CARBON MITIGATION INITIATIVES: TRANSFORMATIONS IN ENVIRONMENTAL SUBJECTIVITY IN THREE AGRICULTURAL COMMUNITIES IN THAILAND

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MASTER OF ARTS
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A THESIS SUBMITTED TO CHIANG MAI UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR A DEGREE OF MASTER OF ARTS IN SOCIAL SCIENCE

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THIS THESIS HAS BEEN APPROVED TO BE A PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
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IN SOCIAL SCIENCE

Examination Committee:

..... Chairperson
(Prof. Emeritus Dr. Philip Hirsch)

.....Member
(Asst. Prof. Dr. Chusak Wittayapak)

..... Member
(Lect. Dr. Arratee Ayuttacorn)

Advisory Committee:

..... Advisor
(Asst. Prof. Dr. Chusak Wittayapak)

.....Co advisor
(Lect. Dr. Arratee Ayuttacorn)

27 March 2018

b

To

My Grandmother Nina Huete.

My Parents: Alfredo Huete, Elsa Romero, Piyachat Ratana

My Sisters: Gaby, Hunter and Mesa

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Author	Mr. Alejandro Alfredo Huete	
Degree	Master of Arts (Social Science)	
Advisory Committee	Asst. Prof. Dr. Chusak Wittayapak	Advisor
	Lect. Dr. Arratee Ayhutacorn	Co-advisor

ABSTRACT

The continued crisis of global warming has led to an increase in ideas regarding how to decrease greenhouse gases and deforestation. One of these solutions is carbon mitigation initiatives (CMI). These initiatives utilize a market-oriented approach which attempt to decrease carbon outputs from deforestation by placing a price-value on sequestered carbon which can then be sold on an international carbon market. Another goal of these initiatives is to enhance the livelihoods of participating communities. It is important to understand the effectiveness of these new solutions in order to solve global warming and deforestation, increase livelihood enhancement as well as better understand the overall effects on participating communities.

The research is situated in three agricultural communities, all of which already have some type of environmental subjectivity/ethic. I would like to understand how this environmental subjectivity arose from the perspective of 'networks', and then analyze how this specific subjectivity influenced their response to 'carbon subjectification'.

The research is divided into three main themes. The first will address how a community's land situation influences what outside actors the community decides to collaborate with. Emphasis will be situated on the historical relationship between the community, land and various institutions that are set in place by the Thai government. It will address the agricultural practices and environmental subjectivity of the community prior to the collaboration with outside actors.

This brings us to the second theme, which addresses how the relationship between the community and the environment, or the community's 'environmental subjectivity', transforms due to their collaboration with outside actors. Depending on the vulnerability regarding land rights and/or debt, a community will gravitate or accept collaboration with outside actors who have objectives that can be set on a spectrum from politically motivated to neutral scientific research. As collaboration with these outside groups extends over time, the community will begin to adopt and transform some of the outside groups' beliefs, transforming how the community relates to the environment.

The last theme will specifically address the various CMIs and how the community's environmental subjectivity influenced how the community responded to them. Although CMIs are based on a carbon trading framework in which economic incentives are promoted in order to conserve the environment, the research will demonstrate that these communities are not interested in economic incentives but rather care about strengthening their networks and increasing their visibility. In two cases we will see that the communities decided to collaborate with the CMI in order to obtain scientific evidence that they can live sustainably within the forest. Due to not having land rights, these communities are using carbon mitigation scientific research with the ultimate goal of gaining rights to their traditional lands. My main argument is that politically motivated responses to CMIs are correlated to the vulnerability of a community's land situation.

หัวข้อวิทยานิพนธ์	การดำเนินการเพื่อลดการปล่อยคาร์บอน: การเปลี่ยนผ่านการเป็นผู้กระทำ การทางด้านสิ่งแวดล้อมในชุมชนเกษตรกรรมสามแห่งในประเทศไทย
ผู้เขียน	นาย อาเลฮานโดร อัลเฟรโด เวตเต้
ปริญญา	ศิลปศาสตรมหาบัณฑิต (สังคมศาสตร์)
คณะกรรมการที่ปรึกษา	ผู้ช่วยศาสตราจารย์ ดร. ชูศักดิ์ วิทยาภัค อาจารย์ที่ปรึกษาหลัก อาจารย์ ดร. อารตี อยุทธคร อาจารย์ที่ปรึกษาร่วม

บทคัดย่อ

ภาวะโลกร้อนที่มีอย่างต่อเนื่องก่อให้เกิดแนวคิดการลดปริมาณก๊าซเรือนกระจกและขจัดปัญหาการตัดไม้ทำลายป่า หนึ่งในการแก้ปัญหานี้คือ มาตรการการลดปริมาณคาร์บอน (carbon mitigation initiatives: CMI) ซึ่งได้นำกลไกตลาดมากระตุ้นให้เกิดการลดการปล่อยคาร์บอนจากการตัดไม้ทำลายป่า โดยกำหนดราคาของคาร์บอนเพื่อขายในตลาดคาร์บอนที่มีการดำเนินการอยู่ทั่วโลก อีกวิธีการหนึ่งคือการส่งเสริมให้ชุมชนมีส่วนร่วมในการแก้ปัญหา การทำความเข้าใจเกี่ยวกับประสิทธิผลของทางออกแบบใหม่นี้มีความสำคัญอย่างมากในการแก้ปัญหาภาวะโลกร้อนและการตัดไม้ทำลายป่า และพัฒนาวิถีชีวิตของคนในชุมชน และเข้าใจผลกระทบโดยรวมจากความร่วมมือของคนในชุมชน

งานวิจัยชิ้นนี้ได้ศึกษาชุมชนเกษตรกรรมจำนวน 3 แห่ง ซึ่งชาวบ้านในสามพื้นที่นี้ล้วนมีมุมมองหรือจริยธรรมทางด้านสิ่งแวดล้อม งานวิจัยนี้จึงมุ่งทำความเข้าใจการเกิดจริยธรรมด้านสิ่งแวดล้อมซึ่งได้รับจากมุมมองของเครือข่าย และวิเคราะห์ว่าจริยธรรมนี้ส่งผลต่อการตอบโต้ของการเป็นผู้กระทำการเพื่อแก้ไขปัญหาคาร์บอนได้อย่างไร

งานวิจัยชิ้นนี้ประกอบไปด้วย 3 ประเด็นหลัก ได้แก่ ประเด็นที่หนึ่ง มุ่งศึกษาสถานการณ์ที่ดินของชุมชนว่ามีผลต่อการการตัดสินใจให้ความร่วมมือของคนภายนอกชุมชนอย่างไร ซึ่งให้ความสำคัญกับเรื่องความสัมพันธ์ในอดีตระหว่างชุมชน ที่ดิน และสถาบันต่างๆที่ให้ความร่วมมือโดยได้รับการสนับสนุนจากภาครัฐ นอกจากนี้ยังวิเคราะห์แนวทางการทำการเกษตรและแนวคิดการแก้ปัญหาสิ่งแวดล้อมที่มีอยู่ของคนในชุมชนว่ามีผลต่อการทำงานร่วมมือกับผู้กระทำการภายนอกอย่างไร

สืบเนื่องจากประเด็นแรก การศึกษาต่อมาจึงมีความมุ่งหวังที่จะศึกษาการเปลี่ยนแปลงความสัมพันธ์ระหว่างชุมชนและสิ่งแวดล้อม หรือบทบาทผู้กระทำการทางสิ่งแวดล้อมของชุมชนจากความร่วมมือของผู้กระทำการภายนอก ซึ่งขึ้นอยู่กับความเปราะบางในปัญหาสิทธิที่ดิน และ/หรือ หนี้สิน ชุมชนจะยอมรับและตอบรับความร่วมมือจากบุคคลภายนอกที่มีจุดประสงค์ในการเข้ามาเพื่อผลักดันนโยบายทางการเมืองไปสู่งานวิจัยทางวิทยาศาสตร์ที่เป็นกลาง การประสานความร่วมมือกับองค์กรภายนอกเป็นระยะเวลานานพอสมควรเช่นนี้ ชุมชนจะเริ่มปรับและเปลี่ยนความเชื่อบางอย่างจากกลุ่มคนภายนอกซึ่งนำไปสู่การเปลี่ยนแปลงรูปแบบความสัมพันธ์ของชุมชนและสิ่งแวดล้อม

ประเด็นสุดท้ายได้ชี้ชัดเรื่องวิธีการแก้ปัญหาการลดปริมาณคาร์บอน (CMIs) ที่มีหลากหลาย และมุมมองทางสิ่งแวดล้อมของชุมชนนำไปสู่การแก้ปัญหาเรื่องนี้อย่างไร แม้ว่า CMIs อยู่ภายใต้ขอบข่ายการค้าขายคาร์บอนซึ่งมีการประชาสัมพันธ์เพื่อสร้างแรงจูงใจกระตุ้นให้เกิดการอนุรักษ์สิ่งแวดล้อม งานวิจัยนี้แสดงให้เห็นว่าชุมชนเหล่านี้ไม่มีความสนใจในแรงจูงใจทางเศรษฐกิจ หากแต่ต้องการดูแลสร้างความเข้มแข็งให้กับการสร้างเครือข่าย และเพิ่มความเป็นไปได้ ในสองชุมชนแรกนั้น เราจะเห็นว่าชุมชนตัดสินใจประสานความร่วมมือกับ CMI เพื่อพิสูจน์หลักฐานทางวิทยาศาสตร์ เกี่ยวกับการอยู่ร่วมกับป่าไม้อย่างยั่งยืน เนื่องจากพวกเขาไร้ซึ่งสิทธิที่ดิน ชุมชนจึงใช้งานวิจัยทางวิทยาศาสตร์เกี่ยวกับการลดปริมาณคาร์บอน เพราะต้องการได้รับสิทธิที่ดินสืบทอดต่อไป ผู้เขียนจึงเสนอข้อโต้แย้งหลักว่าการโต้ตอบทางการเมืองต่อ CMIs เป็นผลพวงมาจากปัญหาความไร้สิทธิที่ดินของชุมชน

CONTENTS

CONTENTS (continued)

CONTENTS (continued)

LIST OF FIGURES

LIST OF ABBREVIATIONS

AIPP	Asian Indigenous Peoples Pact
ALRO	Agricultural Land Reform Office
AoP	Assembly of the Poor
CLT	Community Land Title
CMI	Carbon Mitigation Initiative
CO_2	Carbon Dioxide
COP13	Thirteenth Conference of the Parties to the United Nations Framework Convention on Climate Change
CP	Charoen Pokphand Group
CRTM	Chiang Rai Tam Mai Logging Company
DNP	Department of National Park, Wildlife and Plant Conservation
FCPF	Forest Carbon Partnership Facility
GHG	Greenhouse gasses
GPS	Global Positioning System
IPF	Indigenous Peoples Foundation for Education and Environment
KI	Key informant
MoI	Ministry of Interior
MOU	Memorandum of Understanding
NDF	Northern Development Foundation
NFN	Northern Farmers Network
NGO	Non-governmental Organization
NPF	Northern Peasants Federation
NRCT	National Research Council of Thailand
R-PP	Readiness Preparation Proposal
REDD+	Reducing Emissions from Deforestation and Forest Degradation
RFD	Royal Forestry Department
T-MSU	Mahasarakham University
U-MSU	Michigan State University

LIST OF ABBREVIATIONS (**continued**)

UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
USDA	United States Department of Agriculture
VDSO	Village Development and Strengthening Organization

CHAPTER 1

Introduction

1.1 Background and Rationale

During the past two decades, the issue of global warming and its negative effects on the environment have come to the forefront of mainstream development discourse. With the emergence of Third World industrialization and increasing levels of consumption, we are now experiencing unprecedented amounts of carbon dioxide (CO_2) emissions. These emissions originate from the burning of fossil fuels such as oil and coal and are then released into the atmosphere. This creates a greenhouse gas which captures the sun's heat within the Earth's atmosphere, thus causing the temperatures to rise. Another factor contributing to this is the destruction of the world's forests. When trees are burnt they release stored CO_2 into the atmosphere. Moreover, forests also act as 'carbon sinks' which capture carbon and release oxygen. The less amount of trees there are, the less amount of carbon is sequestered from the atmosphere, further contributing to an increase in the Earth's temperatures. According to the scientific community, this rise in global temperatures will have catastrophic consequences if the rate of carbon emissions continues to increase along this path. Thus, governments around the world have come together in order to collaborate and develop strategies to reduce carbon emissions and prevent further increases in global temperatures.

The most significant of these meetings was the 1992 United Nations Framework Convention on Climate Change, which brought forth the Kyoto Protocol international treaty. The convention's main objective was to prevent further increases of carbon emissions by reducing countries' dependencies on fossil fuels. To achieve this, they

adopted a free-trade, market-based approach termed 'cap and trade', or carbon trading. Carbon trading is based on an economic theory developed by Ronald Coase in the late 1960s (Kill et al. 2010). The theory seeks to determine the value of greenhouse gases in order to calculate it into the costs of production. These extra costs will be determined by market mechanisms and will give businesses the incentive to discover new production methods that will decrease CO2 outputs, thus lowering their costs of production. The market is deemed more effective than state regulation as a mechanism to persuade businesses to halt unsustainable production methods and adopt more energy-efficient technologies.

The way in which carbon trading works in practice is that various entities are given permits that specify how much carbon outputs they can emit by the government or an intergovernmental body (Kill et al. 2010). Once these entities have exhausted their permits, they must either halt production, or buy permits from another entity that has yet to exceed their quotas. The entity that has bought the new permits can thus continue emitting CO2 beyond the limits set upon it by the regulatory institution. The goal is that companies which have invested in more energy-efficient technologies will benefit financially by not having to buy extra carbon permits in order to sustain production levels. Hence, there is a financial incentive for companies to invest in new energy-efficient technologies, leading to a reduction in carbon emissions.

One of the key ideas that has developed out of these climate change conventions is carbon mitigation, in which the initiative, *Reducing Emissions from Deforestation and Degradation and Forest enhancement (REDD+)* is the most well-known. This program became formally adopted in 2007 during the Thirteenth Conference of the Parties to the *United Nations Framework Convention on Climate Change* (COP13) in Bali. They specifically target underdeveloped/developing countries. Through REDD+ programs, "developed country donors, corporations, nongovernmental organizations, and individuals will compensate developing countries for forest emissions reductions" (Phelps et al. 2010:312). Developing countries will implement projects that emphasize the sequestration of carbon through the reduction of forest degradation and deforestation. Through various scientific models, project coordinators can determine how much carbon has been sequestered and can then calculate how many carbon credits participating

communities receive. Ideally, these carbon credits can then be sold on international carbon markets for a profit.

REDD+ programs emphasize forests because of the major role they play in the global carbon cycle. The burning of biomass through deforestation contributes to atmospheric greenhouse gas emissions. However, when kept intact they act as 'carbon sinks,' which convert CO2 into oxygen (Malhi and Marthews 2013). The implementation of REDD+ initiatives has been generally medium to small-scale in nature. Participating communities consist of relatively land-secure small-scale farmers practicing various forms of agro-forestry (a mix-cultivation system in which trees and shrubs are grown within agricultural fields), to some of the most vulnerable groups who are still struggling to have their claims to local resources recognized by the government. The outcome/success of REDD+ programs depends on contextual characteristics that relate to the national forest and land policies of specific governments, the community's relationship within the wider processes of macro-scale political-economic forces, as well as the unique historical, political, cultural and ecological aspects of the community.

This research will focus on three small-scale farming communities spread across Thailand; Ban Bua, Sakhon Nakhon Province, Muang Ang, Chiang Mai Province and Huay Hin Lad Nai, Chiang Rai Province. The village of Muang Ang is the only village to have participated in a project that is labelled as REDD+. Ban Bua participated in a 'carbon bank' project while Huay Hin Lad Nai conducted a carbon footprint study. In order to simplify the research, I will categorize these three projects under 'carbon mitigation initiatives' (CMI), which I define as any project that is related to carbon mitigation discourse (global warming, deforestation, carbon trading, CO^2, etc.). I chose to study these three communities because they allow us to see the diversity of carbon mitigation discourse when it is applied on the ground. Muang Ang and Huay Hin Lad Nai are both indigenous Karen mountain groups residing in Northern Thailand. Both communities do not have any rights to the land they have been inhabiting for over 200 years. Relating to the CMI specifically, Muang Ang collaborated with the Department of National Parks, Wildlife and Plant Conservation (DNP), a government department, while Huay Hin Lad Nai collaborated with the Northern Development Foundation (NDF), a local Thai non-governmental organization (NGO). Ban Bua is an agricultural

village in northeast Thailand. Unlike the Karen communities, they do have recognized land titles. They collaborated with Mahasarakahm University and are the only community of the three to have received payments for carbon sequestration. I will provide a brief summary of each community below.

The first research site is Ban Bua, Sakhon Nakhon Province. Located at this site is the headquarters of the Inpang Farmers Network, a group of small-scale farmers who decided to switch from chemical-based cash-cropping to agro-forestry in the late 1980s (United Nations Development Programme 2007). They have become famous around Thailand for their success in expanding into neighboring provinces and spreading their philosophy of "bringing the forest into the village" and creating locally-grown organic food business models. In 2005, researchers from Michigan State University, in collaboration with the National Research Council of Thailand (NRCT) and Mahasarakham University, initiated the Inpang Carbon Bank project, which focused on carbon offset monitoring, verification and reporting management systems. Ultimately, their goal is for participating community members to be able to trade carbon offsets to potential buyers on international carbon markets (Samek et al. 2011). One of these is the Chicago Climate Exchange, a voluntary greenhouse gas reduction and trading system directed primarily towards carbon offset programs. It links potential buyers of carbon offsets to those who are involved with carbon offset projects (Stockholm Environmental Institute (SEI) 2011, *online*). From the period of 2005-2009, workshops were conducted with Inpang members, the NRCT and Mahasarakham University. The workshops focused on tree inventory methods, such as measuring plot sizes and biometric tree data, and global warming in general. The agreement between Inpang members and the carbon mitigation research team was that after a 15-year time period, carbon offsets would be sold on the Chicago Climate Exchange for a profit (Samek et al. 2011).

The second research site is Muang Ang, Chiang Mai. This village is a Karen community located between the Doi Inthanon National Park and a neighboring Natural Reserve. The community was established in 1914 and can trace its history back to Karen migrants that moved into the area from Burma around 200 years ago due to political conflicts in their homeland ((Department of National Parks [DNP] 2015; Cohen 1984). The Karen people traditionally practice dry-cultivation rotational swidden agriculture (referred to from

now on as ‘rotational cultivation’), in which they clear an area of forest in order to grow rice and other vegetables. They utilize the land for one year and then move on to another area, allowing the previous field to lay fallow for 7-8 years. This long fallow period allows vegetation and soil fertility to regenerate, thus allowing them to return and utilize the area in the future (Yos 2013). In 1972, the Doi Inthanon National Park was established in the same area that these Karen had been inhabiting. Under forestry law, these villages were considered illegal as well as all their traditional practices such as rotational cultivation, hunting and grazing livestock (Tomforde 2003). Through national development projects and the Royal Project Foundation, these Karen communities have gradually given up (or been forced to give up) rotational cultivation for irrigated terraced paddy fields. The Muang Ang community has taken up organic greenhouse cultivation in collaboration with the Royal Project Foundation. It has also been begun to collaborate in a carbon mitigation project with the Department of National Parks, Wildlife and Plant Conservation (DNP) (Department of National Parks [DNP] 2015). Research has been conducted by the DNP in order to create a Readiness Preparation Proposal (R-PP) that would allow them to obtain funds from the Forest Carbon Partnership Facility (FCPF) to implement carbon mitigation projects. The FCPF is a World Bank-affiliated international organization that is meant to assist developing countries with carbon mitigation efforts through capacity building, training and funding (Asia Indigenous Peoples Pact [AIPP] et al. 2012). During the end of 2013, the Thai R-PP was submitted to the FCPF (although with many concerns from Thai indigenous organizations) and in December, 2015, a grant was approved, allocating 3,600,000 USD to REDD+ related activities in Thailand (Forest Carbon Partnership Facility [FCPF] 2015).

Lastly, research was conducted in Huay Hin Lad Nai, Chiang Rai. Huay Hin Lad Nai, like many highland indigenous villages in Thailand, has a rich history regarding their relationship to the state and forest. Their village is situated in between a Natural Reserve and Khun Jae National Park. In 1992, Khun Jae National Park was established and the villagers were ordered to leave the area. This led to them joining the Northern Farmers Network (NFN), a network of various indigenous groups around Northern Thailand that have been organizing in order to demand citizenship and land rights for upland communities. Huay Hin Lad Nai became more internally organized; creating community maps, fire breaks and new rules and regulations regarding natural resource management.

From this point forward there were a series of protests and organizing against what was considered unjust government policy. In 1999 the community was named a 'sustainable village' by the Thai government and finally in 2003, the village was officially recognized within the Wieng Pa Pao district, Chiang Rai (International Fund for Agricultural Development [IFAD] 2013). In 2011, with the help of Oxfam-Great Britain and the local NGO, Northern Development Foundation (NDF), the community participated in a study concerned with the amount of carbon outputs their traditional practice of rotational cultivation releases into the atmosphere. Using similar methodologies as climate scientists, the study concluded that the carbon footprint of Huay Hin Lad Nai is less than that of other upland communities that practice commercial cash-crop agriculture. This contradicts the claim made by many government officials and conservation proponents that rotational cultivation is detrimental to the environment by its burning techniques, which they say release high amounts of carbon into the atmosphere. Today the community is considered a model for a low-carbon and environmentally-friendly lifestyle (Northern Development Foundation [NDF]) et al. 2011).

1.2 Statement of Research Problem and Justification

The research is interested in three main themes; 1) the relationship between the land situation of a community and the outside actors the community decides to collaborate with 2) the relationship between outside actors and the emergence of a new environmental subjectivity within the community and 3) the relationship between the community's new environmental subjectivity and their response to related CMI. All three themes will be analyzed using an *environmentality* framework developed by Arun Agrawal (2005). This framework seeks to explain the emergence of new environmental subjectivities by analyzing the conditions that led to their emergence. Agrawal divides the analysis of these conditions into three categories: power/knowledge, institutions and subjectivity (Agrawal 2005). Power/knowledge refers to how power originates from various forms of knowledge while at the same time reproducing knowledge when policies are put into effect. Power/knowledge refers to a hierarchy of knowledge, making various forms of knowledge deemed legitimate while delegitimizing others. The study of institutions is concerned with the various national laws and local rules and regulations that are put into effect within target populations. These policies conform to the

power/knowledge that is deemed legitimate. Subjectivity focuses on the relationship between individuals and the outside world. Analysis of these conditions can be found in the language used in official documents and training workshops, institutional laws, rules and regulations and how the actors themselves think and speak about the relevant topic. The language used originates from a variety of sources such as statistics, economics, and ecology, basing its reasoning on specific core facts while ignoring others. When brought together, they create a new way to see and relate to the world. Those who wish to govern utilize this new language through various institutional mechanisms in order to transform the conduct of target communities. Through this shaping of conduct, target populations' relationship to the world, or subjectivity, is transformed, theoretically allowing them to govern themselves. In this case, I will be interested in whether or not these carbon mitigation projects have produced a "carbon subjectivity" within participating communities, leading to a transformation in the ways they relate to the environment.

The first theme will emphasize the historical situation of the community, the land they inhabit and related governmental institutions. Emphasis will be given to the historical development of governmental forest and land laws that have affected concerned communities, as well as their environmental subjectivity and agricultural practices prior to their collaboration with outside actors. These historical conditions have led to varied collaborations with outside actors, which brings us to the second theme. The second theme will be concerned with how these outside actors have influenced the environmental subjectivity of collaborating communities. Outside actors have their own objectives and practices, which have influenced the way collaborating communities relate to their natural surroundings. Thus, within these communities a new environmental subjectivity has emerged. It is this environmental subjectivity that I will treat as the base of which community responses to a CMI emerge. The third theme will focus on the specifics of each CMI, such as the community's opinion of them regarding the benefits, the overall performance of the projects and most importantly, the reason community members decided to participate.

Throughout the beginning sections of the thesis, the use of an *environmentality* framework will give off the impression of structure, or outside forces, determining the actions of the community. Thus in the third section, special attention will be given to the

agency of the community. Throughout my research, I found that communities have decided to participate in these CMIs for reasons other than the economic incentive promoted by carbon mitigation discourse, thus demonstrating their own will, or agency. In this case I will be applying Jacques Rancière's theoretical approach to *equality*. Rancière's approach to equality is based on the presupposition that everybody is of equal intelligence. He argues that instead of struggling *for* equality, real democratic movements engage in struggles with the *presupposition* of equality, everybody is already equal. Using Huay Hin Lad Nai as a special case study (but which can apply to Muang Ang as well to a lesser degree), I will demonstrate how the community without land rights has used science to demonstrate to the Thai government and lowlanders in general that they can live harmoniously with the environment. They do this in order legitimize their habitation within the forest and their traditional lands. I will attempt to demonstrate that this community has approached this issue similar to Rancière's argument. By using science, Huay Hin Lad Nai has demonstrated that they are of equal intelligence with the Thai state, interrupting the normative hierarchy in which Thai indigenous groups and their knowledge are considered less intelligent and therefore are inferior to Thai government officials and scientists.

I believe that this research is important today not only because the issues of human-induced climate change and poverty alleviation are becoming more serious every day, but also because it is important to understand the complex, micro-scale issues that occur on the ground. In many cases, the success of these projects depends on the historical situation of the community to the land. If land issues are not addressed, instances of success may become very rare. Moreover, due to the diversity of actors involved, distinct 'logics,' in regards to how carbon mitigation is addressed, come together and create different outcomes from what was originally planned. One aspect that is important to understand when analyzing this process is why communities decide to participate. During my fieldwork, none of the communities participated in the projects for the sole purpose of their economic incentives. This is an important issue due to the main assumption of carbon trading being that economic incentives are required in order to have effective environmental conservation/management. Understanding the motivations behind communities' participation in CMIs, as well as how this affects the ultimate

outcome of the CMI can help sustainable development promoters better adapt their projects to the real needs of the communities they work with.

1.3 Research Questions

1) How does the *land situation* (agricultural practices, land rights, etc.) of a community influence what outside actors they collaborate with regarding CMI?

2) How does the collaboration with these actors influence the community's *environmental subjectivity*?

3) In what ways does this new *environmental subjectivity* influence how a community responds to a carbon mitigation initiative?

1.4 Research Objectives

1) To identify what conditions relating to community agricultural practices and land rights influence which outside actors a community collaborates with.

2) To identify what transformations occur within community environmental subjectivity due to collaboration with outside actors.

3) To identify the ways in which this new environmental subjectivity influences how a community responds to a carbon mitigation initiative.

1.5 Literature Review of Theories, Concepts and Related Studies

1.5.1 Review of Theories and Concepts

1.5.1.1 Environmentality (power/knowledge, institutions and subjectivity)

According to Arun Agrawal, there is a need to understand the process of how individuals come to think a certain way and relate to their surroundings, in his case, how individuals come to develop an interest in environmental conservation (Agrawal 2005). In his work *Environmentality: Technologies of Governance and Human Subjectivity (2005)*, Agrawal focuses on how community members in rural villages in India changed from having no interest in environmental conservation to being some of its main proponents, setting up decentralized Forest Councils alongside the Indian government. Agrawal seeks to understand

how this new interest developed. He approaches this transformation using an *environmentality* approach, which is concerned with the relationship between environmental governance and human subjectivity. He builds off Foucault's *governmentality* framework, which focuses on analyzing the conditions necessary in order for new governance practices to emerge. Mitchell Dean gives a brief definition of *governmentality* as "any more or less calculated and rational activity, undertaken by a multiplicity of authorities and agencies, employing a variety of techniques and forms of knowledge, that seeks to shape conduct by working through the desires, aspirations, interests and beliefs of various actors, for definite but shifting ends and with a diverse set of relatively unpredictable consequences, effects and outcomes" (Dean 2010:18). Agrawal divides this framework into three categories, which he states are the conceptual building blocks for an *environmentality* approach*; power/knowledge, institutions* and *subjectivity*.

Power/knowledge is concerned with what types of knowledge are utilized and how they are created. Knowledge and power are inextricably linked, those who hold more power are able to define what types of knowledge are considered legitimate while delegitimizing others. This knowledge is then applied to the material world, transforming various fields of the material world to correlate with the knowledge itself. For example, in his work, Agrawal investigates how in the past, forested areas were only studied using qualitative descriptions. However, in the late 19th century, forests began to be represented through statistics (measurements, graphs, charts) (Agrawal 2005). Once this began to occur, these statistics were used to classify forests into various categories such as conservation, logging and agricultural areas. Moreover, only those tree species that the government deemed profitable were recognized, while other species that small forest communities depended on for their livelihoods were either ignored or considered invasive. If communities resided in a forest that this new knowledge categorized as a conservation area, they would now have to vacate the area or halt many of their traditional livelihood practices (agriculture, hunting, wood-collecting). This new knowledge applied by those in power thus

transformed the material reality of the environment, which had real effects on the communities who resided there for generations.

The second building-block of Agrawal's framework consists of *institutions*. These include the political and administrative relationships between the State and the community as well as various relationships between different groups within the community. The application of new knowledge can be seen in new laws and regulations implemented by the State. Agrawal divides this into two categories; *governmentalized localities* and *regulatory communities* (Agrawal 2005). The analysis of governmentalized localities is concerned with the changing relationship between the State and the community. Agrawal focuses on the decentralization era in India as the State discovered that it could not effectively govern forested areas by itself. Therefore, instead of centralized control of the country's forests, the government decided to decentralize control by creating Forest Councils. Thus, making it so that "in any given locality, a multiplicity of strategies, agencies, and forms of power are visible. The exercise of power is highly modulated to variations across settings: in vegetation, social landscapes, productivity levels, articulation with market forces, connections to other centers of power, and so forth" (Agrawal 2005:90). Agrawal's second categorization of institutions is *regulatory communities*. Whereas *governmentalized localities* are concerned with the relationship between the State and the community, the analysis of *regulatory communities* is focused on the transformations that occur within the community. As the relationship between the State and community transforms, so do internal social relationships between various groups within the community. There are those community members who decide to work closely with the State, effectively taking over the management of the forest as well as those who do not become so involved. Those in charge of the Forest Councils thus become the new enforcers, transforming power relationships within the community. This transformation of power relationships within the community can involve groups such as women, the poor, caste, etc. It is these institutions and the effect they have on community practices that make up the conditions that give rise to a new *environmental subjectivity*.

Environmental subjectivity is concerned with how individuals "come to think and act in new ways in relation to the environment" (Agrawal 2005:xiv). It emphasizes how the conditions of *power/knowledge* and *institutions* have transformed the relationship between communities and the environment. Agrawal argues that not everybody obtains the same level of *environmental subjectivity*, some people are more inclined to care for the environment than others. He states that this does not have to do with categories such as gender or class but depends on the varying degrees of involvement in the institutional regimes of environmental governance (Agrawal 2005). One of Agrawal's main arguments is that although people may act according to their beliefs, unanticipated events originating from the 'contextual structure' of the outside world lead individuals to conduct new practices in ways that may not correlate with their traditional beliefs (Agrawal 2005). These new practices lead to new beliefs by the individuals in order to legitimize/explain the new practices to themselves (practices precede beliefs as opposed to the other way around). Agrawal argues that it is 'practices' (in this case, their degree of involvement in regulatory institutions) that are the key link to understand how transformations of *subjectivity* occur. This is opposed to emphasizing social identities such as gender, class or ethnicity, which others have focused on in the past. Within this process of governing, there is a transformation in how we relate to the world, in which a new 'rational subject' is created. In this case, the idea is to create a new rational subject, who has a more calculated and technical relationship to the environment which better conforms to interests of those wishing to govern.

Another theorist, Michael Goldman, applies Foucault's *governmentality* concept to the emergence of market-oriented sustainable development to come up with the term 'eco-governmentality'. This can be defined as practices of government that "(clarify) one's relationship to nature and the environment (through) new institutions, (with an) intensified regulation of the relation of these new subjects to their natural territory" (Goldman 2004:154). In this case, the new institutions introduced by carbon mitigation projects may create a new "carbon subject", which transforms the relationship between actors and their surrounding

environment. “Carbon subjects” will begin to view the environment in terms of carbon, a commodity that can now be bought and sold on the market.

This framework allows for a detailed analysis on the ideas and practices of involved actors and how they influence the emergence of a new *subjectivity*. The most difficult obstacle in attempting to understand *subjectivity* is the structure/individual dilemma. Some would argue that *subjectivity* is determined by outside forces, or structure, while others argue that it originates from our free will, or the individual. Agrawal attempts to weave between these two binaries by focusing his analysis on ‘practices’.

1.5.1.2 Local Knowledge and its Reorganization

This research was conducted using ethnographic methods. By using this, I plan to research the 'traditional/local' knowledge of communities participating in CMIs. This knowledge will include techniques and practices that are not considered 'rational' by western standards. It generally consists of local wisdom that has been passed down from generation to generation or which has been combined with knowledge gained from outside sources prior to the introduction of modern, technical expertise. Local knowledge can include spiritual, cosmological as well as non-western forms of rationality that help communities adapt to their natural surroundings. However, local knowledge is not a static concept that remains unchanged through time. It is constructed and combined with ideas and concepts that are 'Western'.

While studying these various aspects of the local knowledge of the community, I plan to use an approach developed by Timothy Mitchell in his book, *Rules of Experts: Egypt, Techno-Politics, Modernity* (2002), in which he demonstrates how a new politics of expertise is based on “a concentration and reorganization of knowledge rather than an introduction of expertise where none had been used before” (Mitchell 2002:41). He provides examples on irrigation and house construction, where villagers already had existing knowledge/practices but which was too dispersed and could not be exploited effectively in order to build on an empire or acquire profits (Mitchell 2002). In regards to irrigation, during pre-

colonial times the Nile River had already been developed into a complex irrigation system consisting of small canals, dikes, drains and pumps spread across lengthy regions of the river. Control, management and access to the irrigation system was dispersed and decentralized, which conflicted with the state-building objectives of the emerging elite. Using the system already in place, plans were made to reorganize power relations, knowledge and technologies to construct the Aswan Dam, effectively concentrating the power of the Nile River into the hands of the State (Mitchell 2002). Another example is house construction. Building houses from mud brick had been an existing practice for centuries. Local knowledge already had efficient methods of plastering and construction but due to its lack of profitability, an American consulting firm pushed forward the need to use cement in order to improve the cleanliness of the locals' homes. We see here a reorganization of local knowledge relating to mud brick-making and plastering into profitable practices to outside actors even though it would later be deemed a failure due to the weakness of the new components for making the houses (Mitchell 2002).

Concerning carbon mitigation efforts, each of the three participating communities have already been practicing sustainable forms of agriculture that are very similar to the techniques introduced by the proposed project. As a matter of fact, many of these projects approach these communities with the main reason that they already have a history of practicing sustainable agriculture. In this case, local knowledge which is already existent, but does not allow for capital accumulation or the acquiring of profits for outsiders may be reorganized in order to benefit external actors. However, as will be discussed later on, all three participating communities did not decide to collaborate in the CMI due to the economic incentives. Instead, we see the communities themselves using these projects in order to promote their own interests. Therefore, I plan to use this concept in reverse, to see how communities reorganize scientific knowledge in order to further their own interests. This brings me to my last approach, Jacques Rancière's theory of the *presupposition of equality* and *politics*.

1.5.1.3 The Presupposition of Equality and Politics

Whereas the application of Agrawal's *environmentality* framework will mostly deal with structure (*institutions* and *power/knowledge*), I will utilize Rancière's approach to *equality* and *politics* to counter balance this with a perspective of agency. According to Rancière, social movements and marginalized groups can only practice true democratic politics through what he refers to as a *presupposition of equality*. In his work, *The Ignorant Schoolmaster: Five Lesson in Intellectual Emancipation* (1991), Rancière argues that humans are all of equal intelligence. According to Todd May, this means that we are all "capable of creating meaningful lives with one another, talking with one another, understanding one another, and reasoning about ourselves and our situations" (May 2010:7). Thus, instead of demanding *for* some type of equality, those who are oppressed should advance their struggle with the presupposition that they are *already* equal. Only this *presupposition of equality* can combat the various hierarchies present in contemporary societies.

In our present-day societies, there are multiple hierarchies, and these are based on the idea that certain groups of people are less intelligent than others. Blacks to whites, Thailand's indigenous groups to central Thais, women to men, manual workers to intellectuals, etc. (May 2010). These hierarchies are put into place by what Rancière terms the *police*, which is "an order of bodies that defines the allocation of ways of doing, ways of being, and ways of saying, and sees that those bodies are assigned by name to a particular place and task; it is an order of the visible and the sayable that sees that a particular activity is visible and another is not, that this speech is understood as discourse and another as noise" (Rancière 1999:29). Thus, hierarchies are put into place, groups are assigned various identities on these hierarchies, and with them certain ways of doing, being and saying are classified as superior while others are deemed inferior and rendered invisible. Rancière refers to this process as *the partition of the sensible*, in which the *police* order imposes on society, teachings about how to think, relate to and experience the world according to your assigned identity, which in effect maintains various forms of hierarchy.

The manner in which to struggle against these *police* hierarchies, Rancière refers to as *politics. Politics* is done by those who he labels *the part with no part.* Generally they consist of those who are thought of as the oppressed or marginalized; people of color, women, LGBT, and indigenous peoples. *Politics* occurs when these people, with the *presupposition of equality*, disrupt the hierarchy, demonstrating to those in power that they are of equal intelligence to them. Their struggle is based on the idea that "if we presuppose the equal intelligence of everyone, then it must be a matter of contingency if one person or group winds up higher in a hierarchy than another. The presupposition is precisely that everyone can conduct a meaningful life alongside others. Therefore, the legitimization of some to police the lives of others cannot be a matter of superior intelligence (May 2010:10).

Rancière's *politics* is different from the usual identity politics we see today. Whereas identity politics approaches hierarchy through a rearrangement of identities, *politics* has a more radical goal of their complete subversion. Identity politics bases its agenda on an identity that supposedly has an essence, it wishes to replace the identity given to them by the *police* structure with another identity that they are more comfortable with. On the other hand, Rancière's *politics* has as its basis the equality of everyone, identity may be involved, but it does not act as the base of which a refusal to the *police* order takes place. *Politics* has as its main objective the declassification of identities that have been created by the *police* structure. Rancière refers to this as a *dissensus.* There is no occurrence of consensus, *dissensus* is a refusal of the identities given to a marginalized group of people by the *police* order.

When a group participates in *politics*, there is a process of *subjectification*. This is distinct from Agrawal's and Foucault's theory of *subjectivity* in that it occurs when people participate in collective action (May 2010). Rancière defines *subjectification* as a process that "produces a multiple that was not given in the police constitution of the community, a multiple whose count poses itself as contradictory in terms of police logic" (Rancière 1999:36). It is a form of disidentification from the identity that has been imposed upon them by the *police*

order. This occurs when those who are struggling become a collective subject against a particular issue and then voice their concern collectively. Thus, they make themselves visible to other groups of society as a new, collective subject. Consequently, whereas prior to their visibility, those in power viewed them as inferior individuals, they now become known as a powerful, collective subject that is on equal footing to those on top of the hierarchy. Therefore, while the *subjectivity* used by Agrawal is more concerned with the institutions and structural aspects of society that influence how individuals think and relate to reality, *subjectification* occurs when a group of marginalized people act collectively, creating a new subject that is based on the *presupposition of equality*.

1.5.2 Review of Related Studies

Over the past decade, there have been an increasing amount of studies based on the social, economic and ecological effects of REDD+ projects. Research has varied greatly, focusing on issues such as equity and participatory governance (Rantala et al. 2015), carbon rationalities (Astuti and McGregor 2015), REDD+-based community forest management (Robinson et al. 2013), and actor rationales for REDD+ engagement (Dixon and Challies 2015). These studies all focus on unique and very specific aspects of the interaction between communities and REDD+ projects.

The research conducted by Rantala et al. analyzes the discourse of equity within the REDD+ implementation in Tanzania. Using an institutional logics approach developed by Friedland and Alford (1991), the authors explore the multiple rationalities behind the concept of 'equity'. Thus, they problematize the concept of “equity” in order to demonstrate how it has been used in the past by the Tanzanian government and has generally failed on its policies promoting 'social equity.' This is due to the state's emphasis on 'distributive dimension of equity', which focuses on the distribution of costs and benefits, rather than the 'procedural equity' which relates to the planning and decision-making processes (Rantala et al. 2012). Although not considering the history and reasons for choosing these specific communities, the authors do demonstrate one important

factor with REDD+ implementation as it relates to equity. Their approach of analyzing the various rationalities of different actors in relation to equity and the processes of what occurs when they meet is helpful research when analyzing the encounter of different environmental rationalities of the three communities and the carbon mitigation promoters that I wish to research. This encounter between different rationalities and the types of discourse project promoters use will surely affect the outcome of the project depending on how community members relate to the prioritization of these rationalities. However, their study leaves out the historical development of the community's subjectivity and the specific reasons why various actors decided to collaborate together, which I plan to pursue in my research.

Another study, conducted by Asuti and McGregor, focuses most of its attention on the REDD+ promoters and the strategies used to promote and disseminate REDD+ environmental governance. Their case-study applies a governmentality approach, which seeks to understand the various techniques used by state and non-state actors to transform the conduct of target populations (Astuti and McGregor 2015). These strategies consist of the promotion of mainstream carbon discourse, the use of mapping technologies to make carbon more visible, and implementing participation discourse to promote the creation of REDD+ subjectivities among various stakeholders. The authors demonstrate that through this reorganization of knowledge and transformation of subjectivities, specialists such as economists, scientists and activists become empowered while the forest communities themselves may become more marginalized due to decisions being made without their interests in mind. Although focusing on REDD+ promoters instead of the communities, the authors come to a similar conclusion in that participation within the decision-making processes of REDD+ implementation seems to disempower the communities involved. Both of these studies emphasize a need to further the opportunity for communities to participate in the decision-making processes. They conclude that the technical aspects of REDD+ discourse should not be placed above the local knowledge of the communities and that their varied subjectivities should be equally represented. In two of the three researched communities, I will argue that although the decision-making process

and participation aspects are similar, communities have become empowered in different ways by using the projects for their own purposes, enhancing their visibility and strengthening their networks.

One study which directly addresses the Inpang network and REDD+ has been conducted by Samek et al. (2011). This study focuses on the ecological and economic aspects of carbon mitigation efforts while neglecting many of the issues brought forth by those discussed above. Research is done with a purely economic mind-set, and concludes that in order for the community to benefit financially from the carbon mitigation project, carbon as a commodity would have to be sold at a value no less than US$1.66 per Mg CO2 (Samek et al. 2011). The authors are optimistic that under current trends, rural farmers participating in this project will receive economic benefits. However, technological and economic barriers as well as the distribution of payments continue to be an issue for consistent progress. Nevertheless, they conclude that the transition to agro-forestry is still an improvement over cash-cropping, which requires high-input fertilizers and pesticides. In this case-study there is a clear neglect on the various social and political transformations that may be occurring through the network. Gender, environmental governance and social relation transformations are ignored, as well as the fact that many of these farmers have already been practicing ecologically-sustainable agro-forestry before the introduction of their carbon mitigation project. Moreover, the core argument of REDD+ is that communities decide to practice conservation due to economic incentives, practices that they would have not otherwise practiced. These neglected aspects of the case-study are needed to be analyzed in order to better understand the various transformations occurring within the community and how they may affect the overall outcome of the project.

1.6 Conceptual Framework

This study aims to understand how the historical development of a community's *environmentality* influences their response to a carbon mitigation initiative. Using Agrawal's *environmentality* framework, which emphasizes *power/knowledge* and *institutions*, I will be focusing attention onto the historical development of various land

and forest *institutions* put into place by the Thai State and how they influenced which outside actors a community decided to collaborate with. These outside actors in turn, with their own objectives and practices, influenced the practices and *subjectivity* of the concerned communities. Over time, through continuous collaboration with these outside actors, these communities formed unique *environmental subjectivities* that influenced how they would respond to the carbon mitigation initiatives. As will be seen, these responses did not follow the core objectives of carbon mitigation discourse, which are based on carbon trading and the need for economic incentives for effective environmental conservation. Thus, I will apply Mitchell's concept of *reorganization of knowledge* in order to understand how communities reorganize carbon scientific knowledge in order to pursue their own interests. Lastly, I will use Rancière's approach to *equality* and *politics* to demonstrate how these communities, in various degrees, have collaborated with these initiatives in order to demonstrate to the Thai State their *equality* and increase their visibility with the objective of gaining legitimate land rights to their traditional lands.

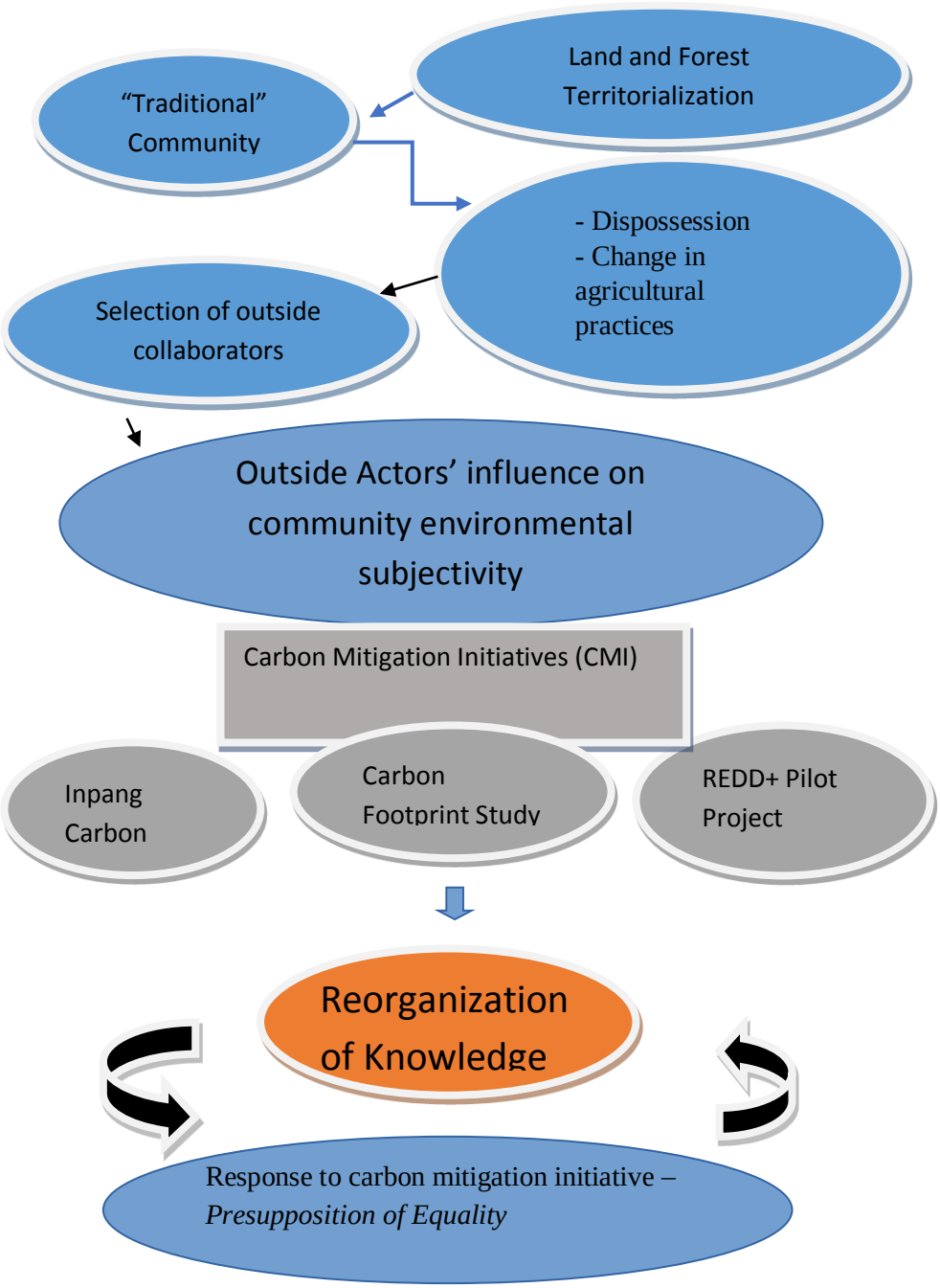

Figure 1.1 Conceptual framework

1.7 Research Methodology

1.7.1 Research Process

The research began with an interest in the Inpang Carbon Bank in Sakhon Nakhon, northeast Thailand. I had an interest in the northeast, or Esaan, because of having lived in the area for a period of 5 years and having come to really appreciate Esaan culture. The Inpang Farmers Network is a fairly widespread organization, but as a foreigner, I could not find any of the Network's contact information. After having developed an interest in the article, "Inpang Carbon Bank in Northeast Thailand: A Community Effort in Carbon Trading from Agroforestry Projects" (Samek et al.), I attempted but failed to set up a meeting with the authors. Afterward I received some help from a professor who was able to obtain the contact information of one of the members, but this too was to no avail as the phone number had been deactivated. Thus, having no luck contacting the Inpang Network, I searched around for other CMI projects that could work as research-sites. Eventually, I came across the Asian Indigenous Peoples Pact (AIPP), which to my luck had an office located 15 kilometers outside downtown Chiang Mai, where I am situated. I rode my bicycle to the office, obtained some good information from the staff and was told to talk to Mr. Kittisak, of the Indigenous Peoples Foundation for Education and Environment (IPF), a local NGO focusing on climate change and indigenous rights.

Soon afterward I met with Mr. Kittisak, which has an immense amount of knowledge about REDD+ in Thailand and who would really cause a breakthrough in the beginning stages of my research. He was able to give me the contact information of various Inpang members, as well as inform me about the ongoing REDD+ project being implemented in Muang Ang. After hearing about this, I informed my advisor Dr. Chusak, who was then able to set up a meeting with the head of the REDD+ pilot project in Doi Inthanon National Park. We discussed the topic of the research and then the head of the project agreed to assist me in finding a place to stay in the village.

After discussing the potential of the Inpang and Muang Ang sites, Dr. Chusak suggested a type of comparative study that could also include the Karen village of Huay Hin Lad Nai and the research already conducted regarding the carbon footprint analysis. Soon afterward, I was able to visit Huay Hin Lad Nai on a class field trip from another class year and was then able to discuss the research idea with the headman of the village. He approved of the research and promised to find me a place to stay when I would return to conduct field work.

Before going off to the first research site, Muang Ang, I needed to find a translator. At the time of the research, I had lived in Thailand for seven years, and could speak basic conversational Thai fairly well. However, when it comes to topics such as climate change, land-titling and development, my Thai fluency is very poor and a translator is needed. This was difficult because I needed the translator to stay out in the field with me for long periods of time. In my case, 'the field' was three fairly remote villages, which can be difficult to endure for those not accustomed to rural life. However, in one of my courses, I befriended a Thai doctoral student who was happy to take the job.

Along with Dr. Chusak, the translator and I drove to Muang Ang and met with DNP REDD+ team members and the village headman. The headman and his wife graciously allowed us to stay at their home and also lent us a motorbike to travel between the villages. The first couple days, I mainly focused on developing rapport among the community and finding out who were people of interest. To develop rapport, we simply followed the villagers to whatever work they were going to do that day and assisted them. This would be followed with food and drink at a distinct villager's home on daily basis. We also came to an agreement with the headman that we would teach English at the local primary school. This was a very inspirational and fulfilling activity that was great in its own right, but it also allowed us to develop more rapport among villagers, the children and their parents. Finding people of interest was fairly easy information to collect and soon afterward we began formal interviews. Unfortunately, circumstances had it that the translator would have to return home before I had finished my field work, but on the positive side, during our time there we met a

very helpful local who is a part-time tour guide and can speak fairly good English. Thus, for the rest of the time there, a local translator helped me, providing me additional help by being able to speak in their native language (very beneficial with the village elders who could better express themselves in Karen) as well as knowing many villagers that he thought would be of interest to me. We became good friends and he agreed to come help me in the next research site of Huay Hin Lad Nai but his lovely wife declined permission due to his family and farming responsibilities at home.

Thus again I needed to find a translator, the first one offering to assist but we could not match our time periods. I was directed to ask a Karen student at a nearby department, but she could not find free time so she directed me towards another student who used to be an English major. She also could not help me but she was able to ask her past classmates and luckily, somebody was interested and soon afterward we met up in Huay Hin Lad Nai. Prior to meeting the translator, I went to the village with Dr. Chusak and it was decided that I could stay at a village elder's home. Having yet to develop rapport, and without a translator, I decided to go with some local youth to another village for 2 days. At first, I was reluctant to go due to the research being focused on Huay Hin Lad Nai and thus possibly missing out on special events occurring in the village. However, I decided to go, and it proved to be beneficial because I was able to become good friends with the village youth and when we returned to the village, I was able to meet with the translator having already established good rapport with some villagers as well as obtain good information about possible interviewees. At the time of research, the village was not in a high-activity season in regards to agriculture. Thus, I mainly assisted them in activities such as sawing and hauling wood, and collecting *miang* tea leaves.

The last site of Ban Bua, Sakhon Nakhon also created problems in regards to finding a translator. Due to its far distance from Chiang Mai, many people from here found it difficult to find time to assist me. Luckily, through my time teaching in the northeast, I met a practicing student-teacher from Sakhon Nakhon Rajabhat University Through his connections, he was able to find me two

English major students that were interested in assisting me (they split the time between each other). I stayed at a guest house owned by the contact that Dr. Kittisak provided me and another villager lent me a motorbike. Developing rapport among the village was a bit more difficult here because the village is more spread out and most of the youth are working or studying outside of the village. I mostly helped package various juice products that the Inpang Network produces from the local *makmao* berry.

1.7.2 Research Site(s)

(1) Ban Bua, Sakhon Nakhon

Ban Bua, Sakhon Nakhon is a small village in northeastern Thailand. This site is interesting because of the outside actors that initiated the carbon mitigation project. The project is managed by Michigan State University researchers who wish to connect participating Inpang members directly to an international carbon market. There is a minimum level of participation from the Thai state and we can say that this project mostly consists of non-state market oriented actors. It is distinct from the other two villages due to the fact that participating Inpang members have state-recognized titles to the land.

(2) Muang Ang, Chiang Mai

Muang Ang, Chiang Mai is a small Karen village located on the boundary of Doi Inthanon National Park (some of the villagers' fields are located within the national park). This site serves as a contrast to Ban Bua in that the carbon mitigation project is fully managed by Thailand's Department of National Parks (DNP). In this case, funding comes from the Thai state and from international organizations such as the FCPF, a World Bank-affiliated organization that is meant to assist developing countries with carbon mitigation efforts through capacity building, training and funding. Muang Ang community members do not hold recognized property titles to the land they occupy.

(3) Huay Hin Lad Nai, Chiang Rai

Huay Hin Lad Nai, Chiang Rai is a small Karen village located in between a national forest reserve area and Khun Jae National Park. This site is distinct from

the other two in that they have had no history collaborating with a carbon trading project. However, they have used scientific studies relating to carbon in order to justify their traditional practice of rotational cultivation. Outside actors include the NGOs of Oxfam and Northern Development Foundation. They too do not hold recognized property titles to the land.

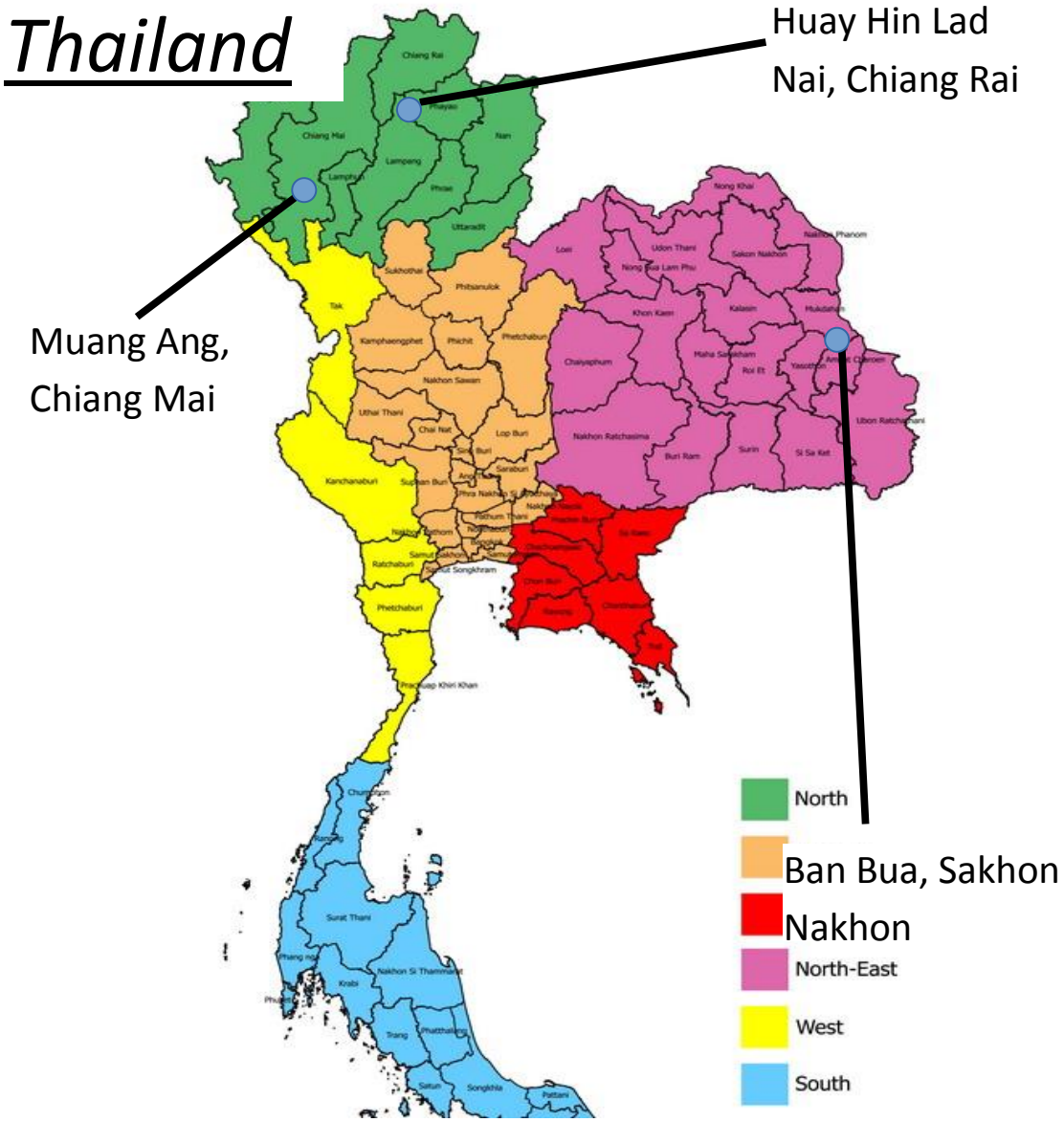

Figure 1.2 Map of Research sites

1.7.3 Unit of Analysis

The research has as its unit of analysis the collection of various specific individuals from different backgrounds collaborating together as a social unit. In this case it, selection of individuals was mostly determined according to their collaboration in the carbon mitigation project. Data was collected from village elders as well in order to obtain information on 'traditional' subjectivities and the history of the village. Alternative knowledges and practices of the different actors were analyzed in order to understand how projects are implemented, transform and/or collapse.

1.7.4 Level of Analysis

The study mostly focused on micro-scale relationships although meso and macro perspectives were also implemented when necessary. Hence, most research was conducted in the community by collecting data from individuals that have directly participated in the relevant project. Some of the knowledges and practices originated from national or international levels, thus focus shifted accordingly.

1.7.5 Data Collection

Preliminary Research

The research began with the collection and analysis of the existing literature relating to: 1) macro-scale studies on carbon trading, deforestation and global warming; 2) environmental policies within the Thai nation-state; and 3) historical, political-economic and cultural research of the northeastern and northern mountainous regions of Thailand. During the initial stages of the field research I obtained quantitative demographic statistics about the community from the village headman. I gathered data by conducting in-depth interviews, participant observation and focus group interviews.

In-depth Interviews

In-depth interviews were the main method of collecting data. Interviewees can be

categorized into four groups:

- Community elders: Interviews focused on the community's history and worldview as it pertains to the environment and outside actors.
- Community headman: Interviews focused on the community's environmental politics and relationship to the state and project implementers.
- Community members: Interviews focused on their experience with the project and how their relationship to the environment has transformed.
- Outside actors: (National park officials, University research teams, NGOs): Interviews focused on project implementation, such as how they chose the community, what strategies they used in order to teach about carbon and climate change and how their strategies may have changed during the implementation process.

Participant Observation

Participant observation was used in order to collect data regarding the everyday practices of community members and outside actors. Attention was given to: 1) the relationship between outside actors and community members, 2) the relationship between community members and the environment, and 3) project sample plots, strategies and technologies introduced by outside actors and their relationship with community members. Throughout data collection, special interest was given to how community members relate to the environment and whether it has transformed due to the emergence of new environmental languages introduced by outside project implementers.

Focus Group Interviews

Focus group interviews were conducted with community members regarding the carbon mitigation project. I attempted to direct the focus group towards topics such as the history of the community, climate change, views regarding the project and if possible, slightly controversial topics such as land rights and their relationship to the state. I planned to allow time to be able to conduct the focus group interviews towards the end of my field research due to the importance of obtaining rapport amongst community members. Time was left aside in order to

follow up on interesting topics that might have been brought up by certain individuals. An average of about 3-5 weeks was spent at each field site.

1.7.6 Data Analysis

The analysis of data occurred during and after field work at each research site. Data consisted of preliminary data taken from literary sources, recorded interviews and notes taken from participant observation. Recorded interviews and participant observation notes were transcribed and later grouped with preliminary data according to each research site. During the transcription and grouping stage, I marked data with tabs according to themes (e.g. land rights, subjectivity, conflict, etc.) that arose. This assisted me in finding relationships within the data from each research site to each other and with other themes/concepts in the research. Finally, I studied these various themes and their relationships with each other to see how they correlate to the research proposal's conceptual framework. I then looked at what data correlates and differentiates from the original conceptual framework to come up with my results and final conclusions.

1.8 Structure of Thesis

The thesis is divided into five chapters. Chapter 1 focused on the overall conceptual framework and rationale behind the research. A brief introduction to the core concepts of *environmentality, reorganization of knowledge,* and *presupposition of equality* was provided in order to give the reader the theoretical background that will be used throughout the text. Also included in the chapter is the research problem and justification, the main research questions and objectives and a review of related case-studies. It concludes with the methodology that was applied during the research process and how data was collected and analyzed.

Chapter 2 focuses on the historical development of forest and land institutions within an emerging Thai nation-state and how they affected the “traditional” livelihood practices and environmental subjectivities of the three participating communities. The chapter is divided into two sections, one which deals with various “traditional” practices and views of the Karen ethnic group (Muang Ang and Huay Hin Lad Nai) and how they have

changed due to the development of institutions in State-controlled forestry. The following section deals with Thai northeastern lowlanders (Ban Bua) and institutions that deal mostly with land-titling. The chapter will demonstrate how land and forest institutions have historically caused many problems for small-scale farmers. In the case of the Karen villages, forest policy has forced some communities to relocate. For many others, the amount of land they are allowed to cultivate has slowly diminished. The northeastern lowlanders on the other hand have had to deal with debt, which many argue originated from cash-crop development policies in the 1980s. In each case, the impacts of these institutions on the communities will be discussed and how this may have informed which outside actors each community decided to collaborate with.

Chapter 3 deals with the development of networks. This will deal with each of outside actors that the communities decided to collaborate with. This includes the history and objectives of these actors (Northern Farmers Network, the Royal Project Foundation and the Department of National Parks), the various projects they collaborated together on prior to the carbon mitigation initiative, and how these relationships may have influenced the communities' environmental subjectivity. The main theme of the chapter will focus on the development of these networks and how networks influence the environmental subjectivity of the community.

Chapter 4 approaches the carbon mitigation initiatives themselves and how each community understood and experienced the collaboration. The chapter will begin with a discussion of each project individually. It will then address the villagers' general understanding and experience of the project. The villagers' general understanding of the project will focus on carbon-based knowledge, with topics pertaining to deforestation, climate change and carbon trading. This will be followed with a discussion on the communities' reasons for participating in the project and whether or not it correlates with carbon trading-based theories that argue for market-based sustainable development. The chapter will conclude with what the villagers' believe to be the overall benefits of the carbon mitigation initiative.

Chapter 5 will conclude the thesis with a discussion and analysis of the findings using the theoretical framework provided in chapter 1. Returning to the core concepts of the *environmentality, reorganization of knowledge* and *presupposition of equality*, the

chapter will demonstrate how I analyzed this data using this framework and how it led me to the conclusions that I arrived at. There will then be a section on the implications for further research and policy recommendations.

CHAPTER 2

Land Relations: Historical Development of Institutions and Subjectivities

I begin this work by discussing the relationship between the three researched communities and their surrounding environment. This addresses their traditional agricultural practices and environmental subjectivity prior to their collaboration with concerned outside actors, as well as the development of land and forest institutions. The chapter is divided into two main sections, one dealing with the two Karen communities of Muang Ang and Huay Hin Lad Nai, and the other concerned with the village of Ban Bua. The purpose of this division is due to the geographical and ethnic differences between them. Muang Ang and Huay Hin Lad Nai are both indigenous Karen villages located in the mountainous forest regions in the North, whereas Ban Bua consists of ethnic Kaleung, Phu Tai and Yaow people who have begun to assimilate into mainstream Thai/Laos culture in the northeastern lowlands. Therefore, forest laws have had a historically closer relationship to the two Karen villages, while land laws have been so for Ban Bua. In the case of subjectivity, it is impossible to truly understand how people viewed and related to their surroundings in the past. Therefore, I relate historical data, traditional poetry and music specifically to the opinions of the villagers of the researched communities. This includes how they think of their ancestors in the past, as well as a comparison between the historical data on "traditional" Karen culture, and their own present view of themselves and their practices. I do this in an attempt to better understand their 'traditional' environmental subjectivity. It is important to understand these aspects of subjectivity because they are fundamental in understanding how they have changed as well as how they have influenced their response to carbon mitigation initiatives. The goal is to demonstrate how past land relations and 'traditional' environmental subjectivities have influenced what outside actors they would later collaborate with.

2.1 Karen Environmental Subjectivity: Love for the Forest and Freedom

The Karen are an indigenous group who reside in the mountainous regions that divide northwestern Thailand and eastern Burma. They are divided into two groups, the Skaw (Pgaganyaw) and the Pwo (Plong), of which the two I researched are of Skaw descent. In the late 18th century, many Karen migrated to Thailand due to political and economic pressures in an emerging Burma (Cohen 1984). Historically, they lived in small groups, spread across remote areas in the forested highlands. They intentionally sought to avoid contact with outside, more powerful groups, allowing them to maintain much of their traditional culture, language, and religious beliefs (Renard 2003). During this time, they maintained a relative position of autonomy by choosing to inhabit the peripheral zones of the Burmese, Siam and Lanna kingdoms. Relationships with these kingdoms consisted of a tributary system in which Karen villages would pay tribute and give allegiance to one of these kingdoms in return for protection (Pinkeaw 2003). Generally, there is a common theme that the Karen preferred to keep their distance from lowland, "civilized" life. Instead of assimilating to the lowland lifestyle, they chose to maintain their life in the forest and preserve their freedom and culture.

Although modernization has transformed the way of life for these two Karen villages in multiple ways, in some sense, we can still say that they continue to hold this sense of freedom by living in the forest. During my research, I spoke to many young Karen villagers who stated their desire to live in the forest. At the time, there was a university break, allowing me to befriend many Karen university students coming back home from the city. Each one of them expressed their desire to return to their home village after they have graduated. As one Karen university graduate who recently started working for the Department of National Parks (DNP) stated,

> "At that time, I had a lot of money but I spent a lot as well. Then a friend invited me to go back home and work for REDD+. I feel better here than in the city. I don't think I'll return to Chiang Mai (Chiang Mai is the largest city in northern Thailand)" (Key Informant (KI) Taht, 15/02/2017).

In this case, an educated Karen youth found success in the city but felt it unsatisfactory. He preferred to live in the forest and help his community. Others, like Chanphen from

Huay Hin Lad Nai, who haven't pursued a university education expressed their fear of city-life,

> "It is hard to live in the city. There is no money, it will be tough to live there. I don't have knowledge to work in the city and earn money" (KI Chanphen, 24/03/2017).

Moreover, there was a sense of freedom living in the forest as opposed to the city,

> "If you set up a shop in the city, you have to stay there all day, you cannot gather food in the forest. Here you can close the shop whenever you want. If I open the shop during the harvest season, there will be nobody here because they go to the field. So I close the shop because I have to go to the field too. I just open it in the morning and evening" (KI Pongpan, 25/03/2017).

In this sense, the two Karen villages I researched have maintained this idea of desiring life in the forest more so than city-life. Living in the forest gives them a sense of freedom, stability, and peacefulness, whereas city-life is unknown, expensive and, regarding owning your own business, restrictive in that you cannot open and close your shop whenever you desire.

There is also the presence of *hta* verses, which are commonly regarded as the 'wisdom of the elders'. According to Mischung, *hta* verses are used to, "express sentiments or convey messages of fundamental importance; express sentiments or convey messages that could not be communicated otherwise (e.g. in ordinary language); (and) to establish basic social or political claims that could not easily be contradicted by an opposition or rival party" (Mischung 2003:131). *Hta* verses are considered ancient wisdom passed down from their ancestors to help Karen people express subjects of great importance that would otherwise be difficult using normal language. During my research, I came across multiple *hta* verses that expressed their feelings towards a life of self-sufficiency in the forest. In one titled, "Independence for Life":

> Ber Grer Oh Pah Tee Der Rhey – Do not be interested in the rivers of other places.
> Ber Grer Oh Pah Gor Der Rhey – Do not be interested in the houses of other

places.

Pah Tee Or Der Ah Bwey – Their water is good, they have to buy.

Pah Gor Or Der Nga Ah Bwey – Their houses are good, they have to buy.

Ger Dtor Tor Gey Ber Gor Su Ley – We have to develop our own village.

Or Bah Mey So Bah Der Che – And then we can eat our own rice and make our own clothes.

(KI Neewet, 22/03/2017, *Translated by KI Prasit)*,

Here we see a great importance given to self-sufficiency and a suggestion to not give interest to the lives of neighboring groups. Moreover, there is an anti-consumerism aspect to it, in that the forest can provide everything that is necessary, unlike city-life, which may have nicer houses and clothes but which must be bought. These *hta* verses are mostly known by village elders. In my experience, it seemed that the youth are gradually forgetting them, however they could recall them if assisted by a village elder. They also seemed to understand the fundamental meanings of the *hta* even if they could not recite it word by word.

One last piece of evidence I would like to discuss is the presence of Karen folk songs. I was only able to translate one, but when asking Karen friends, most of the songs by this particular musician seemed to have similar meanings regarding life in the forest and what it means to be Karen. Both Karen villages I visited knew of the musician greatly. In his song entitled “Don’t Go”, Mr. Doo Por Tena (name of the musician) sings about a girl who is going off to work in the city;

Don’t go, don't go. Bangkok, Chiang Mai. I tell you it is not good.

Don’t go, don’t go. It is best to have diligence. To feed the chicken, to feed the pigs. In order to have food to eat. Don't forget to take care of your mother and your father.

Don’t go, Don’t go. Bangkok, Chiang Mai. I tell you it is not good. There is a lot of lights and sounds in the city. When you come back home, the boys don't look handsome anymore.

Don’t go, don’t go. Bangkok, Chiang Mai. I tell you it is not good. If you go and then come back, you will not be healthy.

Don’t go, don’t go. Bangkok, Chiang Mai. I tell you it is not good. I have seen that it is not good to go.

Don’t go, don’t go. If you go, you will spend all your money.
Don’t go, don’t go. If you go and then come back, you will not be healthy.
Don’t go, don’t go. Bangkok, Chiang Mai. I tell you it is not good. I have seen that it is not good to go.
Don’t go, don’t go. Bangkok, Chiang Mai. If you go and then come back, you will not be healthy.
(Song by Doo Por Tena, *translated by KI Prasit)*

Figure 2.1 Mr. Doo Por Tena (Photo taken by author).

Again we see a sense of prioritizing life in the forest. The artist lists multiple reasons to not head to the city, such as taking care of family, saving money, and health. City-life is considered corrupt, unhealthy and expensive.

Thus, through a brief analysis of historical documents, ‘poetic’ wisdom of the elders (hta) and popular Karen folk songs, we can see that in many ways, the Karen, at least in these two villages, continue to hold a feeling of longing to live in the forest and a reluctance towards having to assimilate to city-life. To them, living in the forest is part of who they are.

This evidence I believe contributes in part to a ‘traditional’ subjectivity that they continue to hold today. A subjectivity that holds that living in the forest is part of what it means to be “Karen”. This will come up again when discussing how these communities have responded to the carbon mitigation initiatives.

2.2 Agricultural Practices: To Paddy or not to Paddy

Traditionally, The Karen have practiced a combination of terraced wet-rice paddy agriculture alongside rotational cultivation. Rotational cultivation is a practice in which a field of land is cleared in order to grow rice mixed with a variety of vegetables and herbs, and then is left fallow while moving on to another field the following year. This is a cyclical process containing on average 7 fields. They will rotate between these fields, ultimately returning to the first field 7 years later. This allows each field to regenerate, thus maintaining healthy soil and vegetation levels. This agricultural practice is subsistence-oriented, meaning that they consume what they grow, as opposed to selling it in order to buy other necessities. However, this does not mean that they do not obtain cash at times and frequent nearby markets. Gradually, cash became desired as a way to obtain tools, gasoline and other necessities that they could not produce by themselves. They live amongst various other indigenous groups (Akha, Lisu, Hmong, etc.), generally dividing their places of habitation among each other by elevation. The Karen seem to prefer elevations between 700-1,400 meters above sea level (Puginier 2003). Due to a combination of internal and external population pressures, along with government restrictions on rotational cultivation, the Karen have slowly begun to give up the practice. While both Muang Ang and Huay Hin Lad Nai have practiced rotational cultivation in the past, only the latter continues to this day (this will be discussed later on).

Before going into the details regarding rotational cultivation in the two research sites, I would like to provide a brief discussion regarding the use of the term 'rotational cultivation.' In her work 'Rai, Rai Lu'an Loy, Rai Mun Wian and the Politics of "Shifting Cultivation", Pinkeaw Luangaramsri elaborates on Thailand's discursive history of shifting cultivation (Pinkaew 2001). Pinkeaw breaks this history down into three stages: swidden agriculture (*tham rai*), shifting cultivation (*rai lu'an loy*) and rotational agriculture (*rai mun wian*). She defines swidden agriculture as "a form of agriculture in which the fields are cleared and burned for one or more years of cropping, then left fallow to regenerate before being used again" (Pinkaew 2001:212). In the pre-modern period of Thailand's history, swidden agriculture was considered a unique practice to those communities that lived in the periphery of the kingdom. The Royal

Forestry Department (RFD) and King Chulalongkorn (1853-1910) both deemed the practice as non-threatening to the interests of the country and some Siamese kings even promoted it (Pinkaew 2001). However, in the mid-twentieth century when the development era began to take place, this beneficial/neutral view of swidden agriculture began to change and the term 'shifting cultivation' (*rai lu'an loy*) emerged. This was a time when conservationist discourse was taking hold and which saw the seemingly randomness of swidden agriculture as unproductive and destructive towards the forest. National parks were established and the promotion of paddy field agriculture and a sedentary lifestyle were promoted/enforced. Those practicing what was now labelled 'shifting cultivation', were seen as the main contributors to deforestation and many conflicts between these 'shifting cultivators', the state and lowland agriculturalists began to emerge (Pinkaew 2001). Many upland community members were forced to give up the practice, some being evicted from their traditional lands as well as facing persecution. Due to these conflicts, a new, counter-discourse emerged from these upland communities which argued that a new term was needed, that of 'rotational cultivation,' or *rai mun wian*. Upland communities, with assistance from NGOs and local academics, defined 'rotational agriculture' as an agricultural practice that emphasizes the systematic rotation of cultivated plots and fallows. Cultivation is done over short time periods, while fallows are left alone for long periods in order for them to return to rejuvenated forest. The systematic nature of rotational agriculture is fundamental in order to combat the insistence that upland communities, by practicing 'shifting cultivation' were randomly selecting and continuously expanding upon their fields, thus degrading the forest. Proponents argued that rotational agriculture is subsistence-oriented, thus are ecologically sound. Lastly, rotational agriculture was differentiated from shifting agriculture by highlighting its relationship to the community's local wisdom and religion (Pinkaew, 2001). Thus, rotational agriculture was a 'new' term to define the traditional agricultural practices of various upland communities. Due to the negative perceptions given to these practices by the term 'shifting cultivation', upland communities came up with 'rotational agriculture' that emphasized sustainability, local wisdom and systematic natural resource management. I will use the term rotational cultivation in the rest of the thesis, however, with the absence of any political intentions. Villagers used swidden (*tham rai)* mostly and rotational agriculture (*rai mun wian)* only sometimes. Shifting

cultivation (*rai lu'an loy*) was almost never used except when explaining the differences between them and other upland communities.

According to some villagers of Muang Ang, in the past rotational cultivation was easier than paddy field cultivation. This was due to the absence of chemicals and mechanical plows. As one village elder stated,

> "Before, people had paddy fields, but the rice was not very good so then we switched to rotational cultivation. We planted (paddy fields), but weeds would come before the rice. They were taller than the rice, after that we would switch to rotational fields" (KI Joo Koo, 26/02/2017).

Another village elder stated it bluntly,

> "Before we used to practice rotational cultivation because it was too difficult to cultivate paddy fields without a machine or chemicals. Now paddy is easier" (Informal interview with Mae La elder, 26/02/2017).

Thus, rotational cultivation was easier to practice than paddy fields. It wasn't until the introduction of machines, pesticides and the opportunity/necessity to gain income that villagers began to give up rotational cultivation.

Rotational cultivation was based on a memorandum of understanding (MOU) between the Muang Ang villagers,

> **"**In the past, rotational fields did not belong to one particular person, each field belonged to everyone. Let's say this year, I cultivate this field. The second year I will go and explore another place within the boundaries of the rotational cultivation areas, but that area could belong to somebody else before. For me, if I used to do the farming there, other people can take the land. There is no attachment to the field." (KI Mac, 15/02/2017).

In this case we see an absence of any formal rules and regulations regarding rotational cultivation arrangements within the community. There is also a sense of non-ownership of nature, which will come up again when discussing the introduction of greenhouses and the distribution of stream water. What is important to understand here is that

historically, Muang Ang villagers practiced rotational cultivation which did not have any formal rules and regulations nor sense of ownership to the environment. Moreover, rotational cultivation was sufficiency-based, meaning that there was no intention to obtain income from it. These themes will come up again when discussing the emergence of state institutions that would later restrict these traditional practices. We will also see how their opinion of rotational cultivation has transformed after these restrictions.

The case of Huay Hin Lad Nai is distinct in that they continue to practice rotational cultivation. Consequently, they are able to provide many more insights into why rotational cultivation is beneficial. One reason is the connection between rotational cultivation, local seed varieties and a spiritual relationship to their ancestors. According to one village elder,

> "The Karen believe that we have to do rotational cultivation so that we can preserve the local seeds. We have to keep the origin of the varieties" (KI Neewet, 22/03/2017).

He is supported by one of the village youth, who stated that the Karen practice rotational cultivation because,

> "We can preserve the seeds. We save them so we can grow the next year. Because they are the original seed species. This makes us proud to use traditional seeds that have been passed down from the elders" (KI Dao Jai, 23/03/2017).

According to both the village elders and youth of Huay Hin Lad Nai, preserving local seed varieties is fundamental for preserving their identity as "Karen". It maintains their connection to their ancestors, who planted the same varieties in which their seeds originate from now.

Another benefit they discussed was rotational cultivation's organic nature. Traditional practices of rotational cultivation do not require chemical inputs. For the villagers of Huay Hin Lad Nai, this has two benefits, one is that it allows the land to rest. Generally, chemical inputs are used in order to continue cultivating the same plot of land for long period of time. By rotating fields, there is no need to use chemical inputs. Another reason is that chemical inputs cost money. In one villager's words,

> "I think the main reason we do rotational cultivation is because we don't use chemicals and fertilizer. If we continue to use the same land, we have to use chemicals. So we change fields so the land can rest, we don't have to use chemicals. If we don't rotate fields then we have to use chemicals, which we don't want to do because it costs money. We don't want to pay money for fertilizer. If we do rotational cultivation we don't have to add fertilizer. It is our traditional Karen belief" (KI Tamteem, 22/03/2017).

Here we see that the rejection of chemical inputs is not only about economic and ecological reasons but also a way in which the village maintains their sense of Karen identity.

As discussed in the case of Muang Ang, the topic of difficulty is also an important factor when considering whether or not to practice rotational cultivation. Muang Ang considered rotational cultivation easier prior to the arrival of chemical inputs and machinery. With the villagers of Huay Hin Lad Nai, there were various opinions regarding whether paddy field cultivation or rotational cultivation was more difficult. One consideration is water;

> "Rotational cultivation is harder because you cannot add water, you have to wait for the rain. The land is sloped. We don't know when the rain will come" (KI Dao Jai, 23/03/2017).

Rotational cultivation is conducted on mountain slopes without the use of terraces or irrigation. It is a dry-cultivation technique which relies solely on rain water. As global warming continues to change climate patterns, this may become more of an issue in the near future. However, this seems to be the exception. Most felt that rotational cultivation is easier because of its low maintenance and not requiring the use of a mechanical plow.

There is also a close relationship between agricultural practices and religious beliefs, in this case Karen animism. Most villagers of Muang Ang have converted to Christianity, but they continue to hold some beliefs regarding the local spirits. These spiritual beliefs determined where they could cultivate;

> "In the past, we worshiped spirits, so we didn't cut there. Near the places where we worshiped the spirits, we wouldn't touch those places" (KI Uthai,

17/02/2017).

According to them, when seeking out new areas to cultivate, whether it be for paddy or rotational cultivation, they would clear a very small area and then return back home. That night, if they had a bad dream, it meant that the spirits did not want them to cultivate there. If a bad dream did not occur, they were allowed to cultivate the area. Karen beliefs about the laws of local spirits have an environmental ethic. There are rules about when, where, and how much to hunt, fish and cultivate. They are closely connected to environmental management and there were a few instances where Muang Ang villagers opinioned that environmental problems resulted from no longer respecting local spirits due to their conversion to Christianity.

On the other hand, Huay Hin Lad Nai still maintains a very close relationship to the local spirits. As mentioned above, believing in local spirits requires the acceptance of many rules and regulations. The local spiritual leader, the *Zeeko*, of Huay Hin Lad Nai explained it as follows;

> "We have to ask permission for everything, such as harvesting, planting, many things. There are two water spirits, the river and stream spirits; there is the rain spirit; the forest spirit; the mountain spirit, the forest and mountain spirit are same but we call them different. There is also the ancestor spirit" (KI Nú, 25/03/2017).

These spirits are place-based, and require distinct sets of rituals in order to pay respect to them, as well as rules and regulations concerning environmental management in those specific places. There are also punishments for breaking these rules;

> "If we cut trees without permission, if we don't ask, or do too much hunting. Then there will be some punishment from the spirits. The spirits punish us if we cut a tree but don't use all the wood. The *Zeeko* will then perform some ritual in order to ask for forgiveness and prosperity" (KI Neewet, 22/03/2017).

Although it is sometimes opinioned that many ethnic groups have converted to Christianity because of the sometimes costly, multiple and complex rules, and mandatory rituals of the spirits, villagers of Huay Hin Lad Nai expressed their love for their beliefs and have no intention of converting in the future,

> "We want to do it (give offerings to spirits). I want to pray and live with the spirits. I am eager to perform the ceremonies. There are good spirits, you cannot see them but we want to pray to them to ask for good things and live together with them" (KI Neewet, 22/03/2017).

Spiritual beliefs and environmental management are closely correlated. As the villagers of both communities expressed, Karen spiritual beliefs contain an environmental ethic that promotes specific environmental management practices. Rules and regulations are in place regarding certain times that hunting and fishing are prohibited and places that are off-limits for cultivation. Almost every aspect of environmental management has some direct or indirect relationship to a local spirit.

I have attempted to give a general account of the agricultural practices and their relation to environmental subjectivity within these two communities prior to their collaboration with outside actors. What agricultural practices a community decides to perform can be for economic reasons, i.e. not having to buy chemical inputs; it can be for ecological reasons, such as maintaining biodiversity and allowing the land to rest and regenerate, but most importantly they seemed to be spiritual and identity-related. At least in the case of Huay Hin Lad Nai, rotational cultivation was due to the desire to maintain a close relationship with their ancestors and local spirits and thus preserve their identity as "Karen". I believe that themes such as maintaining a connection with ancestors, chemical inputs and money, difficulty, and relationship to local spirits can help us understand how agricultural practices and environmental subjectivity influence each other. Later on I will discuss how, and if, these environmental subjectivities transformed due the emergence of state institutions and through collaborations with outside actors which affected these same agricultural practices.

2.3 Forest Territorialization of the Thai State

This section will address the various institutions that arose with the emergence of the Thai nation-state and their effects on the two Karen villages of Muang Ang and Huay Hin Lad Nai. I will be using Vandergeest's *territorialization* analysis, which he divides into three stages: *Territorial Sovereignty and Product Controls, Forest Demarcation, and Functional Territorialization* (Vandergeest 1996). He defines territorialization as "the

process by which states attempt to control people and their actions by drawing boundaries around a geographic space, excluding some categories of individuals from this space, and proscribing or prescribing specific activities within these boundaries" (Vandergeest 1996:159). I will supplement this with what Agrawal labels the first building-block of an *environmentality* framework, *power/knowledge*. In this case, it involves how forest landscapes are transformed due to systematic applications of new knowledge (Agrawal 2005). Whereas before forests were considered wild places that acted as buffer zones between neighboring kingdoms, we see that in the 19th century, more quantitative approaches were used that represented forests as natural resources that are meant to be exploited for profit. They also became places in which to claim territorial sovereignty. In each stage, different forms of knowledge were used that refined forest natural resource management and later on, its conservation.

The first stage of this territorialization process began around the late 19th century. This was during the colonization period in which the British were occupying Burma to the West, while France was colonizing Indochina to Thailand's East. At this time, Thailand had not yet become a modern nation-state and the region consisted of various independent kingdoms (Siam, Lanna, Burmese). The Karen resided in the periphery, which acted as buffer zones between the neighboring lowland kingdoms. Territorial boundaries had yet to be established, and power was "always ambiguous, fluid, and boundary-less" (Saratsawadi 1996:338 in Pinkeaw 2003:25). These peripheral regions were semi-autonomous, and considered inhabited by 'forest people' by surrounding kingdoms, which had little interest in these areas except during times of warfare (Pinkeaw 2003). However, the representation of these areas began to change when the more powerful colonizers entered the scene. These areas had an abundance of teak and soon became of interest to the British, who used it for shipbuilding (Vandergeest and Peluso 1995). This became an issue because these areas were controlled by local lords who were in continuous conflict with one another. This allowed attacks and theft by bandits to become a common occurrence. Due to this chaotic situation, the British threatened to take control of the area itself unless the Siamese government were to alleviate the situation. This led to the Siamese colonization of the northern kingdoms, the establishment of modern territorial boundaries and eventually, the implementation of the Forest Preservation Act of 1897, which prohibited the logging of teak (Pinkeaw 2003;

Vandergeest and Peluso 1995). Here we can see a transformation of the representation of the forest; from one of peripheral 'wild' buffer zones of little interest, to important domains with strict boundaries that were used to demonstrate territorial sovereignty to outside powers. Moreover, the forest became viewed as a natural resource meant to be exploited for economic profit. Although this shift in the representation of forests led to the implementation of new regulatory institutions, the Siamese government had little resources to actually enforce them. It would seem that during this time, there was no major impacts on the livelihood practices of the local communities in the area.

In 1899 The Royal Forestry Department was founded. In effect, all unoccupied and unclaimed lands within Siam became under the jurisdiction of the RFD. This department was mostly concerned with "facilitating and supervising the extraction of teak by British companies (and) taxing other commercial forest products" (Vandergeest 1995:162). About a decade later was the establishment of the Forest Conservation Law of 1913, which marks the beginning of the first stage of territorialization. This law concerned the regulation of forest products, dividing them into two categories. Category 1 dealt with forest products that could still be used for domestic trade and consumption, while category 2 concerned rare and important species such as teak (Vandergeest 1995). Local communities were still able to legally harvest any unreserved products, as well as reserved ones for domestic use (house construction, rituals, etc.), providing that they first obtain permission from the RFD (Vandergeest 1995). The enforceability of these regulations continued to be very difficult for the RFD. Here we see a refining of *power/knowledge*, representing the forest into two categories; reserved and unreserved products. The implementation of this knowledge led to institutions that required forest communities to obtain permission in order to obtain certain products, thus, in theory, changing their livelihood practices. But as stated above, the RFD still had little resources to actually enforce these rules and regulations.

Probably the main reason why the RFD could not enforce effective territorialization of the forests during this time is due to its subordination to the Ministry of Interior (MoI). This relationship also provides a good example of how *power/knowledge* functions. Due to this subordination, the development of scientific forest management was not prioritized by top Siamese authorities. The MoI was more concerned with maintaining

civil peace than it was with forest conservation and management (Vandergeest 1995). Moreover, the Siamese government held the common belief of that time that the clearing of forest for agricultural expansion was a sign of civilization, thus giving little interest in forest management (Agrawal 2005). It is possible that if the RFD had achieved what they wanted and was allowed to deny local communities access rights to the forest, something similar to what occurred in Kumaon, India may have followed, in which villagers set off massive forest fires (totaling 200,000 acres) to protest their denial of rights to the forest (Agrawal 2005). Eventually, in the 1920's, the RFD was able to obtain some sense of autonomy from the MoI. According to Vandergeest, this shift in power was likely due to a decrease in the potential threat of direct British colonization. This gave the Siamese government more flexibility in determining what to do with its forest resources, which was previously much under the influence of British logging interests (Vandgereest 2006). What is important to understand here is how much *power/knowledge* is embedded in the political process itself, even between departments of the same nation-state. It wasn't until the RFD obtained more power within this hierarchy of government departments that it was able to implement its own institutional mechanisms that were based on scientific forest management. This shift in power also demonstrates how intra-governmental politics is much determined by geo-political changes, in this case British colonization politics.

To reiterate this first stage of territorialization (*Territorial Sovereignty and Product Controls)*, the Siamese government was mostly concerned with the management of forest *products*. Representation of the forest was divided into the two categories of reserved and unreserved forest products. In order to collect reserved products, local communities would be required to obtain permission from the RFD, while unreserved products remained open access. However, these rules and regulations were very difficult to enforce, mainly due to the interests of a more powerful MoI. The *power/knowledge* of the MoI was prioritized to that of the RFD, allowing them to implement their own interests, which were more inclined to allow local communities access to forest natural resources. It wasn't until the threat of direct British colonization began to decrease that there were minor shifts in *power/knowledge* to the side of the RFD, which brings us to the second stage, *forest demarcation*.

In 1932, a group of nationalist officials and military officers overthrew the absolute monarchy. Six years later, they put forward the Forest Protection and Reservation Act (1938). This marks the second stage of forest territorialization; *demarcation of reserve and permanent forests* (Vandergeest 1995). Here we see a shift from the management of forest products to a demarcation of *territories*, which includes the management of all resources within determined boundaries. While the first stage of territorialization categorized forest resources into reserved and unreserved products, this stage had changed these categories into "protected" and "reserve" forests, which included all resources within each specific classification. Protected forests dealt with areas in which clearing, cultivation and burning were prohibited. However, the collection of forest products continued to be permitted. Reserved forests had stricter regulations. Animals were forbidden to graze in these areas and permits were required to collect any forest product, even those such as animal products, soil, rock, etc. (Vandergeest 1995). The demarcation of these forest territories was a complicated process that required the participation and approval of the MoI and affected local communities. The committees that were set up to implement the demarcation of these territories were organized in a way that continued to favor the MoI. Thus, the RFD continued to have difficulties implementing their objectives of scientific forest management. Moreover, the persistence of the lack of enforceability meant that many remote forest communities continued to be unaffected.

In 1949 Mao Zedong established the People's Republic of China. This development of communism in the region as well as unrest in Northeast Thailand worried the Thai elite and in 1952 the Communist Party of Thailand was banned from political activity (Mishra 2010:119). The borders with neighboring countries as well as the difficult terrain of the country's mountainous and forested areas became thought of as highly vulnerable places to communist infiltration. Therefore, the MoI and the Thai government in general continued to approve of the clearing, cultivation and settlement of Thailand's forests. The settlement of these areas increased the government's reach through the construction of roads and communication technologies in previously remote areas that were thought to hold potential for emerging insurrectionary movements. The coronation of King Bhumibol in 1950 also highlights this time. He would later found the Royal Project Foundation that would work on many development projects and eventually lead to his

revered status that he maintains to this day.

It wasn't until after World War 2 that the RFD began to gain real control over Thailand's forests. This was partly due to the help of the Food and Agricultural Organization of the United Nations, which provided technical assistance, new extraction and processing technologies, increased foresters' access to military technologies, opened up the availability of investment capital, and provided significant subsidies from development aid (Vandergeest 2006). The Thai state also began to side with the RFD. It had discovered the true economic potential of tropical timbers (which were on high demand on the international market) as well as understand that the management of forests allowed for the extension of state power. Gradually, new policies were enacted that made it easier for the RFD to implement its objectives.

However, it was in the year 1959 that a pivotal transitional shift occurred when a military coup was undertaken by Field Marshal Sarit Thanarat. He removed the parliament and defined the destruction of the forest as an act against the nation (Vandergeest 1995). Due to the increased FAO influence, increased demand for timber products on the international market, and an authoritarian government, the MoI's remaining control over forest resources was effectively eliminated. The RFD now had complete control over the country's forests (Vandergeest 2006). This led to the establishment of the Forest Police and Forest Protection units, the elimination of the provision that allowed local communities to cut timber for house construction, increased penalties for breaking forest laws, and the establishment of the 1960 Wildlife Conservation and Protection Act and the 1961 National Park Act, which began the demarcation and protection of national parks and wildlife preserves (Vandergeest 1995). Soon afterward, the 1964 National Forest Reserve Act replaced the 1938 Forest Protection and Reservation Act. This took away the requirement that forest communities consent to forest reserve declarations. Again, even after the demarcation of these new reserves, it was difficult to enforce the strict rules and regulations.

This period also gave rise to the creation of the Royal Project Foundation in 1969 by King Bhumibol. It was meant to solve the problems of deforestation, poverty and opium cultivation in the Northern mountainous regions. To do this, it promoted the cultivation of alternative crops and the demarcation of agricultural from forested lands. They would

gradually extend their influence in these remote areas, promoting economic and sustainable development. The Royal Project would later become a very influential actor in the local history of Muang Ang and many other forest communities.

Another government policy enacted during this time was the decision to extend long-term timber harvesting concessions. Logging concessions were given to provincial companies and "by the 1980s, most reserve forest territory had at some time been covered by logging concessions" (Vandergeest 1995:167). We continue to see a lax RFD who could not effectively control the areas, leading to an increase in deforestation by locally powerful logging companies and the illegal loggers that followed. This led to an increase in migration to and settlement in the highlands. We will see that this would directly affect the community of Huay Hin Lad Nai in 1986, when the Thai government approved of a concession to the local Chiang Rai Tham Mai logging company.

Although this territorialization phase consisted of the demarcation of Thailand's forests into reserves, we see the opposite effect of the government granting logging concessions on a higher rate than in the past. The RFD had obtained a higher position than the MoI but was still not able to effectively manage its territories. This, along with widespread political instability, allowed massive illegal logging practices. Many forest communities began feeling real effects on their traditional lands, not by RFD government rules and regulations but through government concessions to logging companies and the illegal loggers that followed. Nevertheless, the representation of forests transformed from its first phase categorization of *reserved* and *unreserved* forest products to the new, *protected* and *reserve* forests, which included all forest products within designated areas. They also became represented as areas that were feared and in need to be 'domesticated'. They were seen as communist 'breeding' grounds because of the perceived poverty and remoteness of the areas, as well as dangerous areas of opium cultivation that needed to be eradicated. These representations may have influenced why many logging concessions were given out during this time.

The third and final phase of this process is what Vandergeest terms, *Functional Territorialization* (Vandergeest 1995). The main characteristic of this phase is its technocratic nature, which uses more complex categorizations through scientific criteria. Units such as slope, forest cover and occupation status were used to create evermore

forest-types, such as watershed areas (1A, 1B, 2A, 2B), wildlife sanctuaries, national parks and areas suitable for agriculture. Legislation for these new policies began in the 1960s, eventually establishing the "legal and institutional basis of functional territorialization" (Vandergeest 1995:168). This would directly affect Muang Ang with the establishment of Doi Inthanon National Park in 1972.

The extensive logging in the 1970s and multiple floods in the central Thailand, created a heightened sense of urgency to halt the deforestation of Thailand's forests. This led to a ban on logging and an increase in military presence in the forests (Vandergeest 1995). During this time, the Department of Land Development was conducting the mapping of these areas, determining boundaries for each forest-type using the new scientific criteria. This would directly affect Huay Hin Lad Nai, whose village instantaneously became marked as a watershed conservation area, which meant that they would have to relocate. According to Chusak, during the 1990s, the Thai government was willing to allow forest cultivation on lands classified as suitable for agriculture, but the RFD had been unwilling to give up their jurisdiction of these areas (Chusak 1994 in Vandergeest 1996). Instead of issuing official title deeds, the RFD has been issuing "STK" certificates, which grant limited cultivation rights on plots of land that do not exceed 15 rai (2.4 ha), on a 5-year, renewable lease (Vandergeest 1995). These "STK" certificates are dependent on many conditions, one of which states that you cannot leave the land idle continuously for 2 years. Consequently, those who practiced rotational cultivation, such as Huay Hin Lad Nai, could not apply for this certificate.

By this time, the RFD had increased its influence greatly. This increase has led to the extension of their own *power/knowledge*. The Thai state had realized the potential of forest management/conservation and with the new technologies provided by FAO development assistance, the RFD was able to effectively enforce many of its policies. The representation of the forest had become refined yet again, from the two categories of reserve and protected areas, to more complex categorizations such as watershed 1A, 2A, 1B, 2B, National Park, and wildlife sanctuary. New institutions were put into place to enforce these categories and, unlike the past, they began to seriously affect many forest communities. Both Muang Ang and Huay Hin Lad Nai began to be directly affected by these emerging institutions from the RFD and Thai government.

2.4 Structural Influences on the Village of Huay Hin Lad Nai

In the mid-20th century, Huay Hin Lad Nai practiced a sufficiency-based rotational cultivation while earning most of their income by cultivating *miang* tea. During this time, highland indigenous groups would slowly have to transform their previous livelihood practices. Those groups which practiced rotational cultivation would gradually have to give up their rotational fields that were left in fallow. This required them to transform the fields that they were allowed to keep into land suitable for paddy and cash-crop cultivation. In the early 1960s, Huay Hin Lad Nai would also have to reduce and convert some of their rotational fields into paddy cultivation.

> "The main reason we started paddy cultivation is because the government told us that Thailand has to be the biggest exporter of rice and that we can also protect ourselves by growing paddies and living in the forest." (KI Chai Prasert, 22/03/2017).

> "The government told us that rotational cultivation is bad. If you do rotational cultivation, it will destroy the land, destroy the forest. So they wanted us to reduce our rotational fields and convert them to paddy fields." (KI Neewet, 22/03/2017).

These are both responses as to why they began to cultivate paddy fields. In both cases, the government does not require the village to relocate, but instead wants them to give up rotational cultivation for paddy cultivation. In the case of Huay Hin Lad Nai, the average size of their rotational fields decreased from 6 rai to 2 rai. The government believes that rotational cultivation is economically unproductive and destructive towards the forest. As a solution, they promoted cash-crop and paddy field cultivation. As mentioned previously, the villagers of Huay Hin Lad Nai did not like the idea of cash-crops and the use of chemical inputs. Although they found themselves with less agricultural land, they did not have to resort to cash-crops for income because of their practice of *miang* cultivation.

Miang tea cultivation is an agro-forestry practice in which tea is grown dispersedly throughout the forest. Huay Hin Lad Nai is situated in an ideal location that is suitable

for its cultivation. Neighboring villages that are below Huay Hin Lad Nai in altitude are not able to productively cultivate this tea. One village elder explains the outcome of the neighboring village of Hoi Ma Duea;

"It was a trend. Cash-crop trend. Hoi Ma Duea is not lucky because they don't have tea trees. So they cannot gather tea to earn money, they have to grow cash-crops." (KI Nú, 25/03/2017)

Figure 2.2 Villager collecting *miang* tea (Photo taken by author).

In this way the people of Huay Hin Lad Nai are fortunate to have the ideal environmental settings to earn an income from the cultivation of *miang* tea. As government regulatory institutions became more part of daily life, villages slowly had to reduce the amount of land used for rotational cultivation. Paddy fields and cash-crop agriculture became the new practices that were required in order to sustain their livelihoods. On the other hand, Huay Hin Lad Nai was able to resist this necessity to switch to cash-crops because of their ability to gain income from *miang* tea cultivation.

In 1969, the area of Huay Hin Lad Nai was classified as a forest reserve. This correlates to Vandergeest's second phase of territorialization, in which the RFD designated two types of forest; reserve and protected. Forest reserves were the stricter of the two, forbidding communities to graze their animals and requiring permits to extract any forest product (Vandergeest 1996). However as mentioned previously, the RFD did not yet have the capability to enforce such regulations. When asked about any issues that might had arisen, one villager explained;

"No, no problems. They declared this area a forest reserve but we were still allowed to stay here." (KI Chai Presert, 22/03/2017).

During my stay there, I was told that villagers do obtain permits from forest officials to extract timber for the construction of houses (I believe that every house in the village has been constructed using surrounding timber). I do not know how long they have been obtaining these permits from forest officials. While I was there, it was the "off-season" (not planting or harvest season), so I did see many villagers logging trees. They got into teams of 3-4, consisting of neighbors and family members and assisted one another obtain timber to make an extension to their home. Although most seemed to go about this in a very relaxed demeanor, one individual was fine with his photo taken with some wood on his motorbike, but he did not want it posted online. I do not know how common logging is done without a permit (if it is done at all). However, it does seem that the villagers do have their own logging management system. They only select certain trees that fit a community-determined size or age.

Figure 2.3 Timber working station (Photo taken by author).

Figure 2.4 Timber-constructed house (Photo taken by author).

This all occurred around the same time as the rise of Field Marshal Sarit Thanarat in 1959. His regime had an authoritarian nature, which led to the creation of a Forest Police and increased penalties for breaking forest laws. The RFD was able to extend its influence during this time due to the new technologies provided by the FAO and American government. As mentioned earlier, the government was not very interested in whether or not Huay Hin Lad Nai and communities around it remained in the forest, they seemed to mostly care about discontinuing the practice of rotational cultivation. This is also the time when the government was afraid of communist infiltration in the border and forest areas. Allowing Huay Hin Lad Nai and other communities to remain in the forest might have been due to this fear and their desire to keep these remote areas populated with easy access routes.

Up until this point, the villagers of Huay Hin Lad Nai have had to reduce the amount of their rotational fields and convert them into paddy fields. As the RFD consolidated more power, they were able to actually enforce many of their forest regulations. I am not sure how much this actually affected the practices of Huay Hin Lad Nai, i.e. how often the villagers obtained permits before extracting forest products. Regardless, the villagers seemed to continue practicing many of their traditional environmental management techniques.

The presence of cash-crops all around surrounding villages might have influenced their view on cash-crops, debt, and chemical inputs. It seems that Huay Hin Lad Nai did not have to take up the practice of cash-cropping because of their ability to cultivate *miang* tea. However, relatives of Huay Hin Lad Nai did live in many of these surrounding villages. These familial connections allowed villagers of Huay Hin Lad Nai to better understand the costs and benefits of cash-cropping and it seems to have eventually reinforced their beliefs towards their traditional practices. For many, cash-cropping is about money;

> "This is my opinion. The other villages accepted the ideas of many outside investors. But here, we did not accept. We do not want to have too much money. The others wanted more money so they changed to grow cash-crops, so

> they can sell to the market. Here, we are ok with rotational cultivation, we have enough. We need a little money but not much." (KI Neewet, 22/03/2017)
> "Because some villagers wanted to send their children to good schools, so they need more money, so they changed to cash-crops." (KI Dao Jai, 23/03/2017).

It is difficult to know if Huay Hin Lad Nai would have had to start cash-cropping if they were not able to cultivate *miang* tea. But they do seem to affiliate the practice of cash-cropping to the desire for money. The second quote I believe is a good representation of why individuals from surrounding villages wanted to earn more money. The desire for money in order to send their children to school can represent a desire for 'modernity', or 'development'. A child will migrate out of the village, obtain a good education, secure a good job, possibly return home, and so on. This image of money may have created the feeling of youth out-migration, village depopulation and eventual loss of culture and the village itself. A disdain for an overabundance of money and its connection to cash-crops may have developed in the community because of what they saw happening in surrounding villages. Moreover, this situation could have led to a reinforcement of forest life and self-sufficiency.

Money was also affiliated with chemical inputs and debt. Although cash-crops were a means to obtain more money, they also required chemical inputs, which had to be bought. There is much research on how cash-crops and the chemical inputs that are required has led many farmers into a continuous cycle of debt. Here, money could have developed into an image of constant debt. The desire to make money using cash-crops necessitates the requirement to spend money for chemical inputs. If issues such as drought, floods, or pest outbreaks occur, then a farmer may likely fall into debt. Villagers of Huay Hin Lad Nai most likely witnessed this occurring in the surrounding villages and began to affiliate cash-crops and money to debt.

In both cases, villagers of Huay Hin Lad Nai viewed the transition to cash-cropping as having a close relationship to money. In their opinion, this transition was due to the other villages' desire for money. Money was possibly viewed as the means to

become ‘modern’, to move to the city, obtain an education and possibly forget about your hometown and culture. It could also be viewed as a continual cycle of debt. Cash-cropping was pursued in order to obtain more money, but the need to buy chemical inputs frequently led farmers into debt. In order to relieve this debt, the selling of their traditional lands may have commonly occurred. The presence of cash-cropping in surrounding villages may have reinforced Huay Hin Lad Nai’s traditional beliefs of the desire to live in the forest, self-sufficiency and autonomy. These beliefs could be seen as possible conditions that would later emerge to construct/support a political subject that revolves around ethnicity and environmentalism.

In 1986 the Thai government provided Chiang Rai Tham Mai logging company with a 10-year, 80,000 rai (about 13,000 ha) logging contract that included within it the surrounding forests of Huay Hin Lad Nai. The village began to organize and protested to the minister of Chiang Mai. According to two of the village organizers;

> “At that time, we gathered all the villagers. I just talked to other organizations and the logging company. We asked the company to come up with a compromise. At that time we were only one village. We didn't have a lot of power to resist the company.” (KI Preecha, 23/03/2017).

> “We went to the minister in Chiang Mai, to the city hall to protest but the government didn't care, they signed the contract already. The company had to pay 30% to the government. The company told the villagers that they are living in the forest illegally.” (KI Prasert, 22/03/2017).

The company obtained the permit and began its logging operations, eventually breaking the compromise they had made with the community. According to one villager,

> “The investor came and said ‘don't worry we won't cut these areas.’ There was a lot of money used to make the road and they eventually cut down the areas that they promised they wouldn't.” (KI Neewet, 22/03/2017).

The community continued to organize, they came up with some more formal environmental rules and regulations and only a year into the logging, decided to try a different approach;

> "We then had a meeting in order to come up with rules and regulations to conserve the forest. We decided to build a small canal from the top of the mountain in order to damage the road. About 25 years ago. The road was damaged, nobody could come in anymore." (KI Neewet, 22/03/2017).

The company continued logging in the area, finally halting 4 years later due to government orders.

> "They had a 10-year contract. But after 4 years, they shut down because another government was elected and declared that if they keep logging then the forest will be destroyed so they had to stop. After the investors came here and asked for the rights to log, there followed illegal loggers and others who would cut good big trees to sell them in the market." (KI Neewet, 22/03/2017).

The cancellation of the contract was due to major floods that occurred in Central Thailand in the 1980s, eventually leading up to a ban on logging in 1989. The company left but illegal loggers continued to operate in the area. During this time, sacred forests and the village cemetery were destroyed (NDF 2011).

This extreme event, I believe, heavily influenced the path Huay Hin Lad Nai would take. As stated before, the conditions of; Karen 'traditional' subjectivity, ability to cultivate and gain income with *miang* tea, and their witnessing of surrounding villages practice cash-cropping were already in place. I believe this event 'triggered' them to begin organizing as a political subject. This time also coincides with Vandergeest's third phase of forest territorialization. He terms this phase, 'functional territorialization' (Vandergeest, 1995), which involves more technocratic and scientific techniques to classify the forest. This involved the creation of forest-types such as 'national park', 'wildlife sanctuary' and 'watershed conservation area'. It was during the same time of

the logging ban that the government classified the area surrounding Huay Hin Lad Nai a watershed area, thus again demanding that they leave the area. After hearing about this, the community continued to strengthen its organization and began to form networks;

> "We joined many other communities from the South, Northeast and North. The Assembly of the Poor. We were part of the Northern Farmers Network, which is part of the Assembly of the Poor. Our main demand was the right to live within the forest. Other groups focused on dams, and other things. During that time, the government wanted to declare this area a national park." (KI Prasert, 22/03/2017).

So far I have attempted to demonstrate how the agricultural practices and environmental subjectivity of the villagers of Huay Hin Lad Nai have transformed due to outside, structural and institutional changes. These structural transformations, I argue, have reinforced 'traditional' Karen subjectivity. One reason for this is due to the negative views they have developed towards cash-cropping, money and, one could argue, many aspects of modernity/development itself. This is because of them seeing these phenomena occur around them in neighboring villages. Moreover, the decrease in rotational fields they were allowed to maintain may have created a sense of scarcity, thus leading the community to formalize/institutionalize its environmental rules and regulations. Lastly, the knowledge of policy changes that could directly threaten their continued habitation of their home village had created a sense of political urgency. These conditions have placed the village on a path that involves intensive political organization and an expansion outwards to form networks. Eventually, they would form a strong relationship with the Northern Development Foundation (NDF), a local Thai NGO, and collaborate together on various projects. How this relationship with the NDF influenced the community's subjectivity will be the topic of the next chapter.

2.5 Structural Influences on the Village of Muang Ang

Similar to Huay Hin Lad Nai, the village of Muang Ang practiced a combination of rotational cultivation and paddy agriculture. They lived in a fairly remote region and

most of the initial institutional policies implemented by the RFD most likely had no major effect on them. In 1972, the Doi Inthanon National Park was established, situating Muang Ang at the border of the National Park and a neighboring forest reserve. It wasn't until the Royal Project began to work within the village that they start to see a dramatic change in their agricultural practices. I will attempt to demonstrate that, whereas the structural transformations occurring outside of the village of Huay Hin Lad Nai led to a reinforcement of the villagers' traditional beliefs, in the case of Muang Ang, the opposite is the case. In order to continue living on their traditional lands, villagers of Muang Ang seemed to have taken up new practices introduced from outside actors in order to sustain a decent livelihood on their traditional lands.

As mentioned earlier, the Karen of Muang Ang traditionally practiced rotational cultivation combined with paddy agriculture. They stated that prior to the introduction of chemical inputs and gas-powered plows, rotational cultivation was the easier of the two. It seems that not until 2002, when the Royal Project entered the area that Muang Ang would begin to completely give up rotational cultivation. However, unlike Huay Hin Lad Nai, Muang Ang does not have any natural forest products that could provide a decent amount of income, (i.e. *miang* tea). Similar to Huay Hin Lad Nai, the territorialization processes affected them little but nevertheless villagers of Muang Ang would find themselves in the situation of having to adapt to evermore restrictions placed on rotational cultivation and therefore needing to earn income. Many migrated out of the village to work in the nearby city of Chomthong while others may have worked for nearby opium cultivators that were common in the region (Cohen 1984).

The establishment of the Doi Inthanon National Park ultimately made most of the livelihood practices of Muang Ang illegal. According to the law, they could no longer hunt, burn patches of land (for rotational cultivation) or collect any forest products. However, at that time, Muang Ang was fairly remote, and again, the RFD could not effectively enforce these regulations. In regards to how remote the village is; the main road up to the top of Doi Inthanon was constructed in 1987, 15 years later. Moreover, the bridge that is required to pass a fairly big stream was only constructed in 2006, while the path connecting Muang Ang to the main road is still currently under construction (as of

2017) to become an all-weather paved road. From the perspective of one village elder;

> "We have a story before, before we had to go to the hospital in Chomthong. We had to stay overnight on the way. And then when we go to the hospital we have to walk a long way. We have to stay in the Thai village. 2 days. Sometimes we have a big problem with the river and bridge. We didn't have a bridge so we had to walk around. This took a very long time. In the rainy season, the water is very high and fast so we had to sleep overnight in the forest. When we tried to come back we couldn't because we could not cross the river. We had to wait 1 or 2 days to wait for the water to go down. But after the road and bridge came, it became easier to go to the hospital." (KI Joo Koo, 26/02/2017).

Although fairly remote, the creation of the National Park effectively began the relationship between forest management/conservation government employees and the villagers. This relationship may have influenced how villagers of Muang Ang presently view the practice of rotational cultivation and forest conservation.

The villagers of Muang Ang provided many reasons for why they have stopped rotational cultivation. One of these is of course due to DNP enforcement of the prohibition of rotational cultivation.

> "No, there weren't (any community forest rules and regulations). We were very far away from the national park so there wasn't any communication. They (the DNP) caught those doing rotational cultivation. We did not understand each other" (KI Chula, 15/02/2017).

The remoteness of the village combined with an understaffed and underfunded DNP most likely made communication between the two actors very difficult. In the initial stages of this process, villagers were probably confused where they could cultivate, which could have led to multiple arrests and fines.

Another reason that came up was the unavailability of land. Whether it was due to a population increase or because the DNP was now limiting the amount of land they were

permitted to cultivate, many villagers believed that a scarcity of land led them to give up rotational cultivation. As one villager described;

> "More people but limited land. Now, normally 1 rai per person. If we continued as before, the forest would be gone because there are more people" (KI Chula, 15/02/2017).

We see here that this villager believes that the amount of land that rotational cultivation requires, combined with an increase in village population would have led to the destruction of the forest. This affiliation between overpopulation and environmental degradation is a very Malthusian in nature. Whether or not this thinking was developed independently or introduced by outside conservationists (DNP, NGOs, etc.) is difficult to ascertain.

The most brought up reason for giving up rotational cultivation was its unproductivity and the difficult livelihood it necessitated. Traditionally, rotational cultivation does not use chemical inputs, it is a subsistence-oriented practice and is not meant to produce income. Moreover, it requires a great amount of land, which was now being put off-limits by the DNP. Many villagers stated simply that it was very difficult and did not provide enough food to eat;

> "Rotational cultivation did not give us income. You have a vast amount of land but not enough rice or income" (KI Manee, 16/02/2017).
> "When we saw that there was less productivity with rotational cultivation, many people went to go work in the city" (KI Uthai, 17/02/2017).

As the amount of land to cultivate rotational fields decreased, it became increasingly necessary to find new ways to support their livelihood. One of these was transforming their rotational fields into paddy fields. However, this necessitated the use of chemical inputs and eventually gas-powered plows, which both require money. During this time, many villagers migrated out of the village to find work in the city, or as one villager stated, the cutting and selling of teak;

"Also me, I remember, at that time, that time when we were about to plow the fields, plow to grow the rice. No money, no money to buy gasoline. But we had the gas-powered plow already, but we didn't have any money to buy gasoline. And then I had to, my father would tell me, "cut one tree, saw it to sell it, to get the money to buy gasoline". I remember until now, you know? Before, very difficult you know hah? Yea. Before many people cut the trees to make money because before it was not easy to get a job, not easy to find the money. But right now, many people stopped doing this" (KI Sayan, 26/02/2017).

Figure 2.5 *Kubota* gas-powered plow (Photo taken by author).

As you can see, there was an issue with finding money in order to practice 'modernized' paddy field cultivation. Unlike Huay Hin Lad Nai, Muang Ang did not have the opportunity to sell *miang* tea, or any other natural forest product that could provide them a sustainable flow of income. This led to an outmigration to nearby cities to look for work as well as taking up illegal logging practices. This process was probably the norm until the appearance of the Royal Project in 2002, which will be discussed later on. One

last reason for giving up rotational cultivation was for aesthetic and ecological purposes. Villagers frequently stated that they did not feel good about burning patches of forest in order to prepare a rotational cultivation plot;

> **"**Before, when I was a kid. On one hand I felt sorry to cut down the forest but there was no other way. We didn't have enough rice to eat. When I looked at the mountains, it didn't look beautiful." (KI Uthai, 17/02/2017).
> "(I stopped rotational cultivation) because I didn't like burning the forest." (KI Chula, 15/02/2017).

At the time of research, most villagers had a fairly negative view of rotational cultivation. It was unproductive, required a lot of labor, could not provide any income and caused deforestation. After villagers were able to obtain income to buy chemical inputs and gasoline, it seemed that only the most unfortunate would continue practicing rotational cultivation. Rotational cultivation was viewed as a last resort to obtain the basic necessities of life. Unlike Huay Hin Lad Nai, rotational cultivation did not seem to have any spiritual or ancestral significance. This may be due to their conversion to Christianity around the mid-1900s. This process of migration to the city to look for work and small-scale logging, I believe would be the norm for Muang Ang until the appearance of the Royal Project in 2002.

Up until this point, the villagers of Muang Ang have gradually been giving up rotational cultivation for paddy field cultivation. The DNP would eventually create maps that would officially determine the boundaries that were suitable for cultivation. Villagers seemed to become placed in an increasingly vulnerable situation in which they could no longer practice rotational cultivation but did not have enough income or paddy land to continue a decent livelihood in the village. They resorted to finding work in the city or small-scale logging. However, in the year 2000 the current headman was elected and two years later, with the approval of the community, requested that the Royal Project come and do development work in the village. They would begin a common project of winter vegetable cash-cropping for a period of 7 years until in 2009, organic greenhouse cultivation was taken up. This collaboration between Muang Ang and the Royal Project will be taken up in the next chapter.

2.6 The People of Ban Bua, Northeast Thailand: Kaleung Environmental Subjectivity

The ethnic make-up of Ban Bua is very diverse. During my research, most people I interviewed stated that they were ethnically Kaleung, while one or two said they were Phu Tai or Yaow. Therefore, I will be directing most of the discussion on the Kaleung people. However, the research subject at this site is the Inpang Farmers Network, which is not an ethnic group but a grassroots farmers' organization that is focused on social, economic and environmental development.

According to the villagers, the Kaleung people emigrated from Laos around 100-200 years ago. They still inhabit Borikhamxai Province in Laos, which according to Chamberlain (2016), went through many dramatic changes in the early and late 19th century. From 1826-1828, there was a major rebellion (and ultimate defeat) led by the last monarch of the Kingdom of Vientiane (Laos), Chao Anou, that resulted in Siamese depopulation expeditions in the region. Another possible cause of their migration could have been due to their retreat from the emergence of hundreds of armed 'Ho' bands that were fleeing a failed rebellion in southern China (1851-1864). The Ho, with the support of local Lao Khmou groups would eventually begin a set of uprisings that would later cause large numbers of Tai and Lao villagers to flee their homes and possibly resettle in parts of northeastern Thailand (Chamberlain 2016). However, according to one village leader;

> "In the past, there was World War 1, so the Kaleung emigrated from Laos. We saw the mountains, the forest, many animals. It was very rich in natural resources. So we stayed here." (KI Prayat, 07/05/2017).

During the time after World War 1 (1914-1918), Laos was currently under French occupation. There were many assimilation policies implemented by the French that led to various uprisings in the northern and southern regions of Laos. Although it seems that the area that the Kaleung resided in (central Laos) seemed to be fairly peaceful during this time, migrations from other groups and other results of warfare may have affected

them in some way, leading to their emigration to their present home in Sakhon Nakhon, northeast Thailand.

Although it appears that the Kaleung and many other ethnic groups in northeastern Thailand have gradually assimilated into mainstream Laos/Thai culture, the people I spoke with continue to follow animist beliefs. Similar to the Karen, they state that they are *Pud Pee* which could translate as Buddhist-animist, respecting both Buddhism and the local practices of the spirits that they believe in.

> "We believe in spirits. Ancestral spirits. We have local dances that we do for spirits in order that they can heal those that are sick. We are Buddhist and animist." (KI Pao, 05/05/2017).

Moreover, similar to the Karen, these spirits form a connection between the community and their environment. The Kaleung have a connection with various spirits that form relationships with specific aspects of their surroundings, for example; a mountain spirit, forest spirit, a land spirit and water spirit, among others. The Inpang Farmers Network's village herbal doctor stated this connection very elaborately;

> "In the forest, there are spirits, we call *Pu Ta*. In this forest, we don't cut down the trees. Every year we will go to have a *boon duan sam,* to make merit. There will be some predictions about the weather forecast. There will be predictions using natural things, like termites, ants and trees. If someone in the village says that his house has many termites, it means that there will be a lot of rain that year. If there aren't any termites or a little, then there will be little or no rain. About ants, if they make their house very high in the tree, it means that that year there will be little storms. The ants know that if they make their house very high up in the tree, a storm will destroy the house if it is too high. About red trees, if there is a big crack it means that that year there will be lightning. The weather forecast is our belief in the horoscopes every year and the tradition of *Pu Ta. Pu Ta* means ancestral spirit. It is the owner of this forest. We believe it protects us." (KI Kampoon, 07/05/2017).

From an outsider's perspective, the Kaleung of Ban Bua seemed no different from any other village farmer in northeastern Thailand. However, when asked about their ethnicity and spiritual beliefs, I found that they proudly self-identify as Kaleung and are able to differentiate themselves from other ethnic groups. Although they do not live in natural surroundings comparable to indigenous forest groups in northern Thailand (i.e. Karen), they do continue to hold on to traditional spiritual beliefs that give them a close connection to their natural surroundings. These traditional Kaleung beliefs and practices may have influenced the likelihood and potential for the village to start up a social-environmental organization in the future. To sum up these beliefs:

> "The Kaleung like peacefulness. We like to live with the forest, it is peaceful." (KI Kampai, 10/05/2017).

2.7 Structural Influences on Northeastern Agricultural Practices

Historically, the people of Ban Bua most likely practiced sufficiency-oriented rice paddy agriculture along with hunting and gathering in nearby forests. Before Thailand became a modern nation-state, the kingdoms of Southeast Asia mostly focused on the control over people as opposed to land. The control that these kingdoms had over their subjects was determined by the subjects' proximity to the center. Those located at far distances, which would include where present-day Ban Bua is located, remained relatively independent and only occasionally were required to pay tribute to one of the major kingdoms surrounding them. These kingdoms did not survey the land, create formalized land titles or allocate rights to land-based resources (Vandergeest and Peluso 1995). However, local peoples did have their own forms of territoriality. They laid claims to land based on ancestry and divided various resources such as irrigation water locally. Territorialization was a flexible, local process that was specific to each village and determined and enforced by local leaders and the community. However, by the 1900s, which would be around the same time the present villagers of Ban Bua immigrated to Thailand, the French and British were colonizing regions to the West and East of Thailand, eventually forcing Thailand to adopt similar western forms of sovereignty and territorialization.

Due to the events occurring around them, the Siam kingdom decided that it would adopt various western reforms, such as a new land code, which would ultimately grant ownership of all unoccupied lands to the kingdom. This would act as the first phase of territoriality in present-day Thailand. It was during this time that the MoI and Ministry of Agriculture, among others were founded. In effect, all taxes and labor obligations that would in the past go to local rulers were transferred to those in power in central Bangkok. In 1855, the Bowring Treaty was signed between Thailand and England. This would alter Thailand's path from national self-sufficiency to a market-oriented economy focused on rice production (Buch-Hansen 2002).

Regarding land reform, the first enactment was the Land Code of 1901. This was meant to deal with the multiple land conflicts that were occurring due to the commercialization of agriculture, mainly in the Central Plains. From 1901-1909 the government surveyed land and issued out land titles to landlords and urban landholders (Vandergeest and Peluso 1995). However, this occurred mostly in the Central Plains, while the Northeast was generally left untouched. Those outside the Central Plains continued to maintain local practices of land allocation and enforcement. There were some effects however due to new administrative reforms which gave the government the ability to appoint local authorities. These authorities were granted the ability to arbitrate land rights and collect land taxes. They were also backed by the coercive power of the state.

As discussed in the forest territotialization section, in 1932 a group of nationalist and military officers overthrew the absolute monarchy and began accelerating the nation's territorialization process. Due to the continued absence of legitimate land titles, the government put forth legislation that recognized land rights as long as the occupants stated their claims to local state officials. Similar to its forest territorialization, the state did not have the capacity to investigate or enforce land titling. Many cultivators did not report land use to the government, instead continuing to follow local practices of land management. Most likely, those in Ban Bua continued to practice sufficiency-based rice paddy agriculture along with the collection of forest products in the surrounding Phu Phan forests.

The government continued attempting to resolve the issue of non-titled land by implementing the Land Code of 1954, which forced cultivators to report occupancy. If cultivators did not report land occupancy within 180 days, their land would be declared unoccupied and be deemed state property. The government issued S.K.1 land titles, which were meant to act as temporary documents and did not grant the right to use or sell the land. Two more steps followed this; the first being an investigation of the land by a government official, followed by the granting of a Land Title Deed after a cadastral survey and the establishment of boundaries by marked posts were conducted. These latter two steps granted the right to alienate the land (Vandergeest and Peluso 1995). Again, similar to its attempts at forest territorialization, the state could not adequately enforce these policies, nor perform adequate land surveying. Cultivators also did not seem to be interested in obtaining these documents. By the 1970s, no more than 5% of the land outside the Central Plains had been surveyed (Vandergeest and Peluso 1995).
The 1960s marks the time when the western-influenced development discourse entered the scene. This included a rapid expansion of cultivated land in the Northeast, intensive agricultural commercialization and an increased use of chemical inputs. There were several factors that contributed to this rapid expansion of commercial agriculture. One was the newly introduced technologies coming from the FAO. New chemical inputs and other agricultural technologies were introduced in order to increase farm productivity, eventually making Thailand the developing world's fifth largest exporter of agricultural commodities (Buch-Hansen 2002). It might have been at this time that villagers at Ban Bua started to take up cassava farming. Government subsidies, newly introduced technologies, the promotion of commercialized agriculture and the fact that Northeast Thailand had remained in poverty when compared to the Central Plains could have led many villagers of Ban Bua to give up traditional self-sufficient agricultural practices for commercialized rice cultivation.

The government promoted the agricultural expansion into forested areas, leading to rapid deforestation. One reason for this was due to the communist wave occurring in neighboring countries and the tendency for communist guerilla groups to conceal themselves in forested areas. The province of Sakhon Nakhon witnessed a great amount

of communist activity and although not themselves communists, many Ban Bua villagers recounted their experience with them;

> "Yes, (they were) very nice. They were nicer than us. They came to teach us about the future, they said that in the future everything will be redistributed (….) They were young and old, they came from all different places. The communists were people from here, when they went to the forest or places where they stayed. They wanted the people to get more benefits. After that the people from here joined them. The communists called them *nak suksa*." (KI Saween, 11/05/2017).

According to Buch-Hansen (2002), the rapid increase in agricultural commercialization further shifted power relations from the countryside to the cities. Agricultural economic surpluses were transferred to Bangkok and other trading centers, leading to the degradation of forests and the impoverishment of the majority of small-scale cultivators. This could be one reason why villagers of Ban Bua seemed to view local communists sympathetically.

In the 1970s, European intensive livestock production increased dramatically, creating a high demand for protein-rich fodder. This led to the many communities in the Northeast to take up cassava cultivation. This might have been the time when Ban Bua also took up the practice, and continue to cultivate the crop today. As two villagers noted;

> "In the past, the land had a lot of forest, but we cut it down to grow cassava." (KI Dang, 12/05/2017).

"It was cassava. Everywhere cassava. Here cassava is grown the most. In the past they had 1 rai, ¼ is for rice and the rest is for cassava. Everyone did this." (KI Tawatchai, 10/05/2017).

Figure 2.6 Small-scale cassava field (Photo taken by author).

Commercialized cassava cultivation would become one of the most popular livelihood activities during this time and would continue into the present. Intensive use of chemical inputs and market fluctuations would eventually lead many farmers into a debt cycle and would later be considered one of the reasons for the founding of the Inpang Network.

In 1971 the government recognized that the requirement that land be registered under the S.K.1. land title had little effect on cultivators in remote areas. It was also during this time that a full-blown democracy movement was underway, leading up to the ousting the dictator Thanom Prapas in October 14th, 1973. During this transition to democracy, the Agricultural Land Reform Organization (ALRO) was established, which was meant come up with new and more effective ways to register land. According to one ALRO official;

> "(ALRO was founded) after the government crisis of Oct. 14th. After this, our country had reforms, and many people asked the government to make reforms in agriculture. This organization is half government and half public. So our committee has two groups of positions, we have government officials and public officials." (KI Boy, 14/05/2017).

According to this official, ALRO has three goals: 1) to provide land to farmers, 2) agricultural development and 3) to conserve land for agriculture. ALRO land is owned

by the government, which is rented to landless farmers for the sole purpose of agriculture. Occupants are not allowed to sell the land or practice any non-agricultural activity on it (such as resorts or restaurants). However, the land can be inherited. ALRO also had trouble convincing villagers to register their land, as one villager stated:

> "If you don't have a land title, you can't do anything! The people ignored the registration, it is difficult, there are a lot of processes to get *Sor Por Kor* (ALRO Land title) or *Nor Sor Sam* (semi-private land title)." (KI Sing, 12/05/2017).

Villagers of Ban Bua continued to plant rice and cassava during the 1970s and 80s, many eventually discovering that the risk to fall into debt increased. As mentioned previously in the section about Huay Hin Lad Nai and chemical agriculture, the need to buy ever-increasing chemical inputs in order to sustain economic profits, market fluctuations and a degradation of soils can lead many households into a cycle of debt. Many of the villagers that would eventually join the Inpang Farmers Network expressed this issue to be their main reason for giving up cassava agriculture;

> "I joined because I wanted to live without debt. I saw and understood the concept of Inpang, of self-reliance. I thought this was a good idea and I joined the network." (KI Yay, 07/05/2017).

> "When I grew the cassava, I had to pay a lot of money. The land became infertile. So I joined Inpang and I grew different kinds of trees. After this no more problems." (KI Dang, 12/05/2017).

> "Because in the past, before I joined the Inpang group, I just planted cassava. So I started having problems growing cassava, just growing cassava made the soil bad. It made the productivity of the cassava lower, so I started not making enough money and this created hardships." (KI Sing, 12/05/2017).

Up until the time of the formation of the Inpang Farmers Network, most villagers of Ban

Bua seemed to have been practicing commercialized cassava cultivation and rice agriculture for personal consumption. I was told that most of them had yet to obtain any land title before the formation of the Network although this did not seem to increase their vulnerability of being kicked off the land. At this point, we can see that the presence of chemical agriculture and the risk of going into debt may have laid down some of the conditions that would lead to their desire to attempt different, more ecologically sustainable land practices. In 1987, a young man from the nearby province of Mukdahan who had an interest in community development would come visit the community. He had the goal of conducting grassroots development in the area. Eventually, him along with several community elders would get together and decide to start the Inpang Farmers Network, a subject that I will touch upon in the next chapter.

2.8 Summary of Land Vulnerability and Environmental Subjectivity

Up until this point, I have attempted to describe the 'traditional' land practices and environmental subjectivity of three small-scale agricultural communities. Moreover, I wanted to show how institutional arrangements, mostly in the 20th century, have transformed and how these transformations have affected the environmental subjectivity of these three communities. I believe that the effects of these institutional transformations can be thought of as being placed on a spectrum between high and low land vulnerability. In the case of Huay Hin Lad Nai, institutional arrangements had placed them in a position of extreme land vulnerability in which they were told that they would have to vacate their lands. In the case of Ban Bua, although not having land titles, they were never in a similar situation. Depending on this vulnerability, these three communities have gravitated towards distinct outside actors, or have had outside actors gravitate towards them, which has further affected their environmental subjectivity, a subject that will be discussed in the next chapter.

Huay Hin Lad Nai, I believe can be placed on the extreme end of this vulnerability spectrum. First of all, although the forest territorializations affected all forest communities, in their case the government granted logging contracts within their traditional lands, which pushed them on a path of political subjectivization. As a result, they formalized traditional rules and regulations concerning their agricultural practices.

Secondly, in 1989 the government demanded a halt to all logging activities, but followed this by declaring the area surrounding Huay Hin Lad Nai as a watershed conservation area, which meant that they would be forced to relocate. Already on a path to political subjectivization, the community joined with other outside groups to demand the right to live within the forest as well as other issues. Regarding their environmental subjectivity, I believe that these events caused the community to strengthen their traditional beliefs, as opposed to giving them up for modernity. Although vulnerable in the sense that they would have to vacate their traditional lands, economically, they were fairly secure because of the favorable environmental conditions that allowed for the cultivation of *miang* tea. Therefore, although having to give up much of their rotational fields similar to many other forest communities, they continued to be able to obtain income through *miang* cultivation. This cannot be said about villages surrounding Huay Hin Lad Nai, nor in the case of Muang Ang. It is difficult to ascertain whether Huay Hin Lad Nai became so politically active due to this economically stable situation or due to the threat of forced relocation. Nevertheless, it seems that the community had more to lose due to having this favorable economic situation. Eventually these circumstances would lead to Huay Hin Lad Nai's cooperation with political organizations such as the Assembly of the Poor (AoP), the Northern Farmers Network (NFN) and the Northern Development Foundation (NDF).

In the case of Muang Ang, I would place them in the middle of this spectrum. Similar to Huay Hin Lad Nai, the various forest territorializations of the government, gradually forced them to give up more and more of their rotational cultivation lands. However, unlike Huay Hin Lad Nai, it seems that they were never forced to relocate. Boundaries were set up for agriculture and as long as they stayed within them, there would be no problem between them and the DNP. Nevertheless, this created an extremely negative effect on the community. Unlike Huay Hin Lad Nai, they did not have the favorable environmental conditions to cultivate *miang* tea. Therefore, due to having less land to cultivate on, there was the need to find income somewhere (in order to buy basic necessities as well as buy chemical inputs for paddy field cultivation and gasoline for gas-powered plows), which led to migration to the city, working for nearby opium cultivators or clandestine small-scale logging. Although less vulnerable in the sense that

they were not being threatened to relocate, economically they were more vulnerable, leading to out-migrations from the village and possible opium addiction by working with nearby opium cultivators. These may have led to community disharmony, which could explain massive conversions to Christianity, as well as the present disinterest to many of their traditional practices, such as rotational cultivation. Moreover, there was no 'extreme event' that occurred in Muang Ang, which like Huay Hin Lad Nai could have led to an extreme political response. The history of Muang Ang seems to have been a forced but gradual transformation, creating a calm tug-of-war between maintaining traditional practices and modernity. The response they chose, mostly migrating to the city to pay for the various inputs for paddy field cultivation, allowed them to develop a 'friendly' relationship with the DNP, which would later prove fruitful when attempting to bring the Royal Project into the area. The DNP is part of the government and therefore against any radical political organization, while the Royal Project is an 'apolitical' organization that is solely focused on economic and sustainable development.

Ban Bua, I would say is on the other extreme end, being the least vulnerable in regards to land titling. Although living near Phu Phan forest, they are clearly outside the National Park and generally, the Kaleung people are considered to be lowland rice paddy agriculturalists. They never obtained land titles until after the formation of the Inpang Farmers Network in 1987, but this did not seem to affect their vulnerability. Economically however, many villagers of Ban Bua may have fallen into debt due to the intensive agricultural commercialization of the region in the 1980s. After having seen what intensive chemical agriculture had done in the area, conditions may have been set that would lead villagers to seek for more sustainable agricultural alternatives. I will discuss the Inpang Farmers Network in more detail in the next chapter, but generally they are not considered to be a political organization, but more of a grassroots network focused on economic and sustainable development. In the following chapter, I will discuss the outside actors that these three communities have tended to work with. I will attempt to demonstrate how these organizations have further affected their environmental subjectivity, thus influencing and how the community responded to the specific carbon mitigation initiative (CMI). Details of the projects will be provided, as well as villagers' reasons for joining them, how they have affected their view of global

warming and carbon trading, among other related topics regarding the environmental outlook of the villagers.

CHAPTER 3

Networks' Influence on Environmental Subjectivity

This chapter will touch upon the various outside actors that these three communities decided to collaborate with and how they have affected the communities' environmental subjectivity. It will first deal with the general context of the late 1970s and on, specifically, the various social movements and NGOs emerging in the countryside. This will be followed by a discussion on some of the various projects that have been conducted prior to the carbon mitigation initiatives. These projects include the various political activities pursued by the Northern Farmers Network (NFN) and Huay Hin Lad Nai, the organic greenhouses introduced by the Royal Project in Muang Ang and the founding of the Inpang Farmers Network. These projects will be discussed in order to provide concrete examples on how these outside actors may have influenced the environmental subjectivity of the three communities.

3.1 Resistance from the Countryside: The emergence of new social movements and NGOs

The early 1980s consisted of widespread anti-communist campaigns. Those who had protested against government injustices in the 1970s were silenced by army patrols and vigilante networks. However, as the years went by, this pressure gradually fell and a new group of rural leaders would emerge, such as Joni Odochao, a Karen leader who would begin working with local NGOs, and others who had received higher education in the cities to later return home and become local teachers (Baker and Phongpaichit 2014). Later on in the mid-1980s, an NGO movement would emerge that would argue against the top-down development policies of the earlier decades. These types of development policies desired the countryside to become more 'modern', scientific, and change their

agricultural practices to a more efficient and market-oriented approach. The new set of activists argued for a transformation in this thinking, from this mainstream approach to one based on local knowledge and culture, as well as focusing on more humane and Buddhist values. These new types of social movements have been labelled the 'community culture movement', which would later provide guidance to upcoming social movements and NGOs later on.

In the early 1990s, several protests began to emerge and develop into organizations. In the Northeast, local organizations protested against the failed development projects that had left many villagers in debt. Moreover, in the North, forest communities began to organize to protest against forced evictions, eventually forming the Northern Farmers Network (NFN). The NFN was formed by various forest communities in order to combat these evictions and demand citizen and land rights. Later, in 1995, the Assembly of the Poor (AoP) was created. This was an umbrella organization that consisted of a loose network of local protest movements. These movements were made up of forest communities demanding rights to remain on their traditional lands, northeastern farmers protesting against dam construction and southern fishing communities threatened by the over-fishing of local fish-stocks (Baker and Phongpaichit 2014). It did not have any official leaders, and obtained advice from sympathetic NGO advisors and academics. The 1990s consisted of continuous massive protests and marches to the major urban centers and agreements with the government. Unfortunately, these agreements would later be revoked when a transition of power took place. It was in this context that the three communities would begin to form networks with outside actors.

3.2 Huay Hin Lad Nai Networks: The Northern Farmers Network (NFN), Assembly of the Poor (AoP), and Northern Development Foundation (NDF)

As discussed previously, the community of Huay Hin Lad Nai had already started to become politically active in the late 1980s due to the conflict with the Chiang Rai Tam Mai logging company (CRTM). This event brought the village their first experience of political action when they marched into Chiang Mai city to protest the decision made by the local government to grant CRTM logging rights to the surrounding forests. The company went along with the logging anyway and destroyed some sacred areas but was forced to stop in 1990 due to a national ban on logging. In 1992, the area in which Huay

Hin Lad Nai is located was declared the Khun Jae National Park and the community is told that they would need to relocate. This and similar problems were also occurring to other ethnic groups, eventually leading them to form the NFN (Northern Development Foundation (NDF) 2011). Villages began to elect representatives to send to conferences in order to discuss each other's local problems as well as how to alleviate them and support each other. Community members of Huay Hin Lad Nai would gradually begin to develop organizational skills and knowledge that is common within the new social movement and international NGO approaches (such as indigenous rights, formalizing traditional livelihood practices, network models of organization as opposed to a top-down framework, among other things). They learned about their rights as Thai citizens, their similarities with other local social movements and new ways to organize around local issues. They would gradually develop more and more into a political subject revolving around Karen ethnicity and traditional practices of environmental sustainability.

At the same time, there was an emergence in grassroots NGOs. In 1995 the Northern Development Foundation (NDF) was created. The NDF consisted of sympathetic activists and academics that would work closely with the NFN. They set up legal teams to support forest villagers who had been sued for trespassing on private and state lands as well as help coordinate research for academic papers that were reporting on local issues of affected forest communities (Lubanski 2012). The NDF now consists of an umbrella organization that helps coordinate activities between various communities and other grassroots organizations. One of these organizations is the Northern Peasants Federation (NPF), which the NFN would merge into in 1999, and has as its main focus land rights. It has also worked on subjects such as organic agriculture, irrigation and fair pricing. The NPF consists of over 300 communities in 9 Northern provinces. Another organization under the umbrella of the NPF is The Village Development and Strengthening Organization (VDSO). This organization works for the strengthening of grassroots, small-scale farming organizations in order to promote community-based natural resource management (Lubanski 2012). It advocates land rights as well, arguing that traditional resource management can be and in the past has been more sustainable than modern agricultural practices. As mentioned above, one of the research projects coordinated by the NDF was the "Climate Change, Trees and Livelihood" study, which

is directly related to this research and will be discussed in more detail in the next chapter.

Also emerging during this time was the Assembly of the Poor (AoP). Established in 1995, the AoP consisted of a loose network of local protests with no formal leader. The local protests ranged from northeastern farmers protesting the construction of dams, northern ethnic groups demanding citizenship and land rights, southern fishing communities whose traditional waters were being over-fished by large fishing companies and a few urban workers groups (Baker and Phongpaichit 2014). That same year the government declares the area surrounding Huay Hin Lad Nai as a watershed conservation area thus again demanding that the village relocate. In response, Huay Hin Lad Nai, being part of the NFN, joined the AoP, setting the village on a path to more intensive political action. The next year, following the lead of the AoP, Huay Hin Lad Nai participates in the longest mass rally to occur in Thailand's history (Lubanski 2012). Labelled the 99-Day Siege, this rally consisted of over 25,000 protesters from all over Thailand.

> "We joined many other communities from the South, Northeast and North. The Assembly of the Poor. We were part of the Northern Farmers Network, which is part of the Assembly of the Poor. Our main demand was the right to live within the forest. Other groups focused on dams, and things like that. During that time, the government wanted to declare this area a national park." (KI Prasert, 22/03/2017).

> "We joined (the AoP) that year. The year after we went to Bangkok to protest." (KI Preecha, 23/03/2017).

The rally consisted of over 25,000 protestors that traveled from all over Thailand in buses, trains and carpooling. They constructed makeshift living structures, organized public speeches and performances, and held negotiations with government officials. Gradually, protesters began to gain the sympathy of the public. Central Thais began to see with their own eyes the real-life hardships of those in the countryside, eventually providing solidarity which put enough pressure on the government to come up with a resolution. Finally, the government backed down and agreed to all 122 grievances put

forward by the AoP. Grievances included a compensation of 4.7 billion baht for those villagers displaced by the construction of dams and an agreement that allowed settlers to remain in disputed forests (Baker and Phongpaichit 2014). The 99-Day Protest is described by many NGOs and Thai social activists as the one of the strongest and most memorable moments of the Thai social justice movement (Lubanski 2012). Having participated in the protest, Huay Hin Lad Nai developed into a real political subject that was able to effectively let their voice be heard. They expanded upon their network and learned about the hardships and strategies of others from all around Thailand.

Upon returning home, Huay Hin Lad Nai villagers would begin to organize all aspects of the community. That same year the village created the Elder Group, which would begin to more locally govern village life by balancing Karen traditional values with the arrival of new transformations brought forth by modernization. The management of natural resources became one of the important roles of the Elder Group. They determined how much wood villagers could cut, distributed tasks such as maintaining the fire break and forest guard positions as well as teach the youth about their own history and cultural heritage.

Three years later the community created the village Youth Group. It was initiated by one of the villagers who is now one of the most politically active members of the community. In his own words;

> "I was born in Hin Lad Nok (a neighboring village), but I came to study here when I was 8. My parents have some rotational fields in Hin Lad Nai. My parents decided to go to Hin Lad Nok to start some rice paddy fields there. I didn't want to just learn from the books. So I decided to get involved with some groups. I took up some roles to help the community. At that time, I was in 5th grade and there were some conflicts with the government, people fighting for the right to live in the forest. I was the first kid to start going to these meetings. And I became the first president of the Youth Group here. I started raising funds, asking for money from Hin Lad Nai, Hin Lad Nok, Hoi Ma Duea and Pha Yueam for the youth group so we can discuss the conflict with the government." (KI Tod, 24/03/2017).

The Youth Group had two main responsibilities; the first was to help the Elder Group with tasks such as maintaining the fire break and acting as forest guards and the second was to educate the village youth about Karen culture and history as well as the political situation of the village. They soon found out that, having spent more time in the Thai educational system, they had better writing skills than the elders and also started to come up with some other ideas to alleviate their situation.

> "The youth group was educated, so we could write down the history and other data. So we started collecting this type of information. We also started making a community map and helping outside researchers. The first thing was the community map. A map to show the area of the forest and to show what areas we use for rotational cultivation and other things." (KI Tod, 24/03/2017).

> "The main purpose to set up the group was to conserve our culture. We recited folk tales, songs, poems, dances, *tena* (Karen guitar). Traditional Karen songs." (KI Prasit, 23/03/2017).

The Youth Group quickly took off and began to spread out to create more youth groups in villages confronting similar obstacles. They began to organize northern Karen villages similar to the way the AoF was organized, a loosely structured network with no formal leadership. The Youth Group began to clearly define their objectives and in a way gain some independence from the Elder Group.

> "After the Youth Group (was established), we set up these activities and then invited forest officials and the media to make them understand. In 2003, the Youth Group spread around the North of Thailand. The Northern Youth Group. Karen. There was Chom Thong, Mae Wang, Samoeng, Chiang Dao, Chiang Rai was us, Nam Pha." (KI Tod, 24/03/2017).

> "We talked about the specific problems every community faced. We looked for the strengths and weaknesses of each area. Some areas, they have problems with people going to the city. We noticed that this is a problem, so the youth group tried to find ways to solve this problem. In this case, we tried to introduce things like honey and tea, many things to provide them opportunities to earn an income in the village." (KI Prasit, 23/03/2017).

> "We just shared our experiences, mostly asking the youth who went to the city to share their experience and make sure they don't forget the good things in the village. We wanted to make sure they don't forget their hometown." (KI Dao Jai, 23/03/2017).

Eventually, the Northern Youth Group would set up youth camps in which representatives from all participating communities would meet together to discuss local issues. They organized special speakers that had social work and academic backgrounds and created special environments in order to make it easier for the youth to speak up, not be shy and empower themselves.

> "The main purpose of the camp was to break the ice with each other. The second purpose was to enchant the youth to not be shy. To talk. So we did some activities. To be proud to be Karen. To teach them how to collect data and the history of their own villages. We had some special speakers to teach how to collect data. We also talked about the changes that are happening outside. Materialism." (KI Tod, 24/03/2017).

Political subjectivization did not end here. Six years into the creation of the Youth Group, the founder started his own project of community mapping. In 2007, Huay Hin Lad Nai, along with some help from the NDF would begin the project of community mapping. Community mapping is a grassroots endeavor that uses modern Global Positioning System (GPS) technology in order to counteract, or negotiate with the 'official' maps created by the government. Whereas government-made maps declared the area around Huay Hin Lad Nai as a watershed conservation area as well as a National Park, which was based on techno-scientific knowledge, the community maps that villagers of Huay Hin Lad Nai created consisted of boundaries that marked sacred areas, cemeteries, and the various agricultural practices that are conducted in each area (based on Karen traditional knowledge). With the help of the NDF, and a 30,000 baht loan from neighboring villages (used mainly for food and gasoline), Huay Hin Lad Nai villagers were able to create community maps for 7 villages. In 2010 the Ministry of Forestry accepted these maps but did not allocate land titles. The following year the community maps are completely finished but unfortunately, the government does not accept them.

Figure 3.1 Community Map at Huay Hin Lad Nai meeting room (Photo taken by author).

"I started going to the other villages to promote the need to make community maps. This was in 2007. I used GPS. At that time I took care of 7 communities, I took care of them by myself. But there was an NGO, the NDF that helped me a bit. I worked in the field and sent the data back to the NDF. After we gathered all the information for the map, we wanted to send it to the government to ask for the titles to the land." (KI Tod, 24/03/2017).

To conclude the community's political activities, on March 6th, 2013, Huay Hin Lad Nai, along with two neighboring Karen villages make a formal declaration. They invited university academics, NGO workers and the media. They made three demands: 1) the right for democracy, 2) to uphold the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and 3) to reinstate the past agreement regarding communal land titles. The political situation of Huay Hin Lad Nai is still in limbo at the moment. The government maintains that the village is illegally occupying the forest but has remained silent and has not resorted to any real physical or legal pressure. This same year, the NDF approached the community to ask them if they wanted to participate in a carbon footprint study, which will be discussed in the following chapter.

As can be seen, the political subjectivization of Huay Hin Lad Nai had soon begun to spread across all sectors of the community. Only within 3 years of having participated in the 99-Day Protest, Huay Hin Lad Nai was beginning to organize their own community

in similar ways. While doing research, I was mostly spending my 'free' time with the village youth and it seemed that over 90 percent of them had been or currently are members of the Youth Group. Youth Group members would come visit from other villages and Huay Hin Lad Nai villagers too went on small trips to see how their friends who they had met in the Youth Group were doing. The Youth Group emphasized the preservation of their culture and identity, learning how to perform traditional management practices (such as rotational cultivation and maintaining the fire break) and education revolving around their current political situation. Having established networks with many of these activist-leaning NGOs and social movements, it seems that Huay Hin Lad Nai began to adopt some of their organizational techniques and a type of 'activist subjectivity'. These networks also reinforced their belief that there was nothing inherently wrong about their traditional livelihood practices. Instead of adopting for cash-cropping or migration to the cities as other forest communities did, Huay Hin Lad Nai strengthened their view on their traditional practices and culture.

To reiterate from the last chapter, Huay Hin Lad Nai was the most politically vulnerable when it came to having to be relocated. The community had to confront the CRTM logging company that had brought with it multiple illegal loggers. This logging would eventually destroy some of their sacred lands. Afterwards, the lands they inhabit were declared a National Park thus demanding that they relocate. This vulnerability, along with the secure economic resource of *miang* tea, created the conditions for the community to begin organizing politically. It strengthened their view on their traditional practices and culture. Instead of adopting new livelihood practices such as cash-cropping or migration to urban centers, Huay Hin Lad Nai stuck with their traditional practices and found ways to formalize them in order for them to be recognized by the government. Their first act of open resistance was their march to Chiang Mai to demand a halt to the logging concession. This first experience of political activity set the conditions for Huay Hin Lad Nai to network with other activist NGOs and local social movements around Thailand. These types of organizations further enhanced their view that there is nothing wrong with their traditional livelihood practices. They also began to adopt the organizational strategies and worldview of these organizations, increasingly developing into a political subject. At this point, the environmental subjectivity of the community could be said to have very political and ethnic undertones. Politically in that the

community was demanding their rights as Thai citizens to continue living on their traditional lands and ethnically in that the community was beginning to use their Karen ethnicity to demonstrate that traditional Karen agricultural practices are more sustainable than modern forms of agriculture such as cash-cropping. Later on when discussing the carbon mitigation initiative (CMI) in the village, I hope to demonstrate how this environmental subjectivity (which was influenced by their land situation and the outside actors they collaborated with) affected how they responded to the CMI

3.3 Muang Ang Networks: The Royal Project and Department of National Parks (DNP) Although Muang Ang is also a Karen village, the land situation was very different from that of Huay Hin Lad Nai. Muang Ang faced similar circumstances when the Doi Inthanon National Park was established around their traditional lands, however, they were never demanded to relocate. Economically, they were worse off. The amount of rotational fields that they were allowed to cultivate was gradually decreasing and they did not have any economically viable natural product such as Huay Hin Lad Nai's *miang* tea to create a living off of. Therefore, most resorted to searching for work in the nearby urban centers, small-scale logging and working in nearby opium fields. In 2000, the current headman was elected and two years later, he invited the Royal Project to come into the area. The Royal Project introduces winter-vegetable cash-cropping, which leads many villagers to give up the practice of rotational cultivation. It was not until 2009 however, with the introduction of organic greenhouse cultivation that we begin to see a distinct identity emerge within the village of Muang Ang. In the previous chapter I provided how Muang Ang villagers now view rotational cultivation. Reasons for stopping included low-productivity, difficulty, not enough land and of course its restrictions imposed by the DNP. Their environmental subjectivity could be said to have changed and one reason for this is due to the influence of the DNP and the Royal Project. Since the time of my research the Royal Project had been working in Muang Ang for about 15 years. Here, I will provide a brief discussion on organic greenhouse cultivation that was introduced by the Royal Project in order to demonstrate the relationship between the Royal Project and Muang Ang as well as how the Royal Project may have influenced their present environmental subjectivity.

Figure 3.2 Muang Ang villager watering family greenhouse. Introduced by Royal Project Foundation (Photo taken by author).

The Royal Project was an initiative set up by King Bhumibol in 1969. He became interested in the northern mountainous areas when he saw that the region had a lot of poverty, deforestation and opium cultivation. He witnessed the negative effects of this situation and wanted to create an organization that would deal specifically with these issues. He donated 200,000 baht to Kasetsart University in order to begin research for alternative crops that could be grown at high altitudes (Royal Project Foundation 2012). The Royal Project had 4 main goals: 1) to provide humanitarian assistance, 2) to help Thai society by reducing the destruction of natural resources (forests and streams), 3) to eliminate the cultivation of opium and 4) to set marked boundaries that will keep agriculture and natural forest separate. In 1973, the Royal Project received funding (20 million baht/year) from the United States Department of Agriculture (USDA) in order to focus on agricultural research. The objectives of this research focused on a variety of issues, such as more productive planting and treatment methods, research on winter fruits, Arabica coffee and strawberries, soil conservation, the improvement and production of rice varieties, and the prevention and control of pests and diseases. In 1974, the first Arabica coffee plantation in Thailand is set up in Ban Nong Lom Tambon Ban Luang, Cham Thong, sharing the same district as Muang Ang. Although the Royal

Project had been doing development work in the area for around 30 years, it wasn't until 2002 that they started doing work with the village of Muang Ang.

The objectives of the Royal Project (and the Thai government in general) directly affected the agricultural and livelihood practices of Muang Ang. First, the elimination of opium cultivation gave villagers less options to choose from in order to earn an income. Although not directly cultivating it themselves, they did perform labor in the opium fields for those that did. Secondly, but most important is the desire to keep agriculture and forest apart. This went directly against their traditional practice of rotational cultivation. Rotational fields left in fallow would gradually be declared forest because there was nobody cultivating on them. The Royal Project was set up upon the principles of King Bhumibol, who had become very much admired by the entire Thai population, therefore, the ideas set forth by him and the Royal Project would have an extreme influence on how the villagers of Muang Ang would view the world. The reasons why villagers began to give up rotational cultivation were discussed in the previous chapter, therefore here I will focus on how they viewed the introduction of organic greenhouse cultivation by the Royal Project. Organic greenhouse cultivation has become the main livelihood activity for the villagers of Muang Ang. Its success has also been stated to be one of the reasons that the DNP decided to collaborate with Muang Ang on the REDD+ pilot project, which will come up in the next chapter.

The introduction of organic greenhouse cultivation occurred in 2009. Villagers seemed to view the project with a high degree of positivity. There are 158 greenhouses that are maintained by about 175 households in Muang Ang. Greenhouses cost around 20,000 baht (about 650 USD) to set up and make an average income of 5,000-15,000 baht/month (160 – 500 USD/month) throughout the year (income will differentiate depending on the season). There are 5 types of winter crop varieties that are organically grown and are planted and harvested in 2 week intervals. Greenhouses are individually owned but communally operated. During my time there, it was very common for multiple families to help in a neighbor's greenhouses. Those that they were helping would bring water, snacks and occasionally rice whisky to share among all those that participated. Every step of the greenhouse cultivation process was communal in this way.

Although winter vegetable cash-cropping was introduced first in 2002, it wasn't until 2009 that people really began to return home from working in the city. Basic winter vegetable cultivation (as opposed organic greenhouse cultivation) is a common practice that the Royal Project has introduced to many villages, therefore competition is high and prices are low.

> "Now? Before, the greenhouses came yeah? It was difficult to get money, not easy to get money. Only you have to go out, move to the town, move to the city." (KI Sayan, 26/02/2017).

Many villagers between the ages of 25-40 stated that they returned home because they saw that greenhouses could provide them a decent living. The greenhouses introduced by the Royal Project seemed to have a positive effect on the community. For the first time it seems that villagers could earn a living wage within their hometown instead of having to work in the city. It also brought back many young villagers who are now beginning to construct their own greenhouses.

Another positive aspect of the greenhouses that unites traditional Karen ethics with modern conservation is its permanent nature (as opposed to rotational cultivation, which moves around). In this case, the importance of conserving the tops of mountains;

> "The land where the greenhouses are used to belong to the community anyway so the DNP let us do that and then the upper parts of the mountains are to be conserved. The village doesn't want to cut up there. Taking care of the greenhouses is sufficient for the villagers so they don't need to cut anymore forest for cultivation" (KI Chula, 15/02/2017).

In Muang Ang, there was this feeling that rotational cultivation was only performed when it was absolutely necessary. Whereas Huay Hin Lad Nai holds many spiritual and ancestral feelings towards rotational cultivation, Muang Ang villagers seemed to see it as a last resort when rice was insufficient. As the respondent states above, many felt bad when they had to cut the forest. I am not sure if this is because of traditional Karen beliefs, modern conservation ethics introduced by the DNP and Royal Project, or a combination of both.

The introduction of greenhouses did not go very smooth in the beginning however. Muang Ang consists of 7 hamlets who share 2 streams which are used to water the greenhouses. In the beginning only one hamlet was chosen to begin the project and when it started succeeding, villagers from the other hamlets began to get jealous;

> "Before, we have a story. In Muang Ang (Muang Ang consists of 7 hamlets, the biggest sharing the same name), the greenhouses did not come yet. And then one person, many, like two or three, there was one time, they started a fire on the path because the greenhouses over there, they were setting up a water pipe, where I showed you yesterday. They had to put the blue pipe or water pipe, for water to run to the town, yeah? And then, people from Muang Ang (the hamlet), because at that time the greenhouses still hadn't arrived, and then they said "we will burn the pipe, we will make a problem, because Mae Bagor (another hamlet of Muang Ang, which was the first to begin the greenhouse project) is using water from *my* river, or *my* village". Really! Before, we had a problem. After that, they made a fire everywhere nearby the blue pipe. And then people in Mae Bagor became very worried because the blue pipe is also expensive right? They had to go, old people, young people, everybody had to move over there to stop the fire. I don't know why they thought like that you know. And then they said, people from Mae Bagor, they use water from, they say *my* river, or from *my* village. But it is not really. It is not their river, the river is from the snow. From God or from yeah…" (KI Sayan, 26/02/2017).

Hearing about this conflict really surprised me because during my time there, everybody seemed very friendly with each other. Every day a villager from one of the neighboring hamlets would come over to help in the greenhouse or invite us for dinner. The main points of this story however is that one, development projects will usually have unintended consequences that cannot be foreseen. Although the village is united in many aspects, the arrival of a profitable and modern agricultural practice created many problems in the beginning and would eventually lead to some violence. The other interesting point is what was mentioned in the previous chapter regarding the ownership of nature. Similar to how the rotational fields did not have any owner and could be

cultivated by anybody, in this case, the respondent uses this same language to talk about the water and streams.

Villagers of Muang Ang could only talk positively about the greenhouses. Due to this project they seemed to be very happy with the DNP and the Royal Project. They had a continuous and stable income to buy gasoline for the gas-powered plows and other basic necessities. The vegetables that they grow are not consumed by the villagers themselves but they continue to collect insects, fish, herbs and plants in the forest to continue consuming their traditional foods. I was told by the villagers that they began to give up rotational cultivation when the Royal Project started development projects in the village. It could be a possibility that the success of the greenhouses has led Muang Ang villagers to more easily accept the beliefs of the DNP and Royal Project, most specifically the abandonment of rotational cultivation. Nevertheless, Muang Ang continues to hold an environmental subjectivity, which is probably a mix between traditional Karen beliefs and modern conservation ideals introduced by the DNP and Royal Project. This collaboration between the village and the Royal Project has been stated as one of the main reasons for the DNP choosing Muang Ang for the REDD+ Pilot Project.

Unlike Huay Hin Lad Nai, who experienced more extreme events which led to more radical responses, Muang Ang seemed to be gradually affected by forest territorialization policies, which put them on a different path towards a more close relationship with the DNP. Huay Hin Lad Nai branched out politically, searching for allies to respond to institutional policies that would kick them off their lands. On the other hand, Muang Ang did so, but economically, finding work in urban areas while maintaining a foothold back in their village. Eventually Muang Ang would request that the Royal Project would develop the area so that they would no longer have to find work outside the village. It is not a doubt that the social movements and activist NGOs contributed a lot to how Huay Hin Lad Nai villagers think now. This can also be said of Muang Ang regarding their collaboration with the DNP and Royal Project. Muang Ang villagers do not seem very politically active and seem to be happy with the fact that they can now earn a decent living within the village. However, as will be discussed in the following section on the CMIs, Muang Ang villagers do have non-economic motives for participating in these projects, motives that may not seem political at first glance but are very much so.

3.4 Ban Bua Networks: The Inpang Farmers Network

As discussed previously, Northeast Thailand, where Ban Bua is located, experienced a great deal of the technological and market-oriented agricultural development projects in the 1980s. Villagers of Ban Bua began cash-cropping cassava and continue to do so today. However, many found that this led to a continuous cycle of debt, and the use of chemical inputs began to degrade the soil. I found no evidence that Ban Bua villagers collaborated with the AoP or other local movements in northeastern Thailand, but as mentioned previously, the 1980s was a time when community-based development thinking, along with Buddhist ideals of moderation were beginning to gain momentum. In 1986, a recent graduate of the nearby Sakhon Nakhon Rajabhat University approached the village with a focus on community development. Eventually, the Inpang Farmers Network would form, having as its main objective the creation of '*pah krop krua'* or *family forests*. These would transform old cassava fields into organic agro-forestry plots. They consisted of a variety of plants, herbs and trees that would be consumed by the villagers, as well as sold in local markets.

There were three main reasons Ban Bua villagers decided to join the Inpang Farmers Network. These were debt, degraded soils from chemical inputs and the desire to return to the countryside from working in the city. Debt was a real issue in Ban Bua, similar to many rural villages in the countryside, the agricultural development approaches of the 1980s called for chemical inputs that would have to be bought at increasing amounts every year. Moreover, cash-crops were dependent on a fluctuating world market, which increased their vulnerability to fall into debt. Many villagers wanted to seek ways to escape this debt cycle;

> "I joined because I wanted to live without debt. I saw and understood the Inpang concept of self-reliance. I thought this was a good idea and I joined the network." (KI Yai, 07/05/2017).

> "Because when we wanted to sell the cassava, the price fluctuated very much. It was also not enough for us to survive." (KI Kampai, 10/05/2017).

Self-reliance was a popular idea during these times. It was based on Buddhist values of not being dependent and/or attached to outside forces that could lead to suffering, as well as the idea of living a life of moderation.

Other villagers expressed their view that working in the city was unappealing. During the development era of the 70s and 80s, many villagers from the Northeast would migrate to Bangkok and other urban centers in search for work. Central Thais held and one can say continue to hold negative views of people from the Northeast, feeling that they are poor and backward. This negative view of northeasterners probably made many feel a longing to return to their village if they could find a reliable way to earn a living.

> "I was bored of working outside the village. In Bangkok I worked, but it was boring." (KI Ar, 10/05/2017).

The third main reason that villagers gave was the degradation of the soil due to chemical inputs. Cash-cropping and the use of chemical inputs was at first highly profitable when they were first introduced. However, after a few years of this practice, villagers soon began to find out that the intensive use of chemicals had many negative effects as well. One being the degradation of the soils. More and more chemical inputs were needed in order to sustain past production levels.

> When I grew the cassava, I had to pay a lot of money. The land became infertile. So I joined Inpang and I grew different kinds of trees. After this, no more problems. (KI Dang, 12/05/2017).

The hardships of migrant life in the city, falling into debt and the degradation of soils due to chemical inputs set the conditions for villagers to seek out alternative livelihood practices.

In 1987, during a time in which the community culture movement was starting to increase in popularity, Mr. Tawatchai, a recent graduate from the nearby Sakhon Nakhon Rajabhat University approached the village with the goal of community development. He had already been familiar with the village due to studying under Professor Surak Warangrat, who had conducted research on the Kaleung prior to the introduction of agricultural commercialization.

> "Surak Warangrat, he came to learn about the way of life of the Kalueng people. He saw that it is very natural here. He wanted to study about the way of life, why they don't have debt, how they can live happily with not so much and it is convenient for them. He came to this village and studied about that." (KI Prayat, 07/05/2017).

> My *Ajarn* (Professor Surak Warangrat) did research about the Kaleung people. Here in Sakhon Nakhon, there are Kaleung, Pud Thai, So, Yaow. The Kaleung like to live near the mountains. My thesis was about community development. After I finished I came to stay here. (KI Tawatchai, 10/05/2017).

Having few connections with the villagers, he first slept in a local temple. Some villagers viewed him with suspicion;

> "When Tawatchai first came here. The locals believed he was a communist spy. But the Inpang members do not think about communism. They just do things that can improve their lives." (KI Kampai, 10/05/2017).

Eventually, Mr. Tawatchai was able to gather some of the village elders and have a meeting to discuss ways in which to improve village livelihood. In his own words;

> "I had a meeting with the *chao ban* (local villagers). A small meeting of about 5 people. The meeting was about how the people lived here before they started growing cassava. Before there was no school, electricity or hospital. I wanted to know how they lived during that time, this was the first question. The second question; in the present, what do the villagers do, when they grow cassava, how is their life? We wanted to compare lives of the *chao ban* before and after they started growing cassava. I wanted to ask them how they have lived these past 30 years after the introduction of technology. There were positive and negative aspects. The positive things about growing cassava is that they can earn more money. The new technology made life easier, such as transportation. Negative aspects, there is less food. There is debt. And the new generations now have to go out to find work. The last question I asked was about how do they think about the future? They brainstormed about the question. They decided that they have to go to Phu Pan Forest to learn about the local trees and plants. How can

we use these natural resources in a useful way? They found many things such as fruits, trees, herbs. Then they believed that they have to start growing these things again. In the village there is nothing left, only cassava, so they decided to start growing those things in the village. This is the beginning of the idea of the Inpang. 5 years later we founded the Inpang Farmers Network. I came here 1987 and after 5 years (1992) we founded the Inpang Farmers Network. After we built the center, nearby villages such as Ban Gun He, Gun Hai, Kor Noi, Kut Bak, we invited them to join the network. There are 5 provinces now that joined Inpang. (KI Tawatchai, 10/05/2017).

The Inpang Network's philosophy seems to be a mix of Buddhist principles of moderation, traditional village practices of self-reliance and ecological sustainability. The name Inpang can be translated as bountiful land from the Hindu god 'In'. The name comes from the *pra chao ban* (Buddhist-ordained village teacher) Por Jan Bua See from Mahasarakham province. During this time there were many *pra chao ban* who were wise local teachers who wanted to make sure that locals did not forget about their traditions. They generally taught about similar principles of ecological sustainability and self-reliance and in most cases were Buddhist monks in the past.

Three main ideas came up for how Inpang members expressed the philosophy of their organization, all three of which are related to each other. The need to conserve the environment by not using chemical inputs was frequently brought up;

"The Inpang members love nature, nature is the most valuable thing for us. Because the leaders have shown us that it is good to love nature, like if you want to plant something in this village, you will have to not use chemicals. They promote organic cultivation because it saves the environment." (KI Pao, 05/05/2017).

Figure 3.3 Por Jan Bua See
(Photo taken by author).

Having witnessed and maybe experienced themselves the falling into debt due to the use of chemical inputs, many Inpang members were quick to bring up how they do not use chemicals. However, it was not only the fear of falling into debt but also the desire to conserve the environment that made many Inpang members proud to say that their *family forests* are organic.

Another theme that came up frequently was the idea of stability. As mentioned before, market fluctuations in cash-crops made the livelihoods of many village farmers very chaotic. The desire for economic stability is linked to the Inpang idea of self-reliance;

> "The way of Inpang emphasizes self-reliance and how to take the things in the village to make products and sell them to live stable. I am interested in this and believe it can make my life better." (KI Kampoon, 07/05/2017).

The last idea that would come up often was the importance of the forest. Inpang members knew about the important relationship between self-reliance and the conservation of forests. The cultivation of cash-crops and desire for having a consumerist-type lifestyle had led to the cutting of many surrounding forests. Similar to the Karen, the Kaleung traditionally used the forest for the collection of many plants, herbs, insects and animals. Although probably not as dependent on the forest as the mountainous forest ethnic groups in the North, Inpang members wanted to return to this type of lifestyle and began to recognize the forest as an important livelihood resource.

> "Forest? Well, I think the forest is the way of life of the people here. Because in the forest, there is everything. This season we can collect mushrooms in the forest, sometimes we can get fruits during another season. The forest is everything. It can make the atmosphere fresher, it can provide food." (KI Kampoon 07/05/2017).

> "Because the *family forest* has 5 advantages: wood for house, firewood, wood for chairs, tables, etc., herbs, and food." (KI Gone, 11/05/017).

> Thus, the main themes I heard most frequently regarding the Inpang Farmers Network approach were organic cultivation, economic stability and forest conservation, all which are inter-related. I am uncertain as to the exact origins of these ideas, whether they come from Kaleung traditional beliefs, Buddhism,

> the ideas of the 'community culture movement' that were prevalent during that time, the self-sufficiency theory of King Bhumibol, or even communism;
>
> Well, here really, not so much. The leaders of Inpang in Mukdahan worked with the communists. Also in Udon and some places in Sakhon Nakhon. They were Inpang leaders. They were once communists. Some of them. (KI Tawatchai, 10/05/2017).

What is certain however is that most Inpang members were against the development policies of the 1980s and wished to "return" to a life that did not prioritize consumerism but rather economic security, environmental sustainability and a life based on the Buddhist principles of moderation and self-reliance.

At the time of the founding of the Inpang Farmers Network, most villagers still had yet to receive formal land titles. Although living next to the Phu Phan National Park, most Inpang members do not live within the boundaries and never had the issue of being forced to relocate. The situation was as stated in the previous chapter that the government was attempting to distribute land titles but had little success due to the not having the capabilities to fully document land occupation. Furthermore, villagers did not want to declare their lands due to the complex processes that were required. However, with the formation of the Inpang Farmers Network, efforts were set up that would recommend and help Inpang members declare their land and obtain a *Sor Por Kor* land title, distributed by the ALRO. This land title was meant for agricultural practices only and at first, ALRO did not want recipients to grow forest on these lands.

> "Before, ALRO asked people who have a *Sor Por Gor* title to do something that is economically beneficial, like growing rice. They thought that the forest is not beneficial, it is not agriculture, so they told everyone to cut the trees. After that, Inpang formed and the leaders told ALRO why do we have to cut the trees, because the forest can provide many benefits for the people." (KI Sing, 12/05/2017).

This issue with ALRO took 2-3 years to alleviate, eventually leading to Ban Bua villagers being able to cultivate *family forests* on ALRO land.

The Inpang Farmers Network has become very successful, branching out to 5 other northeastern provinces and collaborating with many interested outside actors. These actors mostly consist of ALRO and nearby universities that are interested in the network's development approach. Mahasarakham University (T-MSU) would become a very close collaborator, eventually requesting that Inpang members participate in a carbon bank project that would be directed by Michigan State University (U-MSU).

As we can see, the villagers of Ban Bua, although not having recognized titles, seemed to be the most politically secure in regards to land rights. This was due to them not residing within national park boundaries. The agricultural development policies of the 1970s and 80s created conditions that would put many villagers into a continuous cycle of debt and economic insecurity. Similar to Muang Ang, many villagers resorted to finding work in nearby urban centers. However, in 1987, and in the context of the community culture movement, one community organizer would arrive in the village and assist villagers in coming up with new ways to create a more sustainable and secure livelihood. Five years later, the Inpang Farmers Network was formed, coming up with a grassroots development approach that emphasized organic cultivation, self-reliance and moderation. The little political activity we see by the Inpang Farmers Network is their 3 year struggle to convince ALRO that forests can be secure economic livelihood resources as well. Other than that, the Inpang Farmers Network seems to focus more on economic and ecological issues. The very low-political nature of the organization has attracted many outside actors that are based purely on research and have connections within the government (such as Thai universities, ALRO and the National Research Council of Thailand). Although not having land titles in the past, Inpang members were able to register their lands after the network's formation. This has made them the least vulnerable politically. Economically, while facing debt and out-migration problems in the past, have now partly alleviated these issues due to the cultivation of *family forests*. These aspects, I believe, have made them the least politically active village of the three. This will also be seen within the discussion of the villages' responses to the carbon mitigation projects in the following chapter.

To summarize this chapter on networks, the three communities under discussion have had distinct historical relationships with Thai land and forest territorialization processes.

Huay Hin Lad Nai was the most politically vulnerable thus leading them to collaborate with other local social movements and activist-oriented NGOs. These collaborations have 'radicalized' the village in a way, leading them to develop a more political environmental subjectivity that has revolved around 'traditional' Karen ethnicity. The community has learned from and adopted many of the beliefs and organizational practices of these outside actors. These adoptions have influenced their present-day environmental subjectivity, which, we will see has led to the most politically-motivated response to the CMI of the three villages. In the case of Muang Ang, forest territorialization has affected them more gradually. Unlike Huay Hin Lad Nai, they were never forced to relocate and have consequently developed a friendlier relationship with the DNP and the Royal Project, both closely linked to the Thai government. These relationships have led to an environmental subjectivity that is less politically-oriented and which has tended to coincide with the practices and beliefs of the DNP and Royal Project, the most obvious being their contemporary negative view of rotational cultivation. Although not as political as Huay Hin Lad Nai, we will see that their motivations for participating in the CMI are in a sense political, and not based purely on economic motives. Lastly, members of the Inpang Farmers Network were the least vulnerable in regards to land rights. They are the only research site to have government recognized land rights (*Sor Por Kor* land title) and have developed into an organization that is more focused on economic self-sufficiency and environmental sustainability. There was little political activity within the Network and, in their case, we will see that their response to the relevant CMI has been the least political in nature, focusing instead on the ecological and economic aspects of the project.

CHAPTER 4

Community Responses to Carbon Mitigation Initiatives

In the second chapter, I attempted to demonstrate how land and forest territorialization processes have influenced the 'traditional' environmental subjectivity of these three communities. I mainly distinguish these effects on each community with a spectrum containing land security on one extreme and land vulnerability on the other (Ban Bua being the most secure and Huay Hin Lad Nai the most vulnerable). This has in effect, influenced which outside actors each community has chosen to develop closer relationships with (NDF, Royal Project, T-MSU), which was the focus of the previous chapter. The collaboration with these three outside actors has further influenced the environmental subjectivity of each community. Huay Hin Lad Nai, through their collaboration with the NFN and other social movements and local NGOs have developed a more politically-oriented environmental subjectivity that is connected with land and indigenous rights. The Inpang Farmers Network, on the other hand has developed relationships with the semi-governmental ALRO and various Thai universities, which has led to an environmental subjectivity that is more focused on small-scale and local economic development as opposed to political action. Muang Ang tends to be in the middle of the spectrum. This section will contain a brief summary of the specifics of each CMI but will mostly be concerned with the communities' experience and understanding of the projects, their reasons for participating and what they believe to be the overall material and non-material benefits of the CMI.

4.1 Huay Hin Lad Nai-NDF Carbon Footprint Research Project

In 2013, the NDF approached the community of Huay Hin Lad Nai requesting that they assist researchers from various Thai universities to conduct a carbon research project. The project would seek to calculate the carbon footprint of the village and its relationship to rotational cultivation. The goal of the research was to demonstrate that practitioners of rotational cultivation contribute less to global warming than those living

in the city and other forest communities who practice cash-cropping. After having a village meeting, the community agreed and began the project.

The community set up a special research team consisting mainly of members of the village Youth Group. They would be taught how to collect data from the researchers and would later gather the data themselves in order to send to university research labs. Data collected consisted of the various types of plants they consumed, the amount of each and the origin (field, forest or city). They also had to measure how much gasoline was required to collect the forest products in the fields or by heading to the city to buy various products. The project lasted 3 years and had its research findings published in the article, *Climate Change, Trees and Livelihood: A Case Study on the Carbon Footprint of a Karen Community in Northern Thailand* (2011). The study has given the village international recognition for practicing sustainable rotational cultivation.

Figure 4.1 Carbon Footprint of rotational agriculture, Huay Hin Lad Nai (Photo taken by author).

4.2 Muang Ang-DNP REDD+ Pilot Project

The REDD+ Pilot Project was initiated in 2014 by the Department of National Parks, Wildlife and Plant Conservation (DNP). The DNP went around to various communities located around and within Doi Inthanon National Park with only a few willing to participate. During that time, Muang Ang was approached and, after conducting a village meeting decided to participate. Soon afterwards Muang Ang created their own REDD+ committee, consisting of 6 members, one from each hamlet. The committee would be in charge of going to various workshops and meetings across Southeast Asia in order to learn from other communities participating in CMIs. Every month there is a village meeting in which they discuss various topics, REDD+ being one.

Figure 4.2 REDD+ data collection technique to measure biomass (Photo taken by author).

The pilot project consists of 15 plots measuring 1,600m² divided across 3 different forest types depending on the density of the forest. In other words, 5 plots are allocated to low, medium and high density forest areas. These measurements are determined prior to the project and are based on scientific research that is considered legitimate within the international scientific community. Three times a year (summer, winter and rainy

seasons), the DNP REDD+ team travels to these areas along with members of the Muang Ang REDD+ committee to measure various data such as tree height and diameter, types of tree species and the amount of each one. Data is collected and then sent to various research labs to analyze. Prior to the project, an agreement
was made in which villagers would not alter the natural surroundings within the 15 plot sites. This did not seem to affect the practices of the community due to small size of the plots and the numerous other locations in which they could collect forest products and allow their cows to feed (although against Thai forest law). The pilot project has a 5-year research objective and will continue if the data demonstrates that sufficient carbon has been sequestered.

4.3 Inpang Network Carbon Bank Project

In 2009, professors from Thailand's Mahasarakham University (T-MSU) approached the Inpang Farmers Network in order to ask whether they would want to participate in a Carbon Bank research project. The research was directed by a professor from the Department of Forestry at Michigan State University (U-MSU) and was to "develop an agroforestry carbon sequestration offset project (using) advanced Internet based geospatial tools" (Samek et al. 2011:264). This project lasted 2 years and focused solely on teak plots (as opposed to *family forests*), which researchers later found was not the main livelihood practice of Inpang members. Inpang and non-Inpang members were allowed to join providing that they held a land title (*Sor Por Kor* or *Nor Sor Sam*) and had at least 5 rai of forest (during the research however, I found that people with less than 5 rai were allowed to join). Those who joined were suggested to go to the various meetings (usually held once a year) and conduct field measurements on their plots (measuring generally occurred only once). Inpang members elected a team to manage the measurement of everybody's plot if owners did not find they had sufficient time, or not physically able to do so. Plots were sized 20 square meters and participants were still able to collect whatever forest products they desired so long as they did not cut down too many trees, which did not seem to be an issue with any of the respondents I interviewed. After the project, carbon credits were calculated depending on how much carbon was sequestered and money was distributed. Money ranged from 800-30,000 baht depending on how many rai were allocated to the project. After this project, T-MSU returned to

conduct similar research but with *family forests*. This project lasted 3 years and required similar qualifications. Money made from selling carbon credits in the second project ranged from 300-1,000 baht/year.

Figure 4.3 Teak plot that was used for the U-MSU Carbon Bank Project (Photo taken by author).

4.4 Villagers' Understanding and Experience of Carbon Mitigation Initiatives

In this section I will be discussing the experience villagers had throughout the project. This will include the level of difficulty of learning new knowledge as well as how they explain this knowledge themselves. The section is divided into 4 sections regarding their understanding of each topic: The CMI data-collection and participation, deforestation, climate change and carbon trading. We will see that in each case, the technical aspects of CMI knowledge (such as measuring and calculating) is very difficult to understand. However, the level of participation between each community varies. Regarding the more general aspects of global warming, each community fully understood the causes and effects of CO^2 emissions and tended to agree that industry and city-life are its main causes.

4.4.1 CMI Data Collection and Participation

All three initiatives were introduced by outsiders (Carbon Footprint Research by the NDF, REDD+ Pilot Project by the DNP and the Inpang Carbon Bank by U-MSU and T-MSU). In each case, the initiative's research team consisted of professors with degrees in various environmental sciences and connections to people in high positions from either the government or international NGOs. Each organization approached the community and requested to conduct research regarding deforestation, carbon and global warming. They all utilized fairly similar techniques and language to conduct the project and transmit this new knowledge to the community. Although the actors and various conditions of each community differed greatly, the villagers' reaction to the highly technical and tedious aspects of the initiatives were fairly similar.

One issue that was brought up was the projects' time-consuming nature. Both Muang Ang and Huay Hin Lad Nai felt that working on these projects took a lot of time out of their day, time that is needed to perform other more important duties such as taking care of the family and working on their fields.

> "I don't know why they choose me, but I just accepted it. I don't have free time at all! Hah. Others refused to participate. I could have refused but I am considerate haha." (KI Manee, 16/02/2017).

> "A lot of meetings! Many people come to visit us, very busy. They take a lot of our time. Half a day. Sometimes very boring." (KI Uthai, 17/02/201).

> "It was complicated! You have to weigh everything, you have to check everything that you put into the pot. It is tedious, very busy. (We measure) 3 meals per day, every day for 3 weeks." (KI Pongpan, 25/03/2017).

> "Yea, it was very difficult. We had to spend a lot of time collecting data." (KI Chanphen, 24/03/2017).

Although participating in different projects, they all felt that the project took a lot

of time out of their day. However, whereas those from Muang Ang felt that the meetings were the main culprit, those in Huay Hin Lad Nai emphasized the great amount of time actually collecting data. We can see here that there may be an issue with emphasizing community participation by outside actors. One Muang Ang REDD+ committee member explained the issue with data collection as follows:

> "Sometimes, I go watch but we don't know how to do the measurements. We don't understand. They teach us. Do like this, do like that but we forget. Our memory is not very good hahahaha, we don't write it in the notebook. There are too many things. If we don't take notes we forget." (KI Uthai, 17/02/2017).

This could be an issue with how much emphasis the DNP has put on community participation. As stated before, the collection of data is done 3 times a year, usually taking one full day. There is not much time to fully learn and understand the data-collection procedures and if villagers do understand, they may forget by the time the next data collection is conducted. This is contrasted with how the villagers of Huay Hin Lad Nai were expected to collect data:

> "*We* collected the data 3 months per year. *We* record how much gasoline we use for the machines. How long it takes per day. *We* recorded data on rotational agriculture, how much time we spent burning the fields. *We* checked the tree sizes on the fallow fields. *We* gathered all this data and sent it back to Professor Jariya, from Chulalongkorn. *We* checked how much and what we used from the forest. What we eat, how much of everything we eat. How much we buy from outside. If we go to the city, *we* check how much gasoline is used to drive to the city. Here we just eat from the forest so we have a smaller footprint." (KI Prasit, 23/03/2017, emphasis added).

In this case, a large amount of data was collected consistently throughout a long period of time. Research teams were available for longer periods of time in order to fully transmit the knowledge of data-collection to the villagers. Having to do

this every day or every week allowed the community to better understand what data they are collecting and how it is relevant to the overall objectives of the project.

In regards to the Inpang Carbon Bank, there were no complaints about time-consumption, and it seemed that villager participation was low. Only a very select few were chosen to measure participants' plots, there were requirements that not everybody could fulfill and there seemed to have been only 1 or 2 meetings a year. There were various requirements to join the project, such as the age and type of the tree and how many rai of forest you had:

> "I have a *family forest* but I didn't join the carbon project. I couldn't join because the project wanted a big area of land. I didn't have the specific tree or area of land that they wanted." (KI Kampoon, 07/05/2017).

In regards to the Inpang plot measuring group, one member stated that:

> **"**I think that it is better for the leaders to measure the trees instead of the owners of the *family forest* because firstly, we know more about measuring, about using GPS and the processes of the project. Secondly, I can help the people here, maybe sometimes the old people are confused about measuring, if they measure by themselves, they will collect the wrong data and it is difficult to calculate. It is better that the leaders go to measure the trees and collect the data." (KI Dang, 12/05/2017).

As opposed to Huay Hin Lad Nai and Muang Ang, the youth in Ban Bua did not seem to be as present in the village. The age of the youth consisted of those going to primary school and were probably too young to collect data and older folks that could have found it more difficult to understand the measurement process let alone physically conduct it. I saw very few young adults (18-30), who may have gone off to the university or to work in a nearby urban center. Therefore, a true understanding through measurements was conducted only by a very select few.

Meetings also differed from the other two villages, in an extreme way that many felt that they did not know if they would see the researchers again. Meetings

were conducted with the university professors once or twice a year and as one villager put it:

> "They disappeared! I just saw them in the beginning and very rarely during the duration of the project. Just only when they came to measure the trees (which happened only once)." (KI Saween, 11/05/2017).

In any case, Inpang members who participated in the project seemed to have the opposite view from those of Muang Ang and Huay Hin Lad Nai, in that they did not seem to have been affected by multiple, long meetings or have to participate in the measurement process to the same extent as those in Huay Hin Lad Nai and Muang Ang.

We see here that although the three projects had to do with carbon mitigation, the emphasis each had on community participation differed dramatically. This likely has to do with the types of organizations they are. As discussed previously, the NDF is very activist oriented, they emphasize community participation and an effective transferal of knowledge for the sake of community empowerment as opposed to their organizations' own research objectives. The MSU carbon bank project and DNP REDD+ pilot project are conducted by organizations closely linked to the government and research institutions. They may be more concerned with effective, scientific results that they can show their government and academic superiors as opposed to focusing on true community empowerment/development.

4.4.2 Deforestation

Deforestation is important to consider when discussing CMIs because not only does the burning of trees emit carbon dioxide but forests also act as natural carbon sequesters. Deforestation became a hot topic between the two Karen communities because of their distinct perspectives on rotational cultivation (which the academic community and government still consider to cause deforestation). The community of Muang Ang had already stopped rotational cultivation since 2002 while Huay Hin Lad Nai is internationally recognized for continuing their traditional practices of rotational cultivation in a sustainable

manner.

> "Yes (I believe rotational cultivation causes deforestation), there are some families that don't respect special areas, like watersheds. They cut the trees. During my parents' time, some families cut a lot of forest. People from all villages." (KI Chula, 15/02/2017).

> "It is kind of bad but we have to survive. Maybe burning is bad. But we have no choice. If you don't clear the land there is no way you can grow anything." (KI Manee, 16/02/2017).

> "Before, when I was a kid. On one hand I felt sorry to cut down the forest but there was no other way. We didn't have enough rice to eat. When I looked at the mountains, it didn't look beautiful." (KI Uthai, 17/02/2017).

Most people in Muang Ang were not sure if rotational cultivation directly causes deforestation. They decided to stop because of many reasons that included low productivity, intensive labor, income, aesthetics, government and love of the forest. Every Muang Ang villager I spoke to were happy to have greenhouses because it allowed them to gain income without illegal logging or having to expand their paddy and/or rotational fields in order to make a living.

Concerning the community of Huay Hin Lad Nai, everybody wanted to make the point that their rotational cultivation does not cause deforestation. They commonly differentiated rotational cultivation from cash-cropping in the forest and stressed that it is the cash-croppers, not those who practice rotational cultivation that cause deforestation.

> "If you burn a tree but don't destroy the forest, it will not contribute to global warming, but if you cut down the forest it will. Rotational cultivation does not contribute to global warming, but cash-crops like corn and cassava do. If you burn cash-crops it will make damage. There is toxic smoke." (KI Neetwet, 22/03/2017).

> "No (rotational cultivation does not cause deforestation)! Because we

have always done rotational cultivation, and we still have forest." (KI Dao Jai, 23/03/2017).

"The city people think that rotational cultivation destroys the forest but actually rotational cultivation is a cooperation between the forest and people. Rotational cultivation does not destroy the forest because there are limits in the area. The fields switch every year." (KI Preecha, 23/03/2017).

Regardless, both communities believe that they do not cause deforestation. Muang Ang has switched from rotational cultivation to greenhouse cultivation, which provides enough income for them to stay in designated agricultural areas and not have to expand agriculturally into the surrounding (now off-limits) forest. Huay Hin Lad Nai continues to practice rotational cultivation but is steady in their belief that their practices are set within community rules and regulations that prevent any type of deforestation from occurring.

On the other hand, Inpang members did not have any experience with rotational cultivation, but they did have their own opinion about who is main contributor to deforestation. Many recognized that local villagers cut down the forest, but it is due to having contracts with large corporations;

"City people make more pollution because they only think about money and how to develop the city. If you are the owner of a sugarcane factory, you will order the *chao ban* (local villagers) to cut down the trees and grow sugarcane and bring it to the big company like CP, big companies in the city." (KI Prayat, 07/05/2017).

"It is connected. Cut down the trees for business and factories. Agriculture is partly the cause of global warming too because they plant economic plants to get contracts with the factories. So this is the cause." (KI Yai, 07/05/2017).

"The poor cut the trees. They don't have land, or food to eat. They hide in the forest and cut the wood to sell. They need money to buy food. The big companies also. The companies come to cut the trees by the

> tonne. The big companies have agencies that come to the village and ask the people to go find wood. They then bring back the wood to sell to the companies." (KI Saween, 11/05/2017).

In every case, Inpang members placed blame on local villagers at first. It wasn't until asking follow-up questions that they would excuse them by stating that it is because of the big corporations who entice them to cut down the forest, or because they are too poor to afford food and thus need to cut down some trees to make some more income.

4.4.3 Climate Change

The theoretical concepts on how deforestation, carbon and climate change are linked is fairly difficult to completely understand. However, the general idea is fairly simple, and villagers from each community seemed to completely understand the basic underpinnings. There seemed to be a unanimous agreement that industrialization and all the luxuries that come with modernization are the main contributors to climate change.

> "It is clear, common sense. It is industry for sure, they take many materials, plastic, iron. This causes a lot of global warming. Water pollution always comes from industry. There are cars, planes, chemicals, it is all industry. Everything comes from industry. Industry is the main cause of environmental pollution and carbon emissions. Global warming." (KI Prasert, 22/03/2017).

> "I think it is because companies, and things in the city. Too much smoke or chemicals, too much pollution. But people in the city, they think people in the jungle cut a lot of trees, and burn the forest. I think global warming is mainly about cars and pollution in the city." (KI Sayan, 26/02/2017).

> "I think it is the city. Big C, Macro, Lotus (large Thai supermarket chains). They all make more pollution. The people in the village, they go to the city for some festival, New Years, Songkran, and they take their parents and children to go to the city. In the city there are lots of

cars, lots of things that make pollution. There are less cars here so less pollution." (KI Pao, 05/05/2017).

Some Karen villagers acknowledged that the practice of burning in rotational cultivation does contribute to climate change but has a very minor impact:

"Everything contributes to it. The one who doesn't own the land and starts burning. It is not much but it all contributes a little bit to global warming. Everything adds up." (KI Uthai, 17/02/2017).

"We burn the waste of the harvest but everybody doesn't burn at the same time. We help each other to burn the waste from the field. We burn from the outside in, in order to control the fire. We burn but I don't think it makes a lot of carbon. We don't burn at the same time. One household at a time. Yes, I know (that carbon is bad). But we don't cause much damage." (KI Tapteem, 22/03/2017).

Moreover, the idea that rotational cultivation actually absorbs more carbon than strict forest conservation was brought forth repeatedly, even in the case of Muang Ang, who no longer practice rotational cultivation.

"Well, rotational cultivation can produce young trees, young trees can absorb more carbon. So, rotational cultivation can help reduce global warming." (KI Mak, 15/02/2017).

"Rotational cultivation does not contribute to global warming. We believe that if we can practice rotational cultivation, we can absorb more carbon. When we cut the field for rotational cultivation, the next year we leave it fallow and the young trees will absorb more carbon, more than old trees." (KI Prasert, 22/03/2017).

"Well, I understand but the way we practice rotational cultivation works is that we burn a little but the fallow fields absorb more. We like to compare this with people. The elders eat less and the young eat a lot. We observed that in the trees. We saw it ourselves. The older trees don't blossom, don't flower again but the young trees do. So we think that

older trees absorb less."(KI Preecha, 23/03/2017).

All three of these villagers are leaders in their communities. They are directly involved with every project that goes on and seem to make sure that they are constantly updated on new information.

4.4.4 Climate Change: *Mepo*

Although the leaders of Muang Ang and Huay Hin Lad Nai spoke very eloquently using the scientific language of outside actors, there were also those who believed climate change is happening for different reasons. Only a few elders spoke of what, in their native language, they called *mepo,* which can be translated as "hot air" in Karen. *Mepo* is a clear, gas-like substance that you can see when you completely alter the surrounding environment (they explained it as similar to the clear gas you see when you turn on a gas stove, or the water-like oasis on the road).

> "We believe that *mepo* causes global warming. If you cut down the forest, a big area, you will see some type of gas. But small areas like what we do, rotational cultivation you don't see it. It is hot air. *Mepo* is the main reason we have global warming. Carbon comes from *mepo*." (KI Neewet, 22/03/2017).

> "I think that it is both. Both contribute to global warming. Because if you use leaves to make a roof, there is no *mepo* but if you use a tin roof there will be some. If you have no forest, there will be a lot and if you have forest there won't be *mepo*. *Mepo* and carbon are separate." (KI Prasert, 22/03/2017).

> "I think *mepo* comes from other places too. I'm not sure because I haven't been to the city too often but I've seen *mepo* in the city." (KI Lah Lek Poh, 25/03/2017).

This could be considered a traditional Karen understanding of why the world is becoming hotter. It was discussed only by those aged over 50. *Mepo* and the scientific research regarding carbon do not seem to contradict each other but are

simply different ways of explaining the same phenomenon. In both cases, a transformation of the natural environment (deforestation and industrialization) are the main causes to global warming.

4.4.5 Carbon Trading

As explained at the beginning, REDD+ is a fairly new program that can be linked to carbon trading in general. The basic premise is that people who prevent deforestation and forest degradation can obtain carbon credits depending on how much carbon designated forests have sequestered. These carbon credits can then be sold on an international carbon market. The Inpang Carbon Bank project was directly influenced by this approach and was the only community to have received payments through the selling of carbon credits. The Muang Ang REDD+ project is also influenced by the carbon trading discourse but the DNP has chosen not to promote monetary transactions for fear that nobody will buy the carbon credits once they are on the international carbon market (the carbon market is still very underdeveloped). Huay Hin Lad Nai's Carbon Footprint study was strictly research seeking to demonstrate that rotational cultivation contributes less to global warming than cash-cropping or a city lifestyle. However, the study was political in nature, having one research objective of, "*to propose appropriate policy change* that supports effective management of agroforestry and community-forest management to ensure food security of small scale farmers in the highlands while contributing to climate change mitigation" (NDF 2011:5 *Emphasis added*).

In Muang Ang, villagers did not know too much about the specifics of carbon trading and their feelings ranged from neutral to beneficial.

> "I have never thought about this (selling carbon credits for money). I don't care about carbon credits. I only care about preserving the forest and becoming well-known to other government officials. So those people can recognize us. That is what is important to me." (KI Chula, 15/02/2017).

> "I think if it gains money it is good but if not, good also because we

> preserve the forest either way. If we can get income from it, then I support it. The committee thinks we should work for the community first, if we get the money we will distribute it in a communal way. Support agriculture, occupations." (KI Uthai, 17/02/2017).

Most Muang Ang villagers did not know about carbon trading. If they did, or if I brought the idea up, most stated that they conserve the forest because it is their livelihood, not because there is some financial incentive. If money is presented to them, they would accept it in order to help pay for forest conservation practices such as maintaining fire breaks and paying for food and gas to provide local wildfire guards. The reason they don't know too much about carbon trading could be because of how the DNP presented the project to them. One member of DNP REDD+ team, who is Karen himself from a nearby village explained the situation as follows:

> "There is a carbon market. But it is not so developed yet. Maybe one day it will sell, but if we can't sell them, who will take responsibility if the community feels angry? If we tell them that they will definitely get the money and it doesn't come?" (KI Taht, 15/02/2017).

However, he continued by stating that even if there was a developed carbon market, the community should not sell their carbon credits:

> "This is my opinion yeah? I don't want them to sell the carbon. There will be problems for sure. How to sell it, who will buy it? If they make the money, where will it go?" (KI Taht, 15/02/2017).

This seems to be a big obstacle for REDD+ and carbon trading in general in that there has yet to develop a fully functioning carbon market. The biggest emitters of carbon have not felt the need to buy carbon credits in order to sustain profit rates. Moreover, in Thailand, many of these forest communities do not have private land rights, thus the distribution of money made from carbon credits would have to be distributed communally, which could bring up conflicts within the community.

Although Huay Hin Lad Nai did not participate in any carbon trading project,

many villagers had strong feelings towards the idea. Their biggest issue was the problem of government and corporation corruption.

> "I'm happy if CP stops polluting. But it is not good if they can buy carbon credits and then pollute more. I've heard that the government sells the carbon credits though. The government cooperates with the companies. This is not good. Corruption." (KI Prasit, 23/03/2017).

> "The Thai government wants to sell carbon credits. The government wants to take credit for preserving the forest, they want to earn money from others. So I don't agree with this." (KI Tod, 24/03/2017).

Others had more philosophical responses concerning humans' relationship with the environment:

> "I don't want to be a victim to REDD+. If the community does REDD+, the money will not reach the villagers for sure. The money will go to the DNP or something like this. We don't want to sell because the forest belongs to the world. Nobody owns the forest. It is not right if we get the money." (KI Preecha, 23/03/2017).

For many villagers of Huay Hin Lad Nai, there is this idea that humans do not own the environment. They may be fighting for their rights to live on the lands they have lived on for generations but they do not believe that it is 'theirs.' This is opposed to the Western way of thinking in which the idea of private property has been grounded in our thought for centuries.

Another important theme that came up is their idea regarding money in general.

> "I'm concerned about hidden agendas. So we have to have meetings and discuss about the company. When money is involved, it is dangerous. If a project comes here talking about money, then we have to be careful. Money is dangerous. If we don't have a village fund then it is dangerous, villagers will fight amongst each other. People might become greedy. We have to manage the funds. If one or two people manage it, it is not good." (KI Preecha, 23/03/2017).

Huay Hin Lad Nai villagers were the most straightforward about their dislike and distrust regarding money. They believed it led to greed and conflict within the community. As discussed previously, Huay Hin Lad Nai saw what was occurring within the surrounding communities who took up cash-cropping in order to obtain more money. Their distrust of money might have arisen from there and seems to continue to this day, specifically in regards to carbon trading.

The Inpang Farmers Network was distinct in that participants actually received payments. Due to the long length of time to sequester and then calculate carbon, the price of carbon credits and how much villagers would be paid was unknown at the beginning. Although this created confusion, most did not seem to care too much about the issue. However, one lady felt betrayed;

> "The research team from Mahasarakham University came here and asked me to join the carbon project. They told me that I will get around 20,000 baht but I only received 2,200 baht."(KI Saween, 11/05/2017).

> "There was some confusion. The first time that Michigan State and Mahasarakham University, as well as the NRCT met together, they told us that we would get a lot of money but 2-3 years later, they told us that the price of carbon had decreased. So the money that they will get will decrease. So people were confused. But the second project with the *family forest*, they said just grow the trees and improve our minds, don't worry about money." (KI Dang, 12/05/2017).

Another Inpang member, who did not participate in the project but is very knowledgeable about what is happening within the network stated that the carbon credit value is too low and will not succeed in convincing others to give up cash-cropping for agroforestry;

> "(We will make) not that much. Maybe like 400-500 baht/year/rai. If we grow sugarcane we can get 10,000 baht/year. Cassava field, 7-8,000/year. (KI Prayat 07/05/2017).

These were the only instances I encountered where the participants held a negative view of the project. Most others received their payments but stated that

the amount was too low to care about and that it didn't affect their lifestyle anyway. They tended to hold neutral to positive views of the payment aspect of the project.

> "I don't care too much. I didn't focus on the money. The project was similar to how I live anyway." (KI Ar, 10/05/2017).

> "I joined because the carbon project team told me that if I join then I can help save the forest, and I can get some money. I think that this project is similar to the Inpang idea, because normally we take care of the forest and this project is also interested in protecting the forest. There was not conflict between the two ideas, so it was good, and I joined." (KI Sing 12/05/2017).

In regards to carbon trading in general, responses varied from negative to beneficial. One villager believed that the general idea can be beneficial but that there is too much unequal trade relations and that villagers don't get paid enough;

> "It is not good because another country can sell carbon for more money. But here we don't get much money. If there is a good price, it is a good idea, nobody will want to cut down the trees. But it is very cheap and people have to use money, they cut down the trees and plant cassava." (KI Prayat, 07/05/2017).

The founder stated the Inpang Farmers Network's view of carbon trading bluntly;

> "We plant trees for our life, we don't focus on selling carbon. (We conserve the forest) not because we want money. If we don't get money we will continue to save the forest. The forest is our life." (KI Tawatchai, 10/05/2017).

The responses regarding carbon trading varied but the general sense I received was that exchanging money for the conservation of the forest was not necessary. Villagers from each community believe that they should take care of the forest regardless. For Muang Ang and Huay Hin Lad Nai, it is part of their Karen belief system, while the Inpang Farmers Network had already been growing and

conserving forest for their own rationales. I believe Muang Ang villagers seemed more willing to accept money due to their closer relationship with the DNP as well as not fully understanding carbon trading (which could be the fault of the DNP not fully explaining it). Huay Hin Lad Nai also stated that only under very specific circumstances would they accept money, but in general they seemed more reluctant to participate in any carbon trading project. The community's past relationships with logging companies and government departments may have given them a distrust towards these types of projects. The Inpang Farmers Network received money but thought it was too little to have any real beneficial effect. Some members defended the low payments by stating that it was for research purposes only, which had little money to distribute to begin with.

All three communities had already been practicing sustainable agricultural practices, thus the projects had little effect on their livelihoods or global carbon sequestration. Most, if not all interviewees already had their own rationales for conserving the forest, thus outside actors had a fairly easy time convincing the communities to participate in the CMI. This does present an issue however. The REDD+ approach, and carbon trading in general holds that carbon sequestration must occur in places where it would not have if the project did not occur. As can be seen, this conflicts with the two CMIs in Muang Ang and Ban Bua due to the villagers having already been practicing sustainable agriculture for decades. Another conflict with carbon trading discourse is that all participants stated that they did not join the project for monetary incentives. This is opposed to the "green" market orientation of carbon trading, which makes the argument that people will conserve the environment only if there are monetary rewards. As I attempted to demonstrate, this was certainly not the case in all three of the communities. I would now like to discuss why members from each community did decide to participate in the CMI.

4.5 Reasons for Participating in CMI

As mentioned before, both Karen villages held community meetings before deciding to participate in the project. The Inpang Carbon Bank project was directed at private properties, therefore any individual could decide to participate in the project without

needing to ask the community or Network leaders beforehand. The projects were not forced upon them and, as we will see, each community exercised their agency, deciding to participate for reasons other than the economic incentive. In Muang Ang and Huay Hin Lad Nai, the two most stated reasons were networking/visibility and scientific proof that would be used to demonstrate to the government and lowlanders that they do in fact take care of the forest. Regarding the Inpang Farmers Network, most seemed to have joined for the monetary incentives and to help alleviate global warming. The project would not interfere with their current livelihood activities and they chose to help the research team due to their close relationship with Mahasarakham University.

4.5.1 Networking/Visibility

Both Karen communities believed that by participating in the CMI, they would be able to meet important allies, gain knowledge from them and become more visible to society. Visibility is very important for both communities because if nobody can hear their voice, if nobody knows about them, then their vulnerability greatly increases. Both communities face very vulnerable circumstances. They do not have legal rights to the land and the Thai government and Thai society in general hold the view that the practice of rotational cultivation is detrimental to the environment. Therefore, by increasing their visibility and building up their networks, they are able to build alliances with other groups (NGOs, government departments, university professors, activists) that will come to their aid if any unjust measures are taken. Here are some examples of what both communities believe lowlanders feel about them:

> "People in Bangkok, they don't understand, they say Karen people, or the hill tribe people, they cut a lot of trees, after that, you have floods, you know." (KI Sayan, 26/02/2017).

> "The city people think that rotational cultivation destroys the forest but actually rotational cultivation is a cooperation between the forest and people." (KI Preecha, 23/03/2017).

> "For the government, I think only 10% understand. But this is not because of us, it is because many other forest villages destroy the forest.

> We have to make the government understand that we are not the same as them. The government has to separate the two different types of villages." (KI Chanphen, 24/03/2017).

Flooding, deforestation, polluting streams with chemicals, these are some of many reasons lowlanders believe 'hill tribes' should not be able to live in the mountainous forest areas. As the last participant stated, and which may be a generally held belief with the villagers of both communities, lowlanders are correct to an extent. Many hill tribes do cause some of these problems through cash-cropping (Karen and non-Karen). However, these two communities do not, and therefore must build up networks and increase their visibility in order to demonstrate to the government and lowlanders that they are able to live sustainably within the forest with degrading the environment in any way. One way to do this is by participating in new projects that allow them to strengthen their network connections.

> "I joined this group (NDF) because they are a cooperative. They help us talk with the government. They like us because how we live with the forest." (KI Chanphen, 24/03/2017).

> "We can communicate better with other sectors. They send us to many other government sectors to learn from them. They send us out to learn, to exchange knowledge, we swap to see each other's places. Good for networking and knowledge-sharing." (KI Chula, 15/02/2017).

As you can see, both communities feel that networks are good for exchanging knowledge, communicating with the government and helping each other in general. By befriending government officials, NGOs and university professors, it also increases their visibility. While conducting field research, I saw that almost every other day, a new group of people were coming to visit the community in order to learn from them. By becoming recognized by these various sectors for the work they do, the community is able to gradually dismantle the image of them as 'forest destroyers.' Although not having legal rights to the land, both communities felt that through these strong networks, they are not afraid if the

government began to increase pressure on them to leave the forest. If this were to occur, a process of resistance would begin to form within the networks and various sectors would come to their aid. They believed that it would be a lot more difficult for the government to enforce their policies if they had to confront resistance from not only the community, but also university professors, government officials and international NGOs. However, the most cited reason for joining the CMI was to collect scientific proof that they could then use to demonstrate to the government and lowlanders that they are able to live sustainably with the forest.

4.5.2 Scientific Proof

> "We made sure we didn't cultivate where the watershed is, if we did it there, the water would run out. Up to each individual. We cultivated underneath the watershed. In the past, we worshiped spirits, so we didn't cut there. Near the places where we worshiped the spirits, we wouldn't touch those places." (KI Uthai, 17/02/2017).

> "If we cut trees without permission, if we don't ask or do too much hunting. Then there will be some punishment from the spirits. The spirits punish us if we cut a tree but don't use all the wood. The Zeeko (Village spiritual leader) will then perform some ritual in order to ask for forgiveness and prosperity." (KI Neewet, 22/03/2017).

Although the Karen hold many traditional beliefs that regulate their relationship to the environment in a sustainable manner, the government and Thai society in general continue to disregard this knowledge, considering it irrational, primitive and unscientific. Therefore, the need to conduct research in order to provide scientific evidence is a top priority for these two communities.

> "Why we have to join REDD+? Because before, the people from the city, the government, said the Karen cut a lot of trees, they move everywhere. So we want to show them how we look after the forest, how we take care of the forest. We don't mind about the money. If it comes or doesn't come, no problem. We just want people to know that

> the Karen grow up in the forest so we have to take care of the forest." (KI Manope, 26/02/2017).
>
> "This study will help the people in the city understand that rotational cultivation does not contribute to global warming and does not destroy nature." (KI Preecha, 23/03/2017).
>
> "I think that they have never done it so they don't understand. We use science to prove the results. That we take care of the forest. We've used carbon footprint science, how much we burn and how much the forest absorbs it." (KI Dao Jai, 23/03/2017).

As can be seen, community members fully understood what they were using the research for. Regarding REDD+, they did not care about the financial incentive, but used the project for their own reasons. They were fully conscious that they were participating in the CMI in order to collect scientific proof to demonstrate to the government and lowlanders that they live sustainably with the forest. One participant from Huay Hin Lad Nai stated this very clearly:

> "We use science to support our lifestyle to make others understand. We have our traditional beliefs but we use science to communicate it to others." (KI Prasert, 27/03/2017).

Historically, science has been used to justify oppressive measures against forest communities. Concerning indigenous groups in the mountainous regions of Thailand, science has been used to declare special forest reserves, watershed areas and biodiversity conservation zones, which has forced many indigenous communities out of their traditional lands. However, as we can see, these same communities have now been able to use this same scientific discourse to defend themselves. Scientifically proving to others that they in fact live sustainably within their natural surroundings.

4.6 Carbon Mitigation and Financial Incentives

The Inpang Carbon Bank was the only project to have discussed the monetary benefits of carbon trading. Thus, many Inpang members stated that they joined for this reason,

combined with the Inpang ideal of conserving forests;

> "I joined because the carbon project team told me that if I join then I can help save the forest, and I can get some money. I think that this project is similar to the Inpang idea, because normally we take care of the forest and this project is also interested in protecting the forest. There was not conflict in between the two ideas, so it was good, and I joined. (KI Sing, 12/05/2017).

> "Because I've heard about global warming from the news and I wanted to help solve it. After that, the project came here and the research team told me that this project can help solve global warming and I can also get money." (KI Moon, 12/05/2017).

Both respondents list ecological reasons first, and then mention the monetary benefits. The first states that the Carbon Bank project and the philosophy of the Inpang Network do not contradict each other therefore he was glad to join. Most respondents answered similarly, giving off the impression that this project would not interfere with their current livelihood activities and was a way to get some extra cash on the side. Moreover, the alleviation of global warming and environmental conservation seemed to have a greater importance to them than monetary incentives.

4.7 Overall Benefits of Carbon Mitigation Initiatives

In this last section I would like to discuss the communities' view of the overall benefits from participating in the CMI. As discussed in the previous section, the two Karen communities decided to participate in order to strengthen their networks and increase visibility, as well as collect scientific data in order to demonstrate to the government that they maintain a sustainable relationship to the environment. Inpang members tended to participate because of the desire to help alleviate global warming and for monetary rewards. We will see that not only were they able to achieve these initial goals but also gain important knowledge, strengthen the unity of the community and receive various material benefits as well.

4.7.1 Material Benefits

Most of the material benefits received by the communities went to Muang Ang

and Inpang members. By participating in the REDD+ project, Muang Ang was able to gain various material benefits such as 2 small rice mills, the construction of a REDD+ office that is now used for community meetings, 8 garbage/recycling cans and an interest-free loan to buy 3 greenhouses (around 60,000 baht). Most villagers of Muang Ang do not know about REDD+ except for the fact that they were given these benefits. The greenhouses act as the main income source for the community and seemed to be very well-received. According to some, the rice mills were a nice gift but did not seem to be used very frequently.

> "(We use the rice mills) not very often. 6 hamlets with only 2 mills, long distance, it is better to go to Chom Thong. Once we have an errand to do in Chom Thong, we fill our truck with all the rice and do it there. The rice mill is too small. Takes too much time. We want one rice mill for each village. One village is about 40 households." (KI Uthai, 17/02/2017)

The garbage/recycling cans seemed to have a more positive impact:

> "Before people did not separate. At first, they tried Mae Bagor, now many people, when they throw things away, they have to separate, recycle and not recycle. They are separate. Before really, around here, many plastic bags in the village, in Mae Bagor really, some people would throw plastic bags anywhere, some people would burn them, you know, burning plastic bags, it is not good. Burning plastic bags is not good, right? Before, kids, when they finish, they would throw them on the ground. When they finished, just throw it anywhere. Now, like my son, or his son, or Por Luang's daughter, we say when you finish you have to put it there. Before a lot, you can see plastic bags everywhere in the village. But now people they are learning yeah? Everything you have to teach them, they learn yeah?"
>
> (KI Sayan, 26/02/2017*)*

Figure 4.4 Rice mill provided by DNP REDD+ department (Photo taken by author).

Figure 4.5 Recycling cans provided by DN REDD+ department (Photo taken by author).

Regarding Huay Hin Lad Nai, there were not many material benefits except for being paid for the collection of data:

> "(They paid me) about 5,000 baht. There was a big fund at that time, and then we distributed it amongst each other. I got 5,000 baht." (KI Pongpan, 25/03/2017).

As mentioned earlier, Inpang members were the only ones to receive payments directly from the selling of carbon credits. The amount they received was very little and most viewed the project simply as a way to help Mahasarakham University conduct some research. Most members felt neutral about the amount they received, not desiring more or less.

Overall, the communities seemed to view the material acquisitions of the CMI positively. None of the villagers from Muang Ang felt that the 2 rice mills were bad, but as the participant stated above, they don't seem to be utilized much and it would have been better if they provided the village with a rice mill for each hamlet (6 total). Those who worked on the carbon footprint project in Huay Hin Lad Nai seemed to feel that the amount of money they received was adequate, and Inpang members were, in general, happy with the amount of money they received. However, as explained before, none of the community members from

either village were participating in the project for the sole reason of obtaining material benefits.

4.7.2 Non-Material Benefits

According to the two Karen communities, it was the non-material benefits that had the most positive impact for the community. By participating in the projects, the two communities were able to gain new important knowledge, strengthen their networks, become more united as a community and collect and demonstrate to the government their scientific research. Regarding new knowledge:

> "(We) learned about the forest, new knowledge. How to utilize the forest sustainably. Learn about the trees, the area, water." (KI Manee, 16/02/2017).

> "The study helped me recognize the varieties of vegetables we have in the community." (KI Chanphen, 24/03/2017).

It seemed to me that much of the new knowledge they've gained had already been known but villagers believed that they were not able to articulate it clearly to outsiders. For example, many of the villagers in Huay Hin Lad Nai could point out what plants you can eat and use for medicine but they did not know their specific names in Thai nor how many varieties of usable plants there were total. Regardless, they felt that they gained new knowledge and considered it a benefit of the project.

Another non-material benefit was the strengthening of their networks and becoming more visible. As mentioned before, this was one of their main reasons for joining the project. Here we see the final results:

> "This village has become well-known internationally because of the Royal Project and REDD+." (KI Chula, 15/02/2017).

> "Well, after this research, there were many organizations that came here to observe and study this community. Even other Karen communities came here to see how we do rotational cultivation. They wanted to learn from us. They said 'we used to do rotational cultivation a long time ago

but then we stopped, so now we want to learn again'." (KI Pongpan, 25/03/2017).

"Yes, we got an award from Australia for resource management and the carbon footprint study. Protector of the Forest Award." (KI Prasert, 27/03/2017).

Here we see that both communities were able to strengthen their networks both within the country and internationally. They have become recognized for their sustainable agricultural practices and have become a role model for other communities.

Another important non-material benefit that came from participating in the CMI was an increased sense of community unity. Good leadership and village unity were recognized as reasons for why the villages were chosen to participate in the projects, but here we see that after having participating, unity increased more so.

"REDD+ united the hamlets of Muang Ang, more forest, no more rotational cultivation, no more deforestation." (KI Uthai, 17/02/2017).

"I think REDD+ is good, it helps us to preserve the forest and revitalize nature. There are more green areas. We did it (protect the forest) but we didn't take it so serious. Now we pay more attention. *In the past, only some people helped but now everybody is helping more, understanding more, taking it more seriously*." (KI Manee, 16/02/2017, *Emphasis added*).

I believe unity was stressed more so in Muang Ang because of the size of the village. Whereas Huay Hin Lad Nai consists of no more than 25 households, Muang Ang is a set of 6 hamlets which range from 10 to 30 households each (175 total). In the past, there have been conflicts between the hamlets when the Royal Project introduced greenhouse organic cultivation. Some villagers from other hamlets that had yet to receive the opportunity to participate grew frustrated and conflicts arose. Presently however, it seems that both the greenhouses and the REDD+ project have brought the hamlets together regarding forest conservation.

The main overall benefit that villagers seemed to bring up the most was the collection of scientific data. As mentioned before, villagers are very conscious about how lowlanders and the government think of them. They know that they cannot use their traditional knowledge as evidence that they live sustainably with the forest, therefore they have decided to use the same scientific techniques that in the past were used against them. Here are some examples of how the communities have used the scientific evidence.

> "There is more happiness because some departments of the government no longer blame us for destroying the forest. This is due to the study. The research demonstrated that burning the swidden fields does not contribute much to global warming." (KI Neewet, 22/03/2017).

> "We gave the research to the sheriff and some other government department officials. And now they are more interested. Educated people, the university are now a lot more interested in Hin Lad Nai." (KI Prasit, 23/03/2017).

Even the Karen DNP REDD+ employee believed that this would help them prove themselves to the government:

> "If anybody accuses them of deforestation, now they have science to back them up to tell them that they live sustainably. We can live with the forest, we can take care of the forest." (KI That, 15/02/2017).

This quote I found interesting because the participant identifies as Karen first and DNP staff second, demonstrating that researchers should not consider 'the state', 'the DNP' or even 'the Karen' as monolithic entities which do not have their own contradictions within them. We see here that these two communities were fully aware that they could use this scientific research in order to prevent further issues with government officials. They now have proof that is in the government's own language to demonstrate that they are not causing deforestation. We see also that some government staff as well believed this to be the main purpose of the research. By participating in these CMIs, the communities will be able to collect scientific proof that they live sustainably within the forest.

4.8 Analysis and Discussion

I have attempted to demonstrate some main themes that arose when discussing the CMI with respondents. One is that the central tenets of carbon trading do not seem to support themselves when practiced on the ground. These tenets are that carbon sequestration must occur in places where it would not have if no project occurred and the other that participants must have an economic incentive in order to conserve the environment. In each case, the communities had already been practicing sustainable agriculture/agro-forestry, thus it would seem that no increase in carbon sequestration could have occurred due to the communities already having an abundant amount of trees. However, it should be noted that each project was researched-based, thus meaning that they did not prioritize this ideal and instead attempted to build up research in order to truly apply carbon trading in the future. In the case of economic motive, most if not all villagers stated that they did not participate in the project in order to obtain any monetary reward. Participants would most likely continue living as they had before the project and continued practicing sustainable forms of agriculture.

The other major theme I found was their motivations for participating in the project. The two Karen villages stand out in this regard. As discussed above, building up their networks and visibility, as well as obtaining scientific proof that they are living sustainably within the forest were the two main reasons these two communities gave for participating in the project. Both of these reasons seem to be responses to their current vulnerable situation in regards to land rights. By participating in these projects, the villages have been able to obtain scientific proof to demonstrate to the government and Thai lowlanders in general that they do in fact practice an ecologically-sustainable lifestyle. Indigenous knowledge is tended to be looked down upon and is usually not accepted by government officials or the natural science community. Thus, obtaining scientific proof to support their traditional practices has been one strategy these two communities have used in order to respond to land insecurity.

The other reason was building up networks and visibility. These two villages have been able to become known internationally as sustainable villages. The communities are forming close relationships with academics, NGOs and government officials, all which sympathize with their situation and, if conflicts arise, will more likely come to their side

in solidarity. Having the support of local government officials, internationally-known academics and organized NGOs increases the chances of beneficial outcomes within negotiations between the community and the government if a conflict were to arise. Furthermore, villagers emphasized visibility. Visibility had a dual purpose, one was that they wanted their village to be well-known to outsiders in order to be able to demonstrate their vulnerable land situation. The second was educational. Outsiders can visit the village and learn how to practice organic greenhouse cultivation and sustainable Karen rotational cultivation (in the case of the Inpang Farmers Network, learn how to start *family forests*), each a practice of sustainable living, in order to contribute to the goal of alleviating climate change.

Both of these motives, networking/visibility and scientific proof, can be seen as strategies to demand their right to live on their traditional lands in the forest. Networking/visibility can be seen as defense mechanisms that strengthen their relationships with key allies in case a conflict arises, while the scientific proof is used as evidence to support their argument against government policy. The argument that they have the right to live on their traditional lands, not only because they are Thai citizens, but also because they have internationally-recognized scientific evidence that proves that they can live sustainably within the forest.

However, there are some slight differences in how they explained their motivations. In the case of Huay Hin Lad Nai, having collaborated with more politically oriented outside actors, seemed to be more direct in explaining their political motivations for participating in the CMI. The study itself stated that policy changes were one of its main objectives. It was a lot more frequent for villagers of Huay Hin Lad Nai to state that the project was specifically for scientific research in order to demonstrate to the government that they can live sustainably within the forest. They wanted to demonstrate this in order to obtain land rights that would finally end the conflict between the two and allow the village to remain on their traditional lands. I believe that these political motivations to participate in this particular CMI are due to the unique historical relationship they have had with the NDF, which was due to the distinct negative effects of Thai forest territorialization policies.

In the case of Muang Ang, motivations to participate in the project more commonly

concerned visibility and networking. Similar to Huay Hin Lad Nai, they desired to change the perception of them by lowlanders and the government that they are 'forest destroyers', but their motivations seemed to end there and never was the issue of land rights brought up. Only one villager and the DNP Karen worker brought up the idea that the project was in order to provide scientific proof to provide the government. Emphasis on visibility and networking, as opposed to obtaining scientific proof, could demonstrate that Muang Ang villagers are less worried about their land situation. They have never been demanded to relocate, and after the introduction of greenhouse cultivation, seem to have economic security. However, the emphasis on visibility and networking demonstrates that they continue to hold a fear that in the future, there is the possibility that the government may change their policies and demand them to relocate. In this sense, their response is political. The absence of political language in Muang Ang responses to the REDD+ pilot project can be attributed to their historically close relationship with the DNP and Royal Project as well as their unique relationship to Thai forest territorialization policies, which have historically gave them more land security.

The Inpang Farmers Network can be seen as the most secure in regards to land rights. Thus, most of their responses to the CMI were apolitical in nature. Moreover, they are not perceived negatively to the extent as forest communities are. Thus, most of their responses to the CMI are economic and ecological in nature. There was no emphasis on strengthening their visibility and networks, nor obtaining scientific proof that their practices are environmentally sustainable. On the contrary, the most political action they had participated in were to argue that *family forests* are *economically* sustainable. As opposed to the two Karen villages, who had to argue that they live sustainably with the forest, the Inpang Farmers Network had to argue that the having forest is economically profitable. After this issue was dealt with, the Inpang Farmers Network became mostly focused on ecological and economic issues. Land rights, change in perception, networking and visibility hardly came up, if at all. Again, I believe that this response is due to the networks that they have established, who have mostly tended towards focusing on Buddhist values (which are non-political in nature), and research institutions, which in Thailand's political climate, are not able to propose highly political research projects. These networks were determined by the land territorialization processes, which never required them to relocate, but which put them in a situation of

chemical cash-cropping and eventually debt.

Thus, I have attempted to demonstrate how the historical land situation of these three communities has placed them on a path to collaborate with specific outside actors. These actors in effect, with their own goals and practices have influenced the communities' environmental subjectivity. It is this environmental subjectivity that I have looked at in order to understand why they have responded to various CMIs in the way that they did. In the case of Huay Hin Lad Nai, which has had the most vulnerable land situation, has collaborated with highly political outside actors and developed a very political environmental subjectivity that revolves around Karen ethnicity. This can be seen in the way they responded to the Carbon Footprint study, in which they argue, scientifically, that traditional Karen rotational cultivation is more sustainable than cash-cropping or city lifestyles. They conclude that because of this, they have the right to remain on their traditional lands. Muang Ang, which has also been negatively affected by Thai territorialization processes but more gradually has developed relationships with more 'apolitical' government actors. They have adopted the beliefs and practices of these government actors, thus giving them a less political environmental subjectivity but which nevertheless revolves around Karen ethnicity and the idea that they have traditionally lived sustainably within the forest. Their response to the DNP REDD+ Pilot Project is thus less political but nevertheless revolves around visibility and networking, which allude to that they still believe that they are not completely protected from government relocation schemes. The Inpang Farmers Network has historically had the most secure land situation of the three. But due to the development polices of the 1980s, has faced the situation of falling into a debt cycle and the degradation of soils due to intensive use of chemical inputs. This led to the collaboration with outside actors that have prioritized the Buddhist-influenced ideals of self-reliance and moderation. The absence of the need to demand for land rights and instead to focus on economic debt and soil degradation has led Inpang members to pursue ecological and economic development as opposed to political issues such as land titling. Thus, responses to the Inpang Carbon Bank have been more ecological and economic in nature.

CHAPTER 5

Conclusion and Discussion

5.1 Conclusion

The main objective of this study has been an attempt to demonstrate how a community's land situation influences their environmental subjectivity and which outside actors they decide to collaborate with. The collaboration with these distinct outside actors in effect further influences their environmental subjectivity due to the outside actors' own objectives and practices. Finally, I sought to demonstrate how this newly emergent environmental subjectivity influences how a community responds to a carbon mitigation initiative. With the three researched villages, I have come to the conclusion that how they responded to a CMI is determined by where they are placed on a spectrum that has land vulnerability and security as its two extremes.

There were three research questions that led me to this conclusion. Regarding the first question; How does the *land situation* (agricultural practices, land rights, etc.) of a community influence what outside actors they collaborate with regarding CMI? I found that there were three main factors that influenced who they would collaborate with; *political, economic and spiritual*. In regards to the political situation, or, whether or not the government recognized their right to live on their traditional lands, the more vulnerable the community's political situation, the more likely they would turn to outside actors that had a more confrontational attitude in regards to justice and people's rights. Those who had a stable land situation did not seem to be politically active, both in regards to the community members themselves, and the outside actors they tended to collaborate with.

Another factor was the economic situation of the community. Nature provides humanity the ability to sustain their livelihoods, either through self-sufficiency, providing most of the basic necessities a community needs to survive, or through the production/exchange of natural forest products, such as *miang* tea.

I found that each community maintained distinct economic dependencies on the land they subsisted on. Huay Hin Lad Nai is fortunate enough to have the economic resource of *miang* tea, which they could sell to outside markets and use the profits to sustain most of their traditional Karen practices. Without the economic profits originating from *miang* tea cultivation, traditional agricultural practices could not continue and villagers would possibly need to find work in nearby urban centers. This creates a high economic dependency on the land, which further pushes them to take more drastic measures to protect their right to live on those lands. Muang Ang, on the other hand, although also very dependent on the land, did not have an economic resource such as *miang* to continue their traditional practices. Many community members had no option but to migrate to nearby urban centers in search for work and income. This separation from the land resulted in less economic dependence on their lands and thus the community seemed to take a more collaborative and gradual path in regards finding outside actors that could help alleviate their situation.

The last factor I believe contributed to a community's decision was the *spiritual* nature of their agricultural practices. Communities who maintained a spiritual connection to the surrounding environment and the agricultural practices they performed seemed more willing to take drastic measures to defend these beliefs, in this case Huay Hin Lad Nai. Muang Ang on the other hand seemed to have lost many of their traditional Karen spiritual beliefs, most having converted to Christianity half a century ago. I believe that this spiritual connection to the surrounding environment and various agricultural practices had the most influence on the community's decision to take either a drastic or reformed approach in regards to seeking out outside actors. The spirit-environment-human connection is very strong and inter-related in Huay Hin Lad Nai. If the environment is negatively affected, this creates a chain reaction-like effect on the community, creating problems with the local spirits and in turn, possibly damaging the core identity of the community itself.

I believe these three factors to have been the most prevalent during my research. However, there are many other factors that could have influenced the community's decision that I did not have time to follow up on (or just did not see). These three factors are all micro-scale, but there are also many macro-scale factors relating to geopolitics

and the world market that no doubt had an influence on these decisions. I also did not have enough time to research the history of each of the outside actors and how exactly the community and the outside actors first met. These three factors are only broad categories that were the easiest to identify with the time I had but in no way do they provide a definite and exhaustive analysis of the topic.

Research question 2; How does the collaboration with these actors influence the community's *environmental subjectivity*? I found that the process of collaboration with outside actors influenced the community's *environmental subjectivity* through various workshops, trainings and planned actions. Each outside actor had their own agenda, methods of achieving it and distinct discourses utilized. By collaborating with NFN and other political NGOs, Huay Hin Lad Nai began to develop a type of environmental subjectivity that combined Karen ethnicity and traditional practices, western concepts of identity and human rights, and various discourses on alternative sustainable development. The community also began to develop into a political subject that linked Karen identity to environmental sustainability. In regards to Muang Ang, the collaboration with the Royal Project and the DNP has led them to take on a less confrontational attitude due to the close relationship between these organizations and the central government. Muang Ang villagers discussed the topic of environment using more western concepts that were probably introduced by these two outside actors. Concepts such as social justice, human rights and Karen identity did not come up too often, and in regards to environmental subjectivity, it seemed that the village was pretty much adopting the conservationist views of the Royal Project and DNP, which believes that agriculture and forest should be clearly separated. Similar statements could be said for the Inpang Farmers Network, which, having collaborated with Mahasarakham University, had a more research-oriented approach which focused mainly on grassroots sustainable economic development.

Regarding the last research question; In what ways does this new environmental subjectivity influence how a community responds to a carbon mitigation initiative?, I found that each outside actor influenced the community in distinct ways which affected how they responded to the particular CMI. Having collaborating with politically-oriented NGOs, Huay Hin Lad Nai had a very negative view of carbon trading discourse,

believing it to be against their beliefs (i.e. we do not own nature, we cannot profit from it), as well as possibly introducing issues due to the complex nature of how to distribute profits from carbon trading. Moreover, they believed that the general premise of carbon trading would not solve global warming. This negative view of carbon trading could possibly originate from their traditional beliefs but which may also have been reinforced by the practices of the collaborating NGOs in later periods. In regards to the carbon footprint study, Huay Hin Lad Nai, with the new environmental subjectivity that had been developing, utilized the research for political purposes in order to provide evidence to the government that they can live sustainably with the environment and thus deserve full rights to their traditional lands. These motivations correlate with the agendas of most of these outside actors. However, they do not correlate with mainstream carbon mitigation discourse due to the community's argument that rotational agriculture does not increase carbon emissions.

On the other hand, Muang Ang generally had a favorable attitude to the REDD+ Pilot Project although they did not have much knowledge about carbon trading. When carbon trading was brought up, they seemed willing to accept money but in no way was it their main reason for participating in the project. Thus, we see that although being more moderate in their response and usage of the CMI, Muang Ang still had other motivations for participating in the project that most likely did not correlate with the interests of the DNP and Royal Project. Similar to Huay Hin Lad Nai, these were also to prove to the government that they could live sustainably within the forest and thus deserve rights to the land.

The Inpang Farmers Network had developed the least political environmental subjectivity. Having collaborated with research-oriented outside actors, most of their responses to the project consisted of its beneficial nature in regards to research but generally they believed it was too small-scale and unprofitable when considering a switch from cash-cropping to carbon trading. There were no political motivations for participating in the CMI for Inpang members and they tended to look at the Inpang carbon bank with neutral interest. It seemed that their response to the CMI was mainly based off helping their friends at the university who they have been working with for long periods of time now.

To conclude, I believe that their response to the CMI are influenced by where they are placed on a spectrum that has land vulnerability and security as its two extremes. Huay Hin Lad Nai, having the most vulnerable land situation, gravitated towards more political outside actors, such as local social movements around Thailand and activist NGOs. The collaboration with these outside actors in effect transferred some of their own values and practices to the community, which led villagers to develop an environmental subjectivity that is highly political in nature and revolves around Karen ethnicity. With this environmental subjectivity, Huay Hin Lad Nai villagers tended to utilize carbon mitigation discourse in a very political nature which was meant to influence government forest and land policy.

Muang Ang, in my opinion falls in the middle of this spectrum, having a semi-vulnerable land situation, in which forest territorialization policies affected them more gradually. This has led the village to develop a more friendly relationship with government forest departments and the Royal Project, both of which are 'apolitical' in nature and who put into effect policies that would dramatically alter 'traditional' Karen environmental subjectivity (the most obvious case being their negative views of rotational cultivation). Thus, through these collaborations with the DNP and Royal Project, Muang Ang has developed a less political environmental subjectivity. Their responses to the CMI emphasized visibility and networking as opposed to more political themes such as land rights. However, these responses are still political to an extent in that they seek to alter the image of their community and official discourse regarding deforestation and forest communities.

Lastly, the Inpang Farmers Network was the most secure in regards to their land situation. However, the agricultural development policies of the 1980s put many into debt, setting the conditions for villagers to seek out economic and ecological alternatives. They formed the Inpang Farmers Network, which has developed an environmental subjectivity that is mainly concerned with self-reliance, small-scale economic development and environmental sustainability. Their motivations for participating in the CMI were mainly ecological (alleviating climate change) and economic (payments for carbon credits).

There were a few surprising findings that I came across during my research. The main

one seemed to be how little CMI projects seemed to affect livelihood practices. Not one villager stated that the CMI plots interfered with the practices they were doing prior to the initiation of the project. Plot sizes were small, and the few regulations that outside actors had on these plots still allowed villagers to collect most of the natural forest products they were collecting before. In the case of the Inpang Farmers Network, they were even allowed to cut trees as long as it was below a certain amount.

Another interesting finding is the shift, it seems, of CMI discourse from the monetary benefits of carbon trading to its non-monetary benefits, which include clean water, fresh air, and healthier ecosystems. However, seeing that a strong carbon market is unlikely to develop in the near future, it is not so surprising that REDD+ promoters are now focusing on the non-monetary benefits due to failing to find reliable buyers of potential carbon credits and thus possibly angering community members who were told they would be paid. This shift I believe is interesting because it shows the flexible nature of carbon mitigation discourse. It also means that there is a possibility for carbon mitigation discourse to begin updating their view on rotational agriculture and communal land rights (traditional carbon mitigation discourse usually has a negative view of rotational agriculture and generally favors private over communal land rights). In the case of Muang Ang and the DNP, it seemed that various government officials are also beginning to adopt these programs in order to actually help these communities obtain more secure land situations, as opposed to their traditional attitude of removing forest communities from the national park. It seemed that some officials genuinely cared about Muang Ang villagers and had the view that the monetary aspect of it is of no importance but instead insisted that the project should be used as evidence that they can live sustainably in the forest.

I believe it is important to understand the various logics that are involved in these CMIs. Although in each case the use of carbon mitigation discourse was applied, the promoters of the CMIs utilized different techniques and had distinct objectives when it came to their application. These logics too can be placed on a spectrum which ranges from fully accepting the ‘traditional’ carbon payments approach (Inpang Carbon Bank), to the more ‘progressive’ non-monetary benefits of the Muang Ang REDD+ Pilot Project and ending with the fairly disdain attitude towards carbon trading of Huay Hin Lad Nai. I believe

the types of projects outside actors chose, their objectives, and who they decided to work with is related to the historical situation that I have been discussing throughout the thesis. However, although very distinct, in each case the response towards the monetary-aspects of carbon trading seemed to be neutral to negative. In these three cases, what is most clear is that the belief that people will only desire to conserve the environment through monetary rewards and using a market-oriented approach cannot be sustained. In each case, monetary rewards was not the primary motivation for participating in the project. Even in those cases in which villagers approved of monetary rewards, it was only due to desiring more assistance in the conservation practices that they have already been performing. I believe that if carbon mitigation promoters truly desire to 'develop' these communities and alleviate global warming, they must understand what the real needs of these communities are. Although the promoters of these projects were most likely concerned with research (as opposed to legitimate carbon trading), if real carbon mitigation is to occur, communities who are not already performing sustainable management practices need to be approached. Through my time in the field, I found that the logic of the monetary aspects of carbon trading failed to convince participating communities, and that their own logics (those of maintaining the image of them as sustainable communities and the desire to conserve the environment in itself) were prioritized. It is these logics which originate from the community that need to be prioritized by development specialists as opposed to attempting to maintain the original 'green' market-oriented approach of carbon trading.

5.2 Theoretical Discussion

5.2.1 Environmentality

These themes can be analyzed using Agrawal's environmentality approach, which has *power/knowledge, institutions* and *subjectivity* as its core building-blocks. In the second chapter I attempted to explain how the representation of the forest has changed over time. This was due to the *power/knowledge* of powerful actors, in this case the RFD and MoI, which were continuously in a power struggle over how to define the forest. The RFD wanted to apply scientific forestry concepts, which would define various forest types in order to more efficiently manage forest products and conserve specific areas. On the other hand, the MoI, was more concerned with civil peace and generally advised for

the settling and cultivation of forested areas. Eventually, the RFD gained the upper hand and was able to define and put forth policies that called for the depopulating of various forest areas.

I attempted to utilize the *institutions* concept within this approach by applying Vandergeest's *territorialization* framework. As discussed in the same chapter, most of the institutional policies regarding the forest had little effect on the researched communities due to the state's inability to effectively enforce its own rules and regulations. However, gradually forest communities would be affected by these institutional regulations such as the ban on rotational cultivation, which would alter the communities' livelihood practices. It is these alterations in *practices* that Agrawal states most directly transform a community's *subjectivity*.

The issue of *subjectivity* and identity is an important topic when discussing about the Karen ethnic group. First we must differentiate between how these Karen communities actually view themselves, and how they want to portray themselves to the non-Karen community. The two Karen villages are distinct in many ways. Huay Hin Lad Nai is very 'traditionalist', they actively sought to promote their community as continuing the same traditional practices that have been practiced by their ancestors. Rotational cultivation, spiritual worship, and moderation were promoted as authentic Karen practices. Although they might have viewed themselves as 'more Karen' than other Karen communities who have given up some of these practices, they never stated that these other communities were therefore no longer Karen. Huay Hin Lad Nai villagers marry with Karen from other villages who no longer practice spiritual worship or rotational agriculture, however, there is no issue here except that outside Karen members are expected to follow community rules and regulations.

Moreover, Muang Ang, who have converted to Christianity and given up on rotational cultivation continue to view themselves as Karen. For Muang Ang villagers, rotational cultivation and spiritual worship had nothing to do with Karen identity. For them, they were still Karen in the sense that they love to live in the forest and that they had some type of environmental ethic. Traditional

Karen marriage and Karen New Year ceremonies are still practiced, and there seemed to be no conflict between Karen of other religious affiliations.

One common aspect that could easily be identified as Karen is their continued use of their own language, even amongst the youth. I would have to agree with Ananda Rajah, when he states, that their "language or dialect is integral to the representation of symbolic meanings in their distinctive non-Christian, non-Buddhist religion and ritual practices" (Rajah 2008:1). The use of the Karen language was the common denominator with both communities. Amongst each other, it was very rare that I witnessed the use of Thai. Karen was the common everyday language used amongst both Karen communities. Moreover, in the case of Muang Ang, who is predominately Christian, the use of Karen in Catholic mass was used. As Rajah stated, I believe that the use of Karen provides distinct representations and meanings of the rituals they practice. Both for their traditional rituals that they continue to practice as well as 'non-Karen' rituals such as Catholic mass. I believe the continued use of their language, used in everyday life with each other and in non-Karen rituals, can act as a fundamental characteristic of what they feel makes themselves Karen.

A helpful reference to better clarify Karen identity can be taken from the 'Karen consensus'. Brought forth by Anthony R. Walker, the 'Karen consensus' deals with the representation of the Karen by local academics and NGO activists. Walker argues that much of their work "relies on stereotypically bucolic images of Karen livelihood that do not stand up to critical scrutiny, especially when placed in the context of long-term agricultural intensification and commercial exchange" (Walker 2010:146). The image that is constructed portrays the Karen as 'forest guardians', subsistence-oriented and upholding traditional local knowledge that gives them a unique and special bond with nature. His main concern is that "the politically motivated construction of a Karen identity based on subsistence-oriented livelihoods threatens to undermine the resource claims of the large numbers of Karen who are seeking modest (re-)engagement with national and international commercial networks" (Walker 2010: 146). From my

fieldwork, I would have to agree with Walker in that the history of both villages do not hold up to this romanticized image of the Karen. Muang Ang for example have been involved in the market economy for a long time now, either through working in the urban centers, or working for opium cultivators. They stated that they would have practiced paddy field cultivation earlier but did not have the means to obtain the various inputs necessary. When they were able to, most if not all, quickly gave up subsistence-oriented rotational agriculture for paddy field cultivation and cash crops. Huay Hin Lad Nai has also been involved in the market economy through the selling of *miang* tea leaves to Chinese merchants. From my field work, it would be difficult to argue that these two communities completely fit the mold of what some academics and NGO activists portray to be authentically Karen. However, when it comes to the political construction of Karen identity as 'forest guardians' and how this may negatively impact those Karen communities that don't fit this mold, I would disagree. Muang Ang for example did not fit this image at all, but they were still able to obtain assistance from outside actors. I believe Muang Ang's use of this politically-constructed image was used to their advantage and it did not matter that the community did not practice rotational agriculture nor advance the idea that they hold special local wisdom regarding natural resource management. Instead of referring back traditional practices to construct a type of 'neo-traditional Karen' identity, Muang Ang has used modern practices to demonstrate the Karen's unique relationship to the environment.

To elaborate on this point, I believe that the approach taken by Yos Santasombat is helpful. In his work "Karen Cultural Capital and the Political Economy of Symbolic Power" (2004), Yos utilizes Bourdieu's extension of economic capital to "all forms of power, whether material, cultural, social or symbolic" (Yos 2004, 105). He argues that Karen cultural producers, such as artists, writers, teachers, and religious leaders, have been able to transform cultural capital (rotational cultivation and local knowledge) into symbolic power, which has successfully been used as "an instrument of struggle against the various forms of symbolic violence instigated by state agencies" (Yos 2004, 107). In the case of Huay Hin

Lad Nai, the carbon footprint project was used as further scientific proof that their traditional practice of rotational agriculture is sustainable as it relates to climate change. This has strengthened their symbolic power and has helped them combat the persistent attitude that rotational agriculture is harmful to the environment. It has also reinforced, scientifically, that the Karen have a unique environmental ethic which is beneficial towards the environment.

The case of Muang Ang is distinct because they did not use the political constructions of rotational agriculture and local knowledge in the past in order to stake claims to their traditional lands. Instead, they have started on their own, using the 'modern' practices of organic greenhouse cultivation and the REDD+ Pilot Project in order to demonstrate, in a different way, that the Karen can and desire to, live sustainably within the forest. Multiple villagers stated that they have participated in these projects because they are beneficial to the forest, and that the Karen, as an ethnic group, understand that they must take care of the forest as it does them. The politically-constructed 'authentic' Karen characteristics of rotational agriculture and local knowledge were not utilized and instead the village used the carbon mitigation project in their own way, as Karen, to further add onto the symbolic power of Karen ethnicity discourse. They have demonstrated that one does not need to practice rotational agriculture or be self-sufficient in order to be Karen. One can adopt modern practices while also maintaining a unique Karen relationship to their environmental surroundings.

One last point is to be made regarding why these two villages took different paths and how it affected their use of the CMI. In the case of Huay Hin Lad Nai, the institutional transformations taking place had a very sudden and direct impact on the livelihood of the villagers. Alternative practices did not have enough time to develop and the village instead took political action. We can say that they developed 'political' practices, by networking outwards and meeting with other political actors. These 'political' practices in effect reinforced their 'traditional' Karen subjectivity, politicizing rotational agriculture and Karen local knowledge. Thus, the politically-constructed discourse of 'neo-traditional Karen identity'

emerged within Huay Hin Lad Nai.

Muang Ang was affected by the institutional changes more gradually. As their rotational fields that were left in fallow began to diminish, villagers began to develop the practices of migrating to the city in search for work. The new income they received would be used to buy chemical inputs and gasoline to better cultivate their paddy fields in demarcated agricultural areas. Thus, gradually they began to lose interest in rotational cultivation and maybe some of the spiritual aspects that went along with it. Due to adopting paddy agriculture, they developed a friendly relationship with the DNP and eventually were able to take up organic greenhouse cultivation by inviting the Royal Project into the village. These practices, and their collaboration with the DNP and Royal Project further influenced their environmental subjectivity. They have thus, reverted to more modern concepts to demonstrate the Karen's unique and beneficial relationship to the environment.

5.2.2 Reorganization of Knowledge

In his book, *Rules of Experts: Egypt, Techno-Politics, Modernity* (2002), Timothy Mitchell explains how a politics of expertise emerges, which is based on "a concentration and reorganization of knowledge rather than an introduction of expertise where none had been used before" (Mitchell 2002:41). Mitchell gives examples in which the reorganization of knowledge is conducted that ultimately provided profits to outside actors which they could not have received if the reorganization had never been pursued. In this case, the three communities had already been practicing sustainable forms of agriculture/agro-forestry, thus a similar scenario is occurring. All three villages had their own explanations as to why forests should be conserved, whether it be on behalf of local spirits, *mepo,* the conservation of stream water, the multiple forest products they provide (wood, food, medicine, etc.), the cool climate that results from them, and climate change. With the CMI, climatic/ecological expertise is "introduced," which has the same objective of conserving forests but which reorganizes knowledge in order to, one could argue, benefit the outside researchers or government officials.

However, if we take Mitchell's word that expertise is never introduced but

simply reorganized and concentrated knowledge that has existed before, then I would like to expand upon this concept to demonstrate how communities (re)reorganize the outside actors' reorganization of knowledge in order to benefit themselves. Carbon trading is a market-oriented approach to environmental sustainability. As discussed before, its main argument is that people will conserve the environment only if there is a financial incentive. Thus, in regards to the theory of carbon trading, the main argument is to prove that people will in fact do this, which as we have seen in the case of these three communities, is simply not the case. None of the three communities participated in the CMI solely for economic reasons. Thus, if we approach the outside actors' reorganization of knowledge concept from the perspective of how that knowledge is applied and for what reasons, we can see that, at least in the two Karen villages, carbon mitigation expertise was reorganized by the villagers themselves, which did not prioritize financial incentives (as it was introduced as), but instead visibility, networking, and scientific proof. Huay Hin Lad Nai and Muang Ang reorganized this newly "introduced" expertise, which prioritized economic incentives, into knowledge that would enhance their own position in regards to land rights.

5.2.3 Presupposition of Equality

Lastly, I would like to discuss how these motivations for participating in the CMI, at least for the two Karen communities, can be seen as an example of what Jacques Rancière terms the *presupposition of equality*. According to Rancière, the *presupposition of equality* is where true *politics* begins, in which a group of people ignore the hierarchies imposed by the state by already assuming equality. This act, or assertion/proof of equality, disrupts the various hierarchies by demonstrating its contingency. There is no reason why various groups are determined to be superior, more-deserving, or smarter than the marginalized group at hand. In this case, Thai indigenous groups, who have historically been viewed as 'backward', simple and primitive by Thai society, have demonstrated that they are equal in intelligence by participating in these 'modern', scientifically-based CMIs. However, it is not simply due to their participation, but how they have reorganized the priorities of them, utilizing them as strategies

to further their own interests, in this case to increase their visibility and networks, but most importantly, in order to obtain scientific proof that they can live sustainably within the forest and therefore have the right to live there.

The *presupposition of equality* originates from Rancière's work, *The Ignorant Schoolmaster* (1991), in which he discusses the historical work of Joseph Jacotot. Jacotot wrote about his experience teaching French literature at the University of Leaven in 1818 (Davis 2010). He could not speak Flemish, nor his students French. Therefore, he gave his students a bilingual edition of a novel and asked them to recite and repeat the text until the middle of the book. He then asked them to finish the rest of the text and afterwards write, in French, what they had learned. He found that the students understood the text astoundingly well, without the teacher having to give any explanation (Davis 2010). Therefore, he concluded that the teacher should presuppose an intellectual equality, in which the teacher's main objective is to ensure that the students also take hold of this presupposition and apply themselves. This is opposed to the traditional hierarchical relationship in which the teacher is supposed to provide elaborate explanations which are supposed to fill the students' minds with knowledge.

Rancière combines this approach with a critique of Plato, who in *Republic* provides his ideal model of how a society should be organized. Plato states that a society should be organized into three social classes; the workers, the soldier-guardians, and the philosopher-kings (Davis 2010). He justifies this claim by bringing forth the myth of the three medals, in which there are three distinct races; the gold, silver and bronze races, which cannot intermix. Plato himself acknowledges that this is simply a myth and is in fact arbitrary. Rancière concludes that Plato's hierarchies, and all others, such as the intellectual hierarchy between teacher and student, are in fact random and based on nothing factual. Thus, by having the *presupposition of equality*, Rancière argues, these hierarchies are dismantled and those who are on the bottom of the hierarchy, the oppressed, can demonstrate their intellectual and political equality.

Hierarchies presuppose inequality. In all societies there are these types of

hierarchies, whether between genders, worker and boss, worker and intellectual and, in this case, central Thais and indigenous forest communities (the Karen). These hierarchies are part of a structure which Rancière terms the *police*. This does not refer to uniformed government officials who patrol the streets, but anything relating to social hierarchies which influence how people perceive themselves and others and what they can and cannot do or say. In this case, indigenous forest communities are assumed to be less intelligent, primitive and backward. Their traditional beliefs and practices are considered inferior to the modern, scientific values of the Thai elite. He contrasts this with *politics,* which as stated previously, begins when a group of marginal actors make a political act through the *presupposition of equality*. *Politics* is conducted by the marginalized; women, workers, indigenous, who disrupt "the police order that excludes or marginalizes them through the assertion, often both in word and in deed, of their equality in that police order"(May 2010:10). By asserting their equality, they demonstrate that the hierarchies imposed by the *police* order are contingent and there is no reason why it shouldn't be any other way.

The two Karen villages, most especially in the case of Huay Hin Lad Nai, I believe demonstrated this equality by the way in which they participated in the CMI. They did not conform to the image in which they are supposed to, by passively accepting development projects from more 'sophisticated' outside actors, but instead consciously participated in them with their own objectives that did not correlate with those of the outside actors. Not only did both communities demonstrate to the government that they could in fact utilize scientific knowledge, something that goes against the image they are given by a *police* order that assumes that they are incapable of understanding modern, scientific knowledge, but were also able to transform it in order to pursue their own interests. This act, disrupts the *police* order and places them at equal footing as the government. The government is left with two choices. The government can either accept that the scientific evidence that it has used to demand that the Karen communities relocate is in fact false, thus requiring the government to admit that it is for political, not scientific reasons for them to continue with their unjust policies, or they can accept the scientific data of the two communities, which will

disrupt the *police* order by demonstrating that it is in fact contingent. It is contingent because the hierarchies in the past were based on intelligence. The traditional knowledge of the Karen was considered primitive and unscientific, whereas the scientific data is modern and based on real facts. If they accept the scientific evidence of the two communities, they have admitted that the intellectual hierarchy that regards the Karen as primitive is false. There is no reason for why these two Karen villages, who have demonstrated scientifically that they live sustainably with the forest, continue facing unjust policies that forbid them to have rights to their traditional lands.

5.3 Implications for Further Research

Throughout the research process, I came across many topics that I wish I could have had more time to dive deeper into. One was the religious aspect of rotational cultivation. Muang Ang, seeming to have no spiritual connection to rotational cultivation, is almost fully Christian (Catholic and Protestant), whereas Huay Hin Lad Nai continues to practice a type of Buddhist-animism along with rotational cultivation. I would have liked to approach this topic using Roy Rappaport's framework of *ritual* in his book, *Ritual and Religion in the Making of Humanity* (1999). In one section of this work, Rappaport approaches the subject of adaptation. He defines adaptation as "the processes through which living systems of all sorts – organisms, populations, societies, possibly ecosystems or even the biosphere as a whole – maintain themselves in the face of perturbations continuously threatening them with disruption, death or extinction (Rappaport 1999:6). He then puts this definition into informational terms by paraphrasing Gregory Bateson (1972); "adaptive systems are organized in ways that tend to preserve the truth value of certain propositions about themselves in the face of perturbations continually threatening to falsify them" (Rappaport 1999:6). These propositions, or 'truths', form a *structure* and are typically very religious in nature, serving as the foundations of which societies construct meaning in the physical world. There are both short-term adaptive responses, which cause reversible changes and long-term permanent responses that create permanent changes in the *structure.* I was interested in using this framework to understand the distinctive adaptive responses by the two Karen communities to the land and forest territorialization processes (or

perturbations) and the implications they have on the propositions of 'truth' they have established about what it means to be "Karen". It would be interesting to know if a conversion to Christianity and giving up of rotational cultivation are simply short-term reversible adaptive responses by the community of Muang Ang in order to preserve the more important "truth" propositions that serve as the foundations of their cultural identity.

Another subject I thought would be interesting would be a full, quantitative study on whether a combination of REDD+ with sustainable rotational cultivation would be economically feasible in a fully developed carbon market. Currently, REDD+ discourse seems to continue holding the belief that rotational cultivation is a practice that is generally detrimental to the environment. The carbon footprint study has already shown that rotational cultivation has a smaller carbon footprint then cash-crop monoculture and the urban lifestyle. There now needs to be a change in this carbon mitigation discourse position and a push towards understanding the possible benefits (or misfortunes) of a REDD+/rotational cultivation combination. The study would be similar to the Inpang Carbon Bank research, which found that carbon "would have to be sold at a value not less than USD 1.66 per MgCO2" (Samek 2011:271) in order to economically break even from the costs of the project. Although Huay Hin Lad Nai would probably not be interested in a project like this, it could provide further evidence on the benefits of rotational cultivation as well as demonstrate a possible extra source of income if the right agreements were established between communities and outside actors.

5.4 Policy Implications

In regards to policy implications, there are many land, forest and carbon mitigation policy changes that need to be reformed in order to truly understand an effective implementation of REDD+. In order to implement effective REDD+, I believe one of the central tenets of carbon trading must first be established, which is the effective implementation and recognition of land rights. The theoretical basis of carbon trading rests on private property and free, individual transactions between two parties. Without proper and recognized land rights, there is no effective mechanism to determine the distribution of monetary rewards. This is mainly the case with the forest communities, and the government's continued reluctance to grant secure land rights (whether private

or communal) to these villagers. Thus, in order to truly implement REDD+, I would have agree with the ….. , who state that "the issue of land rights is of most concern for forest communities (due to) long-term conflicts over rights to use the land, the unclear demarcation, land tenure conflicts, arrest and legal prosecutions of communities in forest areas, etc." (Thai Climate Justice Working Group 2014:2). These issues need to be dealt with prior to effective implementation.

One solution could the true adoption of the "4 laws for the poor". One of these laws is the Community Land Title (CLT), which grants communities collective rights to the land and the right to manage those lands collectively (Chusak 2018). The CLT movement has lost traction recently and it seems to be very difficult to implement real policy change due to the continuous shifts in the Thai government.

There also needs to be changes in the outdated forestry laws. Policy-makers need to take into account the mounting scientific evidence that demonstrates that certain forest communities live sustainably with the environment. This new evidence needs to be addressed and used in order to make more just and sustainable forestry reform.

Although most of these beginning REDD+ projects are in their initiation phase, therefore focusing more on research than on real market transactions with monetary rewards, there needs to be REDD+ implementation in communities who do not already practice sustainable agriculture. Many villagers opinioned that effective project implementation should be focused on the most vulnerable communities, not those who already have a sustainable livelihood reputation. One villager remarked that some of these outside actors are more interested in their own situation and in some cases could be practicing a form of 'greenwashing'.

Overall, although real REDD+ implementation has yet to occur, according to my research, the basic premise of economic motivation to conserve the forest is absent in the communities I visited. Although those in Ban Bua participated in the project for economic reasons, they were not the prioritized. Those in Huay Hin Lad Nai and Muang Ang believed that the idea of REDD+ could be beneficial in order to pay for various forest conservation tasks (such as food and gas for forest guards, fire break upkeep, etc.), but overall, they too were not participating in the project for economic motivations.

Personally, I do not agree with the carbon trading approach. Rather, I tend to side with the Thai Climate Justice Group, tending to believe that it "will not contribute to genuine climate mitigation since the carbon credits will allow big GHG (greenhouse gases) emitters, who are the root cause of global warming but having high economic potential, to continue emitting and polluting the climate" (Thai Climate Justice Group, 2014:3). I believe that REDD+ is not necessary. Governments should allow forest communities to live on their traditional lands, give them collect or private land rights (whichever they prefer), and provide financial assistance for those pursuing sustainable livelihood practices. Similar to how the government provided subsidies for farmers, so they could obtain chemical inputs or new seed varieties, the government should now provide assistance for those communities that may need help in shifting from monoculture agriculture to more sustainable and biodiverse agricultural practices. The economic assistance from the government can come from some sort of fund, made up from taxes that have been imposed on corporations that are emitting too many GHG emissions. Overall, the three communities said that they would continue protecting the forest even without these outside projects or any economic rewards. Economically, they simply stated that it would be helpful if the government provided financial assistance for the beneficial work that they have already been doing.

Bibliography

Agrawal, Arun

2005 **Environmentality: Technologies of Government and the Making of Subjects**. Durham, NC: Duke University Press.

Astuti, Rini and Andrew McGregor

2015 "Governing carbon, transforming forest politics: A case study of Indonesia's REDD+ Task Force", **Asia Pacific Viewpoint** 56(1): 21-36.

Asia Indigenous Peoples Pact (AIPP)

2012 **What is REDD+? A guide for indigenous communities**, 3rd edition. Chiang Mai: AIPP Printing PressCo., Ltd.

Baker, Chris and PasukPhongpaichit

2014 **A History of Thailand**, 3rd edition. Melbourne: Cambridge University Press.

Buch-Hansen, Mogens

2002 "The Territorialisation of Rural Thailand: Between Localism, Nationalism and Globalism", **TijdschriftvoorEconomische en SocialeGeografie** 94(3): 322-334.

Chamberlain, James

n.d. "Vietic Speakers and their Remnants in Khamkeut District (Old Khammouane)", (Online) http://www.academia.edu/13529664/Vietic_Speakers_and_their_Remnants_in_Khamkeut_District_Old_Khammouane (Accessed 2017, Dec. 10).

ChusakWittayapak and Ian G. Baird

2018 "Communal land titling dilemmas in northern Thailand: From community forestry to beneficial yet risky and uncertain options", **Land Use Policy** 71:320-328.

Cohen, Paul T.

1984 "Opium and the Karen: A Study of Indebtedness in Northern Thailand", **Journal of Southeast Asian Studies** 15(1): 150-165.

Davis, Oliver

2010 **Key Contemporary Thinkers: Jacques Rancière**. Cambridge: Polity Press.

Dean, Mitchell

2010 **Governmentality: Power and Rule in Modern Society**. Los Angeles, CA: Sage Publications.

Dean, Mitchell

2015 "Neoliberalism, Governmentality, Ethnography: A Response to Michelle Brady", **Foucault Studies** 20:356-366.

Department of National Parks, Wildlife and Plant Conservation (DNP)

2015 "MuangAng, Chomthong district, Chiang Mai", (Online) http://www2.dnp.go.th/environment/?p=244 (Accessed 2016, Oct. 29).

Dixon, R. and Edward Challies

2015 "Making REDD+ pay: Shifting rationales and tactics of private finance and the governance of avoided deforestation in Indonesia", **Asia Pacific Viewpoint** 56 (1): 6-20.

Forest Partnership Carbon Facility (FCPF)

2015 "Thailand" (Online) https://www.forestcarbonpartnership.org/thailand (Accessed 2016, Oct. 29).

Goldman, Michael

2004 "Eco-governmentality and other transnational practices of a "green" World Bank", in R. Peet and M. Watts (eds.) **Liberation Ecologies: Environment, development, social movements**,2nd edition.(pp. 153-176). London: Routledge.

International Fund for Agricultural Development (IFAD)

2013 **Managing forests, sustaining lives, improving livelihoods of indigenous people and ethnic groups in the Mekong region, Asia**. Publisher Unknown.

Kill, Jutta(et al.)

2010 **Trading Carbon: How it works and why it is controversial**. Bruxelles: FERN.

Lubanski, Jason

2012 "Land is Life: A Policy Advocacy Case Study of the Northern Thailand Land Reform Movement". (Thesis) **SIT Graduate Institute**.

Luke, Timothy

1999 "Environmentality as green governmentality", in E. Darier(ed.) **Discourses of the environment** (pp. 121-151). Oxford: Blackwell.

Malhi, Yadvinder and Toby R. Marthews

2013 "Tropical forests: carbon, climate and biodiversity", in Rosemary Lyster et al. (eds) **Law, Tropical Forests and Carbon: The Case of REDD+** (pp. 26-43). Cambridge: Cambridge University Press.

May, Todd

2010 **Contemporary Political Movements and the Thought of Jacques Rancière: Equality in Action**. Edinburgh: Edinburgh University Press.

Mischung, Roland

2003 "When it is better to sing than to speak: the use of traditional verses (*hta*) in tense social situations", in C. Delang(ed.) **Living at the Edge of Thai Society: The Karen in the highlands of northern Thailand** (pp. 130-149). New York, NY: Routledge Curzon

Mishra, P. Patit

2010 **The History of Thailand**. Santa Barbara, CA: Greenwood.

Mitchell, Timothy

2002 **Rule of Experts: Egypt, Techno-Politics, Modernity**. Berkeley, CA: University of California Press.

Northern Development Foundation (NDF)

2011 **Climate Change, Trees and Livelihood: A Case Study on the Carbon Footprint of a Karen Community in Northern Thailand**. AIPP, IWGIA and NDF (editors/publishers).

Phelps, Jacob, et al.

2010 "Does REDD+ Threaten to Recentralize Forest Governance?". **Science** 328: 312-313.

PinkaewLuanggaramsri

2003 "Constructing marginality: the 'hill tribe' Karen and their shifting locations within Thai state and public perspectives" in C. Delang(ed.) **Living at the Edge of Thai Society: The Karen in the highlands of northern Thailand** (pp. 21-42). New York, NY: RoutledgeCurzon.

Puginier, Oliver

2003 "The Karen in transition from shifting cultivation to permanent farming: testing tools for participatory land use planning at local level", in C. Delang(ed.) **Living at the Edge of Thai Society: The Karen in the highlands of northern Thailand** (pp. 183-209). New York, NY: RoutledgeCurzon.

Rancière, Jacques

1991 **The Ignorant Schoolmaster: Five Lessons in Intellectual Emancipation**. Stanford, CA: Stanford University Press.

Rancière, Jacques

1999 **Dis-agreement: Politics and Philosophy**. Minneapolis, MN: University of Minnesota Press.

Rantala, S. et al.

2015 "Equity in REDD+: Varying logics in Tanzania", **Environmental Policy and Governance** 25: 201-212.

Renard, D. Ronald

2003 "Studying peoples often called Karen", in C. Delang(ed.) **Living at the Edge of Thai Society: The Karen in the highlands of northern Thailand.** (pp. 1-17). New York, NY: RoutledgeCurzon

Robinson, J.Z. Elizabeth et al.

2013 "Implementing REDD through community-based forest management: Lessons from Tanzania", **Natural Resources Forum** 37: 141-152.

Royal Project Foundation

2012 "About" (online) royalprojectthailand.com/about (accessed 15/9/2017).

Samek, Jay H. et al.

2011 "Inpang Carbon Bank in Northeast Thailand: A Community Effort in Carbon Trading from Agroforestry Projects" in B.M Kumar and P.K.R. Nair (eds) **Carbon Sequestration Potential of Agroforestry Systems: Opportunities and Challenges** (pp. 263-280) (Published location unknown).

Stockholm Environmental Institute (SEI) and Greenhouse Gas Management Institute

2011 "Chicago Climate Exchange", (Online) http://www.co2offsetresearch.org/policy/CCX.html (Accessed 2016, Oct. 29).

Steel, Andrew

2010 "Development of REDD model sites in Thailand", Project Report, Issue 01, Form CSP001, Equitech(Thailand) Ltd.

Thai Working Group for Climate Justice et al.

2014 "Thai people's concerns and proposals on Thailand's Readiness Preparation Proposal (R-PP) for REDD+, December 2013 Version", (Online) http://www.thaiclimatejustice.org/knowledge/view/110(Accessed 2017, July. 25).

Tomforde, Maren

2003 "The Global in the Local: Contested Resource-Use Systems of the Karen and Hmong in Northern Thailand", **Journal of Southeast Asian Studies** 34(2): 347-360.

United Nations Development Programme(UNDP)

2007 **Thailand Human Development Report 2007: Sufficiency Economy and Human Development**.

Vandergeest, Peter and Nancy L. Peluso

1995 "Territorialization and state power in Thailand", **Theory and Society** 24(3): 385-426.

Vandergeest, Peter

1996 "Mapping nature: Territorialization of forest rights in Thailand", **Society and Natural Resources** 9:159-175.

Vandergeest, Peter and Nancy L. Peluso

2006 "Empires of Forestry: Professional Forestry and State Power in Southeast Asia, Part 1", **Environment and History** 12:31-64.

YosSantasombat

2003 **Biodiversity: Local Knowledge and Sustainable Development**. Chiang Mai: Regional Center for Social Science and Sustainable Development, Chiang Mai University.

CURRICULUM VITAE

Author's Name	Mr. Alejarndo Alfredo Huete
Date/Year of Birth	30 July, 1987
Place of Birth	Silver Spring, Maryland, USA
Education	2010 Bachelor of Arts, Anthropology, University of Arizona, USA
	2018 Master of Arts, Social Science (Development Studies), Chiang Mai University, Thailand
Experience	High school English teacher, multiple schools, Thailand (2010-2015)
	Training and Supplies Distribution Coordinator, No Mas Muertes/No More Deaths, USA (2006-2010)
	Training and Harvest Distribution coordinator, Iskashitaa Refugee Harvesting Network Volunteer, USA (2006-2008)