2011

Evaluating Community Forestry in Huai Lu Luang, Thailand

Kimberly Beth Roberts
The University of Montana

Let us know how access to this document benefits you.
Follow this and additional works at: https://scholarworks.umt.edu/etd

Recommended Citation
https://scholarworks.umt.edu/etd/390

This Professional Paper is brought to you for free and open access by the Graduate School at ScholarWorks at University of Montana. It has been accepted for inclusion in Graduate Student Theses, Dissertations, & Professional Papers by an authorized administrator of ScholarWorks at University of Montana. For more information, please contact scholarworks@mso.umt.edu.
Evaluating Community Forestry in Huai Lu Luang, Thailand

By

Kimberly Beth Roberts

B.S. Trinity Western University, 2005

Professional Paper

presented in partial fulfillment of the requirements
for the degree of

Master of Science
in Resource Conservation, International Conservation and Development

The University of Montana
Missoula, MT

Spring 2011

Steve Siebert, Chair
Department of Forest Management

Jill Belsky,
Department of Society and Conservation

Laurie Yung,
Department of Society and Conservation
Evaluating Community Forestry in Huai Lu Luang, Thailand
Chairperson: Steve Siebert

Forest tenure and the acquisition of land deeds for forest dwellers in Thailand remain problematic and inconsistent. The Royal Forestry Department (RFD) governs state forests in this politically decentralized country, with the state parliamentary government drafting, sometimes conflicting policies, to resolve conflict with forest dwellers. This study was conducted in the predominantly ethnic Black Lahu village of Huai Lu Luang in the Chiang Rai province. The village resides on RFD land designated as a forest reserve. With the possibility of the enactment of a parliamentary based community forestry bill, establishment of an RFD Mae Kok River Basin National Park, or the procurement of a chanod chumcon (community land deed), Huai Lu Luang’s current de facto land use rights are tenuous.

This research incorporated Elinor Ostrom’s (2002) framework of resource and resource user attributes for successful self-governance of common pool resource management, as a means of evaluating the feasibility of community-based management of Huai Lu Luang’s community forest. Methods included participant observations, survey interviews, and key informant interviews from September to October 2010. The 32 survey interviews were selected through non-probability sampling to include an equal number of male and female interviewees in three age categories of 18-34, 35-50, and 50+, with two additional interviewees to represent the Akha and Yellow Lahu minorities in the village.

Research results indicate that Huai Lu Luang complies strongly to very strongly with 73% of Ostrom’s attributes and moderately with 27%. Resource attributes indicate that Huai Lu Luang’s community forest has the capacity for feasible improvement, the predictable flow of resource units, and a manageable spatial extent. Huai Lu Luang appropriators exhibit governance capabilities, a high dependency on community forest resources, and a significant sense of village trust and unity. The community forest design is also appropriate to the local conditions time, space, ecology, and technology. This research indicates that Huai Lu Luang village is capable of successfully self-governing their community forest on a sustainable basis, suggesting that Huai Lu Luang is a strong candidate for a chanod chumchom.
Preface................................................................................................................................ iv
Terms ..................................................................................................................................... v
   Acronyms ........................................................................................................................ v
   Definitions .................................................................................................................. vi
Chapter 1: Introduction ....................................................................................................... 1
   Study Objectives ............................................................................................................. 3
Chapter 2: Literature Review .............................................................................................. 5
   Community Forestry ....................................................................................................... 5
   Thailand’s Forestry History .......................................................................................... 15
   Racialization and Marginalization of hill tribes ............................................................ 20
   Deforestation and Conservation attempts in Thailand .................................................. 23
Chapter 3: Methods ........................................................................................................... 30
   Study Site ...................................................................................................................... 30
   Methodology: ................................................................................................................ 34
   Data Collection .............................................................................................................. 35
   Data Analysis ................................................................................................................ 37
Chapter 4: Results and Discussion .................................................................................... 38
   Resource Attributes ................................................................................................... 48
   Attributes of Resource Users .................................................................................... 55
   Design Principles ....................................................................................................... 68
   Discussion ..................................................................................................................... 79
Chapter 5: Conclusions ..................................................................................................... 82
References ......................................................................................................................... 89
Appendix A: Break Down of Interviews ........................................................................... 94
Appendix B: Interview Questions Per Ostrom Category ................................................ 99
Preface

Jamlong Pawkham (Ajan Jamlong) aptly described the situation of Huai Lu Luang as “Yung Mak,” meaning very entangled. Nothing could describe the situation more perfectly. Huai Lu Luang was selected as my study site because of my prior work experience with the village, Upland Holistic Development Project’s (UHDP) long involvement in the village, and because the village does not have many remittent workers. Prior to the interviews for this paper, my previous work at UHDP had already acquainted me with the predicament of Huai Lu Luang’s community forest and its many layers. As a volunteer for UHDP from January to June 2007, I worked on counter mapping efforts for the community forests of villages in Mae Yao sub-district, including Huai Lu Luang. This included an overnight visit in April 2007 with UHDP co-director Bunsak Thongdi (Ajan Tui), hiking the boundaries of their community forest with the community forest committee, and recording GPS waypoints. Later, in May 2007, I conducted GPS use trainings for members of Huai Lu Luang’s community forest committee, as well as for neighboring communities. In the subsequent year, 2008, I became the go-between person for my sponsoring American NGO, Plant With Purpose, using interviews with UHDP staff members and visits to all eight villages in Mae Yao sub-district to keep Plant with Purpose abreast of the political situation in Mae Yao sub-district as it related to the livelihoods and community forests of eight partner villages in this sub-district.
Ajan Jamlong and Ajan Tui, the co-directors of UHDP, helped me to design this project while I was still in Thailand in 2008/2009. Foreseeing that the ongoing conflict between the villages in Mae-Yao and the Royal Forestry Department wouldn’t abate within the next year, we decided that this project should include practical solutions for the communities in question and aid the work of UHDP and other local NGOs working with similar situations. Therefore, although sections of this paper write like a traditional thesis, other sections were designed with the specific output for UHDP or Huai Lu Luang.

Terms

Acronyms

RFD: Royal Forestry Department
UDHP: Upland Holistic Development Project
MMF: Mekong Minority Foundation
NTFPs: Non-timber forest products
NGO: Non-government organization
RECOFTC: The Center for Peoples and Resources
FAO: Food and Agriculture Organization
CODI: Community Organizations Development Institute
UDD: United Front of Democracy against Dictatorship
PAD: People’s Alliance for Democracy
PPP: People’s Power Party
Definitions
Due to the interdisciplinary nature of this topic and precision that is needed when discussing the topics of community forestry, forest rights, and tenure, this list of definitions is supplied for clarity and consistency of meaning.


Use: The right to obtain resources and remove them from the forest. (Larson et al, 2010, p. 12).


Exclusion: The right to decide who can and cannot use the resource (Larson et al, 2010, p. 12).

Alienation: The sale of lease of the land, which also includes the sale of other tenure rights (Larson et al, 2010, p. 12).

De facto rights: Patterns of interaction established outside the formalities of law. They can include customary rights (Larson et al, 2010, p. 12-13).

Customary rights: A set of community rules and regulations inherited from ancestors of which the community accepts, reinterprets, and enforces them. They may or may not be recognized by the state (Larson et al, 2010, p. 12-13).

Forest Tenure Reform: “A change of one or more rights regarding forest resource and forest land management (Bruce, 1998 as sited in Larson et al, 2010). This usually
involves granting rights to people already living in or near forests and using forest resources.” (Larson et al, 2010, p. 13)

Tenure security: “The degree to which an individual or groups believes its relationship to land or other resources is safe, rather than in jeopardy (Poffenberger, 1990 as sited in Larson et al, 2010, p. 13).”

Community Forestry: “Understood broadly as a common property resource management approach with characteristics and institutional innovations devised by local people (Chapagain et al, 1999 as sited in Larson et al, 2010) to organize and exercise their rights for the use and management of a forest area for the supply of forest products” and can include those projects promoted by the state or donors. (Larson et al, 2010, p. 13)

Chanod Tidin: Land ownership through a title deed, giving unrestricted ownership rights, but can be issued only after a cadastral survey (Thai Government.)

Chanod Chumchon: A communal title deed, similar to a chanod tidin, in giving land ownership through a title deed. A chanod chumchon, however, gives unrestricted ownership rights to a pre-defined community, preventing usage or sale to non-community members.

Ampoe: District level government composed of at least two tamboon. The District Chief Office is appointed by the Department of Provincial Administration and Ministry of the Interior. (Thai Government)

Tamboon: Sub-district level government. The sub-district headman is elected directly by villagers of that sub-district and works under the supervision of the District chief officers, with a five year term. (Thai Government)
*Indigenous peoples:* A non-dominant group of people with a shared history, language, and culture residing in a common geographic area. Non-state people not participating in an industrial mode of production and are thus vulnerable in relation to modernization and the state (Eriksen, 1993 as cited in McCaskill and Kampe, 1997, p. 3).

*Hill tribe:* In Thailand the term used to describe *indigenous peoples* more commonly residing in upland areas (McCaskill and Kampe, 1997, p. 4).
Chapter 1: Introduction

Few resources generate conflict as quickly or contentiously as access rights to forests. The forest dwellers in the nascent national forest systems of developing countries inspire conflicts regarding access to resources, usufruct rights, and customary rights. These conflicts often draw international and local NGOs, government officials, development practitioners, and conservationists into the debate (Hares, 2009, p. 381). The proposed reforms that result from these debates are then heavily influenced by local claims for tenure rights recognition, global concerns for conservation, and the promotion of democratic decentralization (Larson, et al, 2010, p.14). Additionally, involving *de facto* and customarily used, but unofficial, common property resources such as community forests, further complicates this scenario.

Community forestry is a form of common pool resource management, including institutional elements devised by local people to implement their perceived right for the use and management of a forest area for the supply of various forest products (Larson, et al, 2010, p. 13). In practice it draws on larger complications of defining both community and forestry. The heterogeneous nature of communities combined with the divergent definitions of forestry adds layers to an already broad topic. Ostrom, et al (1994) explains that the finite quantities of resource units created by common-pool resources means than one person’s use of that resource subtracts from the amount of resource unites available to others.

Rapid deforestation in Thailand in the 60s and 70s encouraged NGOs, academics, and local organizations to pursue community forestry. Buergin (2000) states that at the
end of the 1980s, these groups began to argue for local control of local resources through community forests as an alternative forest conservation strategy of the RFD (p. 11). This strategy uses community forestry as a political tool to demonstrate a community’s capacity to govern the forests. Currently there is no official state recognition of community forests, however, unofficial establishment by villages of community forests across northern Thailand is increasing, with studies suggesting an increase in community forests from just 153 in 1993 to 733 in 2000, and over 90 grassroots, region-based community forest networks established in northern Thailand (Johnson & Forsyth, 2002, p. 19). Unlike community forestry elsewhere, villages define these community forests, not user groups.

This study will look specifically at Huai Lu Luang village in the northern Thai province of Chiang Rai where villagers seek recognized forest tenure to the forested land they have *de facto use* rights as a community forest. The ever changing Thai political scene encourages village unity, while the many faces of the Thai government forces them to continually adapt their strategy and attempts at securing any form of forest tenure reform and land tenure certificate. For Huai Lu Luang, in 1977, this meant establishing a community forest and community forest committee and in 1995 setting aside over 5,000 rai of forested land for the Thai King, His Majesty Bhumibol Adulyadej, all in demonstration of their forestry stewardship. In 2007, Huai Lu Luang confirmed the boundaries of their community forest through the creation of maps, in hopes that Parliament would pass a favorable community forest bill. In 2008 they began creating detailed land use maps, and most recently they are preparing to submit a proposal to be a pilot project site for a current Parliament experiment. If the pilot projects work, then the
Thai Government at all levels will allow communities, like Huai Lu Luang, to apply for a *Chanod chumchon* (Community Land Deed), granting the community, rather than individuals, the highest level of land security Thailand has to offer. Under a *chanod chumchon* the community would have ownership of the land, including paddy fields, upland fields, and a community forest. Although restricted from selling land to outsiders, the community would have ownership and management control.

Challenges arise, however, from the decentralized government with conflicting departmental interests. The agricultural department has a policy of trying to work with communities, while the RFD places forest conservation above the needs of communities. Furthermore, neither department has authority over the other, creating an entangled situation for the villagers to navigate. The village in question lies within a national forest reserve that was designated after the establishment of the village. While waiting for the establishment of a national park, the RFD has recognized Huai Lu Luang’s *de facto* rights by determining the boundaries of the paddy fields and upland fields and through recommending guidelines over community forest management. These rights are functional, but informal, as officially the entire village is illegally located on government property.

**Study Objectives**

This study looks at the two different themes of forest tenure reform and common pool resource management. It will incorporate a critical, context bound, site-specific evaluation of Huai Lu Luang’s efforts to gain formal forest tenure for their community forest. As outputs, I seek to generate future action guidelines as informed through Elinor Ostrom’s framework of resource and resource user attributes for successful self-
governance of common pool resource management. It is my hope that this information can empower and inform UHDP and Huai Lu Luang’s Community Forest Committee as they prepare a Chanod chumchon proposal. These interwoven threads highlight Huai Lu Luang’s hope of formalizing their current de facto rights and common pool resource management practices.

This paper will be sent to the following organizations: Plant With Purpose, Ecological Concerns for Hunger Organization (ECHO) Asia, International Sustainable Development Studies Institute (ISDSI), Mekong Minority Foundation, and UHDP. Each of these organizations has a collaborative relationship with one another, a working relationship with Huai Lu Luang, and have requested the information. In addition, with help from ECHO Asia, this paper will be translated into Thai for the purposes of UHDPs and ECHOs working research libraries. Moreover separate summaries of village history and research conclusions will be written in English, translated into Thai and then Lahu for the direct use of UHDP and Huai Lu Luang village in their efforts to obtain a Chanod chumchon.

Research Questions:

1. To understand the context and rational that influences Huai Lu Luang’s desire for community-based forest management.

2. To evaluate the extent to which the resource and resource users in Huai Lu Luang compare to the criteria identified by Ostrom’s (2002) framework as critically important for common pool resource management.
Chapter 2: Literature Review

Community Forestry

Community forestry represents a form of common-pool resource management. Hardin, in 1968 presented the case of the tragedy of the commons, suggesting that common access resources were prone to overexploitation, such as the collapse of the fisheries in Newfoundland (Dietz, et al 2003). Research has since disagreed with the simplicity of Hardin’s argument. The tragedy of the commons is not of the commons, but instead of open access resources that lack regulation. An open access resource can include a geographic space with unclaimed ownership or a space that has ungoverned ownership, as is sometimes the case with state, corporate, or private owned land. Common pool resources, conversely, include the element of governance. Chhatre and Argawal (2008) define the common pool resource of forest commons as “forests used in common by a large number of heterogeneous users” (p.13286). These forests have the characteristics of defined resources boundaries, user group identity, and property rights for resource benefits. The users also have “a stake in good governance of forest commons and central governments formally or informally recognize local interests in and claims to the resource” (p. 13286).

The Center for People and Forests (RECOFTC) defines community forestry as The governance and management of forest resources by communities, in collaboration with other stakeholders, for commercial purposes, subsistence, timber production, non-timber forest products, wildlife, conservation of biodiversity and environment, and for social and religious
reasons. The arrangements for community forestry in the countries participating in the CF Forum vary in terms of the specific rights and responsibilities of communities and government, the types of rights held by a community over a forest area and the types of forests covered, potentially ranging from degraded to high value forests. (2001, http://www.recoftc.org/site/What-is-Community-Forestry-)

In Thailand, variations of community forestry have a long history. The first king of Chiang Mai in the late 13th century AD, King Mangrai, alluded to the concept in a law. At this time, it was known as a sacred forest, usually found in upper watersheds, where some communities believed in the spirit of the watershed. In the last 30 years, competition for forest products between villages and with businessmen and a nation-wide logging ban has caused a resurgence of community forestry efforts in Thailand. (Li 2002, Ganjanap 1998, p. 78, Walker 2003). These community forests are often partitioned into sacred forest (pa phi), watershed forest (pa ton nam), and the communal woodland (pa chai soi) sections. The sacred forest is reserved for ceremonial purposes as a shrine for guardian spirits, a cremation ground, or a pagoda. These indigenous systems can be based on the internal initiative within a local community or prompted by external agencies (Ganjanp, 1998, p. 78).

The key to these community forests is management. Without regulation a common-pool resource, such as a forest, can be overused or overharvested, creating a loss in the flow of resources available (Ostrom, 2002, p. 3). Research suggests that given the appropriate institutional design and enforcement, community-based natural resource management, such as community forestry, has the capacity for sustainable resource
management (Chhatre and Agrawal, 2009; Dietz et al., 2003). Dietz et al., (2003) states, “systematic multi-disciplinary research has, however, shown that a wide diversity of adaptive governance systems have been effective stewards of many resources” (p. 1910). By managing the flow of access to and use of a common-pool resource, multiple appropriators can benefit from the consumption or exchange of the resources without negative externalities or harming the access and use rights of permitted users (Ostrom, 2002, p. 2). Common-pool resource management has benefits that extend beyond the appropriators and affect the resource. Management of a forest commons has the potential to improve or retain forest cover, (Nagendra et al., 2008), allow the forest to endure sustainable over an extended period of time, and facilitate forest re-growth (Nagendra, 2007). Agrawal (2009) concludes in a study of forest commons in South Asia, “indeed, the future of biodiversity conservation may well depend upon the ability to experiment successfully with a range of institutional forms, including those that permit human use (p. 2918)

Ostrom, writes in a 2002 article, “Reformulating the Commons,” a list of attributes for the resource, resource user, and governance design that are conducive to self-governance of a common-pool resource (2002, pp. 5-11). The weight of her work as a Nobel laureate and respected scholar on the management of common pool resource is the basis for using her list of characteristics (listed below) to inform this research. The term appropriators is used to refer to the individuals who access or use resources from the community forest.
Attributes of the Resource

“R1. Feasible Improvement: Resource conditions are not at a point of deterioration such that it is useless to organize or so underutilized that little advantage results from organizing” (Ostrom, 2002, p 5)

It is a question of extremes. If resource units are in abundance, then there is little reason for appropriators to spend the time and money organizing to manage the resource. Conversely, a severely decimated resource might incur such high costs that organizing would not generate sufficient enough benefits (Deitz et al, 2003; Ostrom 2002, p. 7).

“R2: Indicators: Reliable and valid indicators of the condition of the resource system are frequently available at a relatively low cost” (Ostrom, 2002, p. 5)

Environmental governance relies on solid, trustworthy information about flows, processes and human interactions within a governed resource systems (Dietz, et al. 2003, p. 1908). The presence of these indicators affects the ability of appropriators to adapt quickly to changes that could negatively impact their long-term benefits (Ostrom, 2002, p. 7;).

“R3: Predictability: The flow of resource units is relatively predictable” (Ostrom, 2002, p.5).

An unpredictable, erratic resource flow makes it difficult for appropriators to ascertain whether changes in a resource flow are due to overharvesting or to exogenous variables. Predictable resource flows are easier to understand and manage (Ostrom, 2002, p. 7; Dietz, et al, 2003).
“**R4:** Spatial Extent: The resource system is sufficiently small, given the transportation and communication technology in use, that appropriators can develop accurate knowledge of external boundaries and internal microenvironments.” (Ostrom, 2002, p. 5)

Resource size affects the cost of defining the boundaries and of monitoring the resource over time. To large a resource, within confines of technology, could be too costly and difficult to manage. (Ostrom, 2002, p. 7; Dietz, et al., 2003).

**Attributes of the Appropriators:**

“**A1: Salience:** Appropriators are dependant on the resource system for a major portion of their livelihood.” (Ostrom, 2002, p. 5).

Without sufficient appropriator dependency on the resource, the high costs of organizing and maintaining a self-governing system of management might not outweigh the benefits received from the resource (Ostrom, 2002, p 7).

“**A2: Common Understanding:** Appropriators have a shared image of how the resource system operates (attributes R1,2,3 and 4 above) and how their actions affect each other and the resource system.” (Ostrom, 2002, p. 5).

Effectively managing a resource depends on a common understanding of the operations of that resource. If the appropriators have conflicting understandings of a resource it will be difficult to agree on future strategies for managing that resource and the willingness of appropriators to agree in a reduction of their use patterns in view of the common good (Ostrom, 2002, p. 8).
“A3: Low Discount Rate: Appropriators use a sufficiently low discount rate in relation to future benefits to be achieved from the resource”  
(Ostrom, 2002, p. 5).

Appropriators with other viable and attractive options outside of the self-governed resource, discount the importance of future benefits from that self-governed resource, with the assumption that there will always be other resources available to them (Ostrom, 2002, p. 8).

“A4: Trust and Reciprocity: Appropriators trust one another to keep promises and relate to one another with reciprocity.” (Ostrom, 2002, p. 5).  
Trust and reciprocity amongst appropriators results in lower expected costs in the monitoring and sanctioning of one another over time (Ostrom, 2002, p. 8).

“A5: Autonomy: Appropriators are able to determine access and harvesting rules without external authorities countermanding them.”  
(Ostrom, 2002, p. 5).

Groups with autonomy tend toward lower costs of organizing, as they are less likely to see divergent individuals turning toward higher-level officials to countermand the efforts of the appropriators. Also, autonomy over governance rules leads to lower costs in defending those rules against other authorities (Ostrom, 2002, p. 8).

“A6: Prior Organizational Experience and local leadership: Appropriators have learned at least minimal skills of organization and leadership through
participation in other local associations or learning about ways that neighboring groups have organized.” (Ostrom, 2002, p. 5).

Prior organizational experience enhances the toolbox of rules and strategies appropriators can draw on to achieve various forms of regulation. Also, rules and regulations that are base on current modes of operation are more likely to be agreed upon (Ostrom, 2002, p. 8).

**Design Principles Illustrated by Long-Enduring Common-Pool Resource Institutions:**

“1. Clearly Defined Boundaries: Individuals or households with rights to withdraw resource units from the common-pool resource and the boundaries of the common-pool resource itself are clearly defined.”

(Ostrom, 2002, p. 11).

If appropriators do not understand boundaries of the resource, the chance of unintentional rule breaking increases.

“2. Congruence: a) The distribution of benefits from appropriation rules is roughly proportionate to the cost imposed by provision rules. b) Appropriation rules restricting time, place, technology and/or quantity of resource units are related to local conditions.” (Ostrom, 2002, p. 11).

This design principle encompasses two components. First, the rules need to be considered fair and legitimate by the participants, which often indicates a proportionate relationship between the benefits and costs of regulations. Secondly, the rules need to be
relevant and appropriate to local conditions, such as the soils, slope, or climate (Ostrom, 2002, p. 11).

“3. Collective–Choice Arrangements: Most individuals affected by the operational rules can participate in modifying operational rules” (Ostrom, 2002, p. 11).

If appropriators are not involved in the decision making process, their understanding of the benefits and costs of their system is not taken into account, and if they are prevented from making proposals for change, they may perceive the costs of adhering to the current governance system as higher than the benefits received from it and they might begin to cheat. In this situation, enforcement costs become high or the system altogether fails (Ostrom, 2002, p. 12).

“4. Monitoring. Monitors, who actively audit common-pool resource conditions and appropriator behavior, are accountable to the appropriators and/or are the appropriators themselves.” (Ostrom, 2002, p. 11).

Even when the level of agreement of the design of a system is high, conditions may tempt some individuals to cheat. If one person cheats, while others conform, that individual benefits substantially against others, and adversely affects the survivability of that system (Ostrom, 2002, p. 12).

“5. Graduated Sanctions: Appropriators who violate operational rules are likely to receive graduated sanctions (depending on the seriousness and
context of the offense) from other appropriators, from officials accountable to these appropriators, or from both.” (Ostrom, 2002, p. 11).

Graduated sanctions allow for first time offenses to be minor, while appropriators who continue to cheat receive higher sanctions. This tells appropriators that cheating gets noticed and are enforced, and causes rule breaking to become an unattractive option for the individual breaking the rules (Ostrom, 2002, p. 12).

“6. Conflict-Resolution Mechanisms. Appropriators and their officials have rapid access to low-cost, local arenas to resolve conflict among appropriators or between appropriators and officials.” (Ostrom, 2002, p. 11).

In the field, the rules drafted to manage the system might not always seem clear. If these disagreements are not resolved in a low-cost and orderly manner than appropriators may no longer wish to conform to the rules (Ostrom, 2002, p. 12).

“7. Minimal Recognition of Rights to Organize. The rights of appropriators to devise their own institutions are not challenged by external governmental authorities” (Ostrom, 2002, p. 11).

When the self-governing rights of a group are recognized nationally, regionally, and locally by governments, this places greater legitimacy on the rules crafted by those appropriators and they are less likely to be challenge in courts, administrative, or legislative settings (Ostrom, 2002, p. 12).
All of the factors listed above impact the effectiveness of a community’s resilience. Community resilience refers to the capacity of a community to adapt to changing economic, demographic, land use, worldview, educational and climatic conditions (Belsky, personal communication, 3/23/10). This adaptability relies on concepts of bolstering various levels of capital within a community, including intellectual, social, human, natural, built, and financial capital (Ratner and Moser, 2009). In each of these, the level of equity of participation within a community and the degree and form that devolution takes, impacts their level of adaptability. Dietz et al., (2003) states,

Institutions must be designed to allow for adaptation because some current understanding is likely to be wrong, the required scale of organization can shift, and biophysical and social systems change. Fixed rules are likely to fail because they place too much confidence in the current state of knowledge, whereas systems that guard against the low probability, high con-sequence possibilities and allow for change may be suboptimal in the short run but prove wiser in the long run. This is a principal lesson of adaptive management research. (p. 1910)

Additionally, if only one ethnic group, social class, or gender within a community participates in governance of the community forest, that may negatively impact: 1) social capital, particularly regarding the degree of trust and strength of relationships and networks; 2) human capital, especially regarding the utilization of skills and labor among all members of a community; and 3) intellectual capital, including accessing all available knowledge and innovation (Ratner and Moser, 2009).
Thailand’s Forestry History

To better understand the context of Huai Lu Luang community forest, it’s important to understand the governance history of forests in Thailand. Unlike its Southeast Asian neighbors, Thailand remained free from official colonization. Thailand avoided the wave of colonization through their quick adoption of western-style property systems and their role as a buffer between the colonial giants of Britain and France (Sato, 2000, p. 159). Notwithstanding, the colonial powers still exerted great influence in Thailand and shaped its history. The 1855 Bowring Treaty with the British, for instance, opened Thailand up to the global market economy, with rice exports to western Europe and China and teak to the Europeans to use for ships (p. 159). During the late nineteenth century the expanding teak industry in the north of Thailand began some large-scale conservation of trees. Prior to these efforts, logging of teak had been conducted largely by feudal chiefs in Laos and operated by Burmese and Chinese merchants. However, as teak became a profitable industry, companies began to demand that the central government take control of the situation and impose restrictions on timber extraction to ensure the long-term prosperity of the industry. This unity of interest between the Thai government and Western timber companies catalyzed the first efforts to address questions of forest lease and ownership, royalty collection, conversion and conservation of forested lands in Thailand (pp. 159-160). Established in 1896, the Royal Forestry Department (RFD) was made responsible for all lands neither cultivated nor claimed by any other person or state authority (Buergin, 2000, p. 9). The need to define land and ownership forced the government to launch a cadastral survey to prepare for their adoption of western-style property systems, basing land ownership on individual
holdings. The first survey began in 1901 and became the basis for tax collection in cash (Sato, 2000, p. 159). During this time, almost 75% of the total land area fell into the purview of the RFD (Buergin, 2000, p. 9).

Throughout the first half of the 20th century, the RFD mainly concerned themselves with the allocation and control of concessions for teak extractions. Buergin (2000) states “territorial control of the vast areas under the administration of the RFD was neither interesting nor feasible” (p. 9). In 1913, the RFD extended its protection to cover non-teak trees with the Forest Protection Act and later in 1938 the RFD introduced their first territorial conservation policies, securing forest reserves for future logging operations (Sato, 2000, p. 161). Land ownership and forests became further delineated in 1941, with the Forest Act, defining forests as ‘all land that does not belong to any individual based on the land law’ (p. 160).

Post world II Thailand rapidly expanded the RFD and integrated the forestry goals and practices of the UN Food and Agriculture Organization. This included an even more intensive extraction of their teak Forests and resulting in the doubling of the size of the RFD in the late 1940s (Vanderveest & Peluso, 2006, p. 377). When the Thai government increased their involvement in forest management, traditional upland swidden agricultural practices came under scrutiny. The 1952 FAO Progress Report on Thailand indicates that the FAO believed that local populations farming in the uplands, mostly indigenous hill tribes, were not qualified to manage forests on a sustained yield basis. Thus, they followed the increasingly global trend – in the name of so called better forestry - to encouraged segregation between people and forests (pp. 377-379).
“Sustained yield” forest management and global markets also began to conflict with one another. Global markets prompted the expansion of rice and cash crop cultivation, pushing agriculture into the forest frontier, while international environmental movements prompted the creation of protected areas and the scientific regulation of forests (Sato, 2000, p. 162). Although forest reservation began just after World War II, the majority of the forest reserves were not designated until the 1960s and 1970s (Vandergeest, 2003, p. 25). In the 1980s the RFD reacted with new zoning policies when the failure of the demarcation policies of the 1960s and 70s became obvious. The areas designated as forest reserves were now zoned based on different functions related to different objectives and restrictions (Buergin, 2000, p. 10). Within this context, these protected areas, including National Parks, Wildlife Sanctuaries, and Watershed Protection Forest (Wittayapak, 2008, p. 122) were supposed to comprise more than a quarter of the total land area “in which human settlement and forest use is to be prohibited and resettlement enforced as far as possible” (Buergin, 2000, p. 10).

Decentralization

Decentralization in Thailand results in conflicting approaches from government agencies and the mostly unrealized threat of eviction for the forest dwelling communities. The recent decentralization of governmental authority in Thailand creates the possibility of de facto rights for forest dwellers within forest reserves. The Tamboon Administration Act of 1992, sought to delegate more jurisdiction to sub-district and district level administrations. As a result of this act, in general, governance in Thailand is divided between central, provincial, district, sub-district, and village level administrations. The Ministries and Departments fall under the jurisdiction of the central government, with its
elected officials and appointed ministry positions. The central government also appoints provincial and district level officials. A district, however, is composed of at least two sub-districts (tamboon) whose officials are locally elected for five year terms and operated under the supervision of the district chief officers. At the smallest level, or village (mooban) level, a village headman is elected for a five year term. Both the sub-district and village headman positions are considered government officers and get a monthly remuneration from the central government (Government of Thailand, pp. 1-15). Unofficially, satellite villages exist beneath the village level, with their own elected headman. These headmen, however, are not officially recognized by the Thai government.

The 1997 constitution states that local people and organizations should have a role in managing their natural resources (Prangtong, 1999). Within the “National Plan of Decentralization Process” of 2000, the goals of decentralization were to provide a wider margin of powers to local authorities for policy decision-making and their administration, especially in terms of personnel and finance. The national plan seeks to ensure that local decision making will be done with a minimum degree of control by the central government, allowing the central government to shift its role from directly providing services to a more regulatory and supporting agency. This is all with the intent to improve the effectiveness of local administration with emphasis on transparency, efficiency and public involvement in decision making and critiquing governmental performance. (Government of Thailand, p. 6)

To further complicate things, central state level politics is rife with its own power struggles. From 1947-1992 the country vacillated between military governance, coups,
and popular protests. After several years of democracy another military coup led by the People’s Alliance for Democracy (PAD) against the Thai Rak Thai party and its Prime Minister Thaksin Shinawarta (Thailand Country Profile) occurred in 2006. The military junta drafted a new constitution and held general elections in 2007. The return to civilian rule, however, has not been simple. The Thaksin Thai Rak Thai party was dismantled, but the United Front of Democracy against Dictatorship (UDD) party arose in support of Thaksin and against the PAD and the People’s Power Party (PPP). Subsequently, since 2008 protests have erupted between the yellow-shirts (PAD and PPP) and the red-shirts (UDD), resulting in violence, the disruption of the 2009 4th East Asian Summit and even closures of government buildings and the Suvarnabhumi International Airport. Since May 2010 there have been any more large scale protests, but Prime Minster Abhisit Vejjajiva’s hold on power remains tenuous (Timeline Thailand).

The Horizontal Powers of Decentralization: NGOs, University, Religious Institutions

In addition to the government’s decentralization policies, an unofficial layer of power also exists in Thailand. This layer consists of international, national, and local NGOs, academics, and networks. International environmental organizations placed pressure on the Thai government in the late 1980s to conserve their forests (Sato, 2000, p. 162), while international development organizations have taken up the cause of the marginalized hill tribe communities. National and local level NGOs often work together with the sub-district level government, as is the case with Huai Lu Luang’s Mae Yao sub-district. In some instances, as what happened with the village of Pang Daeng Nawk, NGOs collaborate to ensure some level of social justice. Phongpaichit, (2000) argues that NGOs have advantages over government officials, such as more readily gaining
people’s trust due to their knowledge of the local situations and culture. He further states that developing country governments tend to cooperate with NGOs to achieve development objectives or their working targets.

**Racialization and Marginalization of hill tribes**

Upland Holistic Development Project (UHDP) was founded in 1997 as a non-government organization registered with the Department of Social Welfare in Thailand. At first, UHDP worked primarily with agriculture and the Palaung ethnic people in Thailand. However, since 2006 they have been working with the Lahu (the main ethnicity of Huai Lu Lunag), Ahka, Kachin, and Karen groups as well. A report in 1996 indicated that the total population of the major groups of hill tribes in Thailand was about 790,369, which is about 1.3% of the total national population, with Karen at 402,095, Lahu at 78,842, and Akha at 48,468 (Kumbunratana, 1996). Palaung people total about 15,000 within Thailand. The hill tribe groups in Thailand vary in origin, but the five ethnic groups UHDP works with all have roots in Myanmar. The three groups in the Mae Yao sub-district include Lahu, Akha, and Karen (Burma notes, personal communication, 2009) and the eight villages in Chiang Rai province established themselves in their current locations before the lands were designated reserve forests (personal communication, 2009).

The racialization and marginalization of ‘hill tribes’ raises concerns for the human rights NGOs and places a challenge to the upland communities and their official recognition of rights. According to Buergin (2000), “the term 'hill tribes' came into use in the 1950s as a generic name for the various non-Tai groups living in the uplands of northern and western Thailand (p. 6). Very soon, the term 'hill tribes' was identified with
the negative stereotype of forest destroying, opium cultivating, dangerous alien
troublemakers.” These local communities represent a range of ethnicities from Thai to
Shan to the multitude of “hill tribe” groups in Thailand. Their political status is low, they
have no seats in parliament or other high levels of government and they have very little
representation at the lower levels of government (McCaskill and Kempe, 1997, p. 23).

The stereotyping of ‘hill tribe’ communities has created a strong hierarchy of rank
within the country. Wittayapak (2008), states that in Thailand “civilization and
modernity can be depicted from the lowest to the highest end of the spectrum as Chao
Khao (hill tribes), Chao Bannok (villagers or peasants), Chao Krung (city people), and
the Farang (Westerners). In terms of space, the order ranges from mountain forest, rural
areas, Bangkok, and the West respectively” (p. 114). Vandergeest (2003) takes this
concept a step further by arguing that reserve forests, land titles, community forests,
protected areas, swidden fields, and traditional territories are socially produced spaces,
impacting racialization and the naturalization of nonTai ethnic groups (p. 23).

‘Hill tribe’ communities are viewed as uncivilized in their forest dwelling
communities and policies and Thai government officials and Thai media have a tendency
to scapegoat them for the nation’s problems. Consequently, deforestation in Thailand is
frequently blamed on ‘hill tribe’ communities. The Thai government defines the “hill
tribe problem” as a series of political, social, and ecological threats that are responsible
further expands on this point by explaining that, “a focus on racialization directs our
attention to the stereotypical extremes in which hill tribes are often portrayed in
government forums and popular media. Government officials portray them in terms of the problems they pose – deforestation, opium cultivation, and security” (p.27).

Notwithstanding, the discourse portrayed does not always reflect the understood reality: official statements frequently refer to the destructive activities of local villagers, but the persistent absence of empirical data on villagers' actual forest use suggests that the state may not perceive villagers as serious threats at all, but uses them to deflect public attention away from corruption, large-scale infrastructure development, and illegal logging by public officials themselves (Sato, 2000, pp. 164-165).

Regardless of the differences between the perceptions and the discourse, the reality is that this dialogue further marginalizes ethnic, upland ‘hill tribe’ communities.

Upland ‘hill tribe’ communities have undertaken to secure more land use rights through community forestry and by aligning their unofficially recognized community forests with the policies of the pending community forestry bill currently in Parliament. Around the time of the logging ban, rapid deforestation catalyzed NGOs, academics, and local organization to explore community forestry. At the end of the 1980s these groups began to argue for the local control of local resources through community forests as an alternative to the forest conservation strategy of the RFD (Buergin, 2000, p. 11). All unclaimed land legally became state property and increasingly incorporated into national parks and wildlife sanctuaries due to the lack of legal recourse available to forest dwellers and the ambiguity of property relations (Sato, 2000, p. 161).
Deforestation and Conservation attempts in Thailand

Between 1961 and 2005 forest cover in Thailand decreased from 53.3% to 28.4% (World Bank, 2007). Wittayapak (2008) notes that, “Thailand has had one of the highest rates of forest decline in Southeast Asia and the Thai government is pressured to retain the remaining forests of the kingdom” (p. 122). Encouraged by the FAO, the National Forest Policy strives to maintain the countries forest cover at 40%, with 25% designated as protected forest and 15% as economic forest. However, growing public concern over the rapidly dwindling forest resources pushed the Thai government to implement a nation wide logging ban in 1989 (Vandergeest & Peluso, 2006, pp. 377-379; Johnson & Forsyth, 2002, pp. 10-11). This shift in forestry policy from management primarily for timber production and harvest to conservation relied on stringent separation of people from forests and has resulted in a mismatch between official land classification and actual land use (Walker, 2003, p. 2). This disparity conflicts with the traditional swidden agriculture and non-timber forest product harvesting practices of the roughly six million hill tribe peoples of Southeast Asia who live within the boundaries of protected areas. Despite the ban, illegal logging continues. Forests are converted for mining, plantation development, local agriculture and impacted by population growth and poor land use practices (Bandenoch 2006).

The logging ban, the growing area of land designated as reserve forest, and legal discrepancies over land tenure have increased the number of conflict between people and forest (Hares, 2009, p. 382). In Thailand, the management of forests and property rights rests on a historical mix of traditional and legal ownership systems. Prior to 1900, the King owned all the land in Thailand, providing grants to nobles and officials.
However, beginning in 1901 and further established through the 1954 land law, he passed laws that allowed formal land titles to be acquired. The cadastral surveys mentioned previously opened up the possibility for land ownership through a title deed (*chanod tidin*) that granted unrestricted ownership rights. Prior to a *chanod tidin*, levels of resource use include a temporary occupancy permit (*bai chong*), an exploitation testimonial (*nor sor*) after 75% of the land has been cultivated, and a special occupancy permit (*sor Kor*) unless the land is a permanent reserved forest for settlers on the land, like many of the upland hill tribes. However, much of the land in Thailand is still under state ownership and accessible to local communities via de facto rights (Sato, 2000, p. 162). Therefore, for communities established within National Reserve Forests, nationally unofficial, but locally recognized de facto rights can exist (ICEM 2003).

In 1991, an estimated 20% of the 56,000 villages in Thailand were located within forest reserves (Bunga & Rambaldi, 2001). A detailed survey undertaken by the Department of Land Development in Chiang Mai Province of 1,400 upland communities, around this time found that 90 percent were located within forest reserves. Walker and Farrelly (2008) note that “what this means is that there are vast numbers of rural residents whose occupation and agricultural activity is, in the starkest terms, illegal” (p. 377).” By 2000, the Royal Forestry Department (RFD) expanded 13 national parks, resulting in the relocation of over 200 communities (Srimongkontip 2000). Current national forest policy makes it technically illegal for villages within reserve forests and around national parks to have any resource rights, including hunting, logging, gathering non-timber products, fishing, or practicing swidden agriculture (Tomforde, 2001), although locally and in practice access rights may be allowed.
People vs. Forests and relocation.

The notion that forests and people cannot co-exist implies that forest dwellers must be evicted in order to protect forested areas. Holders of this position argue that deforestation is caused by population increases and by illegal forest encroachment for farming and activities like shifting cultivation (Walker & Farrley 2008, p. 377). Due to the illegality of residing within forest reserves, most upland villages live under the threat of eviction, a threat which is occasionally realized.

Pang Daeng Nawk village, in Chiang Dao district, Chiang Mai province is one such example. Combined forces of RFD, local police, Border Patrol Police, and Special Task Armed Forces raided the village on July 23, 2004, arresting 48 villagers for violating forest laws. The villagers, mostly ethnic Palaung, migrated across the border from Burma, escaping the repression and insurgent violence within the country. Wittayapak (2008) points out, however, that “what is distinctive about this village is that it has been raided and villagers arrested three times previously since 1989. The second time was in 1998. They are the people without ID cards showing Thai citizenship” (p. 125). Without citizenship, these people have little legal recourse and are an easy target for harassment. Since the time of Wittayapak’s article, more villagers have been arrested and the entire village forcibly relocated. Subsequently, several national and international NGOs and foundations secured nearby land for the village, and they are currently rebuilding their community and are in the process of securing land ownership through the names of the few community members who have Thai citizenship (Burnette, personal communication, 2008).
Some researchers argue, however, that the case of Pang Daeng Nawk is an isolated incident, representing a mere fraction of the total number of communities facing the threat of eviction. Peluso and Vangergeest (2011) suggest that “the relocation of people into and out of these forest areas through resettlement, evictions, and consolidations of settlements, with specific practices frequently based on racialized understandings of loyalty to the nation-state” (p. 595). However, during the late 1980s and 1990s, the sheer number of villages residing within designated forests precluded comprehensive relocation efforts. Not only were the numbers too large, but the lack of arable land in forests not designated for conservation kept most upland forest dwelling communities on their land (Walker & Farrley, 2008, p. 388). Additionally, decentralization within the government created conflicting approaches among various government agencies with different forms of documentation provided to farmers to attest to their right to use the land. Walker and Farrley (2008) write “while the RFD may often have expressed a hard-line attitude toward residents of conservation forest zones, other government agencies have been active in extending health, welfare, and local economic development services to those same residents” (p. 389). The Thai government simply does not have the capacity to mount a region-wide campaign against highland settlements (p. 390). Regardless, “the threat of eviction remains a potent source of insecurity in the uplands: More frightening than actual incidents, perhaps, are these frequent rumors which spread [across] the hills of impending relocations, since these are almost certainly deliberately instigated and serve to create a constant atmosphere of terror and uncertainty about livelihood and tenure security” (p. 379). The threat of eviction haunts discussions
Forest Tenure Reform in Thailand

The RFD wrote the first official draft of the community forestry bill in 1990 to address the issue of forest tenure reform. According to Johnson and Forsyth (2002), development-based NGOs, academics, and grassroots organizations criticized this version for “effectively maintaining the discussion of forest management as purely state led” (p. 14). Buergin (2000) writes that NGOs established in local conflicts to support the interests of Tai farmers against “hill tribe” groups and “dark green,” conservation-oriented NGOs now tried to push through their interests on a national level and found their natural ally in the RFD with its protected area strategy. The new General Director of the RFD, at the beginning of his period of office, already had made clear, that for him a co-existence of people and forests was unthinkable (p. 12).

From this point, a back and forth process began with the community forest bill. In response to the RFD version, a coalition of activists and development NGOs drafted the first “people’s” version asserting the rights of local villages to enter and use forests. Despite campaigning from both the RFD and the representatives of the “people’s version,” neither bill was ratified by parliament. In 1996 the government eventually requested that the National Economic and Social Development Board (NESDB) organize and draft a new version of the Community Forestry Bill, including participants from forestry management in northern Thailand and the forest dwelling communities.
government, NGOs, academics, and grassroots communities (Johnson & Forsyth, 2002, p. 14; Wichawuttipong, 2005, p. 102). Wichawuttipong (2005) indicates that the NESDB version - although subsequently approved by the Parliament - remained controversial among NGOs. The main issue was over permitting community forests within protected forest areas, this led to the contingency that communities needed to prove their establishment prior to 1993 (using large scale aerial photographs as evidence) and show their ability to protect forests (p. 102). However, regardless of these efforts, opposition and a change in government stalled the passing of the 1996 “compromise” bill. Once again the separate groups drafted separate bills. The 1999 RFD version contained provisions allowing community forests within protected areas only with strict prohibitions on use, it permitted plantations in community forests, and designated primary management functions to national and provincial level governments (Vandergeest, 2003, p. 29). This version also proposed that a ‘community’ must comprise at least 50 individuals living in proximity to a forest, regardless of how long they resided there or how they used the forest. In contrast, the ‘people’s’ version defined a community as “a social group living in the same locality and having the same cultural heritage, and who can apply for that status after a minimum of five years experience in safeguarding forest land” (Johnson & Forsyth, 2002, p. 15).

Unfortunately, even for groups arguing and preparing for the “people’s version,” the reality of the situation has been lost in the murky, elongated debate. As Walker (2007), asks in reference to the issues addressed in the Community forest bill:

But what is the status of agricultural land within the proposed community forest framework? This is a crucially important question given that …
there are large areas of agricultural land located within forest reserve areas on which tenure rights are ill defined and uncertain. What will the proposed community forest legislation do to enhance the security of farmers working these ambiguous lands? What sort of land use does the community forest bill seek to endorse and facilitate?

The community forestry movement in Thailand seeks to address the need for village rights to live in the forest and to use forest products as a prerequisite for improved livelihoods. Community forestry advocates stress the conservation-friendly practices of the upland hill tribes communities (Fisher and Hirsch 2008). The discourse becomes watered down when advocates for community forestry stress the pro-poor, environmentally friendly benefits, but fail to address bigger concerns of farming for these upland communities (Walker 2003). Walker (2003) coins the term ‘arboreilisation’ to refer to the limited view of agriculture having a legitimate place within forests. The view that agriculture cannot exist within the forests, counters the tradition of swidden agriculture, held by many of these upland hill tribe communities (Walker 2003, Ganjanap, 1998). Peluso and Vandegeest (2011) refer to this as “taking the jungle out of the forest,” referring to the criminalization of agriculture in forested area and the discursive strategies of designating certain areas for settlement and certain areas for permanent agriculture (p. 595).

The Thai government has implemented a policy separating people from forests, neither allowing agriculture or forest access. Official policy becomes entangled through government decentralization, and allowing some communities de facto use of land within forest reserves through sub-district level recognition of customary rights. Thai policies
tainted from racialization and polarized through the community forest bill, local communities affected by the tenuous forest issues, such as Huai Lu Luang, must rely on building their own grassroots level capacity and adaptability.

A chonod chumchon (community land deed) is another alternative to the community forestry bill. Community land title deeds were approved by Prime Minister Abhisit Vejjajiva’s Cabinet in June of 2010. The objectives are to improve soil quality and provide land to poor farmers through the creation of land banks and the issuance of land rights certificates for communities living on state land. By October of 2010, 89 requests for community deeds had been filed, covering over 10,000 rai (3954) in land. The program offers land use documents to communities as part of the central government’s broader strategy to help reduce income disparities within Thai society. As part of being approved for a community land deed, a community must establish an individual person to hold the deed and if the community fails to meet its legal obligations the deed will be returned to the government. Chudrisi (2010) suggests that Mr. Sathit of the community land deed screening committee would give priority to communities that demonstrated a good land use plan with strong internal community controls and demonstrated commitment in caring for natural resources.

Chapter 3: Methods

Study Site

This study focuses on Huai Lu Luang village in Mae Yao sub-district, Muang district, Chiang Rai province, Thailand. The village is located within a national forest reserve, alongside the Mae Kok River which the Royal Forestry Department is in the
process of turning into the Mae Kok Basin National Park. Four districts and 13 sub-districts reside in the area proposed as a national park. In Mae Yao sub-district alone, there are 13,000 people and 18 villages. Huai Lu Luang has no official land or access rights to their current land or resources. All of the land they use is owned by the Thai government, but they have de facto use of the land and forests. The village (see Map 1) has roughly 410 people, 90 households, 95% of whom are Black Lahu and the remaining 5% are ethnic Yellow Lahu or Ahka. The villagers farm rice in paddy fields and rice and corn in upland fields and have an average annual per capita income of 9000 baht ($250) (UHDP Floresta Report) (see table 1) (see picture 1, 2, 3).

**Table 1. Huai Lu Luang Village Profile**

*Taken from Floresta Report*

<table>
<thead>
<tr>
<th>Coordinates</th>
<th>(29.03652 N, 99.59476 E)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethnicity</td>
<td>Yellow Lahu, Ahka, and 5% Black Lahu</td>
</tr>
<tr>
<td>Approximate population</td>
<td>410 (407 if no infants.)</td>
</tr>
<tr>
<td>Households</td>
<td>90</td>
</tr>
<tr>
<td>Average income / year</td>
<td>9000 baht ($250)</td>
</tr>
<tr>
<td>Primary Crops</td>
<td>Rice</td>
</tr>
<tr>
<td>Primary sources of income</td>
<td>Agriculture</td>
</tr>
<tr>
<td>Farming landscape</td>
<td>Upland and paddy fields.</td>
</tr>
</tbody>
</table>
Residents of Huai Lu Luang have moved repeatedly over the years. Three generations ago in the 1940s, village ancestors lived in Southern China where relatives still reside. Due to religious persecution, the communist government demanding up to 80% of their crops, and forced labor, many Yellow and Black Lahu moved from southern China to Kengtung in the Shan Province of Myanmar in the 1940s (Village Pastor, personal communication, October 18, 2010). In the 1960s the military junta took power in Myanmar, restricting villager’s religious freedom and forcing some into labor camps. The Black and Yellow Lahu then migrated from Myanmar and created the village of Obsuawan (see Map 1) in Mae Yao sub-district in Thailand. Forty-eight years ago, predominantly Yellow Lahu villagers from Obsuawan settled in the village of

---

1 All dates referenced regarding the migratory history and establishment of Huai Lu Luang result from an oral history and have a standard deviation of at least a year.
Panasawan. Around 1973, twelve Black Lahu families separated from Panasawan and established Huai Lu Luang. A large influx of immigrants from Myanmar between 1974 and 2006 increased the population of the village from 30 in 1977 to 90 in 2010.

The majority of households in Huai Lu Luang have rice paddy fields and the few that do not either share or rent fields from their neighbors, and all households have upland fields and access to a shared community forest (Village Pastor, personal communication, October 18, 2010). All of the land utilized by the village is government owned land, but the local government allows the villagers *de facto* use of it and the RFD has determined the area of allowed usage. The lack of land available to farmers precludes their use of swidden agriculture which they had historically practiced in China and Myanmar where they cultivated fields for three years and then fallowed fields for one to two years (UHDP Floresta Report).

The community forest in Haui Lu Luang provides a “subsidy from nature” for the villagers, supplementing household consumption needs and in some cases providing a minor source of income. The *de facto* community forest encompasses 3570 rai (571.2 ha) and provides a place for villages to collect firewood, vegetables, medicine, timber, and graze cattle and water buffalo (up to 4 cattle per household; Personal Communication, October 2010). The forest is divided into three sections with specific uses: watershed, land use, and cattle grazing (see Map 2). All three sections are managed by the village’s community forest committee, established in 1977. This paper addresses the lack of formalized forest use and access rights for Huai Lu Luang.
Map 2. Huai Lu Luang Community Forest

**Methodology:**

This inquiry is a case study that is imbedded within broader socio-economic, political, historical, cultural, religious, and legal contexts. Case studies, according to scholar Robert Yin are “an empirical inquiry that: investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used” (1984, p. 23).” I coded and analyzed survey interviews, discussions with key informants, participant observation, and group interviews in an attempt understand reality, where
“reality itself is dependent on what people say and think” (Godfry-Smith 2003, pp. 181, 234).

In this sense, case studies hold the power to suggest implications for actions that are realistic (Perry, 1998, p. 785; Yin, 1984, pp. 122-123). Although case studies can have shortcomings in their capacity to make broader generalizations (Johansson, 2003, p. 8; Dillon and Reid 2004, pp. 28; Yin, 1984, p. 21), my study has potential applicability for neighboring communities. It is intended to support efforts by Huai Lu Luang villagers to secure formal land tenure rights, specifically through their chanod chumchon proposal, and in that personal bias was noted before the study began and mitigated through transparent methods. This study will include an outline of the Huai Lu Luang’s history and an evaluation of their community forest management and use practices as it relates to Elinor Ostrom’s common pool resource governing principles.

Data Collection

Data collection methods included reorganizing old notes and summarizing analyzed data collected between January 2007 and July 2009, including notes, emails, journals, memos, reports, and interviews. A literature review of the relevant topics of land tenure and property rights, decentralization, racialization, forestry policy, policy toward hill tribes, community forestry, and Lahu people in Thailand grounded the analysis of field research in historical, political, and cultural contexts.

The study took place between September 21 and October 31, 2010 and included interviews with key informants, participant observation, survey interviews, and group interviews. As a participant observer I attended meetings and trainings in villages regarding community forestry and mapping. In addition, I worked with UHDP Lahu staff
members for 20 months between January 2007 to July 2009 and from October 18 to 31, 2010 and lived in Huai Lu Luang, taking meals, drinking tea, and socializing with villagers.

In September 2010 I interviewed key informants Ajan Jamlong, Ajan Tui, Huai Lu Luang’s Pastor, and held two group interviews with the community forest committee to better understand the context of the village and to guide my survey questions. These interviews usually lasted between one to two hours. I then conducted survey interviews with 32 individuals (see Appendix B for survey questions) and conducted follow-up interviews with the community forestry committee, village headman, and Ajan Jamlong to respond to unanswered questions with the assistance of a native Lahu speaker (see Appendix A, table 1). Every interview was tape recorded and Warunee Harichaikul (Mint) translated the interviews from Kha Muang (Northern Thai dialect) or Black Lahu to English.

The 32 survey interviewees were selected through a purposive sampling method, a type of nonprobablity sampling where I ascertained which units should be observed based on my judgment about which ones will be the most useful or representative (Babbie, 2007, p. 193). Ostrom’s (2002) framework does not address minority groups in her attributes for successful common pool resource management; however, I selected the sub-groups of gender, ethnicity, and age because I wanted to gain an unbiased, comprehensive picture of the whole village. Of my projected total of 30 interviews I sought 15 female and 15 male interviewees and 10 each from the following age groups: 19 – 34, 35-49, and 50 and above. For each of those age groups I made sure I had five
women and five men. In addition, I interviewed two Akha and Yellow Lahu peoples to assess possible ethnic differences in the village (see table 3).

Table 3: Number of Interviews by group

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (19-34)</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>B (35-49)</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>*1 male Yellow Lahu</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C (50 + )</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>*1 male Akha</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Of the 32 interviews, six were found by my translator (four females, two males), five were recommended from other interviewees (three females, two males), six were provided through the village wide speaker announcement (four females, one male), and 15 were provided by community forestry committee members (two females, twelve males) [see appendix A, table 2]. The survey questions were drafted to specifically address Ostrom’s (2002) framework of attributes of resources and resource users that she found affect a communities ability to self-govern common-pool resources.

**Data Analysis**

The data were analyzed against Ostrom’s (2002) framework, with additional context driven information provided through key informants, group interviews, participant observation, published literature, and a review of government regulations and policies. The data was coded as it was collected, with written memos after each day of interviewing. Through the coding process, I drew out different themed answers for each survey question and then compared them against the broader attributes of Ostrom’s guidelines that the questions were designed to answer. I used pivot tables on Excel to provide a quantitative, percentage based, analysis of responses to assess how Huai Lu
Luang’s experience with their community forest compared with Ostrom’s criteria. Through the coding process answers to the 42 questions were simplified into categorized replies allowing each question to be assessed on the basis of what percentage of respondents thought “x.” The pivot tables also allowed me to see the most frequently referenced themes (see Appendix B). I further used pivot table to discern different themes based on gender, age, and ethnicity, an when present those were included in the results. The data collected and the participant observer experiences were scored on a five-point scale: very strong, strong, moderate, weak, and very weak, with the rational for each rating explained below each attribute in the results. This scale was derived to provide a rating of Huai Lu Luang ‘s behavior with Ostrom’s (2002) framework. Very Strong indicted that Huai Lu Luang 100% matched Ostrom’s attribute. Strong meant that Huai Lu Luang demonstrated a full capacity for Ostrom’s attribute, but that there is still room for improvement. Moderate meant that Huai Lu Luang had the framework of the attribute and in some ways met it but enforcement or application of it was not met. Weak meant that Huai Lu Luang only had the skeleton capacity to meat Ostrom’s attribute, and very weak meant that Huai Lu Luang did not show any capacity to meat Ostrom’s attribute. Each of these ratings were assigned on the basis of survey interview responses, group interviews, key informant interviews, and participant observation.

**Chapter 4: Results and Discussion**

Huai Lu Luang was founded in 1973 and its community forest established in 1977. A representative from each of the 30 families present in Huai Lu Luang in 1977 voted unanimously to accept the community forest, its committee, and its rules.
According to the community forest committee the community forest was established because,

In those days, before the community forest, everybody do what is right in their own eyes concerning the forest. It’s a must to have a committee. Before, outsiders like Thai people local people cut the tree also, and we have no authority to stop them, because they don’t have the committee. And another thing is we want to permanently establish here and not migrate to anywhere else. So we have a meeting and villagers agree with this and set up a committee and the community forest. (personal communication, October 2010).

The committee itself is made up of 13 Black Lahu volunteer men broken up into the roles of president, vice president, secretary and treasurer. Women are not allowed on the committee or in any leadership role in Huai Lu Luang, but ethnic minorities are accepted. (Community forest committee, personal communication, October 2010). The community forest governance rules, however, were first suggested by the Royal Forestry Department. The community forest committee then agreed on them before they were submitted to the rest of the village for approval (Community Forest Committee, personal communication, October 28, 2010). Since the establishment of the community forest, the village, NGOs, and the government have undergone various efforts to resolve the issue of people living in the forest, as explained below. For example, in 1990, the government supplied the villages with teak tree saplings. Students from Chiang Mai visited Huai Lu Luang and recommended that they dedicate a portion of the forest (not already designated as community forest) to the king in order to prevent the government from taking the land...
away. In 1995, due to encouragement from these university students, the village set aside an additional portion of 5,000 rai (1977 acres) for the king. A community forest committee member explained:

You ask the monk to come and sprinkle water and say it is dedicated to the spirit of the tree and the sun and the sky, and whoever wants to cut the tree, let them be cursed. So, if a Buddhist, according to the Buddhist religion, wants to cut or if they want to take away the land, they go against their own religion. This is the reason why we do this ceremony and after the ceremony that land is dedicated to the king. (personal communication, October 18, 2010)

In 1999, Huai Lu Luang villagers joined the Bangkok protests over the community forestry bill. During this time NGOs began to work with Huai Lu Luang village. One of their first established relationships was with the Thai-Lahu Baptist Convention, but later they established working relationships with the Mekong Minority Foundation (MMF), Mirror Foundation, Compassion International, Community Organizations Development Institute (CODI), a Rice Bank, and Upland Holistic Development Project (UHDP). The Thai-Lahu Baptist Convention worked with projects on health, AIDS, drugs, the environment, and the community forest. While MMF works to improve soil and encourage backyard gardens, and UHDP furthered work with community forestry.

UHDP began working with Huai Lu Luang in 2006, with the original goal to build the networking and farming capacity of the villagers and to increase their understanding of community forestry. The first year involved the establishment of
community forest networks between neighboring villages to discuss interactions with the
government. Through the network, UHPD also provided trainings in community forestry
and related laws. Those meetings provided a chance for neighboring villages to network
and update each other on the situations in their respective villages. During these
meetings villagers talked about the potential problem of the proposed national park and
encounters they had experienced with the RFD. In one incident the RFD offered 50,000
baht (US $ 1670) to villages under the pretense of preserving the forest and giving the
land to the RFD. One community forestry committee member described his experience
as this:

I also rejected and sensed that something wrong. The next morning the
officer come again and ask to give the land. And on another day the
officer said he wanted to negotiate with the villagers. That day I was not
around, and then all the villagers sign their signature. Why they sign is
because the government say “we give you 50,000 baht, this money is not
to buy the land but to help you save the forest.” When I found out the
villagers had signed I went down to the head quarter and told the officer
“it’s wrong for you to do that, to just ask some of the villagers to sign the
signature in order to approve that. You have to get the signature from the
headman all the through to the sub-district. The officer that gave the
money said he wouldn’t give money anymore. But it didn’t stop there, he
came one more time and tried to entice the headman. But I said “you
cannot do this, if you want to ask us to accept the money, you must tell all
of the villagers and ask them first whether they thinks its good and if they
agree to sell the land or not. (Interviewee 13, Personal Communication, October 20, 2010)

Although this villager helped Huai Lu Luang, that was not the case for other neighboring villages. In Pansawan (see map 1), they received the 50,000 baht and lost the land they had used as a community forest and ended up receiving a portion of forest from Huai Lu Luang for use as a community forest (Interviewee 13, Personal Communication, 10.21.2010). In 2007 villagers expressed the desire to map their community forest boundaries, which led to GPS training for UHDP staff and members of the network. Officially, five community forests were mapped by members of their respective villages, including Huai Lu Luang’s (see map 2). This mapping project delineated community forest boundaries and helped resolve inter-village boundary disputes.

By 2008 the sub-district government stepped in to create more detailed maps through the use of 1:4000 scale aerial photos with tracing paper overlaid. Each household was then able to trace on the photo the outline of their rice paddies, house, and upland fields. The hope is that by designating the land and creating official maps, villages will have better negotiating tools with the RFD and be prepared whenever the Community Forestry Bill passes in parliament. Some community members have suggested that this process has been empowering. Ajan Tui, co-director of UHDP, noted that P’Chatchai (a village member) has mentioned that the GIS/GPS training is also very useful for them because it’s a case that the forestry dept and another department relates to land title came to Panasawan. They organized a meeting and told the villagers about a type of land title. They said they could finish all the GIS/GPS data collection for the whole village
within half day. P’Chatchai and other leaders curious about the possibility because there are more than 150 plots in the villages, both farming and housing areas. They were told to sign a paper but mentioned as for meals, but the leaders suggested not sign it. P’Chatchai said that because of the training, it helps us to understand more bout some technical process (personal communication, 2.3.2010).

In December 2008 and January 2009 the conflict over forest usage came to a crisis when the government began a serious drive to establish the national park. Step five among the 13 steps that the RFD is required by national law to follow when establishing a national park, the villages had to vote on January 15, 2009 about whether or not to allow the national park in their area. On December 23, 2008 the villages held a meeting, appointed two to three people from each village for a meeting on December 28th with the tamboon. The group decided that they wanted to provide the following for that meeting: 1) draft a letter to the tamboon, with signatures from the village headman, expressing their concern about the national park; 2) Bring a copy of the 13 steps the government must follow to create a national park, pointing out that step three (where the RFD has to seek permission from the villages about the boundaries) was omitted; 3) Bring meeting minutes from December 23rd meeting; 4) bring the forms for the 1:4000 maps, detailing the demographics of each village; and 5) provide an agenda for the meeting on the 28th (Meeting, personal communication, 12.28.2009).

Through their efforts, on January 15th, 2009 the national park was voted down. This forced the RFD to hold more formal communications with the tamboon and the villages themselves. The current political turmoil in Bangkok has forced the RFD to
slow down efforts to create a park, but not stalled them. They already finished building an office for the national park and the staff is on site; they are simply waiting to officially open the park. According to Ajan Jamlong “the participation of the villagers is very few, even you think the way they do is ask your opinion ask you to vote, but that one is no matter you vote okay or not they already set up the mind that they are going to do” (personal communication, 9.21.2010).

While the RFD is going forward with national park plans, parliament is going ahead with the *chanod chumchon*. In hopes of being the second pilot project, Huai Lu Luang has created a land bank. The land bank includes 1) the community forest committee, 2) a proposal for the *chanod chumchon*, 3) a budget, and 4) a land map. “The purpose or objective to have land bank in community is not for you to sell to the outside, but for villages to come and have this land, own this land.” (Ajan Jamlong, personal communication, 9.21.2010). The establishment of the national park would alter the livelihoods of the villagers. Villagers will not be able to build new homes or have access to the forest. Any field left fallow would be reclassified as forested land, resulting in immediate income loss, a significant reduction in future agricultural production and reduced potential to development sustainable upland farming systems. Villagers would have to purchase fruits, nuts, and vegetables and find a substitute for firewood, adding to their expenditure (Ajan Jamlong, personal communication, 9.21.2010).

Huai Lu Luang created multiple committees when they were first established, starting with the committee to select the location for the village, followed by the more permanent religious, government, and community forest committees. The religious committee works both with youth and adults. The government committee is split into
two parts, one that serves as a representative to the government and the other which seeks
to understand the law. The mission of the community forestry committee is:

To live sufficiently, and for future generations to remember and practice
how the older generations looked after the forest. This will benefit
everyone, provide good air and people will still have permanent upland
and paddy fields to work and survive in this community. (Personal
communication, 10.28.2010).

Picture 3, 4: Center of Huai Lu Luang and Community Forest Rules

Posted in the village are the 10 official rules that the community forestry committee
choose and then the village voted on in 1977 (see pictures 3 and 4):

1. Do not light fire in the community forest. It will be a fine of 1500 baht.
2. Do not find bamboo shoot to sell for villagers and outsider.
3. Do not cut a tree from forest. It will be a fine of 3000 baht.
4. Do not extend your land into the community forest. It will be a fine of 2000 baht.
5. Within your own land if you want to burn the grass make sure you have done a
fire line for prevention.
6. If there is a wild fire, everyone must help to put the fire out.

7. Before the hot and dry season, every family must cooperate to help make the fire line.

8. Every villager has to take responsibility of looking after the community forests. If there is something wrong, report it to the community forest committee immediately.

9. Any family that needs a tree must ask for permission from the committee first.

10. If anyone breaks the rules 1-4 more then 3 times he will be given over to a government officer to be dealt with according to the laws.

Currently, the villagers have reported that the community forest provides them with 31 resources (see illustration 1): forest vegetable, hunting, bamboo shoot, house wood, Mae Duu, fruit, fish, banana flower, mushroom, bamboo, food, firewood, fireline, house bamboo, plow wood, construction bamboo, raise cattle, nut, everything, many things, string bamboo, construction wood, bird, furniture bamboo, herbs, medicine, house pole, construction wood, wood for rice bank, bees and honey, a place to visit, walking path, and bamboo worm. Additional, the community forest provides the following 27 services, wildlife, clean water, healthy environment, village, unity, fire prevention, clean air, green scenery, rest, cool air, water flow, family security, good health, water, forest access, loans through the community forest committee, prevent global warming, flood prevention, land security, forest for future generations, common use, a way to give back to forest, a way to save money, replace resources, trees, peace, and unity with forest (Survey interviews, personal communication, October 2010).
Illustration 1: Community Forest Products

Caption: Starting in the upper right corner clockwise: Grill, Water Buffalo, Construction Bamboo, Foods from the forest (rattan, cicada, bamboo, herbs), Bamboo worm, furniture bamboo, pig pen. Center: House pole.
Common-Pool Resource Framework

This section evaluates Huai Lu Luang’s design, use and management of their community forest in light of Ostrom’s (2002) framework for common-pool resource management. The analysis uses the five-point scale discussed earlier of very strong, strong, moderate, weak, and very weak to assess each attribute.

Resource Attributes

Table 4: Ostrom’s (2002) Attributes of the resource summary of key Huai Lu Luang villager responses and researcher ratings.

<table>
<thead>
<tr>
<th>Question</th>
<th>Positive</th>
<th>Negative</th>
<th>No Answer</th>
<th>Rating</th>
<th>Other Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1 1. Do you think it is better now or before the forest was a community forest? Why?</td>
<td>100%</td>
<td></td>
<td></td>
<td>Strong</td>
<td>Only 26 respondents old enough to remember</td>
</tr>
<tr>
<td>2. How else did you use the forest?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. What products did you personally get from the forest before it was a Community Forest?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Is there anything in the forest you used to have access to that you wished you had access to now?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A2 5. How was knowledge about the forest taught to you and by whom?</td>
<td>78%</td>
<td>16%</td>
<td>6%</td>
<td>Moderate</td>
<td>The Negative is that the CF committee tries.</td>
</tr>
<tr>
<td>6. Give one example of something you learned that you think is important.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. How do you think you should use the forest to keep it healthy?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. How well informed do you think the community forest committee is about managing the forest?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Since the forest has been a community forest</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A3</td>
<td>10. Are there any resources in the community forest that you worry are too scarce to be used? Why?</td>
<td>Strong</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A4</td>
<td>11. Is there enough land in the Community Forest to meet your needs?</td>
<td>66%</td>
<td>19%</td>
<td>15%</td>
<td>Strong</td>
</tr>
</tbody>
</table>

“**R1. Feasible Improvement:** Resource conditions are not at a point of deterioration such that it is useless to organize or so underutilized that little advantage results from organizing” (Ostrom, 2002, p. 5)

**In Huai Lu Luang:** Strong. This attribute was evaluated on the basis of questions one to four, from explanations given to other questions during the survey interviews, and from participant observation of the community as compared against other forested areas in the region. It was given a strong rating based on the apparent improvement, suggested by the respondents, in the forest since it has been a community forest (see table 4). All 26 of the interviewees old enough to remember a time before the established community forest answered that they thought the forest was better now as a community forest, than before. The reasons given included regulation of forest resources, responsibility allocation within the village, land security, better forage for cattle, more green scenery, more NTFPs, better village unity, and better education for the villagers about the forest. Fifteen of the respondents (65%) listed regulation as the main reason why the forest it better now. Interviewee 19 explained “Yes, better now, because before everybody just come into the forest to find the food, even the outsider. The food becomes less and less. Now it is better with the community forest” (personal communication, October 2010). Interviewee
11 elaborate, “It’s better when they have the community forest. Because before they just cut the tree down whenever, they don’t treasure or share it and they don’t know the value of the forest” (personal communication, October 2010). Others explained the benefits of having a committee to manage the community forest. “If nobody in charge to take care of the forest, nobody will take care, so its good for them to have specific job descriptions” (Interviewee 9, personal communication, October 2010). “To have is better for the villagers. If you don’t have community forest then people just do what’s right in their own eyes so no limitations on bad or good, so its not good, must have the committee to control” (Interviewee 4, personal communication, October 2010)

A few villagers provided specific examples of changes they had observed in the forest, particularly regarding the broom tree. Before the community forest was established, one villager mentioned using the plant to make brooms (see picture 4). She stated that broom trees grow only in full sun and that with the development of large trees and heavy shade in the community forest she now gathers the plant in her upland field (Interviewee 23, personal communication, October 2010). Another talked about how the forest stays green now throughout the year and that springs and small streams now provide year-round water flow, “In those days, when the CF hasn’t come yet, they cut the tree down, so no water, so it gets dry, and they cannot do the paddy fields, but have to use upland fields” (Interviewee 1, personal communication, October 2010). Seven other interviewees mentioned water as a key resource that is provided by the community forest. Pictures 5 and 6 illustrate the apparent good health of the current forest.
Picture 5, 6 Right to Left, a view from below Huai Lu Luang’s community forest looking up into the forest and a view within the community forest. Picture six shows forest vegetables of rattan, black sugar palm, forest pepper, and fish tale palm harvested by villagers on a regular basis. The pictures suggest the biodiversity ad availability of forest species.

“R2: Indicators: Reliable and valid indicators of the condition of the resource system are frequently available at a relatively low cost” (Ostrom, 2002, p. 5)

In Huai Lu Luang: Moderate. The rating for this attribute was evaluated on the basis of questions five to nine, key informants of the village headman and Ajan Jamlong, and interviewee 26. The moderate rating was given on the basis of the lack of clear data and criteria used for monitoring the community forest (see table 4). The community forest committee examines the community forest on weekly basis checking for signs of illegal use, the need for plant replacement, and the overall condition of the forest. Seventy-eight percent of respondents said that they thought the committee was well informed about the conditions and management needs of the community forest, while 16% thought they at least put in a good effort. However,
three villagers were concerned about the lack of clear information the committee had to monitor the forest. Ajan Jamlong explained,

“Huai Lu Luang does not have the qualified person to help them. Even their children, although they are educated, they no longer stay in the village, but live in the city. So this is another problem. There is no qualified man or woman to take this task. Many times they rely on UHDP staff work, but we are also full of work and sometimes are not able to help fully” (personal communication, 10.31.2010).

Without a record of previous past tree density and resident flora and fauna and without clear guidelines regarding what to monitor or what makes for a healthy forest, some villagers expressed uncertainty and concern about the condition and management of the forest by the committee. As one villager explained

Get information to make a healthy forest. If they get the right information, then those who have knowledge, those who have degrees can help. It’s better than to just say verbally that “I look after the forest” but doing in action as well. If the government come and investigate we can show them by the evidence from changes year by year that have been looking after the community and it’s really fruitful. I know the community forest committee go out into the forest and monitor each week. It doesn’t mean that all the peoples do a bad job, they are doing their best, but it’s such a waste for you to look after everyday 10 times in vain without having right information and evidence. (Interviewee 26, personal communication, October 2010)

Ajan Jamlong (personal communication) worries that if Huai Lu Luang remains too long in a state of uncertainty with regard to the legal use and management of their community forest,
valuable knowledge could be lost. He notes

    But what will impact the villagers if the chanod chumchon takes too long is that
the next generation might not be able to follow. Even the old people now, it is
maybe about two generations already that they have not been able use
traditional forest practices, so the knowledge of the people is limited” (personal
communication, 10.31.2010).

The village headman explained how fresh air and the maturation of trees indicate a healthy
forest, but when pressed with more questions, none were able to provide specific metrics or
indicators of forest health (personal communication, October 29, 2010). Thus, while the
committee clearly attempts to monitor the forest, a general lack education and training on forest
health and the absence of specific metrics to monitor likely limits the value of monitoring
efforts.

“**R3:** Predictability: The flow of resource units is relatively predictable.” (Ostrom, 2002,
p. 5).

*In Huai Lu Luang:* Strong. This attribute was evaluated on the basis of interview question
ten, participant observation, and key informants. The rating of strong was given on the
basis of knowledge displayed by respondents on the resources they use from the
community forest (see table 4). Twelve villagers talked about collecting resources when
they were in season, including mushrooms, banana flowers, nuts, fruits, and wild
vegetables. The community forest committee described the harvests as,
Each year we can have about three kinds of mushroom, each according to their own season. The stream flow is also predictable. The nuts were last month, and there’s one kind of vegetable we always have the whole year inside the community forest. (personal communication, October 28, 2010)

In addition, for certain high demand products, such as the Mae Duu tree, the committee decides when trees can be cut and shared with the entire village, with distribution based on need.

“R4: Spatial Extent: The resource system is sufficiently small, given the transportation and communication technology in use, that appropriators can develop accurate knowledge of external boundaries and internal microenvironments.” (Ostrom, 2002, p. 5)

In Huai Lu Luang: Strong. This attribute was evaluated on the basis of question 11 and participant observation in creating maps for Huai Lu Luang and the neighboring villages. This attribute is given a strong rating based on respondent opinion and the restrictions placed on the size of the community forest (see table 4). When asked “Is there enough land in the Community Forest to meet your needs?”, 56% responded yes, 19% responded no, 15% didn’t know, and 10% answered that there wasn’t the option of expanding. As interviewee 29 explained “The size is just nice because what they have now everybody can look after well. If it gets bigger than this with this the villagers may not be able to look after it well” (personal communication, October 2010) Not all respondents agreed with this, however. One individual argued that the community forest was not large enough. “You cannot depend on the community forest the whole year, like right now
what they have is not very perfect or healthy forest yet, all the villagers cannot rely throughout the year. 365 days, cannot rely on the community forest yet, so not enough land yet” (Interviewee 26, personal communication, October 2010). Ultimately, however, additional land is not available to expand the community forest due to presence of neighboring villages and because of restrictions by the RFD.

Attributes of Resource Users

Table 5: Ostrom’s (2002) Attributes of the resource users summary of key Huai Lu

Luang villager responses and researcher ratings.

<table>
<thead>
<tr>
<th>Question</th>
<th>Positive</th>
<th>Negative</th>
<th>No Answer</th>
<th>My Rating</th>
<th>Other Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1 12. What products do you personally get from the Community Forest? 13. How many times per week do you go into the community forest and what do you do / get? 14. What are your family’s main expenses? 15. What is your main source of income? 16. Since the forest has been a community forest do you get more or less income from the forest? Why? 17. What products does your family use from the Community Forest? 18. Do you think managing the community forest is important? Why? 19. What are the benefits to you or your family for having access to the community forest? 20. What other services does the Community</td>
<td>100%</td>
<td>0</td>
<td>0</td>
<td>Very Strong</td>
<td>All respondents mentioned multiple products and services they get from the community forest</td>
</tr>
</tbody>
</table>
Forest provide?
21. What services do you get from the community forest that you couldn’t afford to pay for or wouldn’t have access to otherwise?

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A2</td>
<td>22. Do you feel that everyone in the village has a common understanding of the forest?</td>
<td>100%</td>
<td>Strong</td>
</tr>
<tr>
<td></td>
<td>23. What is your biggest concern about the community forest?</td>
<td>88%</td>
<td>3%</td>
</tr>
<tr>
<td>A3</td>
<td>24. How much income, if any, do you get from the community forest each year?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>25. Outside of the community forest have you planted any forest products that you use? What?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>26. Do you ever go outside the community forest to collect forest products? Where?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A4</td>
<td>27. Do you trust the other members of the committee and village to abide by the community forest rules?</td>
<td>100%</td>
<td>Strong</td>
</tr>
<tr>
<td>A5</td>
<td>28. How were you involved in the process that decided the community forest and the rules?</td>
<td></td>
<td>Moderate</td>
</tr>
<tr>
<td>A6</td>
<td>NA</td>
<td></td>
<td>Very Strong</td>
</tr>
</tbody>
</table>
“**A1: Salience:** Appropriators are dependant on the resource system for a major portion of their livelihood.” (Ostrom, 2002, p. 5).

*In Huai Lu Luang:* Very Strong. This attribute was assessed on the basis of questions 12 to 21 and given a strong rating due to respondent’s mention of the number and frequency of resources utilized from the community forest (see table 5). Although asked, villagers could not quantify the actual percentage of their annual livelihood that the community forest provides, however, all 32 interviews expressed that it provided important contributions. Villagers listed forest vegetables, wood for building houses, mushrooms, bamboo, food, firewood, herbs, banana flower, raising cattle, nuts, construction wood and bamboo, water, string bamboo, medicine, land, and furniture as services they get from the community forest that they couldn’t afford to pay for otherwise (see graph 1). Forty-one percent of respondents listed timber products as a main resource the community forest provides. One villager explained,

> We use bamboo and wood to build the house. If they didn’t have the forest they might have to spend money. For food also. Not only mushroom, not only bamboo shoot, but also banana flower they can use for food. And the community forest especially cuts down lots of expenses on medicine, they can get the herbs from the forest. (Interviewee 2, personal communication, October 2010).

Another villager explained “especially main thing I consider is food, if I didn’t have a community forest, I would have to pay in order to get all the vegetables and herbs. Like bamboo shoot, like mushroom, like many kinds of vegetable, fern” (Interviewee 11,
personal communication, October 2010). Additionally, “even the water also would be dirty and soil also not good condition. And at the worst you have to relocate to another place if you don’t have the forest” (Interviewee 16, personal communication, October 2010). Twenty-two percent of respondents mentioned firewood as something they retrieve from the community forest. One villager explained “change the wood for the cooking fire to replace with gas stove, they need to buy gas stove because they cannot go to the community forest to get the wood” (Interviewee 27, personal communication, October 2010).

Challenges arose in discerning gender and age differences in resource use. When asked “what products do you personally get from the community forest?” and “what products does your family get from the community forest?”, the answers given were not congruent with usage (see Table 6). Only one female mentioned using the forest more than one to two times a year and yet all 15 women listed products that would require at least monthly access into the community forest. The research questions were designed to distinguish between the individual and the household. Respondents, however, answered most questions according to household and not individuals. This is a limitation of this particular survey. A better preface before the questions to explain what I was looking for, may have avoided this confusion.
Table 6: Products collected from the community forest by Huai Lu Luang villagers by gender and age (n=32).

<table>
<thead>
<tr>
<th>Produce (forest vegetables, fruits, mushrooms, and nuts)</th>
<th>Total</th>
<th>Female</th>
<th>Male</th>
<th>A*</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Produce (forest vegetables, fruits, mushrooms, and nuts)</td>
<td>24</td>
<td>10</td>
<td>14</td>
<td>14</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Meat (hunting, birds, and fish)</td>
<td>6</td>
<td>3</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Raising Cattle</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Timber products (firewood, construction wood, and bamboo)</td>
<td>17</td>
<td>6</td>
<td>11</td>
<td>6</td>
<td>9</td>
<td>2</td>
</tr>
</tbody>
</table>

*A= age group 18-34, B = age group 35-50, and C = 50+

Figure 1: Community forest resource units most frequently obtained by Huai Lu Luang villagers (n=32).
“A2: Common Understanding: Appropriators have a shared image of how the resource system operates (attributes R1,2,3 and 4 above) and how their actions affect each other and the resource system.” (Ostrom, 2002, p. 5).

In Huai Lu Luang: Strong. This attribute was evaluated through interview questions 22 to 23 and given a strong rating based on the common understanding displayed from those responses (see table 5). All 32 interviewees thought managing the community forest was important, the majority explained that they thought this because of the division of responsibilities, forest stewardship, and regulation the community forest committee provides. When asked “do you feel that everyone in the village has a common understanding of the forest?” 19 responded yes (10 women and 9 men), 9 responded most people (4 women and 5 men), and 1 female responded no. Of those who responded most, four answered that the majority have a shared understanding and those who do not still have to follow the guidelines. Interviewee 25, however, commented on the gender discrepancy, “Most of the guys understand, but not all of the woman. The woman have less education and common understanding because the man is the head of the family. For every house that has a man, when a meeting is called the man will go as the representative” (personal communication, October 2010). Another female elaborated “Maybe we all have common understanding. But the lady never has a chance to sit down with the guys when they are talking about the forest, so we have no idea if they have common understanding or not. It’s just the men verbally telling us” (Interviewee 4, personal communication, October 2010). Additionally, the question “are there any resources you worry are too scarce to be used?” helped assess the degree of common
understanding. A number of shared concerns are evident: nine responded a concern over the availability of the Mae Duu tree, six mentioned deforestation, 15 stated that the government will take away the land, and two for future generations (see fig 2).

Figure 2: Main concerns about community forest resources by Huai Lu Luang villagers (n=32).

“A3: Low Discount Rate: Appropriators use a sufficiently low discount rate in relation to future benefits to be achieved from the resource” (Ostrom, 2002, p. 5).

In Huai Lu Luang: Strong. This attribute was assessed through the use of questions 24 to 26 and from key informant interviews. It was given a strong rating because of the small amount of resources extracted outside of the community forest in relation to those utilized within and because interviewees mentioned future benefits, thereby indicating that Huai Lu Luang villagers do not discount the importance of future benefits from the community forest (see table 5). Eighty-one percent of the respondents answered “yes”
they have planted forest products outside of the community forest and 55% answered that they will go outside of the community forest and outside of the sites they have planted products to collect forest products. Fifty-three percent of respondents had planted teak and eucalyptus, provided by the RFD and NGOs. Seventy percent of respondents who went outside the community forest to collect forest products went to hunt, an activity that is restricted within the community forest. Respondents listed six different resources (hunting, broom tree, fishing, bamboo worm, raise cattle, and bees) they get outside the community forest, as compared to the 31 services they listed that they get from the community forest.

Specific uses and products derived from the community forest have changed over time. Before there was a community forest 59% of the forest products listed by respondents were timber products, whereas now, with use of the Mae Duu tree restricted, only 41% of the products used from the community forest are timber products. Some villagers mentioned that before they would simply waste the products in the forest, “now is better, before we don’t treasure the forest, just waste the wood and the forest products, but now we know to be cautious” (Interviewee 23, personal communication, October 2010). Individuals mentioned wishing they had access to even more forest vegetables, bamboo shoots, Mae Duu, hunting, and using chainsaws. “After the committee came in, we cannot freely cut the bamboo shoot to sell and cannot use machine to cut the tree down” (Interviewee 2, personal communication, October 2010). One man said “I’m afraid, though they say plant replacement what you cut down, the period of the growing is too long, so it might not be enough for the next generation to be able use the forest. Like this generation cut all the big tree down and have to wait for more” (Interviewee 13,
personal communication, October 2010). However, when asked if there was anything in
the forest they used to have access to that they wished they had access to now, 50% of
respondents answered no (8 women and 7 men). One female noted that “before there was
a community forest we should have preserved more of the natural forest” (Interviewee 6,
personal communication, October 2010) and another concluded “It’s meant for our good,
not only our generation, our children’s and grandchildren’s generation will have good
atmosphere, always have wood and forest product to use in our home” (Interviewee 23,
personal communication, October 2010).

“A4: Trust and Reciprocity: Appropriators trust one another to keep promises and relate
to one another with reciprocity.” (Ostrom, 2002, p. 5).

_In Huai Lu Luang:_ Strong. This attribute was assessed through question 27 and through
the coding of other questions that carried relevance to this attribute and was given a
strong rating based on the degree of trust expressed by respondents (see table 5). When
asked if they trust the other members of the village to abide by the community forest
rules, all 30 people who answered that question said yes. As interviewee 8 stated “after
they established the community forest I could see the villagers becoming more unified.
Everybody have to come with the conclusion, follow the rules and anything concerning
the forest they have to agree with one another and even they cut the tree also agree and
replace the tree by planting another tree” (personal communication, October 2010).
During the interviews, seven interviewees provided the unsolicited response of unity as
an important byproduct of the community forest. Four women mentioned unity and three
men. Four individuals in age group b were concerned about village unity, while just two in age group A, and one in age group c.

**“A5: Autonomy: Appropriators are able to determine access and harvesting rules without external authorities countermanding them.”** (Ostrom, 2002, p. 5).

*In Huai Lu Luang: Moderate.* Key informant interviews with the community forest committee and village headman and the interview questions 28 to 29 helped determine the rating for this attribute. The moderate rating was given, because while in practice Huai Lu Luang has been able to determine access and harvesting rules without external authorities countermanding them, they have no form of tenure security for those practices to continue (see table 5). Officially, Huai Lu Luang does not have any legal right to determine their access and harvesting rules; however, the government has granted Huai Lu Luang a *de facto* use of their community forests. The village headman explained

The forest department is the one that decided the land and set the boundaries, saying like “here to here is for where you can do your paddy field and upland field and here to here is for the community forest. The Forest department say if you don’t go beyond the boundary that they indicate, then they will not come and disturb, they will not come and ask for any document that you own this land. (personal communication, October 2010)

The process for the creation and monitoring of the community forest rules further illustrates the ambiguous nature of Huai Lu Luang’s ability to self-govern. The RFD first
provided all of the rules for the community forest, then the community forest committee considered those rules. Once the community forest committee decided the rules were good, they put them to the vote within the village. One representative from each of the 30 households in Huai Lu Luang in 1977 voted rule by rule for the ten rules. Officially, a majority vote was all that was needed for the rules to be implemented, however the 30 household representatives voted unanimously to accept each of the rules. The ten rules established in 1977 are the same ten rules in existence today (village headman and community forest committee, personal communication, October 2010).

Since the community forest rules and boundaries are in accordance with the RFD, there were only a few incidents where interviewees referred to negative interactions with the RFD. For example, one respondent noted, “when I was young, I thought that in those days I could use the machine to cut the tree down. I started to cut the tree, did not finish even one tree and the government come and stop me. This was before the community forest was officially set” (Interviewee 3, personal communication, October 2010). The only other incident mentioned was a situation that occurred in September, 2010. The bridge connecting Huai Lu Luang (see picture 7 and 8) to the main road was broken.

**Picture 7 and 8: Bridge before and after repairs.**
The villagers took a large piece of wood, currently used for a table and brought it down to fix the bridge. The government came and took away the piece of wood, telling the villagers that they need to buy wood in town that has been pre-approved according to the bridges engineers. Ajan Jamlong explained it as

They don’t have the right to use the natural resource 100%, they are just temporary residents. In order to survive, the villagers cannot fulfill all the laws and regulations. Sometimes the government just closes their eyes and lets the villagers steal the natural resource, even though they belong to the government. By rights, the government can just to restrict their use of the forest. The government took the wood for the bridge because the village doesn’t have the final authority for the use of the resource.

(personal communication, October 31, 2010)

In practice, Huai Lu Luang can self-govern their community forest, but the ultimate power still lies with the state and the RFD and with current plans for the national park in play, their self-governing abilities are even more tenuous than in the past.

“**A6: Prior Organizational Experience and local leadership: Appropriators have learned at least minimal skills of organization and leadership through participation in other local associations or learning about ways that neighboring groups have organized.**” (Ostrom, 2002, p.5).

*In Huai Lu Luang:* Very Strong. This attribute was assessed on the basis of key informants and participate observation and given a very strong rating because the of fifty
plus years of organizational experience of Huai Lu Luang community members (see table 5). Huai Lu Luang village is predominantly Baptist. Sixty of Seventy years ago a Karen missionary, Jan Saw Dipaw, brought Christianity to Lahu villagers in China. After the Karen missionary, the America missionaries Paul and Ellen Lewis continued the work with the Lahu in Burma. As the village pastor explained “the one who makes God’s Kingdom grow fast is Paul Lewis and Ellen, because they translated hymn and hymnals from the bible and the old and new testament” (personal communication, October 2010). This holds relevance to this attribute because of the organizational tradition of the Baptists in Southeast Asia. In Myanmar, there is the locally governed Myanmar Baptist Convention with sub-branches like the Lahu Baptist Convention, these conventions are then broken into smaller and smaller committees (Myanmar Baptist Convention members, personal communication, March 2009). The organizational traditions gained here continued when the first Lahu in-migrated from Myanmar to Obsuawan, then moved from Obsuawan to Panasawan, and from Panasawan to Huai Lu Luang. When the village was established in 1973 the community organized a committee to plan for the move from Panasawn to Huai Lu Luang. Once the village was established, they subsequently formed the five committees discussed previously, which included developing the community forest committee. The biggest limitation to their organizational capacity is the lack of women in leadership. Ostrom does not address gender in her framework, therefore this factor does not contribute to the rating for this attribute. However, Huai Lu Luang is omitting a valid perspective and experience by not allowing women to participate in leadership. Overall, the prior experience of the elders in Huai Lu Luang with the Myanmar Baptist Convention and the organizational
experience with the other committees in Huai Lu Luang illustrate that they have substantial prior organizational experience.

**Design Principles**

**Table 7: Ostrom’s (2002) Common-pool resource design principles summary of key Huai Lu Luang villager responses and researcher ratings.**

<table>
<thead>
<tr>
<th>Question</th>
<th>Positive</th>
<th>Negative</th>
<th>No Answer</th>
<th>My Rating</th>
<th>Other Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 30. Do you understand where the boundaries are for the community forest?</td>
<td>75%</td>
<td>19%</td>
<td>6% - parts</td>
<td>Strong</td>
<td>The majority of those who didn’t understand where the boundaries were use the forest less than three times a year.</td>
</tr>
<tr>
<td>31. Do you know where the borders are for the different sections of the community forest?</td>
<td>47%</td>
<td>47%</td>
<td>6% - parts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2a,b 32. How familiar are you with the community forest rules? 33. Do you agree with the community forest rules?</td>
<td>93%</td>
<td>7%</td>
<td></td>
<td>a, Strong</td>
<td></td>
</tr>
<tr>
<td>34. Are there any rules you think should be added? 35. Are there any rules you think should be taken away? 36. Who in the village do you think used the community forest the most? Why? 37. If you have a problem or concern with the community forest do you know who you can talk to? Have you ever?</td>
<td>81%</td>
<td>19%</td>
<td></td>
<td>Strong</td>
<td></td>
</tr>
<tr>
<td>38. Have you ever broken a rule before and not been caught? 40. Have you ever seen anyone break a rule before?</td>
<td>97%</td>
<td>3%</td>
<td></td>
<td>Moderate</td>
<td>The 1 respondent who had broken a rule and witnessed rule breaking is a community forest committee member.</td>
</tr>
<tr>
<td>5 NA</td>
<td></td>
<td></td>
<td></td>
<td>Moderate</td>
<td></td>
</tr>
<tr>
<td>41. Have you had conflicts in the village before, about anything? How were these conflicts solved?</td>
<td>84%</td>
<td>16%</td>
<td></td>
<td>Very Strong</td>
<td></td>
</tr>
<tr>
<td>42. Do you think that having an</td>
<td></td>
<td></td>
<td></td>
<td>Moderate</td>
<td></td>
</tr>
</tbody>
</table>
“1. Clearly Defined Boundaries: Individuals or households with rights to withdraw resource units from the common-pool resource and the boundaries of the common-pool resource itself are clearly defined.” (Ostrom, 2002, p. 11).

_in Huai Lu Luang:_ Strong. This principles was evaluated through participant observation and interview questions 30 to 31. The rating of strong was given based on demarked boundaries of the community forest and its divisions and because the majority of regular users of the community forest understand where those boundaries exist (see table 7). Fire lines and paths demark the external boundary of the community forest and streams and colored markers distinguishing the internal boundaries (community forest committee, personal communication, April 2007 and October 2010). Seventy five percent of villagers responded that they understand and can locate the boundaries for the community forest. Nineteen percent said that they did not understand the boundaries; however, all of those respondents used the community forest less than two to three times per year. For the internal divisions of cattle grazing, conservation, and forest usage areas within the community forest, 47% responded that they understood the location of those divisions, 47% answered that they didn’t know, and 6 % said that they only knew were parts of those divisions were. Among the 17 respondents who accessed the forest at least
monthly, all stated that they clearly understand the external and internal boundaries of the community forest.

Gender differences are evident in villager’s understanding of community forest boundaries. All 17 men questioned stated that they understood precisely where the external boundaries of the community forest were, while just seven women indicated that they knew the boundaries, two indicated that they were familiar with some of the boundaries and six stated that they did not know the boundaries at all. Of the respondents then asked if they understood the internal boundaries, 12 men answered yes, four said no and one answered in part. Among women, only three reported knowing the international boundaries, 11 said they did not and one answered parts. Although this has the potential to affect the rating on this attribute, use of the community forest by women is low. Only one female answered that she used the forest at least monthly (see figure 4), while 12 answered that they use it semi-annually or less and two answered that they never use the community forest at all. Among the men, 13 reported using the community forest monthly or more, while only four accessed it semi-annually or less. The one female who used the forest weekly noted that she understood the boundaries of the community forest, although she did not understand the boundaries for the sections.
“2. Congruence: a) The distribution of benefits from appropriation rules is roughly
proportionate to the cost imposed by provision rules. b) Appropriation rules restricting
time, place, technology and/or quantity of resource units are related to local conditions.”
(Ostrom, 2002, p. 11).

In Huai Lu Luang: a) Strong b) Strong. This principle was evaluated on the basis of
questions 32 to 33 and through key informant interviews and participant observation.
Part A was given the rating of strong due to the unanimous agreement by the village over
the community forest rules and the support the interviewees showed for the community
forest as a whole. Part B was given a hesitant rating of strong because of the externally
provided rules and because of the lack of clear information provided about the level of
local knowledge of the forest (see table 7).
Part A questions how the participants view of benefits of the community forest as compared to the costs imposed by regulation. For Huai Lu Luang the costs of regulation include the time of the community forest committee, the time spent creating the fire line twice a year, and the cost of feeding the household volunteers who help make the fire line (interviews, personal communication, October 2010). Additional ‘costs’ include the restriction on access to resources like hunting, selling forest products in the market, and the Mae Du tree (Village Headman and Ajan Jamlong, personal communication, October 2010). However, as previously mentioned in A1 (Salience), Huai Lu Luang is highly dependent on the community forest and derives may timber and non-timber related products from the forest that supplement their livelihoods. For example, on interviewee explained “We can access the community forest and we don’t need to use money to buy the products of the forest” (Interviewee 25, personal communication, October 2010). An additional way that some of the financial costs of the community forest are mitigated is through a bank the committee operates. As one individual described it, “we can borrow money from the community forest. When they created the community forest, they have a fund, so if anybody need cash they can go and borrow, but they have to pay interest” (Interviewee 1, personal communication, October 2010). Through the interest paid on the loans, and the fees collected from fines, the community forest committee does have a small pool of funding available to cover the cost of maintaining the fire line.

Less information for part B of this attribute was discovered. As mentioned in A5, the village was involved in the rule selection process, but those rules were provided by the RFD. Within the scope of this research, it is unknown the level of local knowledge the RFD has for the location of Huai Lu Luang. Additionally, the rules haven’t changed
since they were created 33 years ago (village headman, personal communication, October 2010). The static nature of the rules, however, does not necessarily indicate irrelevancy. All of the villagers think that managing the community forest is important and 93% agree with the rules (see table 9). For example, rules 1, 5, 6, and 7 all address the place of the community forest, by addressing fire. During the hot and dry season months (February – May) in northern Thailand (see picture 9 and 10).

**Picture 9, 10: Thailand Upland field rainy season versus dry season. The haze in picture 10 is from forest fire smoke.**

Rules 2 and 3 place limitations on resources, bamboo shoot and the Mae Du tree, that are limited in quantity. Sixty-five percent of respondents mentioned cutting down the Mae Du tree from the forest before it was a community forest and 7 mentioned how it was a waste (personal communication, October 2010). Rules 6, 7, and 8 reflect the community forest committee’s limitations of time and technology, by making it mandatory for every household to help with fire prevention and monitoring the forest.

“3. Collective –Choice Arrangements: Most individuals affected by the operational rules can participate in modifying operational rules” (Ostrom, 2002, p. 11).
In Huai Lu Luang: Strong. This principle was addressed through questions 33 to 37 and through key informant interviews with the community forest committee. It was given a strong rating because of community participation in the drafting of the rules, the overall agreement of the rules expressed by respondents, and because of the organizational mechanisms that allow for further participation (see table 7).

As shown in earlier discussions, the community forest rules were voted on by household representatives, unanimously and 93% of villagers currently agree with the community forest rules (personal communication, October 2010) (see table 9). In addition, while the rules have not changed since 1977, there are mechanisms within the community to change the rules if necessary. The village headman explained that if anyone thinks that a rule should be added or changed, they will bring it to the committee, and the committee members will vote (personal communication, October 2010). Eighty-one percent of respondents understood who they could go to if they have a problem or concern, (see table 8). Sixty-seven percent of those who responded that they did not know who to talk to if they have a problem, use the forest less than 3 times per year. Also, committee members and villagers expressed an openness to learn and adapt, “we are willing to add more of the rules if anybody who has the specialized knowledge comes to add more” (Interviewee 13, personal communication, October 2010). Eighty-one percent of respondents said that they know who to talk to if they have a problem or concern about the community forest.
Table 8: Knowledge of where to take community forest concerns in Huai Lu Luang by gender and age (n=32).

<table>
<thead>
<tr>
<th></th>
<th>Female</th>
<th>Male</th>
<th>A*</th>
<th>B*</th>
<th>C*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>11</td>
<td>13</td>
<td>5</td>
<td>11</td>
<td>8</td>
</tr>
<tr>
<td>No</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

*A= age group 18-34, B = age group 35-50, and C = 50+

Table 9: Responses about community forest rules for Huai Lu luang by total, gender, and age (n=32).

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Females</th>
<th>Males</th>
<th>A*</th>
<th>B*</th>
<th>C*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you agree with the Community Forest Rules?</td>
<td>Yes</td>
<td>28</td>
<td>12</td>
<td>16</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>I don’t Know</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you think there are any rules that should be added?</td>
<td>Yes</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>No</td>
<td>24</td>
<td>11</td>
<td>13</td>
<td>8</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>I don’t know</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you think there are any rules that should be taken away?</td>
<td>Yes</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>26</td>
<td>11</td>
<td>15</td>
<td>8</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>I don’t know</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Do you think the rules are fair to everyone in the village?</td>
<td>Yes</td>
<td>25</td>
<td>12</td>
<td>13</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Only to those that are stubborn</td>
<td>2</td>
<td></td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I don’t know</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*A= age group 18-34, B = age group 35-50, and C = 50+

“4. Monitoring. Monitors, who actively audit common-pool resource conditions and appropriator behavior, are accountable to the appropriators and/or are the appropriators themselves.” (Ostrom, 2002, p. 11).

*In Huai Lu Luang: Moderate. This principle was based on the question 38 to 40 and given a moderate rating because of the weight given to counter-cultural response of a
community forest committee member who admitted to breaking the rules and turning a blind eye when others cheated (see table 7). Ninety-seven percent of respondents answered that they had never broken a rule before, and 57% said that they’d never seen anyone break a rule before. Of the 43% who had seen or heard of anyone breaking a rule, 92% referred to the same two instances mentioned previously, where two separate individuals unknowingly broke the rules by cutting down a Mae Du tree. The one outlier for both of these questions was a community forest committee member who admitted, “sometimes if anybody comes to say something about somebody come and break the rule I just like close one eye and let it go and don’t catch the breaking of the rules” (Interviewee 2, personal communication, October 2010).

Regardless of the occasional cheating, 97% of respondents still answered that they trust the other members of the village and of the committee to abide by the community forest rules. In addition, while the committee itself convenes roughly twice a year, the committee members actively monitor the forest for fires and for rule breaking. The three committee members interviewed mentioned checking the forest on a bi-weekly basis (Interviewees 2, 13, and 22, personal communication, October 2010).

“5. Graduated Sanctions: Appropriators who violate operational rules are likely to receive graduated sanctions (depending on the seriousness and context of the offense) from other appropriators, from officials accountable to these appropriators, or from both.” (Ostrom, 2002, p. 11).
In Huai Lu Luang: Moderate. This principle was evaluated based on the community forest rules and key informant interviews. It was given a moderate rating, because while some evidence of graduated sanctions exist, they are minimal and the research did not clarify if they are enforced (see table 7). According to the community forest committee, only the two occurrences where two villagers cut down the trees, have the rules been enforced and upheld and a steeper fine for an addition offence was not mentioned. In 2000 and again in 2005, two separate incidences occurred where a villager cut down a tree without permission. In both incidences the villager was unaware of the rule, and they were informed and the fines were paid (community forest committee, personal communication, October 2010). Rules have specific fines associated with infractions, for example, a fine of 1500 baht (US $50) is levied for setting a fire in the community forest, 2000 baht (US $67) for extending your upland fields into the community forest, and the steepest fine of 3000 baht (US $100) for cutting a tree in the forest. Rule 10 also addresses graduated sanctions by indicating that if anyone breaks one of the fined rules (1-4) more than three times, he will be handed over to the RFD for prosecution.

“6. Conflict-Resolution Mechanisms. Appropriators and their officials have rapid access to low-cost, local arenas to resolve conflict among appropriators or between appropriators and officials.” (Ostrom, 2002, p. 11).

In Huai Lu Luang: Very Strong. This principle was assessed primarily through a key informant interview with the village headman as well as through interview question 41. It was given a very strong rating because clear mechanisms exist within the village to
handle conflict. When asked if they had ever experienced conflict before, 84% of respondents answered no (see table 7). Four respondents answered that they have experienced conflict, but that they resolved it amongst themselves. For example, interviewee 10 explained “Quarrels sometimes happen when we do the fire line. Like some people just sit down, while other. I have gotten angry, but then I forgive. We just quarrel at that spot at the end reconciled” (personal communication, October 2010). The village headman explained that there are three possible steps to conflict resolution in Huai Lu Luang if the parties cannot resolve conflict independently. The first step is that the religious committee will talk with both parties and if they are reconciled is no further action taken. The second step involves working with the law committee. At this point each party must pay a fine of 250 baht (US $8) to the village. If the conflict is still not resolved, final authority rests with the headman, where they each have to pay a 500 baht (US $16) fine and where they must reconcile (personal communication, October 2010).

“7. Minimal Recognition of Rights to Organize. The rights of appropriators to devise their own institutions are not challenged by external governmental authorities.” (Ostrom 2002, p. 11).

_in Huai Lu Luang:_ Moderate. This principle was evaluated through interview questions 42 to 43 and on the same premises as A6. The moderate rating is based on the fact that while in practice Huai Lu luang is unchallenged by the RFD or the Thai government, official the government has that right (see table 7). In practice, Huai Lu Luang villagers are not challenged in their right to govern their own village and the community forest by
the Forestry Dept or Thai Government. However, legally they have no explicit rights to their community forest. In the future, politically, with the Mae Kok River Basin National Park, the Community Forestry Bill, or the Chanot Chumcon existing *de facto* rights to organize could be challenged.

**Discussion**

This research was designed to analysis the results on the basis of gender, age, and ethnicity; however, the data presented challenges to that ambition. For the ethnic categories of Black Lahu, Yellow Lahu, and Akha, the responses from the one Akha male interviewed and the one Yellow Lahu male interviewed did not vary from their respective age and gender categories, therefore, the sub-category of ethnicity was not discussed.

The data for resource attribute R1 and appropriators attributes A1 and A5 did not lend itself to be dissected based on gender and age (see Appendix B). The interview questions strove to distinguish between the individual and the household, but as mentioned previously, the respondents did not distinguish between themselves and their household use of community forest resources. This made it impossible to evaluate gender and age variations in the use of food, timber, and NTFPs from Huai Lu Laung’s community forest.
Table 10: Frequency of community forest use by Huai Lu Luang villagers by gender and age (n=32).

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Total</th>
<th>Female</th>
<th>Male</th>
<th>A*</th>
<th>B*</th>
<th>C*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekly</td>
<td>9</td>
<td>1</td>
<td>8</td>
<td>3</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Monthly</td>
<td>4</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Semi-Annually</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Annually</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Seldom</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Never</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

*A= age group 18-34, B = age group 35-50, and C = 50+

Additionally, fewer women and individuals from age group C (50+) extracted resources from the community forest (see table 10). Based on the survey of Huai Lu Luang villagers (n=32), 40% of respondents reported that they use the community forest on a monthly or more frequent basis, 31% used it semi-annually or annually, and 29% reported that they seldom or never use the forest. Only one female accessed the forest monthly and age group B (35-50) had the heaviest use of the community forest (see table 10). When asked “Who in the village do you think uses the community forest the most?” 72% of respondents (n=36) said that ages group A-B use it the most, 16% specified age group C, 6% responded men, and 6% responded that men and women use it an equal amount. This suggests that the majority of the community forest users are men in age groups A-B (18-49). The terrain of the community forest is steep and present a challenge for women and people in age group C. One female interviewee noted that, “for me, even mushrooms I cannot get, because the community forest is very slippery. The women
cannot go” (Interviewee 4, personal communication, October 2010). A 65 year old man described his community forest usage, “I never go at all, I’m very old, I seldom go. I let all the children go, but I stay back at home” (Interviewee 1, personal communication, October 2010). In light of the apparent limited forest use by women and elderly villagers, gender and age are considered in subsequent discussions only when specifically noted by interview respondents. This affects the ability to access Ostrom’s (2002) appropriators attribute A3 and design principle attributes one to four (see Appendix B). Women and older villagers may still use resources from the community forest, but they are not the predominant harvesters and their understanding of rules and boundaries does not impact community forest usage.

Another one of the challenges these interviews and data collection methods presented was bias: my personal bias, the interests and bias of UHDP personnel, and sampling bias given how interviewees were selected. Through my past experiences with Huai Lu Luang I know that I am biased in favor of Huai Lu Luang gaining a chanod chumchon. UHDP and Huai Lu Luang villagers share that same wish. Through having the village Headman, the five different committees (Youth Religion, Adult Religion, Civil Government, Law, and Community Forest) responsible for identifying individuals to interview, it is possible that they selected individuals who they thought would provide desired information. This bias was tempered, however, by my translator soliciting six interviewees at random, having six interviewees recommended (snowball effect) by other interviewees, and through six interviewees solicited through village-wide speaker announcements.
Chapter 5: Conclusions

Summary of Important Results

Thailand exhibits the common perception by governments and many international conservation organizations that upland forest dwellers are unfit to be guardians of natural resources; a perception this paper argues is unfounded. Huai Lu Luang village has demonstrated the capacity to be sound guardians of their community forest in light of the internationally accepted criteria developed by Ostrom (2002). They have met all of Ostrom’s 18 key attributes of effective common-pool resource management based on a survey of Huai Lu Luang villagers, interviews with key informants and repeated meetings with the management committee of the community forest. In the attribute category of resource characteristics, Huai Lu Luang’s community forest had strong capacity for feasible improvement under management (R1), a moderate quantity of clear indicators to monitor the resource (R2), a strong capacity for a predictable flow of resources (R3), and a strong rating for a sufficiently small management area (R4). For the attributes of resource appropriators, Huai Lu Luang showed a very strong dependency (salience) on the community forest (A1), demonstrated a strong common understanding of the resources (A2), showed a strong low discount rate (A3), demonstrated a strong level of trust and reciprocity within the village (A4), had a moderate level of autonomy in self-governance (A5), and showed a very strong ability to organize (A6). Lastly, under common-pool resource management design principles, Huai Lu Luang has demonstrated a strong capacity to clearly define their boundaries (1), a strong capacity for the congruence of the governing rules to the resource and local condition (2), a strong level of participation by appropriators (3), a moderate capacity to moderate the resources (4), a
moderate level of graduated sanctions for violators (5), a very strong capacity to resolve conflict (6), and a moderate recognized right to govern their own resources (7).

Huai Lu Luang village’s capacity appears strongest in the formation of the community forest itself, the existence and function of its management committee, and in village unity. The community forest committee established clear parameters for the community forest, and the vast majority of community forest users understand the rules and boundaries of the forest and agree with those rules. Challenges arise in the areas of governance autonomy and monitoring of the community forest. The lack of legally recognized tenure rights prevents Huai Lu Luang village from exercising full, legal autonomy over their community forest, even if their daily use and management of the community forest remains unchallenged. Formal tenure does not guarantee the sustainable use of a resource. Ostrom and Nagendra (2007) suggest

We conclude that simple formulas focusing on formal ownership will not solve the problems of resource overuse...Solutions to overharvesting of natural resources take time and effort to design so as to fit a local ecology and social structure of the users and official involved. (Berkes 2004 and Frey 1997)

The identification and design of the solutions is directly tied to monitoring efforts, and it is in monitoring their community forest that Huai Lu Luang exhibit the greatest weakness. Huai Lu Luang villagers did express a willingness to learn and an ability to follow instructions, like those given to them by the RFD. However, the recent relocation of the village and related loss of traditional ecological knowledge and practice and general lack of formal education regarding how or what to monitor in the community forest are significant impediments to Huai Lu Luang monitoring efforts.
Recommendations

The community forest committee surveys the community forest regularly, but somewhat blindly. The village’s recent migration to the area precludes any detailed or long-term historic understanding of local forest, soil or climatic conditions. In addition, their inability to practice traditional long-fallow swidden agriculture due to the availability of land has forced villagers to adopt agricultural practices very different from those practiced by their ancestors. Nevertheless, Huai Lu Luang villagers possess useful and practical knowledge about the community forest. For example, 17 survey respondents noted that their elders, village leaders, or relatives had taught them about the forest.

Moreover, Huai Lu Luang villagers do not have records regarding the condition of their community forest. Ostrom and Nagendra (2007) suggest that in addition to tenure, rigorous standardized monitoring is important to document changes in resource conditions and prevent resource overuse or degradation. Through use of remote sensing and on-the-ground ecological and social surveys, improved understanding of the status of a resource can be achieved. Remote sensing allows for time-series analyses to identify general changes in land-cover which if combined with on-the-ground monitoring of tree, shrub, and groundcover composition, reproduction and growth can provide an assessment of forest conditions.

It is more effective and sustainable to train villagers how to do their own monitoring (e.g., GPS training and resource mapping) than to rely on outside organizations. UHDP has the technical capacity to train CF committee members in the
monitoring of their community forest, thereby empowering the committee and villagers in the process. Remote sensing training, however, is more technical and would likely require outside support. Nevertheless, perhaps an intern (working with UHDP or MMF) or a university student could assist with and help train a village counterpart in remote sensing analysis.

The static, RFD dictated, nature of rules presents another challenge in the management of community forestry resources. The rules are guidelines the RFD wishes the village to value and adhere to, but with more active and grounded monitoring of the community forest, the capacity to modify and adapt rules based on changing ecological, social and cultural conditions could improve the health and management of the community forest. This could include restrictions on harvesting of certain forest products depending on the season, or occasionally limiting cattle grazing to allow specific species, such as forest bananas, to mature. By applying their hands-on experience with the community forest, additional education on forest health, and the results of monitoring efforts, the community forest committee could potentially increase future benefits from the community forest and better align rules and monitoring efforts with existing forest conditions. Without a clear, documented understanding of current conditions in the community forest, it is difficult to ascertain what changes may be warranted.

Education is not only important for community forest committee members, but also for village residents as a whole. A Lahu translated sign containing the community forest rules would make these rules understandable to a greater portion of the village. However, in addition to knowing the rules more villagers need to understand the rules. While 60% of survey respondents felt that the village had a common understanding of the
community forest, 34% did not. Villagers may be aware of and adhere to community forest rules without actually understanding the rationale for them. One survey respondent noted “about 80% of the village has common understanding. The rest who don’t have the common understanding, just follow. They cannot do or decide anyhow in the community forest, because they have no authority.” (Interviewee 11, personal communication, October 2010). The community forestry committee should make a better educational outreach to the women in Huai Lu Luang, particularly the widowed and divorced, without a male head of household. Interviewee 26 explained “My father was the representative of the family to go and attend village meetings. When my mother divorce from my father, we don’t know any news at all from the village” (personal communication, October 2010). Occurrences like this can result in the breaking of rules due to a lack of information and understanding.

In summary:


2. *Monitoring*: Remote sensing for time-series analysis (could be done by interns or University students)

3. *Community Forest Committee Education*: Committee needs more training in the what to monitor (see 1). This could be done by NGOs like UHDP or by the RFD.

4. *Villager Education*: Sign with the community forest rules needs to be translated from Thai to Lahu.
5. *Villager Education:* More effort needs to be done to keep women who are the head of their households informed.

**Broader Implications**

This study argues that the *chanod chumchon* that would place Huai Lu Luang as a satellite within the Mae Kok River Basin National Park is the best possible outcome for Huai Lu Luang, as opposed to the community forestry bill. While the community forestry bill seeks to protect the forests, it fails to incorporate a holistic and integrated picture of villager’s land use, thereby encouraging a further degradation of the landscape. The *chanod chumchon* allows for the village to establish their own guidelines for management that fit with a more fluid understanding of forests and is less likely to encourage rule breaking. In addition, the Thai government and the RFD, in approving the *chanod chumchon* still have authority over how the forests are governed.

The situation of Huai Lu Luang villagers is not unique to their village, sub-district, district, province, or even country. The establishment of Mae Kok River Basin National Park would impact 12 other sub-districts in 4 districts and tens of thousands of people. In light of Huai Lu Luang strongly aligning with Ostrom’s (2002) framework, other communities could learn from Huai Lu Luang through existing networks, forming coalitions, learning about their legal rights, and studying Huai Lu Luang’s specific community forest management practices as a means to improve their own. This research could also inform UHDP’s future work with community forestry and forest tenure reform. Seven other villages in Mae Yao sub-district have a similar history to Huai Lu Luang. They have all in-migrated from Myanmar in the last sixty years, they all face the
same threat from the RFD’s Mae Kok River Basin National Park, and they have all
dergone similar efforts in establishing and designing their community forests (Ajan
Jamlong, personal communication, October 2010). It is possible that the research results
from this paper could be used by those communities to support their own efforts in
obtaining recognized forest tenure. The similar cultural and community forest design
histories of those seven villages suggests that there would be a strong correlation in
applying Ostrom’s (2002) framework to their community forests. By seeking to improve
education and monitoring efforts of community forests and by illustrating the strength of
their own practices as related to an internationally recognized and widely used criteria,
these villages may have a stronger case for the acquisition of a chanod chumchon for
their community forest as well.

There is a great deal of domestic Thai and international advocacy for forest
conservation and national parks. But as Ajan Jamlong has aptly observed “even the wild
animal has a place to stay in the jungle, but no land for the upland people” (personal
communication, October 31, 2010). This research suggests that Huai Lu Luang villagers
and perhaps many other upland people can contribute to effective forest conservation and
management efforts, while simultaneously deriving valued benefits from those forests.
References


doi:10.1080/1350462032000173689


Ostrom, E. (2002). Reformulating the Commons. *Ambiente & Sociedade. (paper presentation.)*


**Appendix A: Break Down of Interviews**

**Table 4: Breakdown of Interviews**

<table>
<thead>
<tr>
<th>Setting</th>
<th>Number of Interviews</th>
<th># Male</th>
<th># Female</th>
<th>MA</th>
<th>MB</th>
<th>MC</th>
<th>MBYL</th>
<th>MCAk</th>
<th>FA</th>
<th>FB</th>
<th>FC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public</td>
<td>26</td>
<td>3</td>
<td>6</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Private</td>
<td>6</td>
<td>2</td>
<td></td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Headman’s House</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>#16 House</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compassion Office</td>
<td>26</td>
<td>12</td>
<td>14</td>
<td>5</td>
<td>4</td>
<td>2</td>
<td></td>
<td></td>
<td>1</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>
**It should be noted that most days in the evening the headman would make an announcement reminding those people scheduled to interview with us to come down, however on the morning of October 20th, 2010, it had rained the entire previous night and that entire day so very few people went to work in their fields. Knowing we needed more woman to interview that Headman announced that any woman currently not doing anything should come down to the compassion office to be interviewed. That is how we got the four women, and the one man accidently came as well because of that announcement. It should be noted also, that 3 of my interviewees, #2, #13, and #22 are community forest committee members, and although again I didn’t ask this specifically, from observation #4 is married to interviewee #15, #16 is married to #18, #25 is the daughter of committee member #12 and in the same household, and #29 is the brother of #4 but has his own household and separate family. I know there are other relationships, such as in-laws, parents, cousins, and siblings that I did not know about. However, in the village many people seek spouses outside of the village because they are all related to each other. I did clarify with my translator, however, to make sure that we did not interview more than 2 people from the same household. Additionally the first three
interviews were conducted at the headman’s house, and interview #16,17, and 18 were conducted at interviewee #16 house, the rest were conducted at the compassion office. One error in the interviews is that I should have asked each individual how they came to the village, whether it was through marriage, migration, etc, and I should have asked who were the members of their family, and if anyone in their family was a CF committee member.

**Group Interview**

I held three separate group interviews with the village headman and members of the community forestry committee. As I had previously worked with the community forest committee, many of the members and the village headman remembered me and they also knew Mint as she had worked separating in the village two years ago serving as a translator for an English speaking intern from Mekong Minority Foundation (MMF). I introduced the purpose and objectives of my research and then shared the schedule and interview plans.

10.18.10: I had my initial interview with three of the thirteen members of the community forestry committee. I asked basic information about the village, community forest, and the committee. After I completed all of my interviews, which the headman or a committee member would periodically check in on us to see how many more we needed and from which category.
10.28.10: I had a follow up interview with the community forest committee members and the village headman in a relatively unscripted interview. For this meeting only four members were present, one the same from before, but three different. I was told that many of the committee members have paddy fields far away so when they are harvesting rice they spend the weeknights out in the paddy fields and do not return to the village. During this meeting other village members sat and listened to portions of the interview.

**Community Forests Use Individual Interviews:**

*Question Framework:*

Questions were scripted, aside from the occasional follow up or omitted question, to answer criteria from Elinor Ostrom’s framework of attributes of resources and resource users that are related to a communities ability to self-govern common-pool resources. The questions centered on three broad categories of resource attributes, resource user attributes, and design principles for long-enduring common pool resources, and the interview questions were framed to address the following considerations:

**Table 2: Interview Schedule**

<table>
<thead>
<tr>
<th>Date</th>
<th>Type of Interview</th>
<th># Interviews Completed</th>
<th>Category of Interviews</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.20.10</td>
<td>Planning Meeting With Tui and Jamlong</td>
<td>1</td>
<td>Unscripted Meeting</td>
<td>NA</td>
</tr>
<tr>
<td>9.21.10</td>
<td>Car ride with Jamlong + Intro village meeting</td>
<td>2</td>
<td>Unscripted Individual + Group Meeting</td>
<td>NA</td>
</tr>
<tr>
<td>10.18.10</td>
<td>Interview with Pastor + Group Interview with CFC</td>
<td>2</td>
<td>Informal Interview + Group Interview</td>
<td>In CFC 1 man mostly talked</td>
</tr>
<tr>
<td>10.19.10</td>
<td>Individual Interviews</td>
<td>3</td>
<td>1 MBBL 2 MCBL</td>
<td>At the Headman’s House</td>
</tr>
<tr>
<td>10.20.10</td>
<td>Individual Interviews</td>
<td>10</td>
<td>4 FCBL 1 FBBL 1 MABL 2 MBBL</td>
<td>Rainy Day</td>
</tr>
</tbody>
</table>
9.20.10, Initially I met with Ajan Tui, Ajan Jamlong and Mint to discuss my research and plans and to make a schedule.

9.21.10 The initial meeting was an introductory meeting and planning meeting in which Ajan Jamlong helped introduce me and my translator Mint. On the drive out to the village, I was able to spend an hour asking Ajan Jamlong to fill me in on the current situation with the village, community forest, and government. A practice that I had done in previous years with the help of Ajan Tui who speaks Thai and English, in addition to Karen.

My translator and I stayed at the Compassion International office, aside from the first night where we conducted three interviews at the village Headman’s house, the majority of the interview were conducted at the Compassion office. However, when we first arrived on Monday, October 18th, due to an inability to get into the Compassion office,
the village Pastor sat and talked with us, in an unscripted interview, for about two hours and I was able to ask him basic background information on the village.

10.31.10 I also met again with Ajan Jamlong, to help fill in the gaps and seek clarification on things I did not understand.

11.1.10 There are also a few notes from a personal three hour conversation I had with Ajan Jamlong, without Mint, in Thai. It should be noted that my Thai is conversational and not fluent, but I have worked with Jamlong for 3 years and he has a minimal understanding of English so between the two we have learned to communicate with each other efficiently.

Appendix B: Interview Questions Per Ostrom Category

<table>
<thead>
<tr>
<th>Attribute Category</th>
<th>Attribute Themes</th>
<th>Questions</th>
</tr>
</thead>
</table>
| Resource Attributes | R1) feasibility of improving the resource through management; | 1. Do you think it is better now or before the forest was a community forest? Why?  
2. How else did you use the forest?  
3. What products did you personally get from the forest before it was a Community Forest?  
4. Is there anything in the forest you used to have access to that you wished you had access to now? |
|                    | R2) Indicators available to monitor changes in resource quantity and quality, at a relatively low cost. | 5. How was knowledge about the forest taught to you and by whom?  
6. Give one example of something you learned that you think is important.  
7. How do you think you should use the forest to keep it healthy? |
<table>
<thead>
<tr>
<th>Resource User Attributes</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. How well informed do you think the community forest committee is about managing the forest?</td>
<td></td>
</tr>
<tr>
<td>9. Since the forest has been a community forest do you use the forest more or less? Why?</td>
<td></td>
</tr>
<tr>
<td>R3) predictable resource availability;</td>
<td></td>
</tr>
<tr>
<td>10. Are there any resources in the community forest that you worry are too scarce to be used? Why?</td>
<td></td>
</tr>
<tr>
<td>R4) sufficiently small management area</td>
<td></td>
</tr>
<tr>
<td>11. Is there enough land in the Community Forest to meet your needs?</td>
<td></td>
</tr>
<tr>
<td>1) Salience: household dependence on the of resource for major portion of their livelihoods;</td>
<td></td>
</tr>
<tr>
<td>12. What products do you personally get from the Community Forest?</td>
<td></td>
</tr>
<tr>
<td>13. How many times per week do you go into the community forest and what do you do / get?</td>
<td></td>
</tr>
<tr>
<td>14. What are your family’s main expenses?</td>
<td></td>
</tr>
<tr>
<td>15. What is your main source of income?</td>
<td></td>
</tr>
<tr>
<td>16. Since the forest has been a community forest do you get more or less income from the forest? Why?</td>
<td></td>
</tr>
<tr>
<td>17. What products does your family use from the Community Forest?</td>
<td></td>
</tr>
<tr>
<td>18. Do you think managing the community forest is important? Why?</td>
<td></td>
</tr>
<tr>
<td>19. What are the benefits to you or your family for having access to the community forest?</td>
<td></td>
</tr>
<tr>
<td>20. What other services does the Community Forest provide?</td>
<td></td>
</tr>
<tr>
<td>21. What services do you get from the community forest that you couldn’t afford to pay for or wouldn’t have access to otherwise?</td>
<td></td>
</tr>
<tr>
<td>2) common understanding of the resource;</td>
<td></td>
</tr>
<tr>
<td>22. Do you feel that everyone in the village has a common understanding of the forest?</td>
<td></td>
</tr>
<tr>
<td>23. What is your biggest concern about the community forest?</td>
<td></td>
</tr>
<tr>
<td>3) low discount rate (or few alternative income</td>
<td></td>
</tr>
<tr>
<td>24. How much income, if any, do you get from the community forest each year?</td>
<td></td>
</tr>
<tr>
<td>25.</td>
<td>Outside of the community forest have you planted any forest products that you use? What?</td>
</tr>
<tr>
<td>26.</td>
<td>Do you ever go outside the community forest to collect forest products? Where?</td>
</tr>
<tr>
<td>27.</td>
<td>Do you trust the other members of the committee and village to abide by the community forest rules?</td>
</tr>
<tr>
<td>28.</td>
<td>How were you involved in the process that decided the community forest and the rules?</td>
</tr>
<tr>
<td>29.</td>
<td>Do you even see members from the community forest committee out in the forest?</td>
</tr>
<tr>
<td>30.</td>
<td>Do you understand where the boundaries are for the community forest?</td>
</tr>
<tr>
<td>31.</td>
<td>Do you know where the borders are for the different sections of the community forest?</td>
</tr>
<tr>
<td>32.</td>
<td>How familiar are you with the community forest rules?</td>
</tr>
<tr>
<td>33.</td>
<td>Do you agree with the community forest rules?</td>
</tr>
<tr>
<td>34.</td>
<td>Are there any rules you think should be added?</td>
</tr>
<tr>
<td>35.</td>
<td>Are there any rules you think should be taken away?</td>
</tr>
<tr>
<td>36.</td>
<td>Who in the village do you think used the community forest the most? Why?</td>
</tr>
<tr>
<td>37.</td>
<td>If you have a problem or concern with the community forest do you know who you can talk to? Have you ever?</td>
</tr>
<tr>
<td>38.</td>
<td>Have you ever broken a rule before and not been caught?</td>
</tr>
<tr>
<td>39.</td>
<td>Have you ever seen anyone break a rule before?</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>--------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>5)</td>
<td>graduated sanctions for violators;</td>
</tr>
<tr>
<td>6)</td>
<td>conflict resolution mechanisms;</td>
</tr>
<tr>
<td>7)</td>
<td>the recognized right by government authorities of village members to govern their own resources</td>
</tr>
<tr>
<td>41.</td>
<td>Have you had conflicts in the village before, about anything? How were these conflicts solved?</td>
</tr>
<tr>
<td>42.</td>
<td>Do you think that having an official community forest with rules and regulations will help your village to keep the community forest and not have the government take it away?</td>
</tr>
<tr>
<td>43.</td>
<td>Have you ever encountered a problem with the government over using the community forest?</td>
</tr>
</tbody>
</table>