmental policy in a developing country such as Thailand. The study brought together climate change and adaptation concepts, sustainability and sustainable development concepts and policy and political concepts to shed new light on dominant discourses, ideology and power in a developing country – Thailand – context.

11.3 Strengths and Weaknesses of the Analytical Framework

The analytical framework on sustainable development was easier to develop compared to the sufficiency economy. This may be due to the breadth of scholarship on sustainable development. The elements of discourse for sustainable development in the analytical framework were, thus, clear and established. For example, aspects such as the "economic, social and environmental pillars of sustainable development" are widely accepted as essential for the achievement of sustainable development. The distinct contribution of this research then is focused on how the sustainable development framework could be used with the sufficiency economy framework.

This research found that there were strengths and weaknesses of the analytical framework in being applied to an analysis. The strength of the framework was its malleable application to an analysis. The broad elements such as principles and values, rather than targets or indicators, within the analytical framework provided a way to critically analyse the way discourses link to overall sustainable development. This is possible by allowing a broad analysis of the features of the discourse to the features of sustainable development. For example, knowledge exchange, a feature of sustainable development, can be linked to the discourse that enables communities to learn from adaptation training or through partnerships amongst developing countries on adaptive capacity.

In addition, the framework appears sufficiently robust to be relevant in other research that is focused on analysis of climate adaptation policies – or potentially other environmental policy areas – in other developing or developed country contexts. However, while also a strength, the broad elements of the analytical framework could also be seen as a weakness in implementation. The broad perspective refers to the element category, such as “change approaches” which could be interpreted in multiple ways. While the content of the element category is clear-cut, such as “organisational and individual attitudes, behaviours and way of life” as found in the sufficiency economy, when another research applies this element to their analysis, the researcher may find it too open-ended for their purposes. This observation raises another crucial point from the framework, namely, the “ideal” state of the sustainable development and sufficiency economy concepts, and so may not be useful in “reality” or practice. Furthermore, the sustainable development and sufficiency economy framework fails to incorporate the recognition of the intrinsic value of ecosystems. Thus, the frameworks failed to balance the environmental dimension with economic and social dimensions, from the beginning.

11.4 Empirical Contributions of the Thesis

This research is one of the earliest studies on climate adaptation policy in Thailand, particularly in its early stages when the first NAP and sectoral climate change plans were being developed. This means that the study was able to gather initial perspectives on its development and progress. In addition, this research explored the

contribution of national adaptation policy to local adaptation in Thailand. Few studies in the country have explored how climate change measures from central government are being integrated at sub-national and local levels. Better understanding of climate change adaptation policy at these levels could provide the political and policy changes required for better adaptation planning in Thailand. The findings from the study have thus contributed preliminary research on policy relevance at these levels.

This is a study that does not purely focus on the practicality of the adaptation measures that were implemented in the plan, but also the wider implications for sustainable development and the sufficiency economy. There have been few studies on the implications of climate change adaptation policy for sustainable development. Sustainable development and sufficiency economy are concepts that are not well understood by Thai policymakers, making it difficult to link such concepts in sufficient depth to climate change adaptation policy. The findings from the study add to the existing research on sustainable development and the sufficiency economy in Thailand, as well as on climate change adaptation in Thailand. Moreover, there has been little research on the sufficiency economy in the Western literature, especially from a critical perspective. This research thus contributes to building this literature. It has also signalled that much more empirical research is needed on the sufficiency economy itself including on the socio-political and socio-environmental factors that shape government policies.

This study is one of the few studies to directly examine discourses in climate change adaptation policy in Thailand. Discourse analysis is an approach that has seldom been used in the Thai context. This study has used CDA to examine climate change adaptation policy, which found several discourses in Thailand's policy approach to climate change adaptation. The discourses revealed that several ideologies and values were being promoted such as national development, equity, and economic growth. However, some were more dominant than others given the discourse community and genre of the texts. In addition, the study also explored the different discourses and power dynamics that pull and shape the direction of adaptation, unravelling the different elements that make up Thailand's approach to adaptation. Critical discourse analysis offers better understanding of the relationship between

discourses and social practices and how they shape or are shaped by power and knowledge. Few studies in the climate change area in Thailand have explored adaptation policy from this critical perspective, so this study contributes to research in this area. This research provided a critical starting point for any future investigation from a discourse analysis lens in Thailand or developing countries.

The study of the Thai ministries and departments on climate change adaptation policy presented a fundamental research piece for further studies on climate change policy and adaptation policy in Thailand. The location of the research case highlighted that there were several actors and agencies involved in climate change adaptation policy, but little research has been conducted on them. There is a similar lack of research evaluating the climate change adaptation policy at the local level through a case study such as the Mekong ARCC project. The findings from the fieldwork suggest that there is greater scope for critical research into adaptation planning and implementation at the local levels in Thailand from a policy perspective. The observations from this study are an entry point to such research.

11.5 Limitations

There were several limitations to the study that have been mentioned throughout the thesis and flagged in the methodology (chapter 6). The following section discusses the key limitations.

The timeframe of the data collection in the field was limited. As the study was not an ethnography, it did not require the researcher to be present in the field for an extended time. However, to gather richer data, and to more fully understand the local culture, politics and society, it would have been useful to have spent more time both in the villages and in the capital, Bangkok. This additional time would have helped to establish better rapport and trust, which in turn could have resulted in more in-depth interviews. In addition, this research focused more on the reports developed by project facilitators rather than the voices and perspectives of the villagers. In part, this was because of the limited time in the field and number of villagers who participated in the project, but there were also challenges posed by language, as discussed below.

Language barriers were another limitation to the study. There may have been unique perspectives from the villagers who participated in the Mekong ARCC project, but those from ethnic minorities who made up the villages of the case study had little knowledge of the Thai language and I had no knowledge of their native tongues. I therefore had to rely on villagers with fluency in Thai to translate for those who had little knowledge of Thai. Similarly, due to the non-fluent comprehension of my Thai, I was unable to review the broader range of scholarly literature on climate change adaptation in Thailand and especially on sustainable development and the sufficiency economy. As the sufficiency economy is widely applicable in the national and local contexts, there is likely to be more research on the topic in Thai than in English.

Due to the timing of this research, the choice of case studies available to choose from was an important limitation. At the time of my fieldwork, there were no provincial or local government adaptation policies. This means that the analysis at the local level was not a linear or directly comparable analysis to national adaptation policies which were developed by the Thai government. As discussed in the review of the findings, the local adaptation project did not consider any national adaptation policies.

11.6 Delimitations

The delimitations to the study were crucial as it was important to narrow the study to make it more manageable. The delimitations were mostly on the location of the fieldwork. This research focused on Thailand's adaptation policies. This means that it covered only with no scope for a comparative analysis with other countries.

The study at the local level is limited to one local case study – the Mekong ARCC project. The project was a transboundary or cross-boundary climate adaptation initiative that included countries in the Lower Mekong region – Thailand, Cambodia, Laos and Vietnam. The case study focused only on Thailand as the analysis of adaptation policies at the international and national levels were from Thailand. Moreover, the Mekong ARCC project in Thailand included two field sites: Chiang Rai and Sakon Nakhon. To make the study manageable given the limited access and timeframe of the research, the Sakon Nakhon site was excluded from this study.

As the research is about climate change adaptation, the texts on climate change policies that had strong links to mitigation were excluded from this study. This is to ensure that the discourses reflected an adaptation policy perspective.

11.7 Future Research

As climate change adaptation policies in Thailand are incomplete or yet to be implemented, there is need for future research to focus on this evolving area of policy making. There is scope to dig deeper into this area from a critical perspective using different theoretical and analytical frameworks and research methods. In addition, there is a crucial opportunity to examine how Thailand is integrating climate change measures into sectoral and sub-national development planning. As this planning progresses, there is scope to examine the political and power dynamics of policy integration and mainstreaming.

This study has pointed to several key actors and agencies that have been involved in climate change adaptation policies in Thailand. Due to the significant role that international agencies play in the development of Thailand's national climate change policies, there is a need to examine how such agencies influence and shape policies. This can begin with GIZ which is closely connected to ONEP. The results could lead to comparative studies on climate change adaptation discourses between or across developing countries and/or developed countries, which could examine specific adaptation sectors or key actors.

Further research into the role of foreign aid in climate change adaptation policy in Thailand is needed. Thailand has multiple bilateral and multilateral projects that influence and shape climate change adaptation policy, and these often occur through selected projects. In addition, some projects are external to state involvement that are conducted in collaboration with international agencies and NGOs working on development and/or climate change projects in Thailand. Future research can examine the range and effectiveness of adaptation initiatives underway in Thailand.

Such research could lead to changes in policy and practice of sustainable development and the sufficiency economy, with a focus on climate change adaptation. My research has shown that it is difficult to identify how sufficiency economy fits into

practice. Future research can extend my results on the sufficiency economy and climate change adaptation in their research.

Finally, it is also important to consider wider influences that shape adaptation policy in Thailand. Are these key discourses maintained during the project implementation period and are they able to be sustained in the long-term? The historical timeframe and prospects for these discourses need to be investigated further.

11.8 Conclusion

Thailand has begun to take significant steps towards climate adaptation but its continued prioritisation of economic growth and development threaten to undermine those adaptation initiatives. A lack of capability and capacity at the sub-national and local levels means that Thailand is dependent on its international partners to pursue robust adaptation programmes. Thus, what is needed is the political will to recognise the importance of capacity building for climate adaptation, and a commitment to meaningful engagement at the local level driven by the distinct vision of the sufficiency economy to ensure that Thailand is prepared for the transition to a climate resilient future.

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Appendices

UNIVERSITY OF WAIKATO
FACULTY OF ARTS & SOCIAL SCIENCES

INFORMATION SHEET

Climate change adaptation policy in the context of political instability: An analysis of the prospects for sustainable development in Thailand

I am a political science doctoral student at the University of Waikato in New Zealand. As part of my PhD thesis, I am conducting research on the implementation of climate change adaptation policy in Thailand. The aim of my research is to explore the institutional, social and cultural factors influencing the implementation of the USAID Mekong ARCC project. I am interested in examining the potential of climate change adaptation policy and projects to deliver on the goal of sustainable development.

Semi-structured interviews

I expect to conduct several semi-structured interviews with key stakeholders in central, provincial and local government, funding agencies, NGOs and research institutions. The interviews will be approximately 1 hour in length which will be audio-recorded for accuracy.

I would like to invite you to participate in an interview as part of my research.

Your rights as participants

If you choose to participate in my research, you have the right to:

- Refuse to answer particular question(s)
- Withdraw from the research up to three weeks after the interview
- Decline to be audio recorded and request that the recorder be turned off at any time
- Amend, delete or add content up to three weeks from when the transcript is returned
- Ask any questions about the research at any time during your participation

Confidentiality

I will ensure that all interviews remain confidential. It is important that you are comfortable with how you are represented in the research. You will be able to choose to be identified by name and role, or to be referred to using a pseudonym, which will be used in any publications. All written notes and transcripts will be kept in a locked drawer. Any information stored on a

computer will only be accessible through a private password. Only the researcher and transcriber will have access to the raw data and my supervisors will also have access to the transcripts and electronic information.

Findings

The results of my research will be used as part of PhD thesis. Four copies of my thesis will be produced: three hard copies and one accessible electronically. The findings may also be used in presentation and journal publications.

Next steps

If you would like to take part in my research, I will contact you so we can arrange a time and location to meet. If you have any questions about the research, please feel free to contact me or my supervisors.

Contact Details

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This research project has been approved by the Human Research Ethics Committee of the Faculty of Arts and Social Sciences. Any questions about the ethical conduct of this research may be sent to the Secretary of the Committee, email fass-ethics@waikato.ac.nz, postal address, Faculty of Arts and Social Sciences, Te Kura Kete Aronui, University of Waikato, Te Whare Wananga o Waikato, Private Bag 3105, Hamilton 3240

UNIVERSITY OF WAIKATO

FACULTY OF ARTS & SOCIAL SCIENCES

PARTICIPANT CONSENT FORM

Climate change adaptation policy in the context of political instability: An analysis of the prospects for sustainable development in Thailand

Description of project: The aim of my research is to explore the perspectives and assumptions of actors involved in the USAID Mekong ARCC project. I am interested in finding out the political, social and cultural norms that influence and shape climate change adaptation policy at different policy levels in Thailand.

I have read the information sheet and understand that:

- Any questions relating to the research have been answered to my satisfaction
- I can refuse to answer any questions, terminate the interview and can withdraw from the research up to **three weeks** after my interview
- All information will remain confidential
- I will be able to choose to be identified by name and role, or to be referred to using a pseudonym
- All information collected will remain secure in a locked drawer and on a computer accessibly by private password only
- Information will be used for a PhD thesis, presentations and journal articles

Please tick [✓] as appropriate	**YES**
I consent to our conservation being audio-recorded	
I wish to view the transcript of the interview	
I wish to receive a copy of the findings	

I have discussed the representation of my identity in the research reporting, and I would like:

_____

When I sign this consent form, I agree to participate in this research and give consent for the researcher to use the interview for the purposes of the research.

Participant

Name _____

Signed_____ Date _____

Contact Details_____

Researcher (Tidavadee Tongdethsri)

Signed_____ Date _____

Interview Schedule

This schedule outlines some of the topics that I would like to discuss during the interview.

Researcher Background

1. Provide brief summary of my connections to Thailand
2. Outline my research interest and topic
3. Explain participant involvement, rights and anonymity

Participant Background

1. What is your background?
    a. Qualifications – university, degree, major
    b. Work experience – positions and roles
2. What is your role or position on the project?
3. Why did you decided to get involved in the project?

Project Background and Information

1. Please tell me about the history of the project?
    a. How was the project conceived?
    b. Why was it seen as necessary?
    c. What were the aims and objectives of the project?
2. Who was involved in developing and implementing the project?
    (Who are the stakeholders?)
    a. Implementing agencies (e.g. institutions, researchers)
    b. Funding agencies (i.e., national or international)
3. Who is the project accountable to?
    a. Government
    b. Funding agencies
    c. What is the relationship between central government and funding agencies on the project?
4. What central, provincial or local government policies are relevant to the project?
5. What is the role of central, provincial and local government in the project?
    a. Administration
    b. Management
6. Has the project been effective in achieving the desired aims and objectives? Why or why not?

Climate Change Adaptation

1. How would you define ‘climate change’ and to what extent do you think it is a concern for Thailand?
2. Do you think climate change adaptation is necessary for Thailand?

   (At which level is climate change adaptation given most priority?)

   a. Central policy level
   b. Provincial policy level
   c. Local or community policy level
   d. Project level
3. To what extent are climate change adaptation considerations integrated into your:
   a. Project
   b. Planning
   c. Implementation
4. Would a climate change adaptation project a way of achieving other goals (e.g., developing flood management infrastructure)?
5. What other areas of government policy are affected by this climate change adaptation initiative?
   a. Which other policies does this climate change adaptation initiative intersect?
   b. Which environmental policies does this initiative intersect? How does this inform broader or specific environmental policies (and vice versa)?
6. What has been the role of central government in developing this project?
7. How has central government worked with provincial or local authorities, private institutions or international organisations in developing this project?

Sustainable Development

8. What does ‘sustainable development’ mean to you?
9. What does ‘sufficiency economy’ mean to you?
   a. How does the King’s Philosophy of Sufficiency Economy (SE) guide your project, policy and decision-making?
   b. What are the key concepts of SE?
   c. How is SE unique to Thailand?
   d. How can SE be applied across different sectors?
10. Tell me how you see the link between Buddhism and the concept of SE or (sustainable development) in Thailand?
    a. What traditional cultural and social norms shape climate change adaptation policy?
    b. What contemporary cultural and social norms shape climate change adaptation policy?

Implementation – Political Instability

11. What do you think are some of the barriers to implementing climate change policy in Thailand?

    (Based on the answers, see if the following are covered)

    a. Power
    b. Class
    c. Status
    d. Political will

12. How would you describe political situation in Thailand?
    a. How does this affect policy implementation?
13. What does the term ‘democracy’ mean to you?

    (Based on the answer)

    a. Is democracy a Western concept or is there a Thai definition of democracy?
    b. Do you think democracy is necessary and if so, could it be attainable in Thailand?
    c. To what extent does democracy help or prevent the implementation of climate change policy in Thailand?
14. How important do you think community participation is in policy development and implementation?
    a. How do communities understand the significance of climate change issues and the need for adaptation measures?
    b. *(repeat questions for NGOs)*

Closing Insights

(If topics were not covered – attempt for exploratory answers)

15. What do you think are some of the internal and external drivers that influence climate change policy in Thailand?
    a. (repeat questions on adaptation)

Interview Participants

Categories	Interview location	Number of persons interviewed	Positions	Notes taken or audio recorded
Government				
National Strategy & Reform Committee	LINE app	2	Senior officials	Notes taken Audio recorded (one Notes taken only)
Office of the National Economic and Social Development Council (NESDC)	NESDC LINE app	4	Senior officials	Notes taken Audio recorded
Office of Natural Resources and Environmental Policy and Planning (ONEP)	ONEP UNFCCC COP 24	7	Senior and junior officials	Notes taken Audio recorded
Office of Agricultural Economics (OAE)	OAE	3	Senior officials	Notes taken Audio recorded
Health Impact Assessment (HIA)	HIA	3	Senior and junior officials	Notes taken Audio recorded
Office of Natural Water Resources (OWNR)	OWNR	3	Senior officials	Notes taken

				Audio recorded
Department of Public Works and Town & Country Planning (DPT)	LINE app	1	Senior official	Notes taken Audio recorded
Ministry of Tourism and Sports (MOTS)	Email	1	Senior official	Email
Forest Climate Change	FCC	1	Senior official	Notes taken Audio recorded
Environment Regional Office 1 (ERO 1)	ERO 1	1	Senior official	Notes taken Audio recorded
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)	ONEP OWNR	4	Senior officials	Notes taken Audio recorded
Research Institute				
Thailand Development Research Institute (TDRI)	LINE app	1	Principal researcher	Notes taken Audio recorded
Southeast Asia START Regional Center (SEA-START)	SEA-START RC	1	Principal researcher	Notes taken
NGO				

Thailand Sustainable Development Foundation (TSDF) **Foundation of Virtuous Youth**	Foundation of Virtuous Youth	1	Principal Researcher	Notes taken Audio recorded
Raks Thai Foundation (RFT)	Raks Thai Foundation	1	Senior official	Notes taken Audio recorded
	Project			
United States Agency for International Development (USAID)	USAID	1	Senior official	Notes taken Audio recorded
Development Alternatives Inc. (DAI)	LINE app	3	Senior officials	Notes taken Audio recorded (one Notes taken only)
International Union for Conservation of Nature (IUCN)	LINE app	4	Senior officials	Notes taken Audio recorded
Sub-District Administration Office (SAO)	Patung Sub-District Administration Office	1	Senior official	Notes taken Audio recorded
Mae Salong Highland Research Development Institute (HRDI)		1	Junior official	Notes taken Audio recorded

Land Development Department (LDD)	Land Development Office, Chiang Rai	1	Senior official	Notes taken Audio recorded
Huai Hong Khrai Royal Development Study Centre		1	Senior official	Notes taken Audio recorded
	Village			
Huai Kang Pla Village	Huai Kang Pla Village	6	Elders and adults	Notes taken Audio recorded
Loh Yoh Village	Loh Yoh Village	2	Elders and adults	Notes taken Audio recorded
Hae Ko Village	Hae Ko Village	5	Elders and adults	Notes taken Audio recorded
Total		59		

Glossary

The complexity of climate change has pointed to the need to clearly define and distinguish different terms and concepts. These definitions are generally condensed versions found from WGI, WGII, WGIII of the Fifth Assessment Report (AR5).

Adaptation: The process of adjustment to actual or expected climate and its effects in human and natural systems (IPCC, 2013, 2014b).

Adaptive capacity: The ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences. This glossary entry builds from definitions used in previous IPCC reports and the Millennium Ecosystem Assessment (MEA, 2005) (IPCC, 2018, p. 542).

Baseline/reference: The state against which change is measured. A baseline period is the period relative to which anomalies are computed. Baseline scenarios are not intended to be predictions of the future, but rather counterfactual constructions that can serve to highlight the level of emissions that would occur without further policy effort. The term *baseline scenario* is used interchangeably with *reference scenario* and *no policy scenario* (and synonymous with the term *business-as-usual scenario*) (IPCC, 2013, 2014a, 2014b).

Climate: In a narrow sense is usually defined as the average weather, or more rigorously, as the statistical description in terms of the mean and variability of relevant quantities over a period of time ranging from months to thousands or millions of years (IPCC, 2013, 2014a, 2014b)

Climate change: Change in the state of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods (Article 1, UNFCCC).

Climate sensitivity refers to the change in the annual global mean surface temperature in response to a change in the atmospheric CO2 concentration or other radiative forcing (IPCC, 2018, p. 545). Includes *equilibrium climate sensitivity, effective climate sensitivity* and *transient climate response.*

Climate system: The highly complex system consisting of five major components: the atmosphere, hydrosphere, cryosphere, lithosphere and biosphere and the interactions between them. The climate system evolves in time under the influence of its own internal dynamics and because of external forcings and anthropogenic forcings (IPCC, 2013, 2014a, 2014b).

Confidence: The validity of a finding based on the type, amount, quality and consistency of evidence and on the degree of agreement (IPCC, 2013, 2014a, 2014b).

Decarbonisation: The process by which countries or other entities aim to achieve a low-carbon economy, or by which individuals aim to reduce their consumption of carbon (IPCC, 2013, 2014b).

Deforestation: Conversion of forest to non-forest (IPCC, 2013, 2014b).

Detection of impacts of climate change: For a natural, human or managed system, identification of a change from a specified baseline. The baseline characterizes behaviour in the absence of climate change and may be stationary or non-stationary (IPCC, 2014b).

Ecosystem: A functional unit consisting of living organisms, their non-living environment and the interactions within and between them (IPCC, 2013, 2014a, 2014b).

Early warning system: The set of capacities needed to generate and disseminate timely and meaningful warning information to enable individuals, communities and organisations threatened by a hazard to prepare to act promptly and appropriately to reduce the possibility of harm or loss (IPCC, 2014b).

Exposure: The presence of people, livelihoods, species or ecosystems, environmental functions, services, and resources, infrastructure, or economic, social, or cultural assets in places and settings that could be adversely affected (IPCC, 2014b; 2014c, p. 123) (WG2) Same as (IPCC, 2018, p. 549).

Extreme weather event: An event that is rare at a particular place and time of year (IPCC, 2013, 2014b).

External forcing: A forcing agent outside the climate system causing a change in the climate system (IPCC, 2013, 2014b).

Global warming: The gradual increase, observed or projected, in global surface temperature, as one of the consequences of radiative forcing caused by anthropogenic emissions (IPCC, 2014a).

Hazard: The potential occurrence of a natural or human induced physical event or trend that may cause loss of life, injury, or other health impacts, as well as damage and loss to property, infrastructure, livelihoods, service provision, ecosystems and environmental resources. (IPCC, 2018, p. 551)

Impacts (consequences, outcomes): Effects on natural and human systems. In this report, the term impacts is used primarily to refer to the effects on natural and human systems of extreme weather and climate events and of climate change. Impacts generally refer to effects on lives, livelihoods, health, ecosystems, economies, societies, cultures, services and infrastructure due to the interaction of climate changes or hazardous climate events occurring within a specific time period and the vulnerability of an exposed society or system. Impacts are also referred to as consequences and outcomes. The impacts of climate change on geophysical systems, including floods, droughts and sea level rise, are a subset of impacts called physical impacts (WG2) (IPCC, 2014c, p. 124).

The consequences of realized risks on natural and human systems, where risks result from the interactions of climate-related hazards (including extreme weather and climate events), exposure, and vulnerability. Impacts generally refer to effects on lives; livelihoods; health and well-being; ecosystems and species; economic, social and cultural assets; services (including ecosystem services); and infrastructure. Impacts may be referred to as consequences or outcomes, and can be adverse or beneficial (IPCC, 2018, p. 551).

Irreversibility: A perturbed state of a dynamical system on a given timescale, if the recovery timescale from this state due to natural processes is substantially longer than the time it takes for the system to reach this state. The timescale of interest is centennial to millennial (IPCC, 2013).

Mitigation (of climate change): A human intervention to reduce the sources or enhance the sinks of greenhouse gases (GHGs) (IPCC, 2013, 2014a, 2014b).

Ocean acidification: A reduction in the pH of the ocean over an extended period, typically decades or longer, which is caused primarily by uptake of carbon dioxide (CO2) from the atmosphere but can also be caused other chemical additions or subtractions from the ocean. Anthropogenic ocean acidification refers to the component of pH reduction that is caused by human activity (IPCC, 2013, 2014b).

Overshoot pathways: Emissions, concentration or temperature pathways in which the metric of interest temporarily exceeds, or overshoots the long-term goal (IPCC, 2014a).

Poverty: A complex concept with several definitions stemming from different schools of thought. It can refer to material circumstances (such as need, pattern of deprivation or limited resources), economic conditions (such as standard of living, inequality or economic position) and/or social relationships (such as social class, dependency, exclusion, lack of basic security or lack of entitlement) (IPCC, 2014b).

Resilience: The capacity of social, economic, and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity, and structure, while also maintaining the capacity for adaptation, learning, and transformation. This builds on the definition by Arctic Council (2013) (IPCC, 2014c, p. 127). Same as (IPCC, 2018, p. 557).

Risk: Risk is often represented as probability or likelihood of occurrence of hazardous events or trends multiplied by the impacts if these events or trends occur. In this report, the term risk is often used to refer to the potential, when the outcome is uncertain, for adverse consequences on lives, livelihoods, health, ecosystems and species, economic, social and cultural assets, services (including environmental services) and infrastructure WG 2,3 (IPCC, 2014c, p. 127).

The potential for adverse consequences where something of value is at stake and where the occurrence and degree of an outcome is uncertain. In the context of the assessment of climate impacts, the term risk is often used to refer to the potential for adverse consequences of climate-related hazard, or of adaptation or mitigation responses to such a hazard, on lives, livelihoods, health and well-being, ecosystems and species, economic, social and cultural assets, services (including ecosystem services), and infrastructure. Risk results from the interaction of vulnerability (of the

affected system), its exposure over time (to the hazard), as well as the (climate-related) hazard and the likelihood of its occurrence (IPCC, 2018, p. 557).

Sensitivity: Advanced in the Special Report.

Sink: Any process, activity or mechanism that removes a greenhouse gas (GHG), an aerosol or a precursor of a GHG or aerosol from the atmosphere (IPCC, 2013, 2014a, 2014b).

Social cost of carbon: The net present value of climate damages (with harmful damages expressed as a positive number) from one more tonne of carbon in the form of carbon dioxide (CO_2), conditional on a global emissions trajectory over time (IPCC, 2014a, 2014b).

Sustainability: A dynamic process that guarantees the persistence of natural and human systems in an equitable manner (IPCC, 2014a, 2014b).

Sustainable development: Development that meets the needs of the present without compromising the ability of future generations to meet their own needs (WCED, 1987).

Tipping point: A level of change in system properties beyond which a system reorganizes, often abruptly, and does not return to the initial state even if the drivers of the change are abated. For the *climate system*, it refers to a critical threshold when global or regional *climate changes* from one stable state to another stable state. The tipping point event may be irreversible (IPCC, 2013, 2014a, 2014b).

Uncertainty: A state of incomplete knowledge that can result from a lack of information or from disagreement about what is known or even knowable. It can be represented by quantitative measures or by qualitative statements (IPCC, 2013, 2014a, 2014b).

Vulnerability: The propensity or predisposition to be adversely affected, including sensitivity or susceptibility to harm and lack of capacity to cope and adapt WG 2 (IPCC, 2014c, p. 128).

The prosperity or predisposition to be adversely affected. Vulnerability encompasses a variety of concepts and elements including sensitivity or susceptibility to harm and lack of capacity to cope and adapt (IPCC, 2018, p. 560).