SUSTAINABLE COMMUNITY FOREST MANAGEMENT IN LOCAL DEVELOPMENT: COMMUNITY PRACTICE, PEOPLE PARTICIPATION AND THE SUCCESS OF FOREST CONSERVATION

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A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy (Development Administration) School of Public Administration National Institute of Development Administration 2009

SUSTAINABLE COMMUNITY FOREST MANAGEMENT IN LOCAL **DEVELOPMENT: COMMUNITY PRACTICE, PEOPLE** PARTICIPATION AND THE SUCCESS OF FOREST CONSERVATION **Pornthep Sritanatorn School of Public Administration**

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ABSTRACT

Title of Dissertation	Sustainable Community Forest Management in Local	
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Community forest is an evolving and dynamic concept, which underlines the significance of process of local people's participation. The concept has been widely accepted and implemented in numerous forest countries such as Nepal, India, Bhutan, Philippine, Vietnam, etc. In accordance with the concept, forests are perceived as a valuable asset and belonged to local community itself. In light of this notion, accountability in conserving forest is not particularly narrowed to government officials as it was in the past, but the local people in community forest that gain direct and indirect benefit from their forests are encouraged to share responsibility as well. In Thailand, the role of community forests has been increasing significantly every year.

This research aimed to explore four successful community forests in the North of Thailand. In addition, a field study to Khao Wong in Chaiyaphum, the best model of community forest in 2008 under the Royal Forest Department, is conducted as a supplementary study.

The research used case study method. The main research methodology is qualitative research method supported by quantitative research methodology. Four successful community forests in the North: Ban Samkha and Huay Mae Hin in Lampang, Ban Talad Kee Lek in Chiang Mai, and Ban Mae Rawan in Tak, were selected on the ground of best practice according to their success in forest conservation. All community forests were explored extensively and the key informants were interviewed.

Based on qualitative study, major findings are highlighted on 1) the practice of local community forest to help forest survive, 2) major factors that allow the community to achieve their success, and 3) Participation is confirmed by both qualitative and quantitative data.

The four case studies reflected that community forest and its forest committee were formally existed with rule, structured, and acceptance from stakeholder. Four major practices in forest conservation: the check dam model forest in Ban Samkha; the innovation of bamboo model forest in Huay Mae Hin; the cultural reproduction model forest in Ban Talad Kee Lek; and the networking model forest in Ban Mae Rawan, were identified in this research. Although four community forests focused on different kinds of practice, they shared some similarities and achieved the success. Every forest was taking cared by community forest committee, with a set of forest regulation. The selection and the administrative structure of forest committee was found informal in all case studies. The degree of enforcement in forest regulation varied among each community forests. In conclusion, the field study revealed that different practice of four community forests could lead to the success and sustainability of their forest.

Key success factors to forest conservation have emerged in the Thai rural community forest's setting. All four community forests shared common key success factors: strong sense of community, sharing benefit, leadership, strong natural leader, local organization, strong sense of belonging, common value in culture, network, rule, clear and defined boundary, people's participation, conflict resolution mechanism, and external support. Additional success factors were found very outstanding in particular community forest in the Thai setting: the strong kinship relation, historical driving force, group reputation, indigenous innovation, and the application of the Philosophy of Sufficiency Economy.

All factors have constituted for the success of forest conservation in the case study.

As the qualitative study found people participation as one of success key factors in forest conservation, the quantitative study supported the finding in detailed activities.

For future research, replication of the study to community forest in other region of the country could generate a wider perspective concerning to practice and key factors to the success of various community forest throughout the country. Also, the future study of successful and unsuccessful community forest in the same region would be an alternative to explore the success factors of community forest in Thailand.

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ABBREVIATIONS

Abbreviations Equivalence

BMR	Ban Mae Rawan Community Forest
ВТК	Ban Talak Kee Lek Community Forest
BSK	Ban Samkha Community Forest
CF	Community Forest
CFBM	Community Forest Based Management
FUGs	Forest User Groups
НМН	Huay Mae Hin Community Forest
KW	Khao Wong Community Forest
NTFP	Non Timber Forest Product
RFD	Royal Forest Department
SPSS	Statistical Package for Social Science

CHAPTER 1

INTRODUCTION

1.1. Statement and Significance of the Study

Western development has focused on the modernization concept and a community develops itself by going through stages of economic growth according to Rostow's theory of development. Rostow viewed traditional society as developing gradually from the take off stage to the stage of maturity. This model of development assumed a linear pattern which developing countries follow for many decades.

For Thailand, since the implementation of the first National Economic Plan in 1960, the Thai government has focused on western development. With the attempt to lead the country into industrialization, economic indicators such as the Gross National Product (GNP) and the Gross Domestic Product (GDP) were highlighted as panaceas to cope with poverty. With the rise of the GNP and GDP from year to year, the country was flattered as a new prominent economic base in the Southeast region. People were encouraged to achieve economic prosperity in order to survive beyond the poverty line. With this underlying perception, people enjoyed reaping the benefits from nature. They consumed natural resources and expected that their intelligence and technology would be strong enough to reproduce those resources endlessly. Such capital as money, labor, and timber was invested into the mode of production in order to produce a flatter world of "growth". The development pattern, as we see today, has proven to end up with social imbalance in terms of income disparity, social problems, and environmental depletion.

During the past decades, the world's ecosystem has seriously degraded. The trend of destruction of the world's forests demands global emergency for the tropical forest countries. The World Commission on Forests and Sustainable Development (WCFSD) revealed in 1999 that forests have virtually disappeared in 25 countries, 18 have lost more than 95 percent of their forests, and 11 have lost 90 percent. The Food

and Agriculture Organization (FAO) also reported in 1999 that 154 million hectares of tropical forest, an area in which greater than the combination of Italy, France, and Spain, has vanished in the last thirty years.

In Thailand, it is apparent that the country's forest resources have severely diminished at an increasing rate as shown in table 1.1. In 1961, Thailand's forest areas occupied more than 50 percent of the country. However, these forest areas dropped drastically to 33.56 percent forty-seven years later.

Records show that one of the main reasons for the deforestation in Thailand is the increase in the population, mainly in the agricultural sector, from 27 million people in 1961 to 67 million in 2004. During this time, new lands for cultivation were retrieved from degradable forest land. The demand for land was encouraged by the promotion of commercial cash crops such as cassava, corn, and sugarcane by a government policy of increasing farmers' income. These cash crops generally required vast land to produce adequate incomes, thus resulting in the further expansion of farmlands into the forest.

In addition, during the late 1970s to the 1980s, there were influxes of hill tribes from neighboring countries. The opium production at that time introduced a practice of shifting the cultivation of farmers in the North, motivating them to convert more forestlands into agricultural lands. This also added to the severity of the forest destruction in the country.

Although the government was able to eradicate opium production in the North, and promoted several reforestation programs, forest areas are diminishing at an increasing rate every year. Until 2008, according to table 1.1, it seemed that the government was able to increase forest areas to 33.56 percent, but the rate was still relatively low compared to that in the past.

National Economic and	Year Forest Area (sq.kn		.) Percent	
Social Development		1 sq.km. = 625 rai		
Plan (Issue)				
1	1961 (BE 2504)	273,629	53.32	
3	1973 (BE 2516)	221,707	43.21	
3	1976 (BE 2519)	198,417	38.67	
4	1978 (BE 2521)	175,224	34.15	
6	1988 (BE 2531)	143,803	28.03	
6	1991 (BE 2534)	136,698	26.64	
7	1993 (BE 2536)	133,554	26.02	
7	1995 (BE 2538)	131,485	25.62	
8	1998 (BE 2541)	129,722	25.28	
8	2000 (BE 2543)	170,110	33.15	
9	2004 (BE 2547)	167,591	32.66	
10	2008 (BE 2551)	172,185	33.56	

 Table 1.1 Remaining Forest Area of Thailand in 1961-2008

Source: Royal Forest Department, 2008.

In 2007, the Thai Royal Forest Department (RFD) confirmed the severity of the deforestation. The RFD found that 20,000 rais of forest were encroached on with 3,088 cases of illegal deforestation during that year. Forest encroachment continued to be one of the most urgent agendas of the country and its visible negative impact caused terrible flooding and mudslide in several parts of the country. Dr. Damrong Sriphraram of Kasetsart University in Thailand revealed his opinion in the 111 Year Seminar of the RFD in 2007 - that forests could be totally wiped out from the country in the next 63 years or in 2070 if deforestation continued without control or reforestation.

In order to reflect on the seriousness of the deforestation problem, Her Majesty Queen Sirikit emphasized her concern in a speech given on the 11th August, 2007 "...I have asked the Prime Minister to take care of the deforestation problem and to see if there are any laws or ways to protect the forests. Each tree, when it grows up, can keep a large amount of water...", and "...I have reminded relevant parties about

deforestation since I was 17, but there seems to be no progress in protecting the forests". Recently, Her Majesty the Queen encouraged reforestation efforts and reiterated the importance of conserving forests and sources of water in her address at Dusitdalai Pavilion, given on the eve of her birthday in 2008,"...A forest is a water source of the country. Let us take care of the forests. Think about fresh water, we can not survive without it."

While deforestation is a critical problem for Thailand, the community forest is an alternative forest management concept that has been discussed intensively and internationally for decades. The participation of local people in forest resources management seemed to be a promising way to conserve the forest as it worked in many countries. Thus, it was crucial to study the success of these community forests in Thailand. Access information about the practice, key success factors, and peoples' participation would be an advantage to other forest communities.

1.2. Objectives of the Study

The objectives of this study are as follows:

- 1) To assess experience and practice of community forests in forest conservation.
- 2) To assess a set of key success factors in community forest management.
- 3) To study people's participation in forest conservation.

4) To compare and contrast the practice and success factors on community forests in sustaining their forest resources.

1.3. Research Questions

The research questions to be addressed in this study are:

1) In order to achieve sustainable forest conservation, what are the practices of model community forests in the North? How have local communities in the North succeeded in sustaining their forests? How do they form as a group and work together to protect the forests?

2) What are the major key factors that encourage the local community forest to protect the forests and to be in co-existence with them?

3) In what activities do people participated in regard to forest conservation? Why and how do local people participate in forest conservation?

4) What are the commonalities and differences in the practice and factors in sustaining forest of local community forests?

1.4. Scope of the Study

The study of local community forests focused on the Northern villages where areas or parts of their boundary were surrounded by the forests and people in the community shared a common interest in the forests, for instance, using it as a water supply, source of food, or legal harvesting. With this common interest, people collaborated to conserve the forest. In 2008, there was a total of 7,229 community forests officially registered with the Royal Forest Department according to table 1.2.

Region	Number of	Number of	Area (Conserved Forest)	Area (Forest Act.)	Total Area
8	Village	Project	Rai	Rai	Rai
North	2,140	2,045	999,200	172,274	1,171,599
North East	3,528	3,081	485,138	350,456	835,972
Middle	903	804	233,475	85,387	318,949
South	658	651	83,262	28,154	111,488
Total	7,229	6,581	1,801,075	636,271	2,438,009

 Table 1.2 Community Forests in Thailand Under the Royal Forest Department

 (2000-2008)

Source: Royal Forest Department, 2009.

In this study, the researcher performed an in-depth study on each community forest in order to grasp the practice of f orest conservation management. However, it is not possible to explore every community forest in all parts of the country due to the constraint of time and budget. Thus, the scope of study was limited to the following. The local community forests to be studied were focused on those communities that located in the North of Thailand. This is due to the fact that:

1) Fifty-five percent of the forest area in the country is situated in the North.

2) Most of the forests in the North are located in watershed areas, regarded as an impartant area for the economy of the country.

3) The forest communities in the North are diversified in terms of culture, and various kind of social capital.

4) Regarding the process of selecting communities for study, Supang Chantavanich (2001: 170-189) suggested that the researcher should not overlook conditions that may be an obstacle to such study, such as size, complexity of the community, and possibility of access. Therefore, accessibility to the community, such as location, distance, and security, was a very important criterion for the study.

In considering the list of successful community forests and by consulting with forest officials from the RFD and by obtaining advice of forestry people, the local forest communities in the North were easier to access in terms of location and information, compared to other regions.

An in-depth study was conducted on four purposively selected cases of local community forests in order to generate a broad understanding of the practices and factors among different communities.

1.5. Limitation of the Study

This study focused on the best practice community forests in the North of Thailand. The findings on the practice and factors from this study may not be completely replicable to other forest communities located in other regions since the success of local sustainable forest community varies according to the context of geography, ethnography, culture, norms, and environment.

1.6. Expected Benefits of the Study

1.6.1 Academic Benefit

This study generated academic knowledge on the practice, application, and process of people's participation in the local community in conserving their forests. The factors of success in sustainable forest management in each community would be beneficial to other villages in the same region.

1.6.2 Implications for Public Policy

The analysis of this study will assist policy analysts in their policy formulation process. Once the practice and success factors of sustainable community forest are explored and identified, policy analysts in the field of development administration and other relevant fields could align the policy, prioritize support and budget contribution to the community forest.

CHAPTER 2

LITERATURE REVIEW

2.1 Forests in Thailand

Thailand has a total area of 513,115 square kilometers (approximately of 320 million rais), and a population of 61.1 million people. The economy is a diverse mixture of agriculture, manufacturing, and service industries, and rapid urbanization has occurred since the 1980s. Only 13 percent of the entire population lived in the urban area in 1965 and this increased to 23 percent by the end of 2000 (United Nation Devopment Programme, 2004: 7-18).

Thailand is geographically located in the center of the Southeast Asian mainland, adjoining the People's Democratic of Republic of Laos to the North and East, Cambodia and the Gulf of Thailand to the East, Myanmar and the Andaman Sea to the West, and Malaysia to the South. The different forest ecosystems of Thailand and rich biodiversity are important for the large rural population that depends on the forests for their livelihood. Forests are used to supply water to farmers' rice fields, as raw material for house construction and fuel, as a source of herbal medicine and food, and as fishing grounds in coastal mangrove forests. More importantly, these forests are regarded as a source of sophisticated cultural strength and value for the local people.

As mentioned in Chapter 1, Thailand's forest areas declined from 53.32 percent of the total land area in 1961 to 33.56 percent in 2008 .The most rapid deforestation occurred during the mid to late 1970s and early 1980s. Prasong Jantakad and Gilmour (1999) determined that the annual rate of deforestation in Thailand reached 3.85 percent between 1976 and 1982, the highest deforestation rates among the tropical countries. Most of the deforested forests were either legally or illegally logged, or converted to agricultural land.

Region	Forest Area(sq.km)	Total Area (sq.km)	Percent
North	95,154	169,644	55.26
East	8,062	36,502	4.68
North Eastern	27,702	168,854	16.09
Central Plain	20,009	67,399	11.62
South	21,258	70,715	12.35
Total	172,185	513,115	33.56

 Table 2.1
 Remaining Forest Area Classified by Region in 2008

Source: Royal Forest Department, 2008.

Niwat Ruangpanit (2005) classified the features of the forests in Thailand as follows.

2.1.1 Forests in the North-Northwestern Highland Region

The Northern and Northwestern regions of Thailand are geographically characterized by mountains and plateaus. Most of forests in this area are mixed deciduous forests (Pa-Ben-Ja-Phan), teak (tectona grandis Linn.), and other economic timbers. Forests in this region are considered as the most important watershed areas of the country, where such mainstream rivers as the Ping, Wang Yom, and Nan are located.

Since the features of the North and Northwestern regions are highland, hills, and mountains, arable lands for agriculture are scarce for farmers and local people. Consequently, people tend to have farms, paddies, and field crops in the reserved forest areas. This invasion of the forest has become a major cause of global warming and flooding in the North.

According to table 2.1, the forest areas in the North are comprised of 95,154 square kilometers, equivalent to 55.26 percent of total forest area in the country.

2.1.2 Forests in the Northeastern-Korat Plateau Region

Due to scarcity of rainfall, half of the forests in this region are deciduous dipterocarp forests (Pa Teng-Rang). Important rivers located in the Northeastern-Korat Plateau region are the Khong, Shi, Moon.

According to table 2.1, the Northeastern region has a forest area of 27,702 square kilometers, equivalent to 16.09 percent of total forest area in the country.

2.1.3 Forests in the Central Plain-Chao Phraya Region

The central part of Thailand consists of 26 provinces, surrounding the Chao PhraYa, Pa Sak, and Tha-Jeen rivers. The forests in this region comprise 11.62 percent of total forest area in the country, mostly mangrove forests, located in Kanjanaburi, Petchburi, and Chanthraburi. Most of the land in the Central Plain Region is used for farming and paddy rice.

2.1.4 Forests in the Southeastern-Chantaburi Region

As most of areas consist of small hills and mountains together with numbers of small rivers, the forests in this region are evergreen forests. Rubber farms and orchards are normally found in the lowlands and foothills.

2.1.5 Forests in the South-Peninsular Thailand Region

There are total of 14 provinces in the South of Thailand. Most of the area in this region is used for growing palm, rubber, and fruit. Since the geography of the area consists of coasts and seashores, the soil in the South is moist and the atmosphere is humid. Most of the forests in the South therefore are evergreen. However, mangrove forests can also be found along the seashore of the South. Presently, the decrease of mangrove forest area in exchange for shrimp farms is regarded as a major problem in this region since it leads to soil erosion problems and flooding.

According to table 2.1, the forests in the South-Peninsular Thailand region account for 12.35 percent of total forest area in the country.

2.2 Development of Forest Management in Thailand

The history of forest development in Thailand has continued for hundreds years since the early of Rattanakosin at which time the country was under the Sakdina system (the Thai system of the right to possession of farmland). Before the fourth dynasty of King Chakri, all of the land in the country belonged to the king. In the countryside, there were no landowners that managed the cultivation of the land under their responsibility. The state extracted only labor services and taxes. Villagers were subsistent in their daily life. Those that lived close to the forests could find forest products for their consumption (Chatthip Nartsupha, 2000: 12-27).

After the Bowring treaty of 1855, many agricultural and forest products were exported to the world market. One of the important export products was timber, especially teak. The teak forests were exploited by logging concessions, which were granted to foreign companies such as Bombay Burma, Borneo, and East Asiatic (Chatthip Nartsupha, 2000: 60-61). Following this period of logging concessions, deforestation was evident and a number of laws was initiated in order to conserve the forests.

In 1895, The Royal Thai Government hired Mr. H. Slade, a British forest expert, who recommended the establishment of the Royal Forest Department (RFD) in 1896. Mr. Slade was appointed as the first Director-General of the RFD and since then the forests in Thailand have been transferred to royal government control and administered by the RFD. Forest policy at that time was mainly to focus on timber production development in order to meet the large demand of commercial timber for both domestic and foreign use.

In 1932 when Thailand changed its political system from absolute monarchy to constitutional monarchy, forest land became the state's property and was not subjected to the jurisdiction of the Land Department. During this period, the country established the forest classification system. Since all untitled lands were claimed to be owned and controlled by the State, local communities were excluded from the process of forest management.

It was not until the Year 1987 during the period of the Seventh National Plan when the concept of community-based forest management was highlighted and became a concern of academics and forest officials in the country. The forest management paradigm has since shifted to decentralizing forest control from the state to the local community.

Regarding the perspective of academics toward "forest management," Uphoff (1986) has stated that "forest management in the past has too often been undertaken through national institutions with no more local institutional development than assigning a few technicians and many forest guards to look after the trees." This is undisputable for forest management in Thailand as the government in the past managed and handled forestry from the top down.

Flaherty and Filipchuk (1993 quoted in Montri Kunphoomarl, 2000: 22) have observed that one of the characteristics of forest management in Thailand is its topdown administration; the involvement of rural people in policy making is extremely limited. The majority of respondents in their study felt that villagers should be responsible for managing the local forest.

Year A.D.	Major Events
1896	Establishment of Royal Forest Department (RFD)
1938	Protection and Reservation of Forests Act firstly authorized permanent production of
	forest reserves
1941	Forest reserves were established under the Forest Act of 1941
1954	Land Act established the National Land Allocation Committee
1960	Forest nationalization was completed when the last foreign concession ended
1961	Enforce of the National Park Act
1961	The first Thai National Park Act targeted 50% of land remained forest
1964	Enforce of the National Reserved Forest Act
1975	Government started forest village program to resettlement of farmers in the degraded
	forest
1982	Start of National Forest Land Allocation Program to allocate forest occupant's right
1987	Establish of Forestry villages
1989	A logging ban issued to slow down deforestation
1989	Revoke of logging concession
1991	Development of community forest began. RFD started a process to develop a
	Community forest Bill to involve local communities in managing communal forests.
	The draft bill was to recognize the legal status of communities living around
	Thailand's National Forest Reserves and proposed the establishment of CFs by rural
	communities to manage forest areas in cooperation with RFD.
1992	The concept for a draft Bill was approved by the cabinet.
1992-1995	Revise for the draft Bill and public hearings.
1996	Government drafted a new version of CF Bill with participation of NGOs,
	academics, and grass-root communities.
1997	New constitution stipulated the need of participation of community and local
	organization in natural resource management. Cabinet approved the Ministry version
	of the CF Bill. However, local community members rallied against the Ministry
	version. A Joint Committee revised the Ministry version.
2000	Nationwide community forestry networks submitted people's version to the
	Parliament. The CF Bill was approved by the Lower House.

 Table 2.2 Development of Forest Management in Thailand

Table 2.2(Continued)

Year A.D.	Major Events
2002	Senate proposed amendment that would prevent local people having greater role in
	Thailand's forest The Senate's revision deleted the most crucial clause of the Bill
	which would have allowed people settled in community forest protected area to
	continue to use forest products. Bill was then sent to joint committee of Senators and
	Representatives. CF Bill was sent back to the Lower House to consider the Senate's
	revision.
2005	The CF Bill is in the joint committee.
2007	National Legislative Assembly (NLA) passed CF bill combined to the proposal of
	Natural Resource and Environment Ministry and civic sector. The bill accepts the
	legal right of forest community to preserve and manage forest land surrounding their
	communities.
2007	CF bill was approved.
2007-2008	CF bill was pending due to legislative problem. The Constitution Court is considering
	legal status of CF bill.

2.3 The Paradigm Shift of Forest Policy in Thailand

Since the establishment of the RFD in 1896, Thailand has declared major policies relevant to forestry and forest resources accordingly.

First, the enaction of the Forest Protection Act in 1913 for long-term forest exploitation benefited the state by granting permission for extraction of valuable species, in addition to teak.

Second, the Forest Act of 1941 was enacted, aiming to grant and establish forest reserves nationwide, with a specific demarcation of 40 percent of the country's land area.

Third, the first National Economic Plan in 1961, was comprised of a few national laws aimed at protecting 50 percent of Thailand's areas as forests.

Fourth, the second National Economic and Social Development Plan in 1967 emphasized the protection of 40 percent of Thailand's areas as forests and altered the forest protection policy. Fifth, the first formal National Forest Policy was announced in 1985, aiming 40 percent of land under forests, which was divided into 25 percent as Economic or Production forests, and 15 percent as Conservation forests.

Due to various pressures, in particular the calamity caused by the devastating floods in Southern Thailand during the past decades, the Royal Thai Government officially imposed a total logging ban on natural forests. The Seventh National Economic and Social Development Plan reversed the percentage to 25 percent as conservation forests, and 15 percent as production forests, due largely to the commercial logging ban in 1989.

The Sixth National Economic and Social Development Plan (1982-1991) focused mainly on a parallel development paradigm, which emphasized principally both economic prosperity and social equity. In terms of the economy, the government expected to stimulate higher economic growth and to strengthen economic stability. In terms of social equity, the government was primarily concerned with the improvement of human quality, natural resource conservation, and standards of living especially for the people that lived in remote areas. In addition, the government started to give importance to preserving traditional values, cultural life and the environment, and to improve production efficiency.

After the implementation of the Sixth Plan, Thailand achieved its the highest growth rate at 11 percent. However, it found that the natural environment was rapidly being destroyed (National Economic and Social Development Board, 1997: 17). Prasong Jantakad and Gilmour (1999) stated that attempts of the Royal Forest Department to rehabilitate degraded forests meet with little success due to overwhelming constraints posed by the illegal encroachers, who were encouraged by incoherent and uncoordinated government policies regarding natural resources and agricultural expansion. In conclusion, from the first National Economic and Social Development Plan to the sixth, exporting agricultural products was a priority. The Thai farmers were encouraged to expand their farmland and to destroy the forests.

The government recognized that economic development without proper sustainability planning, consideration for the environment, or involvement from the local people resulted a detrimental impact on the environment and on the local people themselves. In order to solve the deforestation problem, then, the Seventh National Economic and Social Development Plan highlighted the concept of sustainable development, in which three objectives were emphasized. These objectives were economic growth stability, growth and income distributions, and the development of human including quality of life and natural and environmental resource (NESDB, 1997: 17). It was the first time that Thailand realized the importance of sustainable development.

It was apparent that before the Sixth Plan, forests were perceived as a natural resource that was the property and belonged of the government. It was therefore the official responsibility to manage the forests. The government utilized a preventive approach through laws, regulations, and measures as a tools to monitor deforestation. However, since 1989, the national forest policy was changed in ordet to encourage better protective outcomes.

The concept of forest development in the Sixth and Seventh National Plan addressed the importance of a participative approach. People were regarded as owners of natural resource and forests, and shared responsibility for conserving them.

The Eighth National Economic and Social Development Plan (1997-2001) shifted its development paradigm from growth-orientation to people-centered development. The main concept of the Eighth Plan was people-centered development. The main objectives of the Plan, thus, were people's potential development, economic growth sustainability and stability, and natural environmental rehabilitation and preservation (NESDB, 1997: 3-7). Continued from the Seventh Plan, the Eight Plan heralded a new dimension of forest management, emphasizing local participation.

The Ninth Plan (2002-2006) employed sufficient economy as the main philosophy for achieving sustainable development and well-being of the people. It focused on development integration, where people were the center of development, and on balanced development of economic, social, political, and environmental. Instead of focusing on economic prosperity, it was redirected toward strengthening the social foundation and prosperity decentralization as well as poverty alleviation and income generation (NESDB, 2002: 4-7)

Recently, the concept of sustainable development was incorporated as the essence of the Tenth Plan (2007-2011) in order to create a balance within society. It was apparent that the Tenth Plan focused on the human as the center of development

efforts. Three main elements were highlighted: sufficiency economy, sustainable development, and a long-term planning vision spanning the next 20 years to provide change management. In the Tenth Plan, there were two important strategies related to the sustainability of community forestry: community strength and biodiversity development.

Year A.D								
	1961	1973	1978	1991	1995	1998	2000	2007
Forest Area (percent)	53.32	43.21	34.15	26.64	25.62	25.28	33.15	32.66
Thailand's National Economic and Development Plan	1	3	4	6	7	8	8	9
Growth-Oriented Participation People-Centered								

Figure 2.1 Paradigm Shift of Forest Policy in Thailand

2.4 Community-Based Forest Management

Community-Based Forest Management (CBFM) has been a tool for economic development and ecosystem restoration in many nations. The notion of community-based forestry management encompasses an interdependent relationship between healthy ecosystems and community well-being.

CBFM indicates a fundamental shift - from the historical model of forest management from corporate and special interests contending with the federal government for control of land, resources, and profits - to a more democratic method of management, which allows local citizens to contribute to how their surrounding ecosystems are managed. CBFM relies on a diverse group of users working together on the common interests and goals which they established.

The aim of community-based forestry management is to empower individuals that work, live, and engage in recreation in the forests to organize and strive towards the following goals:

1) To improve the overall health of an ecosystem through sustainable management practices.

2) To collaborate with a diversity of community members to establish common goals.

3) To increase the number and quality of jobs based on the natural resources in hand without overusing or abusing those resources.

4) To ensure that economic and ecological practices are socially just.

5) To improve inter-community communication and communication between a diversity of community members and interests.

Ganjanapan (1992 quoted in Montri Kunphoommarl, 2000: 22) studied local practices of community forestry in Northern of Thailand and concluded that:

1) The CBFM in Thailand locally initiated forest management with the aim of protecting watershed forests.

2) The material benefits from the forests were perceived as an integral part of the subsistence farming system.

3) The CBFM in Thailand has a cultural and moral basis that underlines collective rights in response to the changing nature of the threat.

4) Local organizations are essential in the realization of moral principles and the continuation of community practices.

2.5 Stakeholders of Community-Based Forest Management (CBFM) in Thailand

Other than the local people in community forests, there are numbers of stakeholders involved in CBFM.

2.5.1 Ministry of Natural Resources and Environment (MNRE)

Established in 2002, the MNRE's policy toward natural resource management in Thailand can be summarized as follows:

1) Assessment of the potential and situation of existing natural resources as well as their diversification.

2) Natural resource protection, conservation, and management for achieving productivity and fulfilling the needs of the society.

3) Develop access to natural resources use and its regulation based on equal benefit sharing.

4) Determine sustainable utilization measures in regard to R&D information.

2.5.2 National Park, Wildlife and Plant Conservation Department (NWPD)

This new department was set up under the Ministry of Natural Resources and Environment. The NWPD is responsible for flora and fauna conservation and management, especially in protected forestlands, whether national parks, wildlife sanctuaries, watersheds, or special designated areas. It was detached from the Royal Forest Department even as the rest has remained attached to the RFD.

2.5.3 Royal Forest Department (RFD)

Formerly attached to the Ministry of Agriculture and Cooperatives (MOAC), the RFD is currently under the Ministry of Natural Resources and Environment. The RFD is mandated to oversee government forestlands, excluding the protected areas declared by the National Park, Wildlife and Plant Conservation Department.

Regarding community based forest management, the RFD has a Community Forest Management Office that carries out support activities and implementation. In general, the office is responsible for (1) community forest implementing under the Community Forest Act and other relevant decrees (2) conducting R&D in community forestry as well as agro-forestry, and (3) developing linkages with other parties involved in community-based forest management.
2.5.4 The Tambon Administration Organization (TAO)

The TAO was established in 1994 under the Tambon Council and Tambon Administration Organization Act. It is considered as a local government unit resulting from a policy of decentralization and participation of local people. Its mandates ranging from infrastructure, education, public health, social services, and natural resources and the environment. Its authorities are limited to the extent of Tambon (sub-district), which is comprised of 15-20 villages on average.



Figure 2.2 Stakeholder in CBFM

2.6 The Community Forest (CF)

2.6.1 Concept of the Community Forest

The concept of the community forest, which addresses the significance of local people's participation, has been widely accepted and implemented in numerous forest countries such as Nepal, India, and Indonesia. In accordance with this concept, forests are perceived as a valuable asset and as belonging to the local community. In light of this, accountability in conserving forests was not limitted to government officials or forest officials, but was expanded to the locals responsible for community forests. Since local people gained both direct and indirect benefit from their forests, government authorities encouraged them to share responsibility in taking care of the forests.

The pharse "Community Forest" (CF) has spread to Thailand during the past three decades. The concept of CF is rooted in two ideologies.

1) The first ideology came from the "rural development" supported by the FAO. The FAO viewed that most people in developing countries spend their life and are dependent on agriculture and natural resources. Over 60% of the people in local communities depended upon the forest for their life, culture, and fundamental needs on the forest. Therefore, the effectiveness of rural development is directly relevant to forest development by local people.

2) The second ideology of the CF comes from the "human rights" which has spread widely among the communities in many countries. Local people in forest communities felt that they were eligible to participate in management and decisions regarding the forests because it was their place to live, work, and cultivate their culture.

Numbers of scholars have defined the community forest in various contexts. In Thailand, the Royal Forest Department (1994: 18-22) defined the community forest as a land or forestland, legally permitted to the community, together with forestry officers, to participate in continuously managing forestry activities under the relevant laws and regulations. People in the community could establish their own policies, concerning to culture, beliefs, religious and other traditional values.

Blair and Olpadwala (1987) studied the basic elements of community forests in Thailand as follows:

1) Regarding people's participation as a first priority and the basic criterion.

2) The community forest may be an umbrella term for a wide range of forestry strategies, including community woodlots, agro-forestry, watershed management, and natural resource management.

3) The outcomes of having a community forest may affect the lives of local people, fulfilling local needs and uses, increasing income, and benefiting poor people.

Gilmour and Fisher (1991) have defined the community forestry in terms of control and management of forest resources by the rural people who use them, especially for domestic purposes and as an integral part of their farming systems.

Niwat Ruangpanij (2005) defined that community forests as forest areas that are designated to the community, managed by the community, and employed by the community for their sustainable benefit under their own set of regulations.

2.6.2 Existence of the Community Forest

Komol Pragtong (1995: 5-20) has stated that the existence of the community forest is based on the needs of people who have to depend mainly on the them. It was the local people that comprised the group to do the planning and controlling of their forests. According to Komon, the community forest did not focus on the establishment of legislative structure, but gave importance to the benefits gained from the forest by relying on the rules and regulations that may arise from the culture or traditional beliefs of local people within the community.

Somsak Sookwong (2007) expressed his opinion that the community forest was established to allow people to participate in local resource management for sustainability. The main purpose of the community forest is to allow people to make use of small forests for their daily living, not for industrial purposes.

As shown in figure 2.3, the RFD has stated that the existence of community forest served five criteria: traditional value, need of natural resource, benefit to community, support from the external, and ecological system.



Figure 2.3 Existence of Community Forest

Source: Royal Forestry Department, 2006.

2.6.3 Classification of the Community Forest

Based on traditional practice in the Thai context, the community forests in the North were classified accordingly.

Table 2.3 C	ommunity	Forest	Classifica	ation
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Type of Forest	Size	Customary Law	Local Protection by
Watershed Forest	300-10,000 Rai	Strict rules and severe	Watershed spirit
(Pa-Ton-Nam)	(120-28,000 acres)	punishment against	(Phii-Khun-Nam)
		violation.Logging is	
		strictly forbidden	
Ceremonial Forest	30-300 Rai	Preserved for	Guardian Spirit
(Pa-Pra-Pe-Nee)	(12-120 acres)	cremation and other	
		ritual purpose.	
Productive Forest	Large areas close to	Economic used	Less controlled than
(Pa-Chai- Soi)	villages		other area

Source: Yos Santasombat, 1999.

2.6.4 Benefits of the Community Forest

Pinkaew Luangaramsri and Petchmala Malapetch (1992: 32) highlighted four principles concerning the benefits of community forests as follows:

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1) Community forests are to conserve the ecology of the community.

2) Community forests are for the living of local people in terms of economy.

3) Community forests preserve the traditional beliefs and culture of the local community.

4) Community forests allow the local community the right to manage and preserve the forests.

According to table 2.4, Salisa Puengsaengkaew (1994: 36) addressed the benefits of the community forests in four dimensions:

Table 2.4 Benefits of the Community Forest

Dimension	Area of Importance
1. Ecology	Community forest helps to increase the balance of ecology system.
	The increase number of forest facilitates rainfall, fertility of soil,
	and biological diversity.
2. Politics	Community forest supports development of community
	organization, which is fundamental to democracy.
3. Social and Culture	Community forest helps preserve local belief, norm.
4. Science and	Community forest helps preserve diversity of indigenous plant and
Technology	animal.

In the second Community Forestry Forum of Sharing the wealth from community forest arranged in 2007 by the Regional Community Forestry Training Center for Asia and the Pacific (RECOFTC), the benefits from the community forest were discussed widely. The forum in the end identified the benefits of the community forest in term of three dimensions.

1) Social benefits: strengthening and development of coordination and governance mechanisms, relationships, and networks (social capital); political empowerment; creation of local work opportunities; institutional enhancement, tenure, capacities, welfare, and security.

2) Economic benefits: access to Non-Timber Forest Products (NTFPs) and timber for direct household use, income from the sale of NTFPs, agro-forestry

yields, timber and environmental service markets, and employment in community forest activities.

3) Environmental benefits: maintenance of environmental services (biodiversity, soil health, agricultural productivity, air and water quality, and enhanced and well-managed forest resources).

It was also noted that some of the benefits were quantifiable, such as the revenue gained from the sale of NTFPs or agro-forestry yields, while others are qualitative in nature.

2.6.5 Key Factors Determining the Success of the Community Forest

Although the factors regarding the success of the conservation of the community forest varies and depends on the local setting from community to community, the researcher reviewed the lessons of the practice and success factors that will be useful for the analysis.

Ostrom (1990, quoted in Somsak Sookwong, 2007: 89-91) suggested guideline or characteristics of the successful community in terms of governing the common property, such as the community forest. Famously known as Ostrom's design principles, the community should possess the following.

1) Clearly-defined boundaries.

2) Rules for resource use to suit local conditions.

3) Participation in collective decisions.

4) Monitoring within the community.

5) Graduate sanctions.

6) Conflict resolution mechanism.

7) Respect from external authorities.

8) Work harmonization with any level of the hierarchy.

Colhotra (1995 quoted in Sureerat Krisnarangsan, 1997: 22) studied "Biodiversity Conservation and Community Development in Southwest Bangal" and found that the success of forest conservation relied on the following factors.

1. Profit sharing among the people in the community.

2. The higher participation of the household, the more success of forest conservation.

3. Distinct community organization.

Regional Community Forestry Training Center for Asia and the Pacific (1993) reported that people's participation was very important to the success of forest conservation. Support from the government was very crucial for this success.

Saneh Chamarik (1992 quoted in Montri Kunphoomarl, 2000: 24) outlined eight conditions for community forest success.

1) There must be a strong sense of community within the kinship group. This may involve some form of mutual assistance among relatives and neighbors, sometimes based on an exchange of labor and a sharing of common beliefs and traditional practices.

2) There must be mutual benefits for the common users of forest, water, and land resources. These resources must be a vital part of the inputs of the production process, and require the mutual conservation of forests. Such common benefits include a common ideology or culture such as forests for burial sites or forests for ancestors' spirits.

3) There must be a well-preserved of the community forest on forest, water, and land resources. In other words, the state of the forest must be popential for recovery.

4) There must be a strong and wise leader, either a village elder or an elected official, that can adapt local practices to the changing nature of the socioeconomic and political situation.

5) There must be existing forms of local organization in the community, such as villagers or people's committees for forest conservation, or other related organizations such as irrigation control organizations, Tambon Councils, village committees or a committee for forest patrol.

6) There must be a long tradition of belief in recognizing certain resources, such as forest resources, as the collective property of the community. These resources must be managed by the community to provide mutual benefits for, and fair distribution to, all members.

7) The community must be a permanent settlement with certain criteria of social composition and levels of resource use. Despite possible differences in social

composition, different members must feel that they belong to the same community. In terms of resource use, resources must not be rapidly exploited to the point that their use can not continue at the same level in the future.

8) The community must have a prevailing resource utilization network of its own.

According to the above, Saneh Chamarik suggested that these eight characteristics constitute fundamental needs for the existence and survival of community forests.

Further, Komol Pragtong (1995: 9-10) suggested the following elements for the success and sustainability of the management of the community forest.

1) Utilization of the forest. Komol opined that the benefit from the forest would determine the purpose of forest conservation. For instance, people conserve the forest for religious ceremonies, as sources of water, sources of food, and for administrative use. These benefits attract people to conserve the forest as their common property.

2) Community rule. This includes sanctions on punishment as agreed by the community.

3) Community organization. The success of forest conservation in the community depends on the strength of the community organization. This reflects the strength of the community leader in governing the forest and in responding to the benefits of the community.

4) Support from external organization. The success of community forest organizations rely on the support from external organizations so that the community can manage the forest according to its needs in a sustained manner. The support includes knowledge and material.

	Strong Sense of Community	Mutual Benefit	State of Potential Recovery	Stong and Wise Leader	Local Organization	Sense of Belonging	Common Value	Net work	Rules	Clearly Defined Boundary	Participation	Conflict Resolution Mechanisms	Support/ Respect from External Authority
Elinor		*							*	*	*	*	*
Ostrom													
(1990)													
Saneh	*	*	*	*	*	*	*	*					
Chamarik													
(1992)													
Colhotra		*			*						*		
Kailash													
(1995)													
Komol		*			*				*				*
Pragtong (1995)													

 Table 2.5 Key to success of Community Forest

2.6.6 Characteristics of the Community Forest in Thailand

According to the RFD (1988), table 2.6 presents major characteristics of the community forest in Thailand.

Table 2.6 Characteristics of Community Forest in Thailand

Region	Characteristics
North	The area is largely comprised of highlands and inhabited by various ethnic
	tribes such as the Karen, Lua, Akha, and Lahu. Most community forests in
	the North are original forests, conserved and managed through traditional
	beliefs and cultures.
Northeast	Villagers conserve patches of forest at the edge of their cultivated fields to
	provide source of food and medical plants.
West	This area is inhabited mostly by the Karen, who have a long tradition of
	forest care.
East	Most community forests are mangroves. They were set up when forest
	degradation became apparent and rampant through commercial logging
	concessions and shrimp farms.
Central Plain	The community forests in this region are scattered around Uthai Thani,
	Nakorn Sawan, and Supan Buri provinces. Most of forests are managed
	based on traditional belief.
South	The community forests range from watershed forests in the hills to coastal
	peat swamp forests and mangroves. The conservation of original forest
	trees, left growing intermixed with cultivated economic especially, is
	practiced at the family level.

2.7 International Experience of the Community Forest

The establishment of community forests has been widely implemented in many Asian countries with the aim of protecting forest areas and to alleviate the deforestation problem. In Europe, the protection of forest areas has been conducted in different ways because most of the forests belong to private sector; hence, the mechanism and practice differ from that in Asian countries. The concept of the community forest in Thailand was influenced by the South Asia, where forest areas comprise a major part of the countries. In light of similar socio-economics and cultures, an exploration of the experience of community forest in Asia would be useful and applicable to this study. Experiences with the community forest in Nepal, Bhutan, and Philippine are briefly illustrated.

2.7.1 Community Forest in the Nepal

The forest in Nepal is state owned. Nepal has been a country with rich experience in community forests since the 1970s, as most of the country's area is forest and hills. From the 1980s to the late 1990s, a framework, mechanism, and instrument for the community forest was developed progressively as a primary tool for the government in effective forest resource management. The current form of Nepal's community forestry is guided by the Forest Act of 1993, the Forest Regulations of 1995, and the Operational Guidelines of 1995. These legal instruments have legitimized the concept of Community Forest User Groups (CFUGs) as an independent, autonomous, and self-governing institution responsible for the protection, management, and use of national forests with defined forest boundaries and user group members. The community forest in Nepal has been an institutional innovation for empowering local communities in managing forest resources for their own benefit.

Presently, more than 12,000 Forest User Groups (FUGs) have been formed in Nepal with 1.2 million household members, accountable for 20 percent of the country's population. The FUGs in Nepal are responsible for the management of about 850,000 hectares of forest areas, nearly 16% of the total forest land of the country. The experience with Nepal's community forests has proved that communities are able to protect, manage, and utilize forest resources sustainably.

2.7.2 Community Forest in the Bhutan

The concept of the community Forest was initially introduced in the Bhutan in 1979 when His Majesty the King of Bhutan initiated the Social Forestry Program. The CBFM program was legalized to the district from the central level under the Forest Nature Conservation Rules 2000 and revised in 2003. There were 36 approved community forests, covering 2,914 hecters forest areas in 2006. As forests are very important for the rural communities in Bhutan, the CBFM in Bhutan sought to strengthen the link between the people and the forests, and to make a significant contribution to livelihood improvement, environmental conservation, and sustainable use of the forests.

2.7.3 Community Forest in the Philippines

The forests in the Philippines are stated owned. Community-based forest management was adopted in 1995 as a primary government strategy to achieve sustainable forest management and social justice. The law in 1995 enabled use and management of designated community forests in the country.

In 2004, forest areas under the CBFM in the Philippines comprised approximately six million hectares. However, harvesting privileges in the CBFMs were cancelled due to infractions of a few communities.

The issues surrounding the CBFM in the Phillipines currently concern is in the challenge of managing property rights, capacity building in the CBFM, encouraging multi-stakeholder participation, and developing equitable benefit distribution among different stockholders.

2.8 Community Organization and Community Strength

The word community can be used in a philosophical sense to refer to a moral or spiritual phenomenon. For sociologists, the term refers to units of social and territorial organizations such as villages, towns, cities, or urban areas (Poplin, 1972). Thanongsak Kumkainam et al. (1991) has suggested that the community refers to a group of people living and interacting together in a particular geographic area, having common ties and sharing similar interests. They treat each other as part of their society. Hence, the elements of the community consist of people, the area, common interests, interaction, and relationships.

The community forests explored in this study are relevant for this constituent, as will be presented in the next chapter.

Murray (1955: 239) defined community organization as the process by which a community identifies its needs or objectives, orders these needs or objectives, develops the will to work, finds the resources to deal with them, takes action in respect to them in so doing, and extends and develops cooperatives and collaborative attitudes and practices in the community. As can be seen in figure 2.4, Somsak Sookwong (quoted in Kitichai Ratana, 2005: 19) proposed two forms of community organization for the common benefit from forests in Thailand. He stated the importance of Form I, which becomes the fundamental development to Form II.



Figure 2.4 Form of Community Organization in Governing Benefit Sharing from the Forest

According to the Community Development Department (1999), a strong community should consist of:

1) Individual. People can take part in all processes by themselves through collective thinking, implementation, planning, and evaluation.

2) Community. By using local wisdom within the community and by learning and exchanging community information, using community resources, capital, and wisdom, the community perceives that they are capable of self-help.

3) Participation and Learning.

4) Government support. Officials act as facilitators, advisors, and consultants.

A strong community, according to the National Economic and Social Development Board (1996), refers to voluntary organized groups of people that share a similar ideology, friendship, and giving. They continue to exchange knowledge and work together to solve problems while developing the economy, state of mind, society, culture, and the environment. Their leaders emerge from such processes. Leaders are both male and female, and community organizations are independently and effectively managed and are able to shape their future in for the balanced and sustainable development.

Prawase Wasi (1999) has stated that a strong community is a means to selfreliance and sustainable development. He further elaborated that the community organization and learning process is the most important answer for sustainable development of the society. In order to achieve the goal of self-reliance and sustainable development, social development officers need to work through community organizations, focus on grouping rather than individual, and emphasize strength of community organizations and their learning process. This could translate to recognizing local wisdom, the local community's needs, and modern knowledge that compliments the local community's capacity to make decisions by themselves.

According to table 2.7, Sombat Kusumavalee et al. (2006: 31-35) reviewed the study of many scholars of factors affecting community strength in different communities. Although the factors varied due to contexts, features, and characteristics of communities, it is highlighted that leadership, people's participation, action, indigenous knowledge, and network are mostly existed in strong community.

 Table 2.7 Factors Determining to Community Strength

	Leadership	Participation	Identity	Action	Norm	Flexibility	Indigenous Knowledge	Good Governance	Network	Sustainability
Ministry of Interior (1981)	*	*		*	*		*	*		
Peerasuth (1991)				*		*	*			
Bunthorn (1992)	*			*		*	*			*
Anek (1993)	*			*		*	*			
Leelaporn (1995)	*	*		*	*	*	*		*	
Kanjana (1997)				*			*		*	*
Praves (1997)		*		*			*		*	
Karun (1998)	*									
Uthai (1998)					*	*	*			
Sanya (1998)		*			*	*		*		
Rajabhat (1999)	*	*		*	*					*
Sommai(1999)		*		*	*	*	*			
Chatchai (1999)		*		*		*	*		*	
Chamnan (1999)		*		*		*	*		*	*
Akarapol (2000)	*									
Napaporn (2000)	*	*		*			*		*	

Table 2.7 (Continued)

	Leadership	Participation	Identity	Action	Norm	Flexibility	Indigenous Knowledge	Good Governance	Network	Sustainability
Orathai (2000)	*	*	*	*	*	*	*	*	*	*
Prinya (2000)	*			*			*			
Sumol (2000)	*									
Amornrit (2000)	*	*		*			*		*	
NESDB (2000)	*	*		*	*	*	*	*	*	*
Umaporn (2000)	*	*							*	
Boonnark (2000)	*	*		*			*	*	*	
Jamlong (2001)		*	*				*			
Palapan (2001)	*	*								
Tangon (2001)		*		*			*			
Charndej (2002)	*									
Pairote(2002)		*			*		*		*	*
Tanyaporn (2002)	*	*		*			*		*	
Sombat (2005)	*	*		*			*			

2.9 Sustainable Development

Reboratti (1999, quoted in Baker, 2006: 7) originally stated that the term sustainability belonged to ecology, and referred to the potential of an ecosystem to subsist over time. By adding the notion of development to the notion of sustainability, the focus of analysis shifted from that of ecology to that of society. Baker (2006) has stated that promoting local development is about steering societal change at the interface between the social, the economic and the ecological. Ekins (2000) has suggested that these be known as the three dimensions or pillars of sustainable development.

The most widely cited definition of sustainable development was from the 1987 Brundtland Commission report, which defined sustainable development as development that "meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987: 43). This address apparently conveyed the value of justice in terms of both intra-generational equity and inter-generational equity.

According to the UNDP (1992), the requirement for achieving sustainable development included elimination of poverty, reduction in population growth, equitable distribution of resources, more educated and better trained people, participatory government, a liberal and equitable trading system, and better ecosystems.

The concept of sustainable economic development was also addressed by Barbier (1987), stressing the unique environmental, economic, and social features of sustainability. He suggested a basic analytical approach which views development as a continuous and dynamic configuration of trade-offs among the three interaction systems: the biological system (BS), the economic system (ES), and the social system (SS). The general objective of sustainable economic development is to maximize goals across all these systems through an adaptive process of trade-off.

Phra Dhammapidok (1995) viewed sustainable development as an integrative holistic and balanced approach to development, for example, integration between conservation of natural resources and poverty eradication.

Reid (1995) has identified the common components that are essential for the conceptualization of sustainable development. The first component of this development that carries over from the traditional development model is economic growth, most often measured as an increase in the national GDP. The second component is a series of social objectives, most commonly reduction or elimination of poverty, class, gender, and ethic inequity, cultural diversity, and local participation and empowerment. The third component of the conceptual triangle of sustainable development is environmental: that is, the conservation of ecosystems and natural resources.

2.10 Participation and Relevant Research

2.10.1 Meaning of Participation

Chopra, Kadekodi, and Murty (1990, quoted in Sinha, 2006: 14-25) defined participation in a group in its narrowest sense in terms of nomimal membership, and in the broadest sense it is defined as a dynamic process in which the disadvantaged have choice and influence in decision making. Participation has two dimensions, (a) direct, and (b) indirect participation. Direct participation includes the involvement of stakeholders in activities such as attending meetings concerning forest protection, contributing labour to forest activities, and patrolling the forests. Indirect participation refers to an individual's obedience to forest protection rules and motivating others as well as family member to protect the forest.

Thailand focused on "Participation" when the terminology was defined in the former Constitution of 1997 as the involvement of an individual, groups, and organizations in receiving news and information, identifying problems, planning and management, monitoring and evaluation, and solving problems of forests and natural resource management. The term participatory forest management means the management of forests and natural resources with the full participation of the local community and the involvement of real stakeholders.

According to the United Nations (1975), community participation is "the creation of opportunities to enable all members of a community to actively contribute

to and influence the development process and to share equitably in the fruits of development."

According to figure 2.5, Uphoff, Cohen, and Goldsmith (1979), in their study on Feasibility and Application of Rural Development Participation: A-State-of-the-art paper, studied the dimensions of participation. These dimensions consisted of kinds of participation, participating parties, and the process of participation.



Figure 2.5 Basic Framework for Describing and Analyzing Rural Development Participation

Source: Uphoff, Cohen and Goldsmith, 1979: 304.

Cohen and Uphoff (1980: 213-218) defined four kinds of participation:

1) participating in decision making, consisting of starting to decide, processing to decide, and making decisions

2) participating in the implementation of resources, management, and cooperation

- 3) participating in benefits in terms of material or social
- 4) participating in evaluation

White (1982: 18) has asserted that there are four dimensions of people's participation. The first dimension of participation includes participating in decisions that what one should do and how. The second dimension concerns developing and operating what one has decided. The third is sharing benefits: and the last dimension is participation in evaluation.



Figure 2.6 Four Kinds of Participation

Source: Uphoff, Cohen and Goldsmith, 1979: 333.

Jermsak Pinthong (1982 quoted in Thawat Sirimala, 1996: 15) identified four processes that people should be involved in the participation process:

1) participation in searching problems and their causes

2) participation in planning of activities

3) participation in investment and operations

4) participation in follow-up and evaluation

Pairat Decharin (1984: 5) also described different modes of participations as follows:

1) participation in research and studies to find out about the problems and needs of the community

2) participation in searching and constructing models and methodology to solve community problems and to create innovations that are useful to the community

3) participation in policy planning of community projects

4) participation in decision making to utilize resources to maximize benefit of the community

5) participation in organizing and improving management to be effective

It can be concluded that Cohen and Uphoff, Jermsak Pinthong, and Pairat Decharin share common ideas concerning the participation process in terms of the process and involvement of people. People that engage in the participation process need to become involved in searching problems, finding their cause, planning to solve the problems, investing either with money, work, or materials, and finally following the outcomes and evaluating. Arkin Rapeephat (1983 quoted in Wanpen Worklang, 1991: 16) also defined the process of participation as similar as that of Cohen and Uphoff, Jermsak Pinthong, and Pairat Decharin. In addition, he stressed the importance of the process of participation: that it should be a process that is generated by the people within the community, not by forcing or influencing from outsiders.

Nirun Jongwuthiwate (1984: 183) has stated that the process of people's participation involves the mental and emotional condition of persons in a group situation, thus encouraging them to contribute to and share responsibility with the group. Nirun views that people that contribute to the participation process need to have emotional involvement of intrinsic belonging. Without this, people would not join any activities and the participation process would not succeed. Regarding the

community forest, if people in the community did not feel that the forests belong to them, they would not protect them against deforestation.

Paitoon Worsorn (1989: 30) opined that participation could be carried out directly through inclusive organization, and indirectly through open participation with non-representative organizations.

2.10.2 Importance of People's Participation in the Community Forest

According to figure 2.7, Dusit Wethchakit (1992: 207-210) referred that people's participation generated the following benefit to community forest.



Figure 2.7 Importance of People's Participation

Source: Caupan (quoted in Dusit Wethchakit, 1992: 207-210)

Dusit Wethchakit asserted that there was a need for people's participation in forest conservation as follows.

1) The practice of community forest management was different in each local community, therefore, it was the local people that manged, contributed, participated, and shared in the responsibility in each step of management. Outsiders, such as the local government, should act as facilitators or supporters in terms of budget, knowledge, or academics.

2) The success of the community forest depends on three fundamental factors: (i) basic needs of people; (ii) people's participation; and (iii) sense of belonging. Without one of these factors, the community forest could not survive.

3) Opportunity given to people to show their potentiality in local development would strengthen the relationships and attitudes of the local community with the government.

2.10.3 Participation in Forest Conservation

In relation to the agenda of deforestation, the Food and Agricultural Organization (1999) pointed out two main factors of deforestation of tropical forests: population pressure of the poor, and slash and burn agriculture methods. The proposed solutions included attempts at rapid reforestation of large areas through the participation of the local people.

Pandey and Yadama (1990 quoted in Montri Kunphoomarl, 2000: 21) found that the higher the trust among the members of a user group of forests, the greater the participation in successful forest management.

Gilmour (1988 quoted in Montri Kunphoomarl, 2000: 21) concluded that the more scarce the nearest forest resource is, the higher the interest to participate in community forest managements.

Ostrom (1990) generalized that expectation of rewards has affected participation in sustainable resource management. In the other words, the higher the expectation of rewards or benefits is, the higher the participation.

After a review of the participation concept, this research studied "people's participation" and divided it into five processes: participation in searching problems,

participation in decisions, participation in implementation, participation in benefits, and participation in evaluation.

2.11 Social Capital

The term social capital is used by many scholars. Hanifan (1920) has demonstrated social capital as a phenomenon in human daily life, such as goodwill, fellowship, and sympathy. However, the meaning of social capital has diversified depending on aspects, context, situation, and applicability.

Paiboon Wattanasiritham (2003 quoted in Pongdej Rattanukul, 2004: 24) classified four different types of capitals; namely, physical capital, human capital, social capital, and financial capital. He indicated that social capital was abstract and could represent the strength of the local community.



Figure 2.8 Type of Capital

Putnam (1993: 35-42) defined social capital in terms of trust, norm, and the network among people in the community. Like Putnam, Coleman (1998: 95-120) agreed that social capital was a relationship based on common expectation, goodwill, and trust. Both Putnam and Coleman stressed that social capital resulted from economic and social arrangements, the state of the community, and positively affected existing activities.

Coleman (1998) discussed the elements of capital as follows.

1) Coleman defined social capital functionally. Something is social capital if it facilitates or helps to produce certain actions. Social capital is productive, making possible the achievement of certain ends that in its absence would not be possible.

2) Social capital is in the structure of the relationships among actors. It exists because of the mutual relations or interactions within a group of people.

3) Coleman defined social capital through its facilitation of action. People individually and collectively are able to do certain things because of the webs of relationships among people created by specific kinds of resources.

According to the discussion of the Government Performance and Innovation Unit on social capital in 2002, social capital is defined as "the networks, norms, relationships, values, and informal sanctions that shape the quantity and cooperative quality of a society's social interactions." The Office for National Statistics in UK viewed that the definitions of social capital varied, but the main aspects included citizenship, neighborliness, social networks, and civic participation.

Social Capital is broadly defined as the "norms, and networks that enable people to act collectively" (Woolcock and Narayan, 2000: 225-49). It is the "institutions, relationships, attitudes, and values that govern interactions among people and contribute to economic and social development" (Grootaert and Van Bastelaer, 2000).

The National Economics and Social Development Office (2002) defined social capital as the power of the society, contributed by groups of individuals, with the aim to work together based on trust, norms, and culture. The elements of social capital are human capital, institutional capital, and cultural capital.

Social capital has captured considerable attention of development scholars and practitioners as an influential factor contributing to sustainable development (Serageldin and Grootaert, 2000).

2.12 Leadership

According to the Handbook of Leadership (Bass, 1990), leadership is the interaction between two or more members of a group that often involves a structuring or restructuring of the situation and the perceptions and expectations of the members. Leaders are agents of change-persons whose acts affect other people more than other people's acts affect them. Leadership occurs when one group member modifies the motivation or competencies of others in the group.

2.13 Relevant Studies

Aekgamol Onsri (2001) concluded in his research of factors affecting the empowerment of community organization networks that there are four significant factors that influenced the empowerment of community networks. These factors are the nature of networks, the ability of the network core, the network environmental context, and the development of the networks.

Pongdej Rattannukul (2004) conducted research on the relations between social capital and the success of the management of community forests in a village that exhibited successful management of the community forests and a village that had not yet had successful management of the community forests in Chiang Rai province. He found a relation between social capital and management of the forest community in that they supported each other. The village that had successful management had ten social capitals higher than that which did not yet possess this management. They were 1) a strong community group and good relations; 2) strong approximate cause and useful; 3) beliefs in superstitions and herbs; 4) strong traditional power; 5) pattern of consumption; 6) good cooperation among networks concerning forests; 7) high level of interaction with forests after work; 8) opportunities and convenience in borrowing things; 9) high trusts in others; 10) thought processes that benefit the public.

Monthai Pramooljakko (1995) studied the factors affecting the community forest conservation of Tambon Srangtonoy, Amnatchareon Province and found that participation in community forest conservation was related to level of education, age, occupation, family income, and social status.

Narayan and Pritchett (1999) conducted a study on community strength with 87 villages in Tanzania and found that social capital was very important for both individuals and communities. They also found that a social safety net, such as trust and norms, was at the root of community development. A community with strong social capital allowed local people to be able to access information, education, and healthcare.

Prapee Kerdpermpoon (2004) conducted a study of the factors that strengthened rural community organization in Chieng Mai and Srisaket of Thailand. Prapee investigated the role of different factors affecting the strength and weakness of community organization, such as altruism, common values, confidence, leadership, networking, political power, skill, trust, unity, and wealth. He found in addition that religious leaders, indigenous wisdom, kinship, local culture, and informal elders were endowments that significantly influenced the strength of local community organization and hence sustainable development of the community. In addition, he concluded that in order to achieve sustainable development of rural community organization, people coherence, collaboration, sympathy, and sacrifice were also essential attributes.

Salam, Noguchi, and Rachanee Pothitan (1996) conducted a study of community forest management in Thailand in the area of sustainable development. Their study suggested that the prospects for sustainable community forest management in Thailand were bright due to the following:

1) Community members were highly motivated and were sufficiently interested in protecting trees because they are well-aware that their livelihoods were under threat from depleting forests.

2) The traditions and culture of rural people supported their relation with nature.

3) Non-timber forest products (NTFPs) played a crucial role in local livelihoods for subsistence and necessitated protection of the forest watershed, which is vital for supporting their occupations.

4) Spiritual rituals such as those where Buddhist monks bound yellow cloth on trees played a vital role in protecting trees.

In the same study, Salam, Noguchi and Rachanee Pothitan (1996) further identified various hindrances to achieving sustainable community forest management in Thailand:

1) Legal support for community forest management was absent.

2) The royal forest department could not transfer appropriate technology to the community people due to lack of legal support.

3) The scope for developing effective strategies for sustainable community forest management by combining traditional knowledge with existing scientific knowledge was limited.

4) A formal institutional arrangement for community forest management does not exist.

5) Community members' access to technology is limited.

The UNDP (2004) studied and came to conclusions concerning the common factors contributing to the success of community forest management in Thailand as follows:

1) There was a high sense of community where membership among members was closely knit. There were networks of relatives or interdependent neighbors.

2) The state of the forest had strong potential for healthy recovery.

3) There was mutual benefit from conservation, for example from the protection of water sources and regarding food or medicines.

4) There must be an intense awareness of forest conservation well beyond immediate usage. Community members may unite in the face of a threat from outsiders.

5) There was a strong and wise leader, either a village elder or an elected official.

6) A local organization was set up to represent villagers' conservation interests.

7) There must be a strong belief in the concept of common resources and common rights, so there was a deeply-held perception that the forest belongs to the community.

8) There was a set of enforced regulations and conditions for the use of community forests.

2.14 Conceptual Framework

Since the context of the practice of community forests, its success factors, and local participation in forest conservation are the main theme of this study, researcher explored these elementes following to conceptual framework illustrated in figure 2.9. Mainly, the key factor to success for community forest in table 2.6 are selected and explored. These factors will be selectively discussed in analysis depending on its relevant to the context of community forest.

In addition, during the field study, researcher will also explore other factors contributing to the success of community forest appeared in the Thai setting.



Figure 2.9 Conceptual Framework

CHAPTER 3

RESEARCH METHODOLOGY

This chapter presents information about the methods used, selection of the study site, data collection, the instrument, the test of the questionnaire, and the data analysis.

The focus of this study highlighted the practice, process, and factors that resulted in the success of sustainable local community forest conservation; therefore, a qualitative approach was mainly used to derive comprehensive information. However, in order to complement the qualitative findings, people's participation in forest conservation was also investigated with the quantitative approach. The conclusions from these two approaches were interwoven in order to provide insight into the selected Thai model community forests in Chapter 5 and 6.

3.1 Method Used

According to Daly and Cobb (1989) towards operational principle of sustainable development, growth referred to quantitative expansion in the scale of the physical dimensions of the economic system. In terms of development, in contrast, Daly and Cobb have suggested that one should refer to the qualitative change of a physically non-growing economic system in dynamic equilibrium with the environment. Creswell (1998: 15) also have suggested that the case study approach was one of the five traditional approaches in qualitative research.

This research, therefore, used the case study approach in order to gain comprehensive information concerning the success of model community forests.

3.2 Selection of the Cases

The community forests in this research were selected on the grounds of best practice. The selected communities varied in terms of geography, population, culture, and characteristics of the forest. According to Chai Bothisita (2006: 45), researchers should ensure that the case selected for study is information-rich, and they normally select study sites by purposeful selection.

The process of case selection began from a documentary review of the history, background, the success, and reputation of community practice in forest conservation. In order to ensure that the study site held rich information, the researcher consulted academics and forestry officials who deal directly with local community forests. Additionally, the researcher set the criteria for case selection as follows.

3.2.1 Territory

This research focused on model community forests that were located in only one provincial territory of Thailand so that the cultural and environmental differences among community forest in different parts of the country could be controlled for.

3.2.2 Characteristics of Location

This research focused on model community forests that were located in the North of Thailand. This was because of the North's major characteristics as seen in the following:

1) Outstanding of Location. It is the fact that most community forests form naturally in the North of Thailand where various ethnic communities and other local Thai forest dwellers practice traditional and sustainable forms of forest management.

2) Importance of Location. Most of the forest areas in the country are located in the North. In addition, the watershed areas in the North are situated on highlands, in which the mainstream rivers of the country, the Ping, Wang, Yom, Nan, are divided.

3) Severity of the Problem. Historically, the North has been mostly vulnerable in terms of deforestation and this became a major cause of flooding disasters in Thailand.

3.2.3 Attributes of the Community Forest

The community forests selected for this research are watershed and food supply forests. Some were awarded by the public and by private agencies as an outstanding model community forest in the region.

In this research, two community forests, the Ban Huay Mae Hin community forest in Lampang, and the Ban Mae Rawan community forest in Tak, were officially nominated by the Royal Forest Department as the outstanding model community forests in the province in 2008.

However, this study did not focus only on the community forests that were nominated by government authority. The researcher considered that there were numbers of community forests that were very prominent in the practice of forest conservation but did not win a government award for many reasons. Therefore, a diversity of community forests was explored. Finally, two other model community forests in the North, famous to the public as the Ban Samkha in Lampang, and the Ban Talad Kee Lek in Tak, were also included to this study. The Ban Samkha was awarded by the private sector (PTT Public Company Limited and Chaipattana Foundation) as an outstanding community forest in 2008.

In conclusion, four community forests in the North, a model community forest in Chiang Mai and Tak, together with two communities in Lampang, were selected. However, in order to avoid overlooking the outstanding features of the country's model community forest awarded by the Royal Forest Department (RFD) in 2008, Khao Wong community forest in the Northeast was also reviewed as a supplementary case for this study.

A reconnaissance survey of local community forests in the North, including Ban Samkha, Huay Mae Hin, Ban Talad Kee Lek, and Ban Mae Rawan, was conducted from May to November, 2008 in order to ensure that the characteristics of the case study and the accessibility of the information and location were justified for the study. The visit to the Khao Wong community forest, as a supplementary case, was performed in December, 2008 and May, 2009.

Map of the case study and key characteristics of all model community forests were demonstrated in figure 3.1 and table 3.1.



Figure 3.1 Map of the Case Study
Table 3.1	Selected	Case	Studies of	of C	Community	Forests
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Selected Community Forests	Key Characteristics
1. Ban Samkha Community Forest (BSK)	- 2008 Awarded by private sector
Hua Suea sub-district,	- Watershed and Food supply forest
Mae Tha district,	- Learning center in the region
Lampang Province	
2. Huay Mae Hin Community Forest (HMH)	- 2008 model community forest of
(Ban Hua Thung)	Lampang by Royal Forest Department.
Moo 8, Pong Tao sub-district, Ngao district,	- 3 rd Green World Award in 2008
Lampang Province	- Watershed and food supply forest
	- Model Forest of Ngao District
3. Ban Talad Kee Lek Community Forest (BTK)	- Outstanding in Career development by
Mae Phong sub-district,	community to reduce subsistence from
Doi Sa Ket district,	the forest
Chiang Mai Province	- Strong cultural reproduction
	-Watershed and food supply forest
4. Ban Mae Rawan Community Forest (BMR)	- 2008 model community forest of Tak,
Yok Kra Bat sub-district,	by Royal Forest Department.
Sarm Ngao district,	- 2 nd Award by Rachaphreuk Foundation
Tak Province	as "strong community" and "green
	village"
	- Watershed and food suly forest
Supplementary Case Study	
5. Khao Wong Community Forest (KW)	- 2008 best model community forest in
Wang Ta Kae sub-district,	Thailand by Royal Forest Department.
Nhong Bua Ra Hale district,	
Chaiyaphum Province	

3.3 Data Collection

3.3.1 Qualitative Method

3.3.1.1 Documentary Research

Information regarding the model community forest was preliminarily reviewed from various resources, such as official records at the provincial, district, and sub-district level. Further, documentary review of journals, articles, seminars, conforences and research concerning the community forest was performed.

3.3.1.2 Community Survey

After selecting the model community forests, an in-depth study of four community forests was undertaken in order to investigate community practices, locations, patterns of participation, and the environment.

3.3.1.3 In-Depth Interview

An in-depth interview is often used along with participant observations and provides a method of collecting respondents' perceptions of their world. It tends to be used when high-status people such as leaders of groups are involved because it is thought that they would not respond well to a situation in which a questionnaire is read to them. The interviewer, with a more open-ended strategy, makes the interview more conversational and follows up with details on interesting points that the respondent makes (Nisa Chootoh, 2002: 164-168)

A combination of structured and unstructured interviews was employed for each local community forest. The number of key informants varied in each community forest, but included:

- 1) Village leaders
- 2) Religious/ Spiritual leaders
- 3) Community forest leaders
- 4) Member of community forest committee
- 5) Senior Citizen / Elder in community
- 6) Superintendent from Royal Forest Department
- 7) Officials from local organization

3.3.1.4 Observation

Observation is widely used when the researcher is involved in an intensive examination of a culture, community, or group. The participant observation is necessitated to this study for gaining insightful understanding of community's context.

Supang Chantavanich (2001) suggests six major categories of social phenomena that the researcher should observe in his or her study. These categories are the followings:

1) Acts. Acts mean the routine ways of life or behavior of individual members in the community such as how they dress, eat, or live.

2) Activities. Activities represent the set of ordered and systematic practices that become norms of the community, such as religious celebrations.

3) Meaning.

4) Relationship between members in the community in terms of kinship, economic, and culture.

5) Participation in the community.

6) Setting of the community.

3.3.1.5 Group Discussion

Group discussion is conducted with a group of villagers and key informants on such issues as present forest conservation activities, encourage factors to participate in forest conservation, the patterns and processes of participation in forest conservation, and the success of their community forest.

3.3.2 Quantitative Method

3.3.2.1 Population

Table 3.2 demonstrated the number of population (Household) and questionnaires to be returned in each community forest.

	BSK	HMH	BTK	BMR
Total number of households	154	156	92	135
Number of questionnaires to be	154	156	92	135
distributed				
Number of questionnaires to	118	119	87	123
be returned				
Percentage of return	77	76	95	91

Table 3.2 Population and Sample Returned in Each Community Forest

3.3.3 Instrument

In this research, the questionnaire was the primary tool for collecting data from the sampling. The research instrument used in this part included close-ended and open-ended questionnaires in order to access the practice, process, and level of participation in forest conservation in each community forest.

3.4 Test of the Questionnaire

1) The reseacher studied the concept of the community forest, relevant theory, and conducted a literature review in order to construct the survey questionnaire.

2) The questionnaire was submitted to research advisory for comment and revision. After being carefully examined, part three of the questionnaire was submitted to eight experts that worked directly with the local community forest for their evaluation. According to Lawshe (1975) the minimum acceptable content validity should reach 0.78 at a significant level of 0.05. Details of content validity ratio (CVR) of the questionnaire are shown in Appendix C. All questions in the questionnaire passed Lawshe's requirements.

3) The researcher pre-tested the questionnaire with 60 people in other community forests.

4) The questionnaires were put into the SPSS program for testing reliability and internal consistency. A high Coefficient Alpha (α) of .953 was derived by Gronbach's Alpha Coefficient test, as shown in Appendix C.

3.5 Data Analysis

According to table 3.3, the researcher gathered data for the qualitative and quantitative approach. The forest conservation practices of each model community forest, including their success, were synthesized in the qualitative part of the study, as will be presented in Chapter 5.

The analysis of the data in the quantitative part was processed by the Statistical Package for Social Science (SPSS) in order to obtain descriptive statistics and are expressed in Percentage as presented in Chapter 5.

The qualitative analysis process followed the suggestion of Hubermand and Miles (1994: 428-440). Starting with the data collection, researcher collected data in the field study through interviews, observation, group discussion, and document reviews. Once the data collection was completed, data reduction was performed in order to find the themes of the story, and fitting of the data.

Then the information was organized, assembled, and structured in the process of the data display. Illustration by picture, table, and diagram was arranged in order to convey the story and meaning to the readers. Finally, conclusions were drawn from the displayed data. The findings in each model community forest were compared, contrasted, and interwoven in order to accommodate the research questions.

Objective of the Study	Qualitative	Quantitative
	(Key informants)	(Household)
Objective 1		
To assess experience and practice	Q 1-11,13, 15, 17,18,	Q 13-18
of community forests in forest	19,21,22,24	Q 20-27
conservation		Part 4
Objective 2		
To assess a set of key success	Q14, 16	Q 19
factors in community forest		Part 4
management		
Objective 3		
To study people's participation in	Q 25	Q 19
forest conservation		Part 3
Objective 4		
To compare and contrast the	Synthesis from Qualitative a	and Quantitative Data
practice and success factors on		
community forests in sustaining		
their forest resources.		



Figure 3.2 Structure of the Research

CHAPTER 4

DESCRIPTION OF THE FOUR SELECTED CASE STUDIES AND KHAO WONG

In order to provide the reader with an overview picture of the four selected model community forests, the background and profile of each community forest is described in this chapter.

4.1 Ban Samkha Community Forest (BSK): A Model of the Check Dam Forest

4.1.1 Community Profile

Table 4.1 Community Profile of Ban Samkha

Characteristics	Condition		
1. Village Attributes			
a. Population size of the community	154 family, 664 people		
b. Population character	Homogeneous with traditional Lu		
people			
c. Major occupation	Farmer		
d. Average household income per month	5,406 Baht		
2. Community Forest Attributes			
a. Type	Watershed and food Supply forest		
b. Forest area	12,000 rais		
c. Distance of study site from significant forest	5 Km		
d. Condition of community forest	Small and self-reliance community		
	forest.		

4.1.1.1 Location

BSK is an old community located at Moo 6, Hua Suae sub-district (Tambon), Mae Tha district (Amphoe), Lampang province. It is 600 kilometers from Bangkok and 32 kilometers from Mae Tha district, and 47 kilometers to the southeast of provincial center (Amphoe Muang) of Lampang. BSK community's boundary connected to

North: Ban Tung, Mae Tha district, Lampang provinceSouth: Ban Don Fai, Mae Tha district, Lampang provinceEast: Long district, Prae provinceWest: Ban Huay Ma Kruaw, Mae Tha district, Lampang province



Figure 4.1 Study Area of Ban Samkha



Figure 4.2 Characteristic of Ban Samkha's Household

In order to access BSK, there is only one entrance located at the north of the village. One could get there by taking a bus from Amphoe Muang to Lampang-Denchai road. The small road at the Don Fai police station could lead visitors to the village. It should be noted that there is only one bus leaving for the BSK, at 11 am every day, and requires one and half hours to arrive at the community.



Figure 4.3 Guide Post to Ban Samkha Community

4.1.1.2 Geography and Climate

BSK is situated on a plain area, leveled by complex of mountains, which are a major source of water for the community and define the boundary of Lampang from Prae. Parts of the hills have been recently recovered from shifting cultivation in the past. At the east and the south of the village is an area of conserved and watershed forest, comprising 3,500 check dams.

The climate at BSK follows that of the North, which is normally cold in the winter. Since the village is situated in a plain area surrounded by hills, it is windy in the evening.

The average temperature was 26.5 Celsius during the past decade.

4.1.1.3 Settlement History

BSK was established in 1757. The people here descended from those of Ban Lawl Nhong Pong, Muang district, Lampang province a few hundreds years ago. Therefore, most local people are descendants from the "Lua" family (Northern people's hill tribe).

The history of the village was recalled from community folklore by Thad Intharaprasit (2009), a senior citizen and community forest committee member of BSK:

> In the past, people from Ban Lawl Nhong Pong moved to this place in order to hunt and settle their family since they saw that this area was rich with wild animals. Initially, there were only a few people that lived here. The place was formerly called "Ban Mae Yuak" due to its abundance of banana trees (Yuak in Thai means banana stalk). I remembered that my grandparents told me a story of a barking deer, a giant snake, and the end of the village. The deer was hunted and killed by one of Ban Mae Yuak's villagers. Due to its large size, the villager was not able to carry the whole deer back to the village. He left its body in a cave, cut only one leg, and planned to return to take the rest of the body. The following day, when he came back, the villager found that the deer was all eaten by a giant snake. Angry, he killed the snake, brought its corpse to the village, and distributed it to villagers. The villagers were not aware of the outcome of his conduct, which would result in a serious disaster to the village. The story ended sadly - all of the people in the village were killed by an earthquake, except for a widow, who was alert in her dream and did not eat that snake.

Many years after the tragedy, more people moved into this village. All of the banana trees were slashed to build a farm. Without banana trees, the name Ban Mae Yuak was changed to "Ban Samkha," referring to the story of the three-legged barking deer. Some villagers said that the name of the village represented the three sacred key elements of Buddhism: the Lord Buddha, the Dharma, and the Buddhist Monk.





Figure 4.4 Household in Ban Samkha

4.1.1.4 Population

There are 154 households in BSK, with a total of 664 people, comprising 324 males and 340 females. According to information from BSK's public health center, shown in table 4.2, the majority of the people are of working age (19-60 years old).

Table 4.2 Population's age of Ban Samkha, 2006

Age (Years)	Male	Female	Total
0-18	68	74	142
19-25	104	114	218
26-60	100	108	208
60 up	152	55	107
Total	324	340	664

Most villagers in BSK did agriculture on their own farm, while some worked for wages part-time. In the field study, the villagers indicated that they could plant a rice field only once a year due to the unabsorbed water in the soil. During that time, they grew garlic, shallots, and garden vegetables to consume within the village.

4.1.1.5 Way of Life

From the observation, BSK's people have strongly preserved their traditional way of life. Most people work inside the village while only a few people have moved to the city for work or study. People normally worked on their farm during the growing season, and work for wages at other times. People wake up very early in the morning to listen to the news that the village headman communicates through community's broadcasting. Parent take their children to school by bus or motorcycle before they go out for work on the farm. In the evening after work, they go home to rest. It is normal to see people talking in small groups at the space under their Traditional Thai house.



Figure 4.5 Ban Samkha's Broadcasting

4.1.1.6 Education

There was only a primary school in the village, with four teachers responsible for forty students. Students needed to attend the school located in another village for their higher education. According to table 4.3, most of the people in Ban Samkha studied elementary school and junior high school. Only few people did not have opportunity to educate at school.

Educational level	Number of people	Percent
Not educated	9	1.36
Pre- elementary school	37	5.57
Elementary school	230	34.63
Junior high school	156	23.49
Senior high school	102	15.36
Vocational certificate	30	4.52
High vocational certificate	28	4.22
Undergraduate	65	9.80
Graduate	7	1.05
Total	664	100

Table 4.3 Educational of people in Ban Samkha, 2006

4.1.1.7 The Administration System

The village headman was officially accountable for administering the village. However, BSK strongly followed their Lanna culture that people tended to live peacefully as a group of kinsfolk. The administration structure of BSK is shown in figure 4.6: however, the implementation was not an absolute hierarchy. Rather, the leaders used a lineage relationship to regulate the community.

Since there were 154 families in the community, 16 sub-groups of people were divided, each comprising 10 households with their head group. The head group was responsible for coordinating with the village headman concerning policy matters. He was also responsible for communicating with the household regarding administrative tasks.



Figure 4.6 Formal Structure of Administration at Ban Samkha

4.1.1.8 Culture and Beliefs

All of the people in BSK are Buddhist. There is one temple in the village. Wat Ban Samkha is known by the people as their center of moral and religious activites, and as a learning center. Many times people convene here for village meetings.





Figure 4.7 Wat Ban Samkha as the Community Learning Center

To the Lanna culture, people in BSK also worshiped various guardian spirits, as follows:

Chao Phor Khun Nam Huay Samkha (spirit that protects the forest) Phee Poo Pran (spirit that protects animal hunters)

Phee Seuar Thung Seuar Na (Spirit that takes care of farming productivity)

Phee Poo Ya (Spirit that protects the village)Phee Seuar Ban (Spirit that protects the family)Phee Khun Nam (Spirit that protects watershed areas)4.1.1.9 Natural Resources at Ban Samkha

Since the landscape of Ban Samkha is highland and hills, most people did farming along the foothills and collected non-timber forest products for a living. There were no problems with land monopoly from outsiders.

As agriculture was the main occupation for the villagers, water supply was very important for their life. It was concluded that important source of water in Ban Samkha mainly came from:

1) Rain. The average annual rainfall in Ban Sam Kha is approximately 1,126 millimeters.

2) On-ground source of water. Water for consumption and agriculture mainly came from Ban Samkha's reservoir in the forest, Huay Mae Ing and Huay Sam Kha, delivered to the village by indigenious mountain tap water. The regulations in using the water supply from the reservoir and the irrigation system were established by village committee.





Figure 4.8 Agircutural Field with Irrigation Channel from the Village's Reservoir

Figure 4.9 showed the distribution of water from watershed forest to the village. After water was consumed by the community, it flew through Jang river and Wang river respectively.



Figure 4.9 Water Resource at Ban Samkha

4.1.2 Forest Profile

4.1.2.1 Boundary

Surrounded by a wide deciduous forest, BSK was remarkable for the region as a model of a watershed forest, with a total area of 12,000 rai. The community forest committee regulated the forest area as a protected and productive area.

For management purposes, BSK officially divided its forest into three zones as shown in figure 4.10.

1) Zone 1 (A) is the area of conserved watershed forest, comprised of:

- (1) Huay Mae Sam
- (2) Huay Mae Ing

The forest area in zone A is 5,858 rai and tree cutting is strictly prohibited.

2) Zone 2 (B). The forest in this zone used to be degradable forest and was restored. This includes the forests in the area of Huay Hard, Huay Jaroon, and Huay Kard-Nguar.

The forest area in zone B is 2,456 rai. Villagers are allowed to use timber in building their homes, subjected to approval from the village committee.

3) Zone 3 (C) consists of the forests in the vicinity of Huay-Thon-Tan, Mon-Doy-Pieng (mon in thai means mountain). The forest on the east of Huay-Thon-Tan is conserved. The forest on the west is allowed for building homes or other uses. The forest area in zone C is 837 rai.



Figure 4.10 Forest zone at Ban Samkha

4.1.2.2 Forest Products

BSK was settled in the area with a long history. The people's way of living is tied to the forest in terms of food, medicinal herbs, clothing, and animal rearing. In the past, the forest was very productive and opened widely to villagers. Government officials did not strictly monitor the use of the forest.

In the conserved forest, most of the trees consist of economic timbers such as teak, Hopea, and Pterocarpus. Local people usually cut timber in the productive forest for firewood in cooking, building their home, and making fences. Presently, there are about 20 households sustaining their life by collecting non-timber forest products such as mushrooms and bamboo shoots. Thorn Yaso, a senior citizen, said that there is a strong connection between local people and their forest: "The forest is our supermarket for vegetables, herbs, and non-timber forest products. We did not have to pay money to buy things- just taking care of the forest"

From conversation with villagers, forest products and activities of BSK could be summarized accordingly.

Month	Forest Product and Main Event
January	Pak (vegetable) Wan, Ant eggs. Constructing check
	dam
February-March	Constructing check dam, Firebreak.
April	Pak Wan, Ant eggs. Constructing check dam
May	Bamboo shoots. Constructing check dam
June-July	Hed (mushroom) Ha, Hed khon, Vegetables (various)
August-October	Hed Ha, Bamboo's caterpillar
November-December	Constructing check dam

Table 4.4 Forest Products and Activities

4.2 Huay Mae Hin Community Forest (HMH): A Model of Sustainable Bamboo Harvesting

4.2.1 Community Profile

Table 4.5 Profile of Huay Mae Hin Community Forest

Characteristics	Condition
1. Village Attributes	
a. Population size of the community	126 family, 512 people
b. Population character	Homogeneous
c. Major occupation	Farmer
d. Average household income per month	2,906 Baht
2. Community Forest Attributes	
a. Type	Restored mixed deciduous forest
b. Area of forest	5,000 rais
c. Distance of study site from significant forest	10 Km
d. Condition of community forest	Natural bamboo forest

4.2.1.1 Location

HMH is located in Ban Hua Thung, Moo 8, Phong Tao sub-district, Ngao district, Lampang province. The community is about 100 kilometers from Lampang. The Huay Mae Hin forest is administered by Ban Hua Tung's village. Its boundary connects to:

North:	Ban Pong Tao, Moo 12
South:	Ban Pun Nuar, Moo 3
East:	Ban Pan Patana, Moo 9
West:	Ban Huay Nam Tuean, Moo

Lampang Province



Figure 4.11 Study Area of Ban Hua Thung



Figure 4.12 Layout of Ban Hua Thung's Household

In order to access HMH, one can take the bus from Bangkok to Payao. The community is located on Paholyothin Road between kilometer 691 and 696. There is a guide sign to Wat Ban Prawl at the main entrance of the community.



Figure 4.13 Guide Post to Ban Hua Thung (Huay Mae Hin Forest)

4.2.1.2 Geography and Climate

Ban Hua Thung village is situated on a plain area, surrounding by watershed forest and hills. The villagers of Ban Hua Thung, and those of other villages (Moo 1 and Moo 3) depend on Huay Mae Hin creek as their prime source of water.

The climate at Ban Hua Thung is generally cold and windy in the winter. There is a high rainfall from September to October of every year.

4.2.1.3 Settlement History

The history of Ban Hua Thung follows Ngao's history. In 1780, the village was a part of Hirun Nakorn and Yonok Chiang San, known as "Muang Nghen" (the name of Ngao during the reign of Lanna). As time passed, the name was subsequently changed to Ngao Nghen, which finally became to the district of Ngao at present.

4.2.1.4 Population

The people in the Phong Tao sub-district are diversified in terms of ethnicity. Hill tribes could be found in some village, such as the Yao in Moo 6, the Thai Lua in Moo 7, and the Arkha in Moo 9. Most Ban Hua Thung villagers are local Thai people.

There are 126 households in Ban Hua Thung. According to information of the Phong Tao Sub District Administration, the total population is 512, comprising 255 males and 257 females.

4.2.1.5 Way of Life

The villagers at Ban Hua Thung live together as kin in the Lanna way of life. Since there is a small number of households, they know each other very well. There is one temple in the village, which is a place for people to make a merit and to conduct religious ceremonies. From the field survey, it could be seen that the villagers went to work on farms and in wood factories after they sent their children to school. Elder people burned bamboo timber for charcoal as an extra job.





Figure 4.14 Household in Ban Hua Thung

4.2.1.6 Education

Most of the people in Ban Hua Thung have studied in elementary school. Only a few people graduated have a bachelor degree.

4.2.1.7 The Administration System

Ban Hua Thung is a small village. Its administrative structure follows most villages where the village headman is the villager leader. The village committee will takes part in all group activities, such as elder groups and forest groups. Normally, the village leader will act as chairperson of the community forest committee.

4.2.1.8 Culture and Beliefs

Ban Hua Thung possesses important cultures and beliefs. Most of their cultures are rooted on a combination of superstition, culture, and belief in Brahman. Examples of ceremonies found in this study relevant to forest conservation include ordaining the forest and a ceremony to honour the Ngao River (Yor Khun Mae Nam Ngao). The practice of honouring this is similar to that of Phee-Khun-Nam (spirit that protects the watershed area) found in other forest villages.

During the religious season, people normally attended ceremonies at Wat Ban Phraw near the village.



Figure 4.15 Sign to Wat Ban Phraw

4.2.2 Forest Profile

4.2.2.1 Boundary

HMH is located in Ban Hua Thung, Phong Tao sub-district of Ngao. The forest is a natural bamboo forest developed from degraded, mixed deciduous forest. It was once abundant with such timbers as teak (*tectona grandis*) and herb (*lagerstroemia calyculata*). With a total forest area of 5,000 rai, Huay Mae Hin forest has served as a watershed area for two main streams, the Huay Mae Hin and Huay Pong Puea, providing a water supply for local communities.



Figure 4.16 Boundary of Huay Mae Hin Forest

4.2.2.2 Forest Products

From the field survey, it was found that HMH possessed five important bamboo species: Phai Sang Nuan (Dendrocalamus membranaceu), Phai Hok (Dendeocalamus hamiltonii), Phai Bong (Bambusa tuda), Phai Rai (Gigantochloa albociliata), and Phai Pa (Bambusa bambos). Out of these species, Phai Sang Nuan is most abundant and has become the most important economic timber for the village. Ban Huay Mae Hin is well-known for local bamboo products such as sticks and charcoal. These products are sold both domestically and internationally.





Figure 4.17 Bamboo Timber in Huay Mae Hin Forest

4.3 Ban Talad Kee Lek Community Forest (BTK): A Model of the Cultural Forest

4.3.1 Community Profile

Table 4.6 Profile of Ban Talad Kee Lek

Characteristics	Condition
1. Village Attributes	
a. Population size of the community	92 family, 293 people (146 males
	147 females)
b. Population character	Heterogeneous
c. Major occupation	Labor
d. Average household income per month	5,011 Baht
2. Community Forest Attributes	
a. Type	Mixed deciduous forest
b. Area of the forest	2,500 rais
c. Distance of study site from significant forest	7 Km
d. Condition of community forest	Watershed area, close to urban

4.3.1.1 Location

BTK is a small community forest located at Moo 1, Mae Phong subdistrict (Tambon), Doi Sa Ket district, Chiang Mai province. The village is not far from the civilization of Chiang Mai, but the forest is still very fertile and productive. The village has boundaries with other villages as follows: North: Huay Luang, Doi Sa Ket district, Chiang MaiSouth: Baan Mae Hong Krai, Moo 8, Doi Sa Ket district, Chiang

Mai

East: Huay Hong Kai Educatonal Development Center, Doi Sa Ket district, Chiang Mai

West: Ban Pa Phai, Moo 2, Doi Sa Ket district, Chiang Mai



Figure 4.18 Layout of Ban Talad Kee Lek's Household



Figure 4.19 Layout of the Study Area

One can easily access the community by taking a bus from Chiang Mai to highway number 118 (Chiang Mai - Doi Sa Ket - Chiang Rai), and goes northeast about 29 kilometres. The village is about 13 kilometres from Doi Sa Ket's Administration Office.

4.3.1.2 Geography and Climate

BTK is situated on a small plain area among the mountains, surrounded by various hills. As the village's setting is in an inclined area and is encompassed by forests, there are number of small creeks that flow from the forest downhill. Such features allow the community to build checkdams for distributing natural water to their farmlands.

Surrounding the village are the office of government authority, the developmental project, tourist attractions, and a millstone factory which is an important source of income for many villages in the Mae Phong sub-district. BTK is also one of the target villages under the Huay Hong Krai Educational Development Center, which lends technical support for some forest activities.

The weather of the village follows that of tropical areas in the North, where the lowest temperature is 9.9 Celsius in January, with the highest at 39.6 Celsius in April. Average annual rainfall is 1,166 millimeters, with the highest in September.

4.3.1.3 Settlement History

BTK is a 300-400 year old community, but was officially established in 1877. Judging from historical records and ancient articles, the community was first set up by Lua (the local people in the North) about four hundred years ago. The name of the village derives from its localtion, which is situated in a valley, surrounded by numbers of canals and traditional trees "genus Cassia" (Kee Lek in Thai). Additionally, some historians have indicated that the village was named "Talad Kee Lek" (talad in Thai means market) because it was a marketplace where merchants travelled from Chiang Mai to Lampang and Chiangrai, trading and exchanging goods.

Presently, BTK is an old and small community with a total area of 4.8 square kilometers. Since some parts of the village share the same vicinity with other forests such as the Khun Mae Kuang National Conserved Forest, and the Huay Hong Krai and Huay Luang forests, there are only 2,500 rais of forest for village use.



Figure 4.20 Household in Ban Talad Kee Lek

4.3.1.4 Population

BTK has a small population. According to Somboon Thaiyantho, the village headman, the population increased from 227 people (84 households) in 2003 to 345 people (92 households) in 2009. The proportion of males and females is almost equal. Most of villagers are traditional local Thai and Lua, all of which are native to the village.

4.3.1.5 Way of Life

Most of the people work as laborers for wages. From the field study, it was ascertained that there are two major places to work. The majority of villagers work at a millstone factory (Yunsila Factory), while the minority work at the Huay Hong Krai Development Center. Only few people work outside the community.

Regarding their utilization of the forest, most people rely on the forest for consumption within their family. They normally collected non-timber forest products during the weekend when they are free from routine work. Only a few families earn money from the sale of forest products.

4.3.1.6 Education

Most people in BTK studied to the high school level at Ban Talad Kee Lek school. Established in 1939, Ban Talad Kee Lek school is currently regarded as an important place for youth and villagers to contribute to forest conservation activities. The school won an award for its botanical garden from the Food and Agricultural Office (FAO) in 2001.



Figure 4.21 Ban Talad Kee Lek School and Children's Forest Program

4.3.1.7 The Administration System

BTK's village committee is a 16-members of committee. Somboon Thaiyantho, the village headman, is currently the chairperson of the village committee. Included in the village committee are members from the Mae Pong Sub District Administration Office, the head of the user group, senior citizens, and the abbot of Wat Pra Thad Doi Jom Jang. The village committee members serve a term of five years. Practically, they function as a community forest committee of the village as well.

4.3.1.8 Culture and Beliefs

BTK's villagers succeeded from their Lua accestors, a local traditional tribe of the North. Therefore, most of their activities regarding forest conservation represent the Lua culture, with a strong belief in natural spirits and guardians. The agricultural and forest activities of BTK are linked to traditional cultures, such as Phee Rai, Phee Ang, and Phee Khun Nam (Phee in Thai means god or spirit), which will be further investigated in the analysis of this study.


Figure 4.22 Family Spiritual House, Mostly Found in Every Household

Wat Phra Thad Doi Jom Jang, established in 1885, is the only temple in the community where villagers perform religious activities. The temple is located on a hill (Doi Jom Jang), surrounding by the forest, which is a major souce of water for Huay Kha. Other than being a center of the mind of the villagers, the temple played a prominent role in encouraging people to conserve the forest. Phra Khru Manop Kittiyano, the abbot of the temple since 1992, is a native to the community and is a key leader in forest conservation. Besides being a religious leader to the community, Phra Khru Manop is also an advisor on the community forest committee. At important religious events such as Buddhist Lent, Phra Khru Manop preached to the people and youth about the importance of forest conservation.

All of the villagers in BTK respect Phra Khru Manop as one of their leaders in forest conservation.



Figure 4.23 Phra Khru Manop Kittiyano and Wat Doi Jom Jang

4.3.2 Forest Profile

4.3.2.1 Boundary

BTK has a total forest area of 2,500 rais, located in the Khun Mae Kuang National Conservation Forest. The forest has been classified into two zones:

1) Conserved Forest (1,900 rais). This area covers most of the watershed area.

2) Utilized forest (600 rais). This area is located to the north and the east of Huay Kha reservoir. The utilized forest area also covers the area to Wat Phra Thad Doi Jom Jang.



Figure 4.24 Conserved Forest area at Ban Talad Kee Lek Forest

To illustrate the location of community forest and the village, BTK's forest is located at the north of the village as shown in figure 4.25. In the past, the forest included the area of Huay Kha, Huay Pa Rai, Huay Mae Hong Krai, and Huay Pong with a total area of 11,000 rais. In 1979, the Office of Accelerated Rural Development (ARD) constructed Huay Kha reservoir in the forest area, following to the establishment of Huay Hong Krai Development Center in 1982. Some areas of the BTK forest was utilized in the founding of the Center and the forest area of BTK has thereby decreased to 2,500 rais at present.

4.3.2.2. Forest ProductsBTK consists of two kinds of forest.

1) Deciduous Dipterocarp forest, which is mostly found on the hills. This kind of forest covers 60 percent of the forest area, consisting of such timbers as Theng (Shorea obtuse), Lang (Shorea Sianensis), Hiang (Dipterocarpus Obtusifolius), and Pluang (Dipterocarpus Tuberculatus).

 Mixed forest, which is normally found along the creek, covers 40 percent of the area. Timber in this area consists of teak (tectona grandis), Dang (Xylia xylocarpa), Pradoo (Pterocarpus macrocarpus), and different kinds of bamboo timbers. From the interview with BTK's villagers, table 4.7 shows forest products normally found in their community forest.



Table 4.7 Forest Products Calendar of BTK



Figure 4.25 Layout of Forest Location

4.4 Ban Mae Rawan Community Forest (BMR): A Model of the Network Forest

4.4.1 Community Profile

Table 4.8 Profile of Ban Mae Rawan

Characteristics	Condition
1.Village Attributes	
a. Population size of the community	154 family, 651 people
b. Population Character	Homogeneous
c. Major Occupation	Farmer
d. Average Household income per month	9,737
2. Community Forest Attributes	
a. Type	Watershed forest
b. Area of Forest	3,000 rais
c. Distance of study site from significant forest	5 Km
d. Condition of community forest	Watershed area, Rural

4.4.1.1 Location

BMR is located at Moo 5, Yok Kra Bat sub district, Sam Ngao district, Tak province. The village is 25 kilometers to the north of the Sam Ngao Administration Office and 84 kilometers from Tak City Hall. Its boundary is connected to:

North:	Ban Mae Chiang Rai (Moo 3), Mae Prik district, Tak
South:	Ban Song Kwae (Moo 4), Sam Ngao district, Tak
East:	Ban Mae Chiang Rai (Moo 7), Sam Ngao district, Tak
West:	Conserved forest (Moo 5 and 6), Sam Ngao district, Tak



Figure 4.26 Study Area of Ban Mae Rawan

In order to access BMR, one can take the bus from Bangkok to Tak and follows Asia Road until finding the entry to the community at Ban Chiang Rai Bon. The community is about 15 kilometers from Sam Ngao Hospital.



Figure 4.27 Guide Post to Ban Mae Rawan

4.4.1.2 Geography and Climate

Most households in BMR are situated on the bank of the Wang River. As shown in figure 4.28, there are two important sources of water: the Wang River (1,500 metres in length), and the Huay Mae Rawan (4,000 metres in length).

The climate of the community follows that of the North:

Summer: February-June

Rainy: May-August

Winter: November-January



Figure 4.28 Layout of Study Area

4.4.1.3 Settlement History

The history of BMR begins in 1872 when two families from the Thern district, the Thongjai family and the Porya family, together with two families from the Ban Tak district, the Thangnoi family and the Sonjai family, moved to settle in the area. Since the area surrounding the Wang River is very productive, more people came to do farming and to feed their animals. When the community became bigger, it was set up as a village. With the kindness of people who were willing to help each other in work, the village was named Ban Mae Rawan in order to honor this generosity (wan in Thai means demanding help). Mr. Ud Thongjai became the first village headman of BMR.

Presently, BMR has total area of 16,980 rais as detailed.

Purpose of Land Use	Area (Rai)	
Residence	72	
Farmland	1,888	
Public Use	20	
Community Forest	756	
Conserved Forest	14,244	
Total	16,980	



Figure 4.29 Household in Ban Mae Rawan

4.4.1.4 Population

There are 135 families in the village, with a total population of 549 (276 males and 273 females). All of the people are farmers and Buddhist.

4.4.1.5 Way of Life

Since BMR is a small community, there is only one temple in the village. Wat Mae Rawan is a place where people conduct religious ceremonies and celebrate activities on special occasions.



Figure 4.30 People help (wan) to build a stage on Songkran Day at the Temple

4.4.1.6 Education

There is only one primary school in the village, with 8 teachers and 122 students. Most students need to continue their higher education in a nearby village.



Figure 4.31 Ban Mae Rawan School

4.4.1.7 The Administration System

The Ministry of Interior nominated BMR as one of the pilot villages to administer by village parliament. Therefore, the administrative structure of the village is comprised of 25 committees, responsibled for different fields. The village headman acts as president of the parliament for a five-year duration. Normally, the parliament conducts meeting every month or earlier, depending on the urgency of the agenda.



Figure 4.32 Ban Mae Rawan's Village Administration

In practice, the village headman delegated administrative tasks to four Khums (khum in Thai means village sections) as listed below.

1) Khum Ruam Jai Pattana

2) Khum Puang Pracha Pen Suk

3) Khum Ruam Took Puean Thai

4) Khum Rak Thai Samakkee

Each Khum possesses about 30-40 households with its own leader.

4.4.1.8 Culture and Beliefs

BMR possesses a strong Lanna culture. Their customary practice and culture remain in the Northern style. As other forest communities in the North, the community believes in supernatural power that can make good or bad things happen. This belief is represented in numbers of worship ceremonies, such as the guardian spirit, the family spirit, and the village god.

4.4.2 Forest Profile

4.4.2.1 Boundary

BMR formally established their community forest in 2000, with a total area of 756 rai. Since the village set up its own community forest, geographically, the Ban Mae Rawan community forest was a part of the Pha Thon Forest, a very large forest in Tak. Currently, the Pha Thon forest covers 15,000 rais of forest area in seven communities.

- 1) Ban Mae Song Kawe Pattana, Sam Ngao district
- 2) Ban Mae San Pa Sak, Mae Prik district
- 3) Ban Mae Chiang Rai, Mae Prik district
- 4) Ban Mae Rawan, Sam Ngao district
- 5) Ban Mae Song Kawe, Sam Ngao district
- 6) Ban Nhong Chiang Ka, Sam Ngao district
- 7) Ban Nhong Chiang Ka Tai, Sam Ngao district

Among the community networks BMR is regarded as a leading village for forest conservation in Pha Thon.



Figure 4.33 Forest Zone at Ban Mae Rawan, and Pha Thon Forest

4.4.2.2 Forest Products

The Ban Mae Rawan forest is the dipterocarp forest. Most of the area consists of natural hills and numerous granite stones. It is also regarded as a main watershed area for Huay Mae Rawan.

Month	Forest Products
January	Tamarind, Hed (Mushroom) Lom, Hed Khon.
February-April	Pak (Vegetable) Wan, Pak (various).
May-June	Bamboo shoots, Hed Kai Han, Hed Ha, Pak Wan.
July	Hed Kai Learng, Hed Lom, Hed Ha.
August-October	Hed Khon Lek, Hed Khon Yai, Hed Kai Learng.
November-December	Hed Khon Nam Khang, Hed Lom, Tammarind.

Table 4.10 Forest Products

4.5 Khao Wong Community Forest (KW): A Supplementary Case Study

KW was nominated by the Royal Forest Department to win the country's 2008 model community forest award. The community was also nominated by the Green World's award as a developed forest community in 2005. Although KW is not located in the North and thus beyond the scope of this study, the researcher visited and conducted a supplementary study on KW in order to ensure that this study did not overlook the key practice of the best community forests in Thailand. The analysis and findings part on KW would focus and limit mainly to its key practice, with an interview to the key informants, and documentary review.

4.5.1 Community Profile

Table 4.11 Community Profile

Characteristics	Condition
1. Population size of the community	830 families, 2,796 people
2. Community Forest Attributes	
a. Type	Mixed deciduous forest
b. Area of forest	6,250 rais
c. Distance of study site from significant forest	7 Km
d. Condition of community forest	Fertile

4.5.1.1 Location

KW is located in the Wang Ta Kae sub-district, Nhong Bua Ra Hale district, Chaiyaphum province. Chaiyaphum is about 342 kilometers from Bangkok. One can access it by taking a bus from Bangkok-Saraburi-Seekew-Chaiyaphum and following highway 225 (Chaiyaphum- Nakornsawan). The entrance to the community is between kilometers 122.5 and 127.5 to the south of Sai Thong national park. KW's boundaries are connected with:

North: Sai Thong national park East: Baan Wang Udom West: Road to Sai Thong national park South: Chaiyapoom-Nakornsawan highway

Chaiyaphum Province



Khao Wong Community Forest (Moo 4, 8, 10, 13, 17)



Figure 4.34 Study area of Khao Wong

The researcher visited KW in December of 2008, and in May, 2009. In addition to conducting an interview with the village leader, Kamnan Soontorn Amnaj, the researcher performed a documentary review of the practice and forest management of this model community forest in order to derive the key practice that made it eligible to win the best model community forest of the country.



Figure 4.35 Interview with head of the village

4.5.1.2 Geography and Climate

Chaiyaphum is an important province in the Northeast because it is the largest forest area in the region. KW is located on the plateau of Northeast, surrounded by national forest and mountains.

The climate in KW follows that of the Northeast; dry weather in the summer and chilly weather in the winter.

4.5.1.3 Village Profile

KW is surrounded by five villages:

1) Ban Tha Phong, Moo 4

2) Ban Noen Muang, Moo 8

3) Ban Wang Nam Keaw, Moo 10

- 4) Ban Wang Udom, Moo 13
- 5) Ban Ban Phong Nakorn, Moo 17

In 1979, the villages around KW became very famous for animal farming. The forest is very fertile and productive, and therefore people neglected to conserve it. On the other hand, they were accustomed to mowing the forest and turning the area into farming.



Figure 4.36 Household in Khao Wong Community

4.5.1.4 Population

KW is comprised of 830 families, with a total population of 2,796

people:

1) Ban Tha Phong, Moo 4	166 households
2) Ban Nonh Muang, Moo 8	191 households
3) Ban Wang Nam Keaw, Moo 10	93 households
4) Ban Wang Udom, Moo 13	183 households
5) Ban Phong Nakorn, Moo 17	197 households

4.5.2 Forest Profile

4.5.2.1 Features of the Forest

During the past five decades, approximately 60.3 percent of the area in the northeast has consisted of fertile forest. Deforestation in the past resulted in a decrease of forest area to only 16.64 percent of the total area in the region. The forest area in Chaiyaphum, where KW is located, decreased dramatically from 8,344 square kilometers to 3,011 square kilometers in 1961.

KW was a very productive forest possessed a diversity of animals because of its proximity to Chiang Tha creek. Its abundance of natural resources attracted people from other provinces to the community and the number of villages around KW increased from one to five villages during the past few decades.

This increase in the number of villages resulted in more people depending on the forest. People started to claim their right to the land. In light of this, the forest was degradable in terms of frequent wildfires, drought, and a decreased in the number of non-timber forest products.

Presently, KW is the largest forest in Chaiyaphum, with a total area of 6,250 rais connected with Sai Thong national park. KW is a mixed, deciduous forest, located in the area of Pa Na Yang Kluk national conserved forest. It was officially registered as a community forest under the Royal Forest Department in 2002.

In 2008, the Royal Forest Department, in coordination with Rachaburi Holding, established the Project of Kon-Rak-Pa-Pa-Rak-Chum-Chon (People love forests, forests love community) in order to search for the best community forest of the country. According to the Royal Forest Department, the community forests eligible for the contest had to register with the Royal Forest Department and exhibit outstanding forest management practice with the participation of locals. 4.5.2.2 Regulation and Enforcement of Khao Wong Community Forest for Sustainable Forest Conservation

KW's forest committee did not allow the following activities in their community forest.

1) Taking any kind of timber out of the forest

2) Cutting any kind of timber or invading into the forest for commercial purpose or personal benefit

3) Building stalls for animals or taking animals to feed into the forest

4) Living or staying overnight in the forest

5) Outsiders entering the community forest for make benefit or commercial purpose

6) Outsiders taking any equipment such as knifes, or saws into

the forest

7) Burning or making any attempt to have a fire in the forest

Encroachers would be subject to a fine of 500 - 10,000 Baht or be prosecuted by legal action depending on the committee's decision.

Exceptions in making use of timber in the forest were possible depending on the committee's consideration, particularly in the case of:

1) People that were affected by natural disaster such as fire or

storm

2) Reconstructing of schools, temples, community halls, or anything that benefited public use



Figure 4.37 Forest Regulation at Khao Wong Community Forest



Figure 4.38 Layout of Khao Wong Community Forest

CHAPTER 5

FINDINGS, ANALYSIS, AND SYSTHESIS OF FOREST PRACTICE, SUCCESS FACTORS, AND PEOPLE PARTICIPATION IN SELECTED COMMUNITY FORESTS

This chapter presents the findings and analysis of the data collected by qualitative and quantitative method. In order to cover the objective of this study described in Chapter 1, the researcher drew the field data into three areas of study: Community practice, Key factors for success, and People's Participation.

Analysis of Qualitative Data

The analysis presents the perspective of key informants such as leaders, forest committees, and senior citizens in each community forest. The content of the qualitative analysis highlighted each community practice regarding forest conservation and their key factors for success. Based on the work of many scholars (Ostrom, 1990; Saneh Chamarik, 1992; Colhotra, 1995; Komol Pragtong, 1995;) as reviewed in Chapter 2, it is possible to identify the factors that multiples scholars have identified as factors in the success of the community forest. This study added other factors that emerged during the field study in the Thai community forest's setting.

Analysis of Quantitative Data.

The analysis presents some of the charcteristics of the people's perspective: Characteristics of respondents in each model community forest, and Participation in forest conservation. In congruence with the distributed questionnaires, the content of the quantitative analysis was divided into four parts. Part 1: Personal information

Part 2: General opinions concerning forest conservation

Part 3: Information concerning people's participation in forest conservation

Part 4: Recommendations regarding on participation and sustainable forest management

Both qualitative and quantitative information were interwoven in this analysis chapter in order to obtain a wide picture of each community forest's practice and its key success factors in forest conservation. The findings regarding the commonality and differences of each case were highlighted in the synthesis part of this chapter.

5.1. Experience and Practice

5.1.1 Experience and Forest Practice of the BSK

5.1.1.1 Struggling from Logging Concession

In 1957, the forest around the BSK was granted a logging concession by the government. The forest agency slashed economic woods, processed them to industry, and exported the product to other countries in order to expand economy. Three years after the concession, the villagers found no rain in the rainy season. They could not farm as they normally did; therefore, they started to invade the forest on the hill and moved from one area to another to farm. Since then, this type of shifting of cultivation areas became very popular for the villagers.

Chai Wongtrakul (2009), one of Ban Samkha's key leaders, recalled the feartures of the forest when he was a child:

> When I was a child in 1961-1962, I remembered seeing such animals as tiger, bears, and deer in our neighborhood. The appearance of these wild animals represented the ecosystem of the forest. When people began shifting the areas of cultivation, everything completely changed. The last time I heard about a

tiger was in 1970. The bears also vanished a few years later because of forest encroachment. The lesson warned us that something very unnatural was happening to our forest.

Thorn Yaso (2009), another BSK senior citizen, shared his experience regarding the struggle of the BSK:

I have lived here since I was born. When I was a child, there were many coconut trees in the village. In 1957, there was a crisis. First all of the coconut trees died, followed by a severe shortage of water. It was the worst situation since I grew up here. At that time, all of us started to know that this had be an impact of deforestation. In the following year, we were again shocked by the fast and severe flooding. We noticed that water flowed down from the forest to our village in a very short period after it rained. Officials told us that this was due to shifting the area of cultivation on the hill, resulting in a decreased number of trees to absorb the water. After that, the village campaigned people to abstrain from doing so.

The end of the BSK period of struggle period was in 1980 when His Majesty the King bestowed a reservoir on the village. The construction of the reservoir was completed in 1983 and when it was ready to hold water in 1984, the local people abstained from shifting the area of cultivation and returned to do farming on their own land. They thought that the problem of water shortage was resolved by the reservoir.

After the BSK had its own reservior, the leaders called a villager meeting and requested that the villagers not to destroy the forest. Regulations on forest conservation were extensively drafted and set by the community. Duing this period, some villagers violated the regulations. They continued to cut the timber, and built fires in the forest. The incidence of wildfires continued to be an important problem for the village. Another crisis took place in 1997 when the village found that the reservoir was out of water. Left at the bottom of the reservoir were the dregs from the wildfire. The community learned that the construction of reservoir was beneficial, but it was not only the panacea against drought as they formerly thought. They started to think about where the water had gone.



Figure 5.1 Reservoir in Ban Samkha Forest (Left: Water shortage during 1997-1998, and Right: in 2009)

5.1.1.2 A Turn toward a Forest Conservation Culture

"The turning point of forest conservation in the BSK was inspired by our children" said Chai Wongtrakul (2009).

In 2003, after visiting the Huay Hong Krai Royal Development Study Center and learning about the construction of a check dam, our youth came back to the village and applied for the Royal Initiatives of His Majesty the King for our forest. They constructed 23 check dams at the back of Ban Samkha School. During SongKran week when we were celebrating the Tib Samkha memorial (Tib Samkha was regarded by the villagers as their ancestor), there was a wildfire at the school. The children rushed to the school. They cried with fear that their check dams would be damaged by the wildfire. This incident impressed us regarding their sense of belongings. If the community had achieved this feel that the the forest belonged to them, it was a good start for success.



Figure 5.2 The Place at Ban Sam Kha school Where Children Constructed their Check Dam

The story of the check dam alerted parents about their children's commitment to forest conservation. Thad Indhraprasit, a village committee member, added that when children constructed the checkdam, the parents were so worried about their coming home late. The parents came to the school and helped children to construct the dam. Consequently, there were more people contributing to the check dam construction, which became a major tools for the community to conserve the forest.



Figure 5.3 Several Check Dams in Ban Samkha Community Forest

5.1.1.3 BSK Community Forest Committee

The BSK's regulation, penalties, and benefit sharing were set by their own community forest committee, leaders, and interested groups. The community forest committee was led by the village headman, Jamnong Junjom, and his assistant, Boonruaen Thaokam. Boonruaen (2009), as one of the forest committee members, said that the committee of the BSK consisted of 36 members, who were actively dedicated to forest conservation. The selection process of the community committee was very informal and was conducted on a voluntary basis. The duration of the committee was unlimited, depending on time and the willingness to participate. Each committee member was responsible for a forest activity, such as the check dam, wildfires, and benefit sharing. "There was no extra remuneration for the forest committee: everyone sacrificed," Boonruaen added. 5.1.1.4 Conservation Culture and Forest Regulation

The BSK valued forest conservation. They utilized the forest in a sustained manner, strongly relying on the traditional belief in spirit guardians. However, formal regulation were set to prevent forest encroachment from outsiders. Following is the main content of the community forest regulations.

1) Tree cutting in Zone A Forest is strictly prohibited.

2) Setting fires in the forest is strongly prohibited.

3) Do not swim or feeding animal in any creek which is a source of water supply for the village.

4) Do not fish during the breeding season in the reservoir of the village.

Although the conservation culture at the BSK relied heavily on the traditional beliefs of the past, the current situation of illegal deforestation, wildfires, and flooding forced them to rely more on themselves. The community focused on building a check dam and firebreaks to prevent the forest from natural fires. Unlike other community forest leaders, the leaders of the BSK admitted that they did not concentrate on forest planting. Chamnong Junjom (2009), the village headman and chairperson of the community forest stated the following:

We were not against the idea of forest planting, but it was not our key strategy to conserve the forest. Planting the forest could benefit in terms of encouraging people to love the forest. It was symbolic to me. If we can prevent wildfires, abstain from timber cutting, and construct the check dams, the forest will be restored naturally. The birds will plant the forest for us.

From the field study, it was apparent that the BSK possessed a strong conservation culture. A numbers of encouraging signs could be found in the forest area, for instance, "Happy today hurts our children tomorrow," or "Prevent the forest for water." This reminded the villagers and outsiders to comply with forest regulations.



Figure 5.4 Reminder of Sustainable Use of Forest at Ban Samkha

5.1.2 Experience and Forest Practice of HMH

5.1.2.1 Period of Struggle

Most of successful community forests went through a difficult period of struggling. This was true for the HMH. The struggle of this Ngao's model forest began when the villagers realized the past calamity of the forest. The expansion of the bamboo product industries led to a shortage of timber and degradation of the HMH. Cherd Thammayodhi (2009), a senior citizen and former leader of the village, recalled:

> I was the village headman in 1986 when the forest was severely destroyed. Timbers such as teaks were cut due to logging concessions to the Forest Industry Organization (FIO). Our economic woods and bamboo timber were slashed to a merchant and outsiders to produce toothpicks, chopsticks and wood products. Finally, the forest around here was extensively destroyed and turned into farmland. Our villagers dug bamboo shoots regardless of their size or age. The situation was out of control since we lacked the common sense of having stewardship of the forest and we did not have anyone to monitor or manage the utilization of the forest.

Adding to Cherd, Noi Uthanan (2009), another senior citizen who was a native to the Ban Hua Thung village and once a leader of the HMH stated:

> In the past, this forest was granted as a concession to a government agency and most of the valuable woods were cut. Bamboos which used to be abundant on the downhill, was slashed and sent to industry. It is our real tragedy because deforestation resulted in other unexpected problems. The local people did not realize what future problems would be caused other than the problem of drought, which they thought was common for tropical forests in Thailand. They continued timber

cutting, digging the bamboo, and setting fire to the forest. Finally, our bog and swamp in the forest were out of water and they did not have water to consume.

Deforestation continued in Ban Hua Thung for many years and severely affected the people that lived around the HMH creek. All of them suffered serious water shortage. They could not grow anything, and finally moved to other fertile villages. The village headman, Boontun Thiintho, consulted senior leaders in order to solve the problem. They commonly agreed that the village would not survive under the current crisis.



Figure 5.5 Remain of Timber Cutting at Huay Mae Hin Forest

5.1.2.2 Turning to a Model of a Sustainable Bamboo Forest

After Boontun called a meeting with the villager committee to discuss the forest crisis, the committee agreed that it was the time to restore and preserve the forest for their children. They talked about the crisis with the villagers and proposed alternatives. Finally, the community had a consensus to close the forest in 1997. Suthad Rajchai (2009), the current chairperson of the HMH, further clarified: According to us, to close the forest means to separate some areas of the forest as conserved areas. We initially proposed 1,500 rais in this forest as a conserved model forest. It expanded to 2,800 rais presently.

5.1.2.3 Huay Mae Hin Community Forest Committee

The HMH was administered by the Ban Hua Thung's village committee. There were 25 members of the forest committee. The structure of forest committee was shown in figure 5.6.



Figure 5.6 Administrative Structure of Huay Mae Hin Forest Committee

In the forest conservation activities, four groups of stakeholders were involved, including:

- 1) Phong Tao Sub-district Administration Office
- 2) Village committees
- 3) Villagers of Ban Hua Thung
- 4) The Royal Forest Department

The forest committee and the villagers of Ban Hua Thung played a leading role in the management of the HMH. The committee was responsible for enforcing regulations, arranging forest patrols, and promotion of conservation awareness. The villagers shared responsibility by contributing to the maintenance of forest posts and signs, fire protection, enrichment planting, and other activities to maintain the good condition of the forest. The Phong Tao Sub-District Administration Office provided administrative support to the forest committee. Officials from the Royal Forest Department provided knowledge, technical support, and budget for the sustainable management of the forest.

5.1.2.4 Conservation Culture and Forest Regulations

Most villagers at Ban Hua Thung were Thai Lanna people. They highly respected the forest guardian as a god to protect the forest. The village's rule was generally based on spiritual beliefs that prevented people from forest encroachment. "Ban Hua Thung's villagers rarely destroyed the forest." Suthad said. "However, most timber cutting occurred by oustsiders and nearby villagers."

The forest committee of the HMH established community forest rules as follows.

1) Do not bring carts, or any kind of vehicles into the forest for the purpose of deforestation. Trespassers will be subjected to a 5,000 Baht fine for outsiders and 1,000 Baht for villagers of Ban Hua Tung.

2) Do not dig any kind of bamboo. Trespassers will be subject to a 500 Baht fine (300 Baht to informers, and 200 Baht to the village fund.)

3) Do not set any fires in the forest. Trespassers will be subject to a 500 Baht fine.

4) Do not fish using any electrical equipment. Trespassers will be subject to a 1,000 Baht fine. (500 Baht to informers, and 500 to the village fund.)

5) Removals of logs or timber is strongly prohibited and violators will be legally prosecuted.

5.1.2.5 Innovative Management of Wild Bamboo to Sustain the Huay Mae Hin Forest

From the field study and the interviews with key informants, it was seen that the village followed good practice in wild bamboo management. Ubon Janthik (2009), the President of Ngao's Forest Development Administration, shared his comment: In Ngao, it consisted of 10 sub-districts. There was a total of 41 forests, combining a big forest known as the forest of Ngao. Some forests registered with the Royal Forest Department as community forests, but some did not. Huay Mae Hin forest experienced severe drought but when they seriously applied the bamboo management practice for few years, they found that the water returned to the creek. The forest became famous in two ways: as a representative model forest of Ngao and as a learning center for forest management and conservation of Ngao.

After the community decided to close the forest in 1997, the forest was classified into two zones: the conserved forest and the utilized forest. Key informants of Ban Hua Thung elaborated on the management practice in each forest zone as discussed below.

1) Practice and Benefit Sharing in the Conserved Forest

The forest area started from 1,500 rais in 1998 and expanded to 2,800 rais in 2008. The community forest committee of HMH did not allow any kind of timber cutting in this area as it was conserved as a model forest for the community. The forest patrol was strictly performed by the villagers. Violation of regulations was subjected to a fine and legal proceedings, as earlier mentioned, although it rarely occurred.

Considering that the state of forest was predominantly bamboo timber, the forest committee agreed that a permanent close of the forest would not be beneficial to the community. They learned that each bamboo would sprout 4 to 6 shoots until its three year maturity. After that, it would naturally dry. The forest committee finally came up with an innovative plan for the bamboo management.

In every year, the committee would call a meeting with the villagers to consider when to make use of this conserved forest. The criterion was mainly according to the maturity class of the bamboo timbers. Every year, Ban Hua Thung's villagers would help to survey the conserved forest. Bamboo timbers under 3 years would be marked with a sign. When the forest committee announced that it was making use of this forest area, only the matured bamboo (older than 3 years) could be harvested. Usually, the time for harvesting the bamboo was a few months and villagers that wanted to cut the bamboo stand had to notify the committee of their purpose and of the number bamboos they intended to harvest.

In the process of bamboo harvesting, the committee was responsible for arranging workers and for carrying the bamboo. Only local villagers of Ban Hua Thung would be hired to cut and carry the bamboo. Ubon Janthik (2009) elaborated the benefit sharing scheme as follows.

> For one bamboo stand, 3 Baht would be charged as the wage for workers, and another 3 Baht for transportation. In addition, every 1 to 2 Baht of revenue generated from the sale of each bamboo was to be contributed to the village fund.

The cut bamboo would be sold to 12 factories located in the village. For other uses of the bamboo, such as building fences or houses, the villagers did not have to pay a contribution to the village fund.





Figure 5.7 A Young Bamboo (under 3 years) with a Sign
Regarding the benefit of the bamboo harvesting practice, Winyu Lamsang (2009), another forest committee member, revealed that:

The bamboo harvesting practice was an advantage to our village in many ways. Ban Hua Thung villagers would have more income for their cutting and carrying of the bamboo. The village could raise funds from sale of the bamboo stand. The factory could make a profit from processing the bamboo. Local people could work with the bamboo factory within the village and did not have to find a job outside the community. More importantly, the village shared a mutual benefit from its forest resources' in a sustainable way.

The harvesting of the bamboo timber in this conserved zone would be conducted every two or three years depending on the maturity class of the bamboo.

2) Practice in the Utilized Forest

The forest in this area was separated from the conserved area. Only Ban Hua Thung's villagers were allowed to enter and utilize the forest under the regulations. Villagers were allowed to collect non-timber products and cut the bamboo timber if it had matured. In response to the question concerning how could villagers would know about the bamboo's maturity, Ubon and Suthat said that the villagers would know by their experience and intuition. Ubon Janthik (2009) further explained the purpose of retaining this zone as utilized forest:

The start of the conserved model forest was at 1,500 rais. We could not conserve all of the forest because the villagers had to rely their traditional life on the use of forest. We allowed them to collect forest products and to profit from the forest in this area. The forest committee set up regulations for this utilized zone, but not as strictly as for the conserved zone. When the villagers perceived the benefit, they shared the conserved bamboo forest,

and they were willing to allow us to expand the zone. Last year, we expanded the conserved forest from 1,500 rais to 2,800 rais. We plan to further expand this zone as much as possible in the future.

Following the above practice in bamboo harvesting, the state of forest in Huay Mae Hin has gradually improved through natural restoration. Once the forest has fully recovered, bamboo harvesting was resumed under the regulation established by the community.



Figure 5.8 Benefit sharing for bamboo harvesting at Huay Mae Hin forest



Figure 5.9 Bamboo Products as a Main Income for Ban Hua Thung Village

5.1.3 Experience and Forest Practice with the BTK

From the interviews with key informants and villagers of the BTK, the researcher analyzed the management practices, from the past to the current success of their forest conservation.

5.1.3.1 State of the People-Forest Connection in the Past

In the past, villagers of BTK lived in a traditional way. They conducted a shifting cultivation, collected forest products for consumption, and mainly relied on the forest to feed their family. Their dependence on the forest, however, did not severely damage the state of the forest for two major reasons. First, there was a small population of forest users. Second, the villagers utilized the forest

under their norms, culture, and traditional beliefs. Without the formal community organization or official regulation, the villagers shared their group behavior under a common culture and traditional beliefs. Since the Lua ancestors of Ban Talad Kee Lek tied their life strongly to a supernatural belief on land, and in the forests and river, they usually utilized the forest in a wise manner, with high esteem for the forest guardian. They believed that encroachment on the forest without given permission by god could result in an unnatural death. As a result, the villagers rarely dared ruin the forest and BTK maintained a good state of the nearby forest in the past.

As many decades passed, more people moved into the village for trading goods and settling their family. The community gradually changed from a small Lua community to a well-known marketplace of merchants from Chiang Rai and Lampang. The forest was encroached on more often by outsiders, who neglected Lua's cultural beliefs. The family structure changed from a single family to an extended family, and mixed with outsiders from other community. The state of the forest during this era remained fertile despite more utilization of the forest. Some of the Lua culture and beliefs persisted, but some were replaced by a new culture. The interviews with key informants revealed that about 60 percent of the Lua family remain at the present.

Boonyen Sidhiyakorn (2009), a community forest committee and member of the Mae Phong sub-district, revealed that the forest in the Mae Phong subdistrict was abundant until 1973, when the government granted logging concessions to logging companies. The villagers did not realize to the impact of the deforestation since the forest was plentiful with trees and food. Neiher did they resist the concession. Rather, many villagers worked to cut the timber for the logging company. This practice of deforestation continued for many years until the leaders of the community noticed three major changes to the forest: 1) the decreased amount of economic timber 2) the decrease in the water supply in the forest, and 3) the frequent incidence of wildfires. The leaders had no alternative but to deal with the concession; however, they began to remind the villagers of the value of the forest.

Kaew Thednam (2009), another senior citizen of BTK, added that:

The forest in the past was very productive. It was full of trees, wild animals, and forest products. At that time, the concept of a community forest did not exist. We only knew that we lived with the forest for generations. After the concession granted to the firewood company, the timber was severely cut and burned to make firewood.

Regarding the impact of the logging concession, Manoon Thednam (2009), a forest committee member of the BTK, shared the following:

Back to 30-40 years when they granted the concession to our forest, our Huay (bog) was out of water. We were not able to do farm or rest the animals. This forest was our source of food for hundreds of years but was wiped out within a few years. We experienced two periods of concession, and this may be a good lesson for us to do something to protect our forest.

As Manoon has mentioned, the second round of concessions in the BTK occurred a few years later when the government granted logging concessions to the Forest Industry Organiztion and tobacco companies. At that time, the concessions caused a larger amount of deforestation, not only in terms of a decrease in timber, but also a severe deficiency of water. The village leaders in the Mae Phong sub-district decided to file a petition against the government to revoke the concession. The complaint succeeded when the government decided to terminate the concession in 1975. After the concession, the state of forest in Mae Phong became seriously degraded. Trees were cut, animals were hunted, and forest product were collected carelessly. Somboon Thaiyantho, the current village headman, opined that during the period the villagers seemed not to have common sense regarding the forest belonging to them.

While more encroachment on the forest, the practice of forest conservation in the BTK was perfunctory during the 1973-1980 period.

5.1.3.2 A Shift in the Awareness of Forest Conservation

Phra Khru Manop Kittiyano, the abbot of Wat Phra Thad Doi Jom Jang, was a priest that had gained the respect of the villagers. He and the village committee encouraged villagers' awareness of forest conservation. Phra Khru Manop was able to encourage people to participate in forest restoration. Manoon Thednam (2009), a forest committee member and village philosopher, said:

Forest conservation in Ban Talad Kee Lek started at Wat Phra Thad Doi Jom Jang. Since the temple is located in the forest, Phra Khru Manop encouraged villagers to take care of the forest, starting from the temple area. Firstly, he started from 800 rais around the temple. Later, he expanded this to 1,050 rais and 2,500 rais at present.

From 1991 to 1997, Phra Khru Manop was an important leader of the village with a strong commitment to forest conservation.

5.1.3.3 Formation and Development of BTK

1) Formation of Community Committee

In the past, the BTK did not have an official local organization to take care of the forest. Village leaders, the teachers of the BTK school, and the monks of Wat Phra Thad Doi Jom Jang collaborated to protect the forest. The numbers of forest activities were campaigned for, such as reforesting, constructing firebreaks, and ordaining the forest. In 1993, the village firstly established their own community organization, called "Pra Pracha Arsa Ban Talad Kee Lek," which was developed to be the "Community Forest Committee." There was a total of 30 members on the committee, comprising village leaders, monks, senior citizens, and villagers. The forest committee conducted a meeting every month.

Recently, the BTK was officially registered as a community forest under the Royal Forest Department in 2008.

2) Selection of the Community Forest Committee

Somboon Thaiyantho (2009), the current chairperson of the community forest committee, revealed that in the selection of the community forest committee, there was no requirement regarding personal characteristics. Since the BTK was a small community, the process of selection was very informal. All of the villagers knew each other very well. The leader would contact the villagers that were participative and collaborative to work as a community. There was no salary offered to the community forest committee.

Although there was no gender requirement, most of the community forest committee members were male since it was easier for them to participate in such activities as firefighting and firebreak building.

3) Community Forest Regulations and Enforcement

The BTK's forest committee set up its forest regulation as

follows.

In the Conserved Forest Area, the villagers had to do the

following.

(1) Not cut any kinds of trees. Violators would be subject to a 1,000 Baht fine per inch.

(2) Not hunt any kind of animals. Violators would be subject to a 5,000 Baht fine per incident.

(3) Not set fires in the forest. Violators would be subject to a 10,000 Baht fine per each incidence.

(4) Not collect Oecophylla (Red Ants), which was allowed only for villagers of Moo 1. Outsiders that violated this rule would be subject to a 500 Baht fine.

(5) Not take any kind of banana leaf. Violators would be subject to a 500 Baht fine.

(6) Not dig any kind of bamboo shoot. Violators would subject to a fine of 50 Baht per shoot.

(7) Not take any kind of orchid. Violators would subject to a 500 Baht fine per piece.

(8) Not allow any kind of pet or animal into the forest. Violators would be subject to a 500 Baht fine.

(9) Not collect herbs, which was allowed only for the villagers of Moo 1 for general use, not for commercial purposes. Any collection had to be approved by the community forest committee.

In the Utilized Forest, the following rules applied:

(1) Use the forest only for the purpose of living, not for commercial purposes or business.

(2) Violation of tree cutting without permission would subject to a 1,000 Baht fine per inch.

(3) Violation of setting fires in the forest would subject to a 10,000 Baht fine.

(4) Property from encroachment would be confiscated by the village and become village property. Encroachers into the forest would be sent to the authorities for legal action.

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Figure 5.10 Forest Regulation at Ban Talad Kee Lek Community Forest

From the interview with the forest committee, it became apparent that there were a few cases of forest violation in the past. Boonyen Sidhiyakorn, one of the forest committee members, commented that the enforcement of forest regulations did not solely rely on the written rule, but would be subject to reasonableness, morality, and sympathy - a fundamental principle of living in a rural area. Practically, the forest committee would arrange a forest patrol every day. When encroachment was found, the patrol would immediately notify to forest committee. In the case of a minor infringement, a warning would be preferred to severe enforcement. Manop Jinajai, another forest committee member, added that most violations found in the forest were committed by outsiders for burning firewood.

4) Handling the Current Problem of Forest Conservation

Although deforestation in BanTalad Kee Lek community forest persisted, the situation was much better than in the past. The water at Huay Kha was sufficient for the villagers to farm, and forest products were regularly found in various seasons. Since 2002, the leaders, the temple, and the forestry officials collaborated to build a sense of belonging through different forest activities such as forest plantation, firebreak building, and forest ceremonies. The villagers participated more in forest conservation and learned to comply with forest regulations.

While the state of the forest improved, most villagers and key informants regarded wildfires as the most serious problem with their forest. Although the occurrence of wildfires decreased in the previous few years, they caused bigger damage to the forest than the timber-cutting problem. The center that monitored and controlled wildfires was at Huay Kha reservoir. Once a wildfire occurred, the center notified the village headman and villagers to control the fire. If the fire was out of control, they asked for help from government authorities.

During the field study, the researcher observed a big wildfire at the BTK and in the nearby forest. The fire continued for two days, and finally came under control through the contribution of every village in the sub-district.



Figure 5.11 Wildfire at Ban Talad Kee Lek and Nearby Village

To prevent the wildfires, the villagers of the BTK mostly contributed to firebreak activities. Once the forest committee decided on a schedule, they communicated it to the villagers by broadcrasting it. Boonyen suggested that the timing to do the firebreak was very important for its success. In making a firebreak, the villagers separated the dry leaf and fuel wood from each other. If the new dried leaf fell, the firebreak would be less efficient in stopping the fire.



Figure 5.12 Villagers and Monk Built Firebrake

5.1.4 Experience and Forest Practice of the BMR

5.1.4.1 The Movement toward Protest

In 1984, Seethun Tungnoi, the village headman of the BMR, observed severe deterioration of the forest area in the BMR. During this period, the government did not have a clear policy in determining the degradable forest area for people use. Seethun, together with the villagers of the BMR, collaborated on conserving a plot of degradable forest for the community. His intention was to prevent this forest from one's own benefit. He grew a 10 rais of eucalyptus on the area, and asked the villagers not to encroach onto this farm. Kitti Wongmuangkan (2009), a community forest committee member, who worked with Seethun stated the following:

> This 10 rais of eucalyptus was our first attempt to set up our own community forest even though we did not know what a community forest was. We grew these eucalyptus because the land was sandy; we could not grow anything else.

The villagers in each Khum (section in the village) were assigned to look after the eucalyptus. In 1984, the concept and implementation of the community forest had not been disseminated to the people. The zoning of the eucalyptus farm in the forest area was just a start to develop the villagers' common sense of belonging. The growing of eucalyptus continued for a decade until in 1994, when many private companies requested to have a concession of granite in the Pha Thon forest. The locals did not realize the disadvantage this represented to their forest. Regarding this, Kitti Wongmuangkan (2009) further elaborated:

> At that time, the villagers did not even know what a community forest was. They ultilized Pha Thon as a common resource for food and water. The company offered us the benefit of the concession. They told that if they got the concession and the granite factory operated, the villagers could earn a higher income from working in the factory. After the concession finished, we could have more land to do farming from the degradable forest

area. It was fortunate that our leaders were strong enough to reject the offer.

In the past, Yok Kra Brat was administered by the sub-district parliament, headed by the Kamnan (Kamnan in Thai means the head of the subdistrict). The parliament called a meeting with village headman in Yok Kra Brat in order to grant approval for the concession. Nirun Moonmung, a village headman of Ban Mae Rawan, and senior leader, disagreed with the request. They viewed that Pha Thon forest was a very important watershed forest for Huay Mae Rawan and the Wang River. The villagers around Pha Thon would suffer should Pha Thon become degraded. While other village headmen agreed with the concession, Nirun and BMR's villagers protested the decision. Without financial support, BMR's villagers decided to sell all eucalyptus trees and used the proceeds for protest. With their strong ambition, other stakeholders of Pha Thon in Mae Prik, Mae Chiangrai, Song Kawe, and Nhong Chiang Ka joined the protest with Manoon. The protest lasted about two weeks, until the governor at that time decided to revoke the granite concession.

The story of the granite concession, and the BMR's resistance against powerful politicians and merchants, encouraged stronger forest conservation values in relation to the Pha Thon forest.

Many years later, challenges remained for Pha Thon. The forest was encroached upon by outsiders and other villages occasionally. The encroachment caused the problems of wildfires, illegal timber cutting, and wild animal hunting. The stakeholders of Pha Thon were dissatisfied with the quality of their forest, which could be measured its decrease in size, the scarcity of water, flooding, and the depletion of non-timber forest products.



Figure 5.13 Remainants of Timber Cutting at Pha Thon

5.1.4.2 Formation of the Community Forest

In 1999, the wave of the community forest became prevalent in Tak. Mongkol Thiud (2009), a community forest committee member, recalled that the diffusion of forest conservation at the BMR was in progress from 1994 to 1998. However, other villagers around Pha Thon still conducted illegal timber cutting. In 1999, Pradit Srivilai was elected as village headman of the BMR. He focused on participatory forest conservation, and sent twelve villagers to attend the community forest seminar, arranged by the Tak Provincial Forest Office. Pradit consulted a few senior leaders concerning his idea of implementing a community forest for the BMR. All leaders agreed with his initiative and called a village meeting. Finally, the majority of villagers agreed with Pradit to establish their own community forest. The lesson from the granite concession was reiterated to encourage the villagers' sense of belonging.

In 2000, the village committee first declared the area of 181 rais as the Ban Mae Rawan community forest, and later expanded to 756 rais at present. After having their own community forest, the BMR set up a community forest committee that was developed from the former Rak Pha Group. In 2001, the BMR's community forest committee visited other community forests in Lampoon. They learned that forest conservation could not be successful without cooperation from other forest groups. Accordingly, the Pha Thon Community Forest Network was established, led by the Ban Mae Rawan community forest.

Due to its leading role in forest conservation, the BMR became famous for people as a learning center for forest management in Tak.

5.1.4.3 Selection of Community Forest Committee

Similar to other community forests, the selection of the community forest committee at the BMR was informal. Pradit Srivilai, the village headman and the current chairperson of the BMR community forest committee, revealed that the committee offered opportunity for all villagers that wanted to participate. There was no restriction to be a committee member, Pradit said. He continued, "If villagers would like to participate as a member of the committee, they could inform the village headman. The village headman would propose their intention to the village meeting for endorsement." Thoonlaraye Uthanandha, another forest committee member, revealed that he was interested in working for the community, so he applied in 2005.

Pradit Srivilai (2009) elaborated on the process of selecting the forest committee, saying the following:

Villagers would select a forest committee, and the committee would take a vote for selecting the chairperson subsequently. We did not have a salary for the forest committee, so participants had to be very devoted persons. In the past, only a few committee members resigned due to their health and age; however, most remained as advisors.

Currently, there are approximately 16 members on the forest committee, comprising village leaders, senior citizens, and villagers. Mongkol Thiud opined out that there is no maximum limit in terms of members. He expected more people to contribute to the committee to conserve the forest. 5.1.4.4 The Work of the Community Forest Committee

The BMR's forest committee normally conducted a meeting at the beginning of every month. Instead of working functionally, the committee shared all work together, brainstorming ideas, and resolving problems with majority decisions. They usually assigned a particular job to one member as appropriate. If the task was very important and affected the villagers, they would refer their decision to the village meeting in order to seek public opinion. In this case, the representatives of the household would take a vote for the majority decision. The decision or recommendation from the village meeting would then be recorded officially.

Pranee Tangnoi (2009), an assistant village headman and a forest committee member, stated that there was no hierarchy in working beween the forest committee and the villagers, rather, they collaborated on all work. Formally, a structure of the forest committee existed, but practically, all committee members shared the same responsibility in work. Pranee exemplified that in the case of wildfire, everyone helped to contact the fire official in the sub-district, and collaborated with people to control the fire.



Figure 5.14 Formal structure of Forest Committee

Practically, the village headman was the same person as the chairperson of the forest committee. Therefore, there was no disagreement between the work of the forest committee and the village committee.

The forest committee revealed that most of the forest problems at the BMR concerned the incidence of wildfires and forest encroachment. Strategically, the community forest committee worked closely with the cow feeders in Pha Thon. Nassachai Moonsai (2009), leader of the BMR youth, stated there were about 1,500 cows in the villages. The cows were grouped, 15-20 each, to find grass around Pha Thon. The cow feeders in the village helped to act as forest patrols when they fed their cows. They informed the leaders when they encountered illegal timber cutting, forest encroachment, and wildfires in Pha Thon.

5.1.4.5 Users, Forest Regulation, and Enforcement

The users of the BMR forest and Pha Thon included:

1) The BMR villagers

2) Nearby villagers from Mae Prik, Song Kaew, Nhong

Chiang Ka

In the process of establishing their forest regulations, Pradit called a meeting with the forest committee to draft forest regulations. After finishing the drafting, they arranged a village meeting and presented the draft regulations to the villagers. The villagers were encouraged to share their opinions and made amendments to the draft. After the regulations were agreed upon and approved, they were declared to Yok Kra Brat sub district and to other villages around Pha Thon. Pradit stated that a revision of the regulations was possible if they caused trouble, but any amendment had to go to the village meeting, and be correspondent with the purpose of forest conservation. Generally, BMR forest regulations focused on the following.

1) Cutting timber in the forest without permission was subjected to a 1,000 Baht fine.

2) Removing soil, stone, and sand from the forest without permission was subject to a 1,000 Baht fine.

3) Everyone was prohibited from ruining or doing any harm to the environment in the forest.

4) The community forest committee was responsible for inspecting the forest two times per month.

5) The community forest committee was responsible for arranging eight guards to the forest every night.



Figure 5.15 Forest Regulation at Ban Mae Rawan

Unlike the other community forests in this study, the BMR did not prohibit people from other villages from utilizing their community forest. Villagers from other nearby villages were allowed to collect forest products for the purpose of living. As Pradit Srivilai (2009) described:

> Determining the forest area as a community forest has had an impact on the people in the village in terms of encroachment. Our purpose of having a community forest was to prevent it from being anyone's personal possession. If we did not allow neighboring villagers to share its benefits for living, this would create a negative attitude among the villagers. In addition, some non-forest products like mushrooms would decay within a few days. We should allow the neighbours to share in their consumption.

Kaewma Trongjai (2009), a senior citizen, indicated that most illegal timber cutting at the BMR was not originated by the locals, but by the nearby villages (Moo 4, Moo 6, and Moo 12). Concerning to the enforcement of forest regulations on

their neighbours, Pradit suggested that strong enforcement would not be a solution to conserving the forest. He described his underlying reason as follows:

We worked with the forest, an agenda which had a strong impact on different groups of users. Therefore, we had to be flexible and compromise. To me, if one cut only a few timbers for making firewood, and he could sustain his family for a year, I would allow him to do so. Of course, we would react differently if he did the same for commercial purposes. Another example was cow feeding; we could not stop them from feeding the cows. It was their way of life for a long time before we have community forests.

In the field study, the researcher found the dominant role of elders in assisting with the enforcement of forest regulations. Since the BMR was a long-standing, traditional society, the villagers paid high esteem to their elders. The villagers indicated that the BMR had been administered by the rule of elders for many decades. The dominance of the elders had been gradually eroded, and confined to those dealing with personal and family problems. Customary law, society's norms, village regulations, and the law of the modern state substituted the rule of the village elders. "However, the elders remained important in terms of conflict resolution in forest conservation," Pradit added. He further clarified that there were many cases where elders helped the forest committee in enforcing the forest regulations when some villagers violated them. In every cases the villagers acceded to the elders'advice.

5.1.4.6 The Settlement of Rai Dong

Rai Dong was a former degradable forest area in the BMR that people made use of and left it vacantly. Kitti Wongmuangkan (2009), a member of the subdistrict, said that during 1982-1984, the people made use of this public land, grew maize, and cultivated plants. As time went by, more people entered Rai Dong and claimed possession of the land. The village committee viewed that without fair distribution, Rai Dong would belong to only a small group of people. Consequently, the village committee allocated the area of 400 rais in Rai Dong to every household in the BMR. Each household owned about 3 rais as their own farm to grow different kinds of trees and plants. Kitti Wongmuangkan (2009) stated the following concerning the importance of Rai Dong to forest conservation in the BMR:

> If we did not have proper allocation of land in Rai Dong, people would continue to encroach on the forest to sustain life, and the fertile forest would become a degraded land. Now, every villager in Ban Mae Rawan owned his or her farm. They could not claim that they did not have a farm to live on. Every plot of Rai Dong has a titled deed. Everyone is satisfied with his or her farm since they can grow plants, exchange the produce with neighbours, and sell the farm products. They can be subsistent on themselves, and abstain from deforestation.

In Rai Dong, the villagers grew teak, mango, orange, longan, and different kinds of vegetables and fruits in their land. Some families, however, left the land empty with the hope of selling it to others. Pongsiri Nondhachai, an assistant village headman, took the researcher to his plot in Rai Dong, two kilometers far from his house. A young man with a motorcycle greeted us: "Pong, may I have a few of your mangoes." "Go ahead, please take it and do not forget to close the fence for me," Pongsiri replied. Another old man with a bicycle passed and asked Pong for a few oranges for his children, and Pongsiri nodded with a smile. The settlement of Rai Dong not only alleviated the problem of forest encroachment, it also strengthened the relationship among villagers and preserved the village characteristic of "Wan" and "Sharing": they were charitable to each other.



Figure 5.16 Rai Dong at Ban Mae Rawan

5.1.4.7 Major Activities in Forest Conservation

The BMR focused its forest activities on building firebrakes and check dams, ordaining the forest, and plannting it. The community gave importance to forest planting since the conservation value in the forest mainly stemmed from the growing of eucalyptus. The 12th July of every year was "forest planting day" for the BMR.

5.1.4.8 The Past Successs of the Ban Mae Rawan Community

Forest

The BMR was well-known to visitors as a strong community in forest conservation. The community forest gained numerous awards:

- 1) The Second Award of community forest in 2001,
- 2) The Best of community forest in 2002,
- 3) The Best of community forest in 2007, and
- 4) The Royal Flag of "2008 Pitak Pa Pua Raksa Cheewit"

(conserve forest for life), bestowed by Her Majesty Queen Sirikit.



Figure 5.17 Samples of Awards as Outstanding Community Forest in Tak.

5.1.5 Experience and Forest Practice of the KW

5.1.5.1 Nakorn Por Piang

During the field study, Soontorn Amnaj (2009), the current head of the Wang-Tra-Krae sub-district, elaborated that the outstanding features of the KW was the application of the Sufficiency Economy Philosophy of His Majesty the King. He further described the beginning of the establishment of the Sufficiency Community (Nakorn Por-Piang) in KW:

Nakorn Por-Piang was a newly-established community in 2005 for evacuating people who trespassed on the forest. In the past, the government demarcated the Sai Thong National Forest and the Khao Wong community forest, which affected people who formerly lived in the area. They went to other viallges, and left their children without proper care, resulting in social problems. The village committee thus transferred people from the forest to Nakorn Por-Piang and allocated them 156 rais of degraded land for living and farming. Nakorn Por-Piang was situated at Ban Phong Nakorn, Moo 17, on the southwest part of Khao Wong Community Forest. There are 116 families in Nakorn Por-Phiang. At first, the place was set up for those that were affected by the demarcation of the forest. However, Soontorn admitted that Nakorn Por-Piang was opened to local people that did not have land or a home to live. They could share the area for farming, raising animals, and alternative farming. They were also known by the village committee to have a sufficient living according to the Sufficiency Economy Philosophy.

In Nakorn Por-Phiang, regulations were established to ensure efficient management within the community. The village committee delegated management to 11 sub-committees according to certain activities, such as a committee on the use of non-wood products, a committee on the exchange of the products, a committee on common property, and a committee on the forest.









Figure 5.18 Nakorn Por-Piang (Sufficiency City) and Activities at Khao Wong Community Forest

5.1.5.2 Formation of the Community Forest Committee

The Khao Wong's forest committee was structured by three groups according to figure 5.19.



Figure 5.19 Community Forest Committee of Khao Wong Community Forest

The structure of the community forest committee at KW was distinguished from other community forests studied in this research. The community forest committee has three layers: a youth committee, a community forest committee, and a consulting committee. The admittance to each kind of committee mainly depended on the person's age. It was noted that the consulting function could be carried out in two directions, upward and downward.

The youth forest committee and consulting forest committee acted as a shadow committee to the KW's forest committee. Members of the youth forest committee came from students from five schools in five villages, each representing 30 students. The purpose of having the youth forest committee was to allow children in the community to voice their opinion on forest conservation and to prepare them for a future leadership on the community forest committee.

The consulting community forest committee, with much experience, was able to share advice with the community forest committee regarding forest conservation.

Taking into consideration the opinions and suggestions of both shadow committees, the KW community forest committee made decisions and implementations.

5.2 Key Success Factors in Forest Conservation

5.2.1 Key Success Factors of the BSK

During the field study, the researcher investigated the key factors outlined by Ostrom, Saneh Chamarik, Colhotra, and Komol Pragtong, adding these with the factors that emerged in the Thai community forest setting. The key factors were: a strong sense of community, mutual benefit, strong leader, local organization, sense of belonging, indigenous wisdom and culture (common value), network, rules, defined boundary, participation, conflict resolution mechanism, intervention, kinship, historical driving force, group reputation, trust, and application of sufficiency economy. Details on each key factor are discussed below.

The researcher found that the BSK was successful in building a strong sense of community. People in the village were bound with strong relationship ties and felt that they belonged to the same community. This strong sense of community did not occur accidentally over a short period of time, but was the result of a continued building up of historical experience. For BSK, a strong sense of community constituted two main elements: 1) kinship and 2) local culture.

The BSK consisted of four big families: Wansuwong, Yaso, Junjom, and Wongpunya. Since most residents were native to the village, they were kin and knew each other very well. As a small community, the villagers lived with a high degree of trust that arose from this kinship, and from friendship and personal respect. Regarding forest conservation, Jamnong Junjom (2009), the village headman said, "Since the forest was a common resource for the people, the villagers were confident that the leaders would not seek their own benefit from the forest because trust was prevailed among us."

As numbers of people in the big four families participated both in the village committee and the forest committee, the BSK villagers trusted them in the meetings, which made the village a strong community.

From observation, it was apparent that trust in the BSK was expressed in terms of helping each other to look after the house, the borrowing of agricultural equipment, and taking care of the neighbour's children when parents were not home.

The researcher studied the context of culture, ceremony, and traditional belief possessed in the community in the sense of how it contributed to a strong sense of community and to their success in forest conservation. As the BSK, possessed numbers of traditional beliefs and cultures, the researcher selected the common beliefs and cultural aspects that were beneficial and relevant to the forest conservation of the village. The story of Tibpala (Samkha) and the forest ceremony unfolded from the conversation with the senior citizens and elders in the community.

Chai Wongtrakul (2009) indicated that the BSK villagers highly respected Chaophor Tibpala (Samkha), formerly known as Tibpala as their most revered ancestor. According to Chai and the elders in the BSK, Tibpala Samkha was the old story of Tibpala, an ordained priest of the BSK, who resigned from being a monk and joined a group of Lampang's warriors to fight against the Burmese in 1732. Tippala bravely volunteered to attack the Burmese's army leader, and finally defeated them out of Lampang. After that, he returned to reside in the BSK and became the abbot of Wat Ban Samkha until his death. Although the story of Tibpala Samkha passed for a few hundred years, the descendants in the BSK respected Tibpala as their spiritual center for living. During the field study, the researcher talked with many children and youth in the village, all of whom knew the story of Tibpala very well.

The leaders of the BSK repeated the lesson of Tibpala Samkha as moral support to encourage the villagers to participate in forest conservation activities, particularly fighting the wildfires. Chai knew that firefighting required great effort, and people were injured by fires many times. Chai encouraged the villagers to develop a sense of community, reminding them about the impressive story of Tibpala's effort to protect his hometown. He further encouraged the villagers to value their sacrifices as Tibpala did to save the land from the Burmese.

From the field study, it was observed that the name of Tibpala was remembered everywhere as a "brand" or symbol of the BSK. A monument of Tibpala was established as a moral support for the villagers. School buildings, saving groups, factories and even the community drinking water was named Tibpala to show their strong sense of community.



Figure 5.20 Reminder of Tibpala, Monument and Drinking Water

Although the BSK did not focus on ordaining the forest as was typical of other community forests, according to Chai and Boonreuan, the forest committee members, the community still possessed other Lanna traditional beliefs in revering the forest spirit. Every year in May, the villagers convened at the Guardian spirit house in the forest to show their respect and to conduct a ceremony to sacrifice to the forest spirit (Chao Phor Khun Nam Huay Samkha) meat and liquor. They offered this ceremony to the spirit with the hope of protecting the forest life and natural resources. Additionally, the villagers also made sacrifices to other spirits on different occasions. These beliefs in the natural power of spirits, customarily found in the North, were known by different names depending on location and culture of the community. This sharing of common beliefs in a guardian spirit strengthened the people's strong sense of community, which motivated the villagers to protect their land, including forest.



Figure 5.21 Forest Sprit House Used for Forest Ceremony at Ban Samkha Forest

Although some traditional beliefs and cultural elements were of benefit to the people in terms of moral support, it did at times encourage tree cutting and encroaching on the forest. To this point, the community forest committee of the BSK demonstrated its attempt to harmonize the benefits and disadvantages of these beliefs. Boonruean, an assistant village headman, said that during the Songkran (Thai's New Year), the BSK's villagers held a parade to celebrate this festival on the April 14th of every year. It is customary that every household in the village cut timber for the celebration of Mai-Kam-Sri. The story of Mai-Kam-Sri came from the belief of Northern people that to bring a piece of wood sustaining the Bothi tree would prolong their life and make Buddhism prosper (Bothi or Sri-Maha-Bothi in Thai is the tree that the Lord Buddha meditated under and where he became enlightened according to Buddhism). From another perspective, such a practice resulted in the villagers cutting more trees, as Boonruean commented. However, in order to preserve this traditional belief, the forest committee campaigned the villagers to share Mai-Kam-Sri together as a group in order to decrease the amount of timber cut and to conserve natural resources.

Traditional beliefs and culture also helped to build a strong sense of community through financial assistance in forest conservation. Boonruean added that

Phar-Pa (in Thai this signifies the robes presented to priests in a ceremony) was raised as a fund for forest conservation in different ceremonies. For instance, after the celebration of Mai-Kam-Sri, people made merit by donating money through the forest's Phar-Pa, which would be used in forest conservation activities. Chai further added that the proceeds of Phar-Pa were about 6-7 thousand Baht a year, and were used to buy fire equipment.



Figure 5.22 Celebration of Mai Kam Sri at Ban Samkha

For the BSK, there was no problem of land resources. However, water seemed to be the most important benefit for the common user of the forest. People's participation in forest conservation through the building of a check dam and preventing wildfires served their common goal; that is, to preserve the mutual benefit of the water supply that came from the watershed area in the forest.

The BSK possessed strong leaders, who sacrificed and were responsibled for the community. The type of leaders found in the village was both formal and natural. For the success of forest conservation in the BSK, Jamnong Junjom, the village headman, played a very crucial role. Jamnong was 59 years old. He became a formal leader as a village headman in 1991 and as a chair of the community forest committee. He came from a leading family of the village, and thus gained homage from the villagers. Other than having formal meetings with the village committee and villagers every month, Jamnong communicated to the villagers through the village's broadcasts every morning. He updated important schedules of the day, for instance, visits from outsiders, cooperation needed from the villagers, and forest activities in the village. Additionally, he always introduced useful principles for living based on the Buddhist principles and Sufficiency Economy Philosophy.

His participation in forest conservation, for example concerning wildfires, Jamnong announced villagers when the fire occurred. He participated in controlling fires with villagers all of the time. In alliance with others, Jamnong possesed a strong skill in coordinating with government authorities and other forest villages. He always initiated projects to improve the villagers' well being to solve the problem of debt. The villagers highly respected him and were grateful to him for his devotion.

Boonruean Thaokham, assistant village headman since 1997, was another formal leader of the BSK. He was ambitious, and enthusiastic about forest conservation. He handled particularly the problem of wildfires. When wildfires emerged, Boonruean would be informed by phone from Jamnong. Just as Jamnong did, Boonruean went into the forest every time with his team. As he stressed, "In Ban Samkha, we worked as a team, not a one-man-show. If I or Jamnong were not here, the work could be processed suddenly by other committee members." Boonsong Boonjaroen (2009), another senior citizen of the village, shared his opinion concerning the village leaders in the following:

The leaders here are strong and good idols for us. They really participated as what they have asked villagers to do. They did not just sit in an ivory tower and make orders. When a wildfire occurred, the village headman informed everyone by broadcasting. After that, everyone in the village knew their responsibility. They met at the place to stop the fire. Households with the elderly and women who could not go there prepare food, water, and clothing for them. The villagers appreciated and valued the ambition of our leaders. To me, it made people believe and trust in our leaders From the field study, it was ascertained there were at least 42 occupation groups in the village, including the Forest Group, the Saving Group, the Elderly Group, the Banana Processing Group, the Sculpture Group, and the Weaving Group. Although the operation of each group varied according to its purpose, all shared the same norm. Discussion with some group members (some villagers belonged to more than one group) revealed that cooperation was a common norm found in every group, and this norm resulted in the strength of the group. As a community forest, the villagers followed this norm of cooperation, resulting in community strength in the BSK. Therefore, an occupation group with a common norm of cooperation was another key factor in the success of the forest community. Another advantage of the group was that natural leaders were mostly found within the group. This study focused on natural leaders with respect to forest conservation.

Chai and Srinuan Wongtrakul obviously represented BSK's natural leaders. Chai was a native to the village and has strongly contributed to forest conservation since 1997. He was born in a family in which his grandparents served as a doctor and village headman. Currently, Chai was a secretariat of the Jang Forest Network, which covered 12 villages in the Hua Suea sub-district. He demonstrated his strong leadership in helping people to acknowledge the importance of constructing check dams and firebreaks for the forest. He was regularly invited by other villages and government agencies to advise and share his experience in forest conservation. With his good skill in presentation and public speaking, Chai was able to identify the benefit of forest activities to local people and attracted them to trust in the benefits they would gain from forest conservation. Additionally, Chai managed a good connection with other forest villages. When problems arose or the community needed cooperation from other villages, he was able to manage the problems and get things done with his good connections.

Srinuan, or Khru Srinuan of the students (Khru in Thai means teacher), was the wife of Chai. She worked as a teacher at the Ban Samkha school and became well-known as an natural leader of the village. One could see Khru Srinuan as a presenter of the village on the television concerning water and forest conservation in the BSK. But this does not yet represent her entire effort in forest conservation. Apart from her routine responsibility in teaching English and mathematics to students, Khru Srinuan supported her husband by teaching children and youth to love the forest. Through different activities in class and experimental study outside the class, children absorbed a sense of stewardship of the forest. For the villagers, Khru Srinuan was very important in terms of her inspiration to the children in conserving the forest. Sriprae Poomlom (2009), one of the parents in the BSK, made a remark to Khru Srinuan: "I appreciated Khru Srinuan for her sincere effort. The children in Ban Samkha loved and respected Khru Srinuan as their mother. She educated and nurtured our youth since they were little children to value and love to conserve the forest."



Figure 5.23 Khru Srinuan with 4-5 years old children nourished the plants after class

From the interview with the villagers, it was seen that the role of the monks in the BSK in forest conservation appeared customary - they regularly contributed to religious ceremonies during the seasons.

There were about 40 committee members, including other senior citizens, that contributed to forest conservation. As mentioned earlier, the structure of the committee was voluntarily and members contributed to forest conservation in different ways. An example of a revered senior citizen in the village is Thorn Yaso, who first initiated bamboo irrigation in the village in the 1980's. However, most villagers always referred to Jamnong, Boonruaen, Chai, and Khru Srinuan as the current leaders of the community forest when they were asked to share opinion regarding their leaders.

For forest protection and restoration, the BSK's leaders played a participatory style. They had the capacity to understand and mobilize the villagers, and had the ability to negotiate with external agencies, and the courage to enforce rules concerning the involvement and assurance of the villagers as a whole.

Local Organization. As mentioned in Chapter 3, this study focuses on the forest activities that are managed by the people in the communities. The BSK has a number of community organizations and career groups, as mentioned earlier. Among these, the village has its own community forest group, managed by the community forest committee of the village. Although the community forest committee was informally established by a group of local people, it was originated by a group of people to set up the aim of the activities. As Komol Pragtong stated, the community forest committee does not necessarily focus on the establishment of a legislative organization, the community forest committee of BSK, does not rely on forest legislative framework, but only for management purposes.

The election of the forest committee and chairperson followed the position held by village head. Usually, the village head acted as a chairman of the community forest committee. In practice, the forest committee of the BSK remained unchanged despite the change of the new village head. An exception was made for individuals that deliberately resigned from the position. Forest officials form the Royal Forest Department would normally contribute to the election process as a witness or observer.

Having a community forest committee as a community organization was very beneficial to the forest conservation in the BSK. From the interviews, it was learned that all key informants of the BSK admitted that a strong and wise leader acting alone could not work effectively without the community forest committee.

The BSK also possessed a strong sense of belongings in terms of recognizing forest resources as the collective property of the community. The village built a high conservation culture as mentioned earlier. Many times, when the BSK was approached by the Royal Forest Department to register as community forest for budget support and involvement by the forest officials, the villagers refused. They said that the forest was their place to live and that it had belonged to them for a long time, and they preferred to govern it by themselves and did not want the government to play a direct role in conserving the forest, but only as a facilitator.

The forest network was also responsible for the success of forest conservation at BSK. As wildfire was a major problem of this community forest, Chai admitted that it was not possible that the village could deal with fire without collaboration from others. During the first stage of coping with wildfire, the villagers of the BSK struggled by themselves without assistance from their neighbours. Chai started to establish a network from village to village. With his good skill in public speaking, he was successful in attracting the leaders of other villages to be interested in forest conservation. As time passed, more villages participated in the network. Presently, 12 villages in 4 sub-districts, Hua Suea, Don Fai, Ban Kiew, and San Don Kaew as seen in figure 5.24, have been formed under Jang's Forest Network. The name of the network followed the Jang River, which flowed to Wang. A District Chief of Mae Tha and the village headmen of 12 villages constituted the committee of Jang's network. The network had a meeting every month to develop Jang's development strategy plan.

Chai, as a secretariat of the group, acknowledged that the network was very beneficial mainly in preventing wildfire. How the network alleviated the wildfire problem was further explained by Chai Wongtrakul (2009).

Presently, there are over than a thousand of local people in the Mae Tha district that help each other to protect the forest. When wildfires happen in our forest, or there is any encroachment on the forest from outsiders, I will get information from this network and will coordinate with the District and the village headman quickly. In practice, we can not restrict the responsibility of controlling wildfire to a particular group because when it occurs, it affects every forest in the region. The wildfires in our connected forest become our problem if they fail to control the fire. Last year, our network constructed a firebreak in each forest community. Finally, they were connected together, such as the firebreak between Ban Samkha and Ban Thung, Ban Thung and Ban Nayak, Ban Samkha and Ban Don Fai, Ban Don Fai and Ban Aek.

Chai also encouraged other villages in the network to apply the check dam in their forest to maintain humidity in the forest. The expansion of the check dam from village to village would also help prevent wildfire indirectly.



Figure 5.24 Forest Network (Jang's Network) of Ban Samkha and other villages

Rules, Sanctions, and Conflict Resolution Mechanisms. The BSK has established its forest rules and regulations through the mutual consent of the village and these rules and regulations are governed by the community forest committee. However, most of the forest encroachment found in the BSK were trivial, such as collecting forest products in prohibited areas, and fires set by outsiders from the nearby villages. The leaders of the village indicated that most of these incidents ended by warnings and fines. It was rare that the community submitted a case to official authorities unless the wrong-doing in the forest was repeated intentionally.

Conflict in the community forest arises when members refuse to forgo their individual benefits for achieving common goals. In forest management, conflicts can be classified into four categories: within the membership of the local community, with neighbouring non-members, with external commercial or industrial interest groups, and with government or forest officials (Sinha, 2006: 27). At BSK, a

mechanism was set up in case there was a conflict of interest among common user groups, particularly regarding use of the forest and water. However, as the community forest committee of the BSK was established by trusted leadership, local conflicts were resolved internally and without dispute within the community through village meeting concensus. It was very strict and acceptable for the community that they gave importance to concensus mechanism. Every dispute of interest was brought into the village meeting in order to seek a concensus and most villagers accepted the decisions. In the past, there was no serious conflict among the members regarding forest conservation.

For conflicts such as wildfire enforcement between adjacent villages, the BSK usually sought a solution through dialogue between the conflicting parties. The network of Jang helped to resolve conflict between villages.

The unmarked boundary of the forest area may cause conflict with neighbouring villages, such as denial of collection access to non-timber forest products. However, the BSK has a well-defined boundary. The forest was classified into different zones according to fertility and purpose of use. This was easy to establish conservation rule and benefit sharing to villagers.

In terms of participation, the key informants of the BSK shared their opinion regarding people's participation. Seven out of eight key informants ranked people's participation as the most critical factor for the success of forest conservation. They opined that most villagers participated in making a firebreak, a check dam, and the forest patrol. Indirect participation was comprised of attending meetings and sharing in the benefit of the forest. The village headman of the BSK shared that transparency in benefit sharing of common resource is so important that the forest would attract people to participate more in forest activities.

Quantitatively, this study found that people's participation in the BSK existed. The details of this participation will be further discussed in the analysis section of the paper: the Household Consensus of the Ban Samkha community forest.


Figure 5.25 People Participation in Firebreak and Check dam at Ban Samkha Forest

Intervention. At the BSK, external agencies such as the Siam Cement Group (SCG), the Suksapattana Foundation, and the Thaicom Foundation played a very active role. These foundations supported the villages in a Constructionist Learning Program based on constructionism theory (technology integrated for life-long learning, where learners use their learned experiences from real life practice and acquire knowledge to solve problems, developed by Professor Seymour Papert of the MIT Media Lab). For forest conservation, the SCG supported the activities of the check dam. However, external agencies confined themselves to the role of a catalyst and advisor to forest conservation.

Other factors found in the Thai setting of the community forest included the following.

Indigenous Wisdom. The BSK inherited a great deal of indigenous wisdom. However, the study selected the local wisdom that was relevant to successful forest conservation, bamboo irrigation, and indigenous herbs.

Bamboo irrigation was part of the indigenous wisdom initiated by Thorn Yaso, a senior villager of the BSK. In an interview with Thorn, he said that his idea of bamboo irrigation originated from his experience with the hill tribes.

In the past, the BSK was still solely depended on Ban Samkha's creek as the main water supply to the village. The distance from the creek to the village was quite

far and was full of thick trees and wild animals. In 1979, Thorn succeeded in laying 1,300 meters of bamboo pipes from the creek to the village. Since the location of the creek was at a higher elevation than the village, there was no problem for plumbing the water. Thorn's initiative was renowned as bamboo irrigation system or PraPa Phu Khao (in Thai means water from the mountain). Although the bamboo irrigation system was later replaced by other materials, Thorn's bamboo irrigation was regarded as a local innovation and was considered wise in terms of natural resource management. Other than the direct benefit to the village with respect to water supply, the villagers did not have to walk to the creek. This indirectly helped to save the forest and animals against fires usually set by the villagers.

Other indiginuous wisdom found in the community concerned the local wisdom regarding herbs. The BSK was close to a forest naturally rich with herbs, and children, youth, and adults were taught to perceive the value of these plants. Prom Wongjina (2009), another senior citizen of the BSK, detailed this local wisdom.

Our village planted 279 species of herbs on 6.25 rais of land located in the village. All villagers take turns being responsible for the herbs. Encouraging people to see the importance of herbs resulted in their using the forest carefully. We taught children to know the importance of herbs and told them that they were a part of our forest. Without the forest, these medicinal trees would not exist.

Historical Driving Force. In the past, the BSK experienced a painful lesson when the community was short of water, the forest was destroyed, and the wild animals disappeared. The children at that time, like Jamnong, Chai, and Boonruan, grew up and became the current leaders of the community. These lessons of the past became a historical driving force for them to mobilize the community to conserve the forest. Boonruean Taokham (2009) added:

Everything we do today affects our children in the future. Experience has told me that tragedies come and are transferred from generation to generation. When I was a child, I saw the forest destroyed. The water was depleted during the past decade. If we neglect the problem, our children will definitely experience the same as we did.

Application of Sufficiency Economy. All key informants admitted that the Sufficiency Economy Philosophy was beneficial not only to their living, but also to forest conservation. Concerning their living, villagers performed household accounting. Regarding forest conservation, Chai Wongtrakul (2009) addressed:

We attempt to communicate to the villagers to live moderately. For example, you already have a house. You should not build a bigger house since it increases your indebtedness and also wastes of timber. To forest, if we have water, we can grow rice and vegetables. The food that we collect from the forest could be consumed and sold. This proves that if we conserve the forest, it will lead us a well being. For me, the sufficiency economy philosophy directly supports our forest conservation.

5.2.2 Key Success Factors of the HMH

Other than the indigenous innovation in bamboo management that helped HMH to be successful in their forest conservation, the researcher explored other key factors: strong leaders, traditional belief and culture, local organization, forest network, clear boundary, participation, historical driving force, and sufficiency economy. Details on each key factor are discussed accordingly.

HMH inherited a number of strong leaders. The villagers recalled the name of Cherd in 1986, Boontun in 1996, and Suthad in1998, as the former village headmen who devoted themselves to forest conservation. These leaders went through the transformative period of the forest crisis when the forest was severely degraded to the present condition. Therefore, they are self-immunity against pressure from villagers and outsiders. Long experience and ambitious mind allowed them to resist the political power incurred by local politicians and powerful merchants. Cherd and Suthad acted as vice chairperson and chairperson respectively of the HMH's community forest committee. From the observation and the interviews with the village's key informants, this community was dominated by formal leaders, represented by the village headman and community forest committee. The forest committee demonstrated strong leadership, and refused the privilege of kinship that is typically valued in rural areas. Every villagers of HMH remembered the story of "Noi and his son" in 2008 when Noi Uthanondh, a vice chairperson of the forest committee, was informed by the community forest patrol that his son was found guilty of disobeying forest regulations. Noi Uthanondh (2009) recalled the incident:

My son violated the forest regulations by digging bamboo shoot in the conserved forest. To us, it really was a big matter to this community. I asked my son to accept the penalty and pay the fine. I fined my son 500 Baht. The enforcement of forest regulations was very important in this community.

Although he was not a native to HMH, the villagers respected Ubon Janthik as one of their community leaders. Ubon, a retired agricultural district official, was a president of Ngao's Model Forest Development Association and had been involved with forest conservation activities with the Rak Muang Ngao Group since 1998. He was a key person to initiate the innovative bamboo management at HMH. The leaders and villagers consulted him often due to his strong experience. His opinion on HMH's future leader revealed his strategic leadership:

Huay Mae Hin already possessed strong leaders like Suthat, Noi, and strong forestry officials like Ajarn Sumai. But we have to think about the future. Some communities were unable to survive when their leader died or moved. At Huay Mae Hin, there are people that I think could become leader in the future. However, they need more time and experience. It was my purpose to let the village managed by itself. If they experienced a problem, they could call for advice. If they come personally, they would lose confidence. I want to help them build confidence to handle problems. As leadership was found to be a key factor for the success of forest conservation for the community, the change of a leader would be risky to some extent. During the field study in 2009, Ban Hua Thung recently changed its village headman. In practice, the village headman would normally act as the chairperson of the forest committee. However, this change was exceptional. The former village headman, Suthat, remained in his position as the chairperson of forest committee. When being asked about this matter, Ubon clarified that there was an attempt to replace Suthad, but this was refused by the committee. He ended this conversation by providing details, saying that the new village headman was a former timber merchant and hence a counterbalance was needed in the situation.

Ban Hua Thung has only one temple (Wat Ban Phrao), with one monk who is the abbot of the temple (Phra Khru Pisedhi Thammarat). Although the role of the religious leader was not as seen with the Ban Talad Kee Lek community forest, traditional beliefs and cultures were an important elements in encouraging the villagers to participate in forest conservation. Ay Utthanun, a liaison of Wat Ban Phrao provided information regarding the local beliefs and culture where the ceremony of the forest guardian spirit (Phee Khun Nam) was routined for the villagers. Every year, the villagers gathered and arranged a ceremony to the forest spirit in order to protect the forest and water. Other traditional beliefs included ordaining the forest in May and honoring the Ngao River (Yor Khun Mae Nam Ngao) in November of every year. These beliefs and cultural elements strengthened the relationship among the villagers and their consciousness of forest conservation.



Figure 5.26 Forest Spirit House at Huay Mae Hin Forest

For HMH, mutual benefit was another prominent factor for success. Other than the benefit from the restored natural resources such as water and non-timber forest products, the villagers also shared common benefit from the sale of bamboo timber in zone A of the forest. A villager of Ban Hua Thung admitted that the income generated from bamboo cutting encouraged them to participate in conserving the forest.

The harvesting of bamboo also generated revenue of 60,000-70,000 Baht for the village fund. The villagers shared the benefit from this fund as well in the village activities.

The success in governing common resources like wild bamboo could not be achieved without the existence of the local organization, HMH's community forest committee. From an interview with eight key informants regarding the success of forest conservation, seven gave priority to the forest committee.

HMH's forest committee was a local organization responsibled for forest conservation. The committee utilized traditional beliefs, culture, and regulations in governing the use of the forest. The selection process of the forest committee was not very formal. Village leaders invited villagers who shared common values and had time to contribute to the committee. Since the community was very small, the leaders knew that which households were qualified to participate in the forest committee. The recruitment of the forest committee was not limited to a particular group: villagers

that were interested in working on the committee could notify the leaders. The forest committee would have a meeting twice a month. Forest regulations or decisions had to be a consensus or a resolution from the village meeting, not from the committee.

Sumai Maimun (2009), a senior forestry official from the Royal Forest Department, who worked closely with Ban Hua Thung villagers, commented:

A village with a strong forest committee and the ability to enforce regulations would succeed in protecting its community forest. If the village set up a forest committee, but could not enforce regulations, it would become a real problem. For the Huay Mae Hin community forest, the forest committee was very strong. The enforcement of regulations was beyond kindship relations. The committee fined a son of one of the members for forest encroachment, and they were not angry at each other.

A network, a clearly-defined boundary, and participation were also key success factors for Ban Hua Thung. Although the form of the network was not formal, the villages in Ngao subscribed together as the Ngao community forest network. Suthad elaborated that currently there were about 40 villages in Ngao as a forest network. They normally exchanged experience during the seminar and called for cooperation when problem arose.

The classification of the forest into zone A and B represented a clear boundary of the forest. This assisted the forest committee in managing the pooled resource and benefit sharing of the villagers. A defined boundary would also be an advantage in terms of preventing outsiders from entering their forest boundary.

Without villager participation, Ubon and Suthad admitted that this forest could not survive as it was. Key informants opined that the villagers participated strongly in conserving the forest. They were satisfied with the current participation by people; however, the leaders expected to see more participation in terms of wildfire protection. Details on participation will be further elaborated on in the next analysis section.

Other variables that emerged in the Thai community forest setting included:

Historical Driving Force. The leaders of HMH were native to the village and therefore they experienced directly to the forest crises. They had suffered from deforestation in the past. Cherd admitted that the lesson of deforestation and drought encouraged the village to conserve its forest so that they would not repeat the painful history.

Innovation. HMH's forest committee demonstrated the ability to apply innovative techniques to help the forest survive. Such innovation obviously led to changes in the villagers' in terms of living together with natural resources in a sustained manner.

The practice of bamboo management at HMH was an example of the integration of human innovation with natural resource management. Instead of leaving the bamboo to dry out naturally, the leaders applied innovation to create an economic benefit from the bamboo. Their innovation was not harmful to the environment; rather, it helped to strengthen the community economy and alleviated social problems in the community.

Philosophy of Sufficiency Economy. Most of the key informants and villagers of HMH were familiar with the Philosophy of Sufficiency Economy. Although most of them were unable to show a sound understanding of the context of the philosophy as academically published, it was not a main objective of this study. The in-depth interview with key informants and villagers revealed that the villagers were capable of applying the philosophy to forest conservation to some extent. From observation, the researcher found that most households grew bamboo shoots at their house despite their prevalence in the forest. To this, Noi Utanandh elaborated that it was the leaders' intention to encourage people to grow some bamboo shoots at home in order for them not to encroach on the forest. This represented the thinking of moderation and reasonableness in consumption that reflected the balance of forest conditions. It also represented the idea of strengthening immunity to the forest for future consumption. Refraining from digging bamboo shoots in the forest built immunity to the forest in the sense that letting it grow naturally to bamboo timber would generate more benefit in terms of business value and the environment.

The innovation of bamboo management and the classification of the forest into two zones also represented the application of the Sufficiency Philosophy. Leaders prudently applied their forestry knowledge to govern the community forest. The reopening of the forest in zone A was based on reasonableness, prudence, and moderation considering not the amount of timber cut, but the quality of mature bamboo.

5.2.3 Key Success Factors of BTK

During the field study, the researcher investigated the factors that led to the success of BTK in forest conservation. These factors included traditional beliefs, mutual benefits, natural leaders, network, participation, local organization, sense of belonging, common value, rules, conflict resolution mechanism, and application of sufficiency economy. Details on each key factor are discussed accordingly.

BTK was an ancient community with a long history. Villagers succeeded their family from generation to generation. A numbers of traditional beliefs were found.

Kaew Thednam, a senior citizen of BTK, introduced the example of the Phee Ta Too ceremony, held by villagers when they did farming. The purpose of the Phee Ta Too ceremony was to invite the farm spirit to leave their field until the villagers finished farming. Afterwards, they would invite the spirit to reside in the field again to take care of the growing of the rice and vegetables. Although the ceremony of Phee Ta Too was not directly relevant to forest conservation, the ceremony strengthened people's relationship in the community. Kaew often attended the ceremony when he was young. "It was fun to attend the ceremony, play with other children, and meet the neighbours. Later, I just realized that such a practice allowed the Lua community to have strong ties", said Kaew.

The ceremony of Phee Khun Nam or Phee Nam Sub was another important ceremony and became the ceremony of "Poo Ja Tevada Raksa Khun Nam," held in the ninth month of every year (June, according to people in the North). The purpose of the ceremony was to pay homage to the guardian spirit of the forest and river for pretection of natural resources. Phra Khru Manop, the abbot of Ban Talad Kee Lek Temple, further elaborated that formerly the ceremony of Phee Khun Nam was conducted within Moo 1. Presently, all of 10 villages in the Mae Pong sub-district participated in the ceremory. Leaders also used this ceremony to build awareness of the forest belonging to children and youth. They invited children to enter a poem-

writing contest and to draw pictures of forest conservation. The winner enjoyed a prize from the community forest committee.

Another important ceremony of BTK included the ordaining of the forest. Villagers and monks, with the support of forest officials, ordained the forest on religious and special occasions. The monks led the villagers in tying yellow cloth to the trees and promised not to cut the timber in that area.

Traditional belief and culture in BTK prevented villagers from deforestation or encroachment on the conserved forest areas. From the interviews with villagers, the researcher found their linkage of the natural forest and water to the people's belief in natural spirits. Most of the villagers generally believed that the power of the forest spirit varied depending on the type of forest. They believed that the power of the spirit would be more intense in the watershed forest area, and become less intense in other forest areas. Such beliefs stemmed from two facts: 1) deforestation in the watershed forest area, in fact, would result in more damage to their source of water, and 2) the villagers often entered and collected forest products in the forest nearby the village rather than in the watershed forest. With these two constituted facts and their belief in degrees of spiritual power, spiritual beliefs were applied in determining forest boundaries as a conserved forest area and in utilizing forest areas within the community.



Figure 5.27 Phee Khun Nam Ceremony at Ban Talad Kee Lek

Although a number of cultural beliefs were prevalent in BTK, it was found that some old cultures and traiditonal beliefs were substituted by new norms, while some completely disappeared due to environmental changes. An example is the extinction of the Phee Ang and Phee Pong ceremony. In the past, BTK villagers conducted the Phee Ang ceremony to honour the guardian spirit of Rak Kam Daeng, who they believed to protect the village's source of water. Villagers normally held a ceremory in the forest near Huay Kha. However, when the construction of the Huay Kha reservoir was completed in 1979, the Phee Ang ceremony was completely terminated. The Phee Pong ceremory was another cultural aspect of BTK that disappeared for a decade since the forest place called "Pong" was purchased by the rich and was replaced with houses and farms (Pong in Thai means the spot of water supply according to North; there were three Pong in BTK).





Figure 5.28 Huay Kha Reservoir and the Place Where Villagers Honored Phee Ang

When asked how a development, such as the construction of reservoir, affects to traditional beliefs in forest conservation, Sakda Maneewong, a senior forest official who worked closely with the community, shared his opinion. He commented that the construction of the Huay Kha reservoir was very beneficial to the village in terms of water supply. However, it lessened their belief in natural spirits. Some villagers witnessed government officials invading into the watershed forest and cutting timber in order to construct the reservoir. According to their spiritual belief, encroachers would be punished by the forest guardian. Nevertheless, it appeared that the forest spirit did not punish any officials as they expected. After the construction was completed, some villagers were not afraid of the forest spirit and encroached the forest to cut timber in the conserved area. Sakda's opinion demonstrated clearly the importance of cultural beliefs as regards the villagers' practice in forest conservation.

The BTK's villagers shared the benefit of water supply from the Huay Kha reservoir. Additionally, Fongnuan Yardfloong, a forest committee member, stated that the villagers also shared common benefit from the use of the utilized forest area. It was noted that the forest committee of BTK used the concept of mutual benefit to encourage people's participation in forest conservation. Fongnuan Yardfoong (2009) further explained: "According to the forest regulation, families that need to use timber in the utilized forest must ask permission from the community forest conservation would reject the request should the family never participate in forest conservation activities."

Although there were many leaders in this community forest, the role of the natural leader seemed to be the most importance to villagers. From the field study, the researcher found that Phra Khru Manop was the most prominent natural leader.

Phra Khru Manop Kittiyano proved to be a strong natural leader for the village for a decade. He was born in BTK and became a monk for more than twenty years. Therefore, he had witnessed deforestation and the failure of forest conservation in the past. To the villagers, Phra Khru Manop was very active in forest conservation. On every Buddhist holy day, he preached to the people to protect the forest and on the importance of natural conservation. He encouraged villagers a spiritual development through forest activities. The villagers admired Phra Khru Manop as their strong and compassionated leader, and the community forest committee always consulted Phra Khru Manop for his advice.

During the interview, Phra Khru Manop addressed two major causes of deforestation: moral degeneration by the people and improper settlement of the people. He noted that the alternative solution to deforestation was building a sense of belonging on to villagers and demonstrating them the common benefits from the forest.



Figure 5.29 Phra Khru Manop, a Natural Leader at Ban Talad Kee Lek

Manoon Thednam was another natural key leader of BTK. He used to be the assistant headman of the village. Currently, Manoon is famous as a sufficiency philosopher of the village. Villagers and Huay Hong Krai visitors learned the practice of a sufficient life at his house.

As a forest committee member, Manoon believed that the committee used the philosophy of sufficiency economy as a main principle in forest conservation. Manoon Thednam (2009) explained his notion:

We built the knowledge of the villagers, and taught them how to use the forest in a wise and friendly manner. Villagers learned at the center how to farm, feed the animals, and use their natural resources. Phra Khru Manop preached to them on moral regarding forest conservation. When one was knowledgeable, he tended to be more reasonable, I think. The knowledge could alter the new attitude of the villagers, that forest is a part of our life, not a resource to exploit. I believed that this would sustainably build the ability of the villagers to live without over-consumption of the forest. This would also build the immunity and prevent the forest from the future human greed.



Figure 5.30 Manoon Thednam and Sufficiency Economy Learning Center

BTK is a member of the Mae Phong natural conservation network, comprising 8 villages in the sub-district. Manoon Thednam is currently responsible as the chairperson of the network. The network helped to increase multi-stakeholders in 9,364 rais of forest area. Manoon accepted that the network was very supportive of the work of the Ban Talad Kee Lek forest committee, particularly regarding the control of wildfires and illegal cutting. For instance, once a wildfire occurred, officials would notify the nearby village of the fire incident for assistance. Additionally, the villagers in each village would strengthen their rapport with other villages in the Khun Kuang forest. Manoon planed to connect the Mae Pong network to other sub-districts in the near future.

Factors such as local organization, rule, and conflict resolution mechanism, as earlier mentioned, were constituted the success of BTK.

From the qualitative information obtained in this study, it was learned that most of the villagers participated directly in building firebreaks, ordaining the forest, and honoring Phee Khun Nam. From the interviews it was learned that all key informants of BTK satisfied with the participation of the villagers. The quantitative study showed that Ban Talad Kee Lek participation existed. Details of this participation will be further discussed in the analysis part of the Household Consensus of BTK.



Figure 5.31 Participation at Ban Talad Kee Lek

5.2.4 Key Success Factors of BMR

During the field study, the researcher investigated the factors that made BMR successful in forest conservation. These factors included traditional culture and value, kinship, mutual benefit, charismatic leader, trust, local organization, network, participation, reciprocity and sharing, rules, conflict resolution mechanism, historical driving force, group reputation, and application of sufficiency economy. Details on each key factor are discussed accordingly.

A number of cultures were found at Ban Mae Rawan. Ceremonies that strengthened the relationship among villagers included: the harvesting ceremony in November, the family spirit ceremony in February, and the praying ceremony for rainfall in June. Concerning those ceremonies that fostered forest conservation, BMR highlighted its major activities in ordaining the forest and honoring Phee Khun Nam. Regarding the ordaining of the forest, the forest committee shared its views and practices as follows:

1) The main purpose of ordaining the forest is to deter people from timber cutting. As an ordained tree was regarded as the asset of Buddha, the person who cut the ordained trees would be subjected to the law of cause and death according to Buddhism. This strong cultural belief prevented the timbers from being cutting.

2) During the ceremony, all of the villagers had to take a vow to not cut the ordained timber.

3) A yellow cloth was tied to selected trees. Normally, they tied the cloth to nine big and strong trees in order to identify the ordained forest area. (Thai people normally prefer the count of nine as a fortunate number.)



Figure 5.32 Tree that was ordained at Ban Mae Rawan Community Forest

For the Phee Khun Nam ceremony, or Phee Phai (Phai in Thai means a check dam), the villagers prepared a sacrificial offering to honor the forest guardian once a year. Naschai Moonsai (2009) said that it was usual for a parent to bring their children to the forest to attend the ceremony; in this way, the BMR childern learned

to value highly the forest. Every youth in BMR (there were about 35 members in the youth group in 2009) experienced the ceremony with the parents every year.



Figure 5.33 Custom and Culture at Ban Mae Rawan

It was found that the members of BMR were from three big families: the Thiud, Trongjai, and Tungnoi family. They became a relative when family members got married to each other. This characteristic of kinship strengthened the relationship of members in the society. In addition, Kaewma Trongjai (2009), a respectable elder of the village, shared his idea that the people of BMR rarely moved to other places. If they were married to people outside the community, they would ask the husband or wife to move into the community. For this reason, the subsistence of people in BMR was unique in terms of localization.

The village headman, Pradit Srivilai (2009), added that about two thirds of villagers were kin to each other. As such, a strong sense of community transpired. People had a high trust in each other in work and in daily life. It was very usual to find villagers leave their young children with neighbours when they went to work. This was because everyone knew, trusted, and respected each other as a close cousin.

This emergence of high trust encouraged people to believe in their leaders and to collaborate in village activities, including forest conservation activities.

The strong leader succeeded in showing their villagers the mutual benefit of the forest, another key success factor in forest conservation in the community. From the severe deforestation in the past, people in BMR realized what it was like to suffer from a water supply shortage, the scarcity of non-timber forest products, and the flooding of the Wang River due to deforestation. Today, people perceived the mutual benefits they and their children would gain from Pha Thon forest: food, water, herbs, and wood, for instance.

Pradit Srivilai and Pongsiri Nondhachai (2009), the formal leaders of the village, shared their experience: "During the first year of setting up our community forest, some villagers disagreed with us. They were afraid to forgive the benefit from making use of the conserved forest in the past." Pradit further shared that it was very critical to make people realize what they would gain from preserving the forest. If people did not see the benefit, they would not contribute to forest conservation. As such, Pradit focused intensively on the learning process through the community learning center and seminar. He took the villagers, as stakeholders of the forest, to learn from and visit other successful forest conservation. Finally, they perceived the mutual benefit from the forest and began to participate more often in forest conservation.

Strong and charismatic leadership was dominant at BMR. Leaders were found in many groups: formal leaders, elders, housewives, and youth. Although the villagers at BMR valued the working culture and teamwork, most of them unhesitatingly mentioned the name of Pradit and Pongsiri as strong leaders in forest conservation.

Pradit Srivilai, a 60 year old village headman, was a key leader of BMR for a decade. Succeeding as village leader from Nirun, Pradit was the first person to initiate the community forest in BMR. The villagers considered Pradit as their symbol of accomplishment in forest conservation. Jamroen Thipha (2009), a 52 year old villager, said that Pradit was beloved by the people as a respectable senior citizen, not only as a village headman. Besides devoting himself as a chairperson of BMR's community forest, Pradit was also nominated by other six villages in Yok Kra Brat as

the chairperson of Pha Thon. Therefore, for forest conservation, Pradit represented both a local leader of BMR and a regional leader in the Yok Kra Brat sub-district.

The leadership of Pradit was a factor for the success of forest conservation in BMR. Villagers valued his commitment to his works, his simple lifestyle, and ethical standards. Pradit owned a small grocery, where he spent time in the evening discussing with villagers, who came to buy rice, vegetables, and appliances, with a modest manner. When villagers came to buy goods, they greeted Pradit, and chatted with him and shared their general opinions. Pradit also absorbed his villagers' needs and problems, offering advice and gaining a high degree of trust from the villagers.

Opposite his grocery store was a small community gas station operated by Pradit. There was no money collector or collecting machine at the station. A villager came, fueled his motorcycle, and walked across the road to pay the money. There was no question from Pradit about the amount of fueled gas, not even a check of the amount of fuel. Villagers fueled the gas by themselves, paid the money, and left. Before the researcher asked, Pradit smilingly replied, "Here we highly value trust of each other; it is our traditional way of life."



Figure 5.34 Community Gas Station at Ban Mae Rawan

In managing the Pha Thon forest network, which involved many stakeholders from other villages, Pradit made his decisions based on rule of ethics rather than on written regulations. He demonstrated his skill of flexibility, seemed to be decisive, and compromising in different situations. As a chairperson of Pha Thon, he was decisive in terms of penalties for forest encroachment when his villagers encroached and intentionally violated the rule of other community forests, or vice versa. In some cases, he compromised when the forest encroachment was unintentionally done for the purpose of living. Mongkol Thiud, a member of the Yok Kra Brat sub-district, admired that Pradit's decisions never caused a conflict among Pha Thon stakeholders.

Pradit was satisfied with the progress and the current achievement of forest conservation in BMR. However, he admitted that Pha Thon was comprised of seven villages, where the application of forest conservation was different. Some villages showed a strong commitment to forest conservation, while some shared little ambition. He understood that the difference was partly from the varied well being of people in the village that were the responsibility of the village headman. "I offered help or advice to the village headman as a chair of Pha Ton, but I have to be very careful not to cross their line since conflict may arise," Pradit said.

Pongsiri Nondhachai, an assistant village headman, was another strong and wise leader in forest conservation. He was from the Northeastern, was married to Jongrak, a villager of BMR, and moved to live there a few decades before. Although he was not native to BMR, Pongsiri gained high trust and respect from the villagers.

In his early fifties, Pongsiri remained active and energetic. He appeared to work twenty hours a day. During the day when he was free from work, one would see him walk and greet the villagers in a friendly way from house to house. Every household was impressed with his practice.

In terms of forest conservation, Pongsiri led the villagers in building a check dam, constructing firebreaks, and attending forest ceremonies. His wife, Jongrak Nondhachai, was also a leader of BMR housewife. She engaged in teaching visitors the process of making fish sauce, soap, and producing washing liquid.

The most impressive charismatic leadership quality of Pongsiri was his communication skills. Compared to Pradit, Pongsiri was more fluent in public communication and presentation. When outsiders visited BMR, he would be responsible for introducing the community, the forest, and management practice to them. With his strong communication skills and experience, Pongsiri was regarded as village philosopher. He trained people to live and conduct alternative agriculture according to the Philosophy of Sufficiency Economy. His house became a learning center of the philosophy, with the support of the Ministry of Agriculture.



Figure 5.35 Pongsiri (Left) and the Learning Center of Sufficiency Economy in Ban Mae Rawan

In BMR, there were elders whom the villagers respected as their senior leaders. The villagers recalled the name of Kawema Trongjai, a former village headman of BMR, Toonlarayh Uthanandha, and Inn Muanyunchai. Pongsiri admired these senior leaders as valuable assets of the community.

Presently, it could be said that BMR was a small forest community with numbers of strong leaders. However, Pradit, a current formal leader, would retire as village headman the following year. Other senior leaders were about 65-70 years old. Curiosity regarding their future leader was raised in the forest committee. Pranee Tangnoi (2009), another assistant village headman, expressed her opinion.

We worry about the future. If our children work outside the community, there will be a problem of who the future leader will be. What we were doing was to build the children's consciousness. We took them to the forest with us, taught them to know the importance of the community forest, and why we needed to build the check dam.

Mongkol Thiud (2009) asserted how BMR was to deal with this future problem:

The forest committee gave importance to the process of learning. We alternated visiting other forest communities and sharing lessons in forest conservation. We also shared experience with other forest user groups such as housewives, and youth. We encouraged them to have the courage to speak, present, coordinate, and plan. Finally, we hope that some of them can replace us as new leaders to protect the forest.

As earlier mentioned, the local community, like the community forest committee of BMR and Pha Thon, was another key factor in the success of forest conservation. Additionally, there were 18 local communities and groups in BMR. The setting of different career groups in the village such as the Housewife Group (1983), the Forest Group (1984), and the Herb Group also indirectly supported the atmosphere of forest conservation. BMR was very active in career development activities. The villagers learned how to make fish sauce, medicine herb, and handicrafts. They earned more income from selling these indigenous products and became less dependent on forest timber products.



Figure 5.36 Community Products from Forest User Group at Ban Mae Rawan

BMR connected its alliance through an effective network. The Pha Thon forest network was initiated by BMR's community forest committees, with a budget supported by the Thailand Research Fund (TRF). Pradit, the chairperson of BMR's forest committee, was elected as a chairperson of the Pha Thon network. Figure 5.37 showed Pha Thon's stakeholders.



Figure 5.37 Major Stakeholders in Pha Thon Forest Network

The formal establishment of the Pha Thon forest network was very beneficial for BMR in terms of their conservation practice. The stakeholders of Pha Thon helped each other to prevent the forest from encroachment. They exchanged visits, shared experience, and collaborated on various forest activities. Since the community forest committee in each community forest was a member of the Pha Thon committee, the conflict resolution mechanism was already in place should there be any encroachment on Pha Thon from villagers or outsiders. Naschai Moonsai, a 26 year old youth leader of the Yok Kra Brat sub- district, shared his idea that familes here valued the importance of encouraging the children to love the forest. Naschai became interested in forest conservation when he was fifteen and followed his parents in attending forest activities.

From the researcher's observations, it could be seen that the BMR villagers were active in forest conservation. They always discussed and exchanged their ideas about the community forest in the evening after work. Most of discussions revolved around the idea of their participation, and their pride in the community forest. Some of these statements follow:

"If we did not start the community forest, we would be starving now. The nearby villages came to our forest to find food" (Tanorm Pastsan, 2009).

"I thought that the state of the forest was a lot better than in the past. I was not on the forest committee, but I participated in forest conservation because I saw Pradit as a very strong ambitious leader" (Inn Muangunchai, 2009).

"Every family highly participated in forest conservation. If the leaders agreed, the villagers acted immediately" (Kaewma Trongjai, 2009).

In quantitative terms, this study found that people's participation in Ban Mae Rawan community forest existed. Details of this people's participation will be discussed in the next analysis part: the Household Consensus of Ban Mae Rawan.



Figure 5.38 Participation in Check Dam and Forest Plantation at Ban Mae Rawan

Although BMR started its forest conservation with internal strength, there was intervention from officials to support the conservation practice of the community. This was due to the large area of the Pha Thon forest and the involvement of many nearby community villages. Most of this intervention came from official authorities in terms of budget support for research and study.

Other factors found in the Thai community forest setting included:

Reciprocity and Sharing. BMR was a reciprocal society. It was found that villagers always shared fruit and vegetables grown on their farm in Rai Dong as earlier mentioned. Further, villagers also shared labor to help each other in building fences and houses. Pradit Srivilai (2009) said:

We are fortunate that our villager possessed this social capital. Everyone lived together as though they were in the same family. When someone died, the villagers helped arrange funerals. When someone got sick, they helped each other in taking the sick neighbour to the hospital.

Historical Reason and Group Reputation. A long history of struggling with the protest and forest conservation had resulted in the BMR leaders and villagers highly valuing the group's reputation as one of their prime capital assets. This appreciation of the group's reputation helped to encourage them to sustain their forest conservation practice over time. Kaewma, an elder and former village headman, was very proud when he mentioned to the success of the village being awarded by outsiders.

Philosophy of Sufficiency Economy. The villagers at BMR followed their ways of life according to the Sufficiency Economy Philosophy. The village was a learning center for the application of this philosophy in Tak. There, every household grew vegetables such as chilly, papaya, Coccinia grandis, and lime to be eaten within the family. Some families like the Pongsiri, grew fruit in Rai Dong for consumption and sold it domestically. The application of the sufficiency ecomony helped to lessen the villager's expenditures, and hence they had no need to exploit the forest for their own benefit.

5.3 Participation in Forest Conservation

5.3.1 Participation in Forest Conservation of BSK

5.3.1.1 Personal Characteristics of Respondents

Gender. 67.8 percent were male and 32.2 percent were female. The ratio of male respondents to female respondents was approximately seven to three.

Age. The age of the people ranged from 17 years to 80 years with an average of 49.7 years.

Religion. All were Buddhist.

Marital Status. 86.4 percent were married.

Family Status. 59.3 percent were head of family.

Education. 42.4 percent achieved their higest level of education at the elementary school level. Only 4.2 percent graduated with bachelor degree.

emenary seneor level. Only 1.2 percent graduated with sucheror degree.

Occupation. 44.9 percent were farmers. 38.1 percent were laborers.

Family Size. 67 percent were in a small family (less than 4 persons).

Income. Average monthly income was 5,406.12 Baht.

Social Status. 79.7 percent were villagers and were not in any administrative position of the village. Approximately 11 percent were officially responsibled for the forest as forest volunteers and on the forest committee.

Period to Stay. Average time of staying in the community was 40.8 years; the longest year was 80 years.

Period to Work. Average time that the respondents were in a position with community forest activity was 6.9 years.

Detail of the findings was summarized in table 5.1

Personal Information	Percentage (Number)
Gender	
Male	67.8 (80)
Female	32.2 (38)
Total	100.0 (118)
Marital Status	
Single	8.5 (10)
Married	86.4 (102)
Others	5.1 (6)
Total	100.0 (118)
Status in Family	, , , , , , , , , , , , , , , , , , ,
Head of family	59.3 (70)
Housewife	13.6 (16)
Cousin	27.1 (32)
Total	100.0 (118)
Education Level	
Can not read and write	4.2 (5)
Can read and write	8.5 (10)
Elementary school	42.4 (50)
High Elemenatry school	6.8 (8)
Secondary school	9.3 (11)
High school	17.8 (21)
Undergraduate	4.2 (5)
Other	6.8 (8)
Total	100.0 (118)
Occupation	
Labor	38.1 (45)
Merchant	3.4(-4)
Farmer	44.9 (53)
Government Official	9.3 (11)
Other	4.2 (5)
Total	100.0 (118)
Size of Family	
Less than 4 persons	67.0 (79)
5-6 persons	24.6 (29)
7-8 persons	6.8 (8)
More than 9 persons	1.7 (2)
Total	100.0 (118)
Status in Community	
Forest committee	3.4 (4)
Head of village	2.5 (3)
Assistant head of village	3.4 (4)
Member of district	1.7 (2)
Forest volunteer	7.6 (9)
People	79.7 (94)
Other	1.7 (2)
Total	100.0 (118)

 Table 5.1 Number and Percentage on Personal Information

5.3.1.2 Opinion of BSK Households Concerning Forest Conservation

Benefit of the Forest. According to table 5.2, every household admitted that the forest was of benefit to their living. The majority of respondents (90.7 percent) valued the forest highly. Only 0.8 percent saw a low benefit from the forest.

Table 5.2 Benefit of the Forest

Benefit of the Forest	Percentage (Number)
High	90.7 (107)
Moderate	8.5 (10)
Low	0.8 (1)
Total	100.0 (118)

In response to the open-ended question concerning the direct and indirect benefits of the forest, most households stated that the forest was a benefit to them directly as an important source of water. Some households viewed the forest as a source of natural material for building homes, and as a source of food.

In addition, the majority of househoulds agreed that the forest provided them with an indirect benefit in terms of strengthening their relationship with their neighbours, and giving them a sense of belonging.

Role in Forest Conservation. In response to question concerning which individual or party played the most important role in sustaining the BSK forest, four to five of the respondents agreed that it was the people in the community. The minority viewed that the village committee and Ban Samkha School played an important role with a percentage of 14.4 and 5.1, respectively. The role of the temple was not recognized by respondents.

Table 5.3	Organization or Party that Plays the Most Important Role in Forest
	Conservation

Individual/Organization	Percentage (Number)
Temple	0.8(1)
School	5.1 (6)
People	79.7 (94)
Village Committee	14.4 (17)
Total	100.0 (118)

Accountability for Forest Conservation. Major respondents (55.1 percent) perceived that they were highly accountable for conserving the forest. Only 3.4 percent confessed that they did nothing about forest conservation.

Table 5.4 Degree of Accountability

Degree of Accountability	Percentage (Number)
High	55.1 (65)
Moderate	39.0 (46)
Low	2.5 (3)
Not the duty	3.4 (4)
Total	100.0 (118)

Participation in Forest Conservation. The majority of respondents (55.9 percent) perceived that they participated strongly in forest conservation. Thirtyeight point one percent answered that they participate moderately in forest conservation. Only a few people confessed that they rarely or never participated in forest conservation.

Table 5.5 Degree of Participation

Degree of Participation	Percentage (Number)
Strong	55.9(66)
Moderate	38.1 (45)
Low	3.4(-4)
Not paricipate	2.5(-3)
Total	100.0 (118)

An open-ended question was asked to the respondents in order to identify their activities in forest participation. Following were the list of the activities that the respondents participated in: planting trees, fighting wildfires, building a check dam, ordaining the forest, sharing opinions with others to the benefit of the forest, and building awareness of conserving the forest.

Factor that Encouraged People to Participate in Forest Conservation.

The respondents were asked to rank the three factors that most encouraged them to participate in forest conservation: 48.3 percent mentioned the strong leader, 24.6 percent were encouraged by the benefit they gained from the forest as a source of water, and 18.6 percent participated because of traditional beliefs and culture.

 Table 5.6 Encourage Factor

Encourage Factor Ranked from Order of Importance	Percentage
1. Strong community leader	48.3
2. Need of water source	24.6
3. Traditional belief and culture	18.6

Understanding the Sufficiency Economy Philosophy.

Most of respondents felt that they understood the philosophy, 55.1 percent at a moderate level, and 36.4 percent at a high level. Only a few respondents (2.5 percent) admitted that they did not understand the philosophy.

Degree of Understanding	Percentage (Number)
High	36.4 (43)
Moderate	55.1 (65)
Low	5.9 (7)
Not understand	2.5(-3)
Total	100.0 (118)

Table 5.7 Understanding of Philosophy of Sufficiency Economy

Application of the Sufficiency Economy Philosophy to the Forest Conservation. According to table 5.8, out of the 115 respondents that answered that they understood the concept of the Sufficiency Economy Philosophy, most respondents (62.6 percent) thought that the philosophy was highly applicable to forest conservation in the following activities.

1) Reasonable use of natural resources. They viewed that forest products should be consumed in a moderated way and serve only basic needs.

2) Preventing and not exploiting watershed areas in the forest. They viewed that doing so resulted in the forest being more productive and decreased their living expenses.

3) Building a check dam from natural products with an indigenous technique was an example of applying the philosophy since they did not have to buy expensive materials.

Only 1.7 percent of respondents did not see the application of the philosophy to forest conservation.

Table 5.8 Application of Philosophy of Sufficiency Economy to Forest Conservation

Degree of Application	Percentage (Number)
High	62.6 (72)
Moderate	33.0 (38)
Low	2.6(-3)
Not Applicable	1.7 (2)
Total	100.0 (115)

Development of the Forest. Compared to the past five years, most respondents (84.7 percent) accepted that there was better development in their community forest. Only 3.4 percent observed that their forest was more degradable due to wildfires and encroachers.

Table 5.9 Development of Forest

Development of Forest	Percentage (Number)
Better	84.7 (100)
Same	11.9 (14)
Worsen	3.4 (4)
Total	100.0(118)

Satisfaction with the State of the Forest. The majority of respondents (74.6 percent) were highly satisfied with the current state of their forest. Only 3.4 percent were dissatisfied.

Table 5.10 Overall Satisfaction

Overall Satisfaction	Percentage (Number)
High	74.6 (88)
Moderate	21.2 (25)
Low	0.8 (1)
Not satisfy	3.4(-4)
Total	100.0 (118)

Access to Community Forest Bill Information. Approximate of 92 percent of respondents accessed information on the community forest bill. Only 7.6 percent never accessed information regarding the bill.

Access of CFB's information	Percentage (Number)
High	20.3 (24)
Moderate	57.6 (68)
Low	14.4 (17)
Not receive information	7.6 (9)
Total	100.0 (118)

 Table 5.11 Access to Community Forest Bill's (CFB) information

Need of Community Forest Bill. The majority of respondents (57.6 percent) agreed that they wanted the government to enact a community forest bill. Twenty point four percent did not agree, and 22 percent were uncertained as to whether they needed the bill or not.

Table 5.12 Need of Community Forest Bill

Need of Community Forest Bill	Percentage (Number)
Agree	57.6(68)
Not agree	20.4 (24)
Abstain	22.0 (26)
Total	100.0 (118)

5.3.1.3 Information Concerning People's Participation in Forest Conservation

This study divided people's participation into five main activities, as previously elaborated in chapter 2. The details of each part and of the activities are discussed below.

1) People's Participation in Searching Problems and Causes

It was found that the respondents participated in the following activities.

(1) Sharing problems or obstacles on forest conservation with the village committee (62.7 percent)

(2) Attending the village meeting or forest committee meeting (59.3 percent)

(3) Discussing or sharing with neighbours about current forest issues in the community such as deforestation, hunting, or illegal farming in local forests (59.3 percent)

(4) Proposing solutions or alternatives on forest conservation to the village committee (56.8 percent)

(5) Identifying threats or weaknesses of forest conservation to the village committee (53.4 percent)

However, there were two activities that the respondents should focus on more in terms of participation.

(1) Planning the detail of forest planting activities (49.2

percent)

(2) Demanding that government officials acknowledge

when problems arise (41.6 percent)

2) People's Participation in Decisions

It was found that respondents participated in the following activities.

(1) Deciding problem-solving activities such as building check dams and firebreaks (77.1 percent)

(2) Nominating or electing members of the community forest committee (57.6 percent)

(3) Setting up rules or regulations for the community forest (51.7 percent)

However, respondents of Ban Samkha should be more focused on decisions regarding registering the forest as a community forest with the Royal Forest Department.

3) People's Participation in Implementation

It was found that respondents participated in the following

activities.

(1) Participating in village activities, such as forest planting, building check dams, and worshiping forest guardians (89.0 percent)

(2) Persuading neighborhoods contribute to to conserving the forest (74.6 percent) (3) Suggesting or educating neighbours to refrain from destroying the forest (67.8 percent) (4) Joining the training courses on forest conservation (58.5 percent) (5) Offering financial assistance for forest conservation activities (55.1 percent) However, there were three activities that the respondents of Ban Samkha should be more focused on participating in. (1) Coordinating forest activities with people from other forest villages (2) Patrolling the forest (3) Notifying the community forest committee of forest violations 4) Participation in Benefit It was found that respondents participated in the following benefits (1) Being proud when the forest won a award or was acknowledged by others (89.9 percent) (2) Strengthening relationships with neighbors (3) Using the forest as a source of food (4) Gaining benefits from other community forests or forest networks The respondents of Ban Samkha did not focus their use of the forest as a source for generating income. 5) Participation in Evaluation It was found that the respondents participated in all evaluation activities as follows.

(1) Following the results of forest conservation and evaluation its effect (61.9 percent)
(2) Following the results of forest planting and evaluation its effect (55.9 percent)

(3) Evaluating the performance of the community forest committee (55.1 percent)

Detail on people's participation, activities, including number and percent of respondents according to the distributed questionairres was shown in table 5.13 to 5.17.

Issues	People Participation							
-		Strongly		ewhat	Less Participate		Rarely or Never	
	Partic	cipate	Participate				Parti	cipate
	n	%	n	%	n	%	n	%
Participation in Searching Problems and Causes								
You participate in sharing problems or obstacles on forest	20	16.9	54	45.8	40	33.9	4	3.4
conservation to village committee.		62	.7					
You always attend the village meeting or forest committee	21	17.8	49	41.5	41	34.7	7	6.0
Meeting	59.3							
You always talk, discuss, or share with neighborhoods about the	16	13.6	54	45.8	38	32.2	10	8.47
current forest issue in community such as deforestation, hunting,	59.4							
or illegal farming in local forest.								
You participate by proposing solution or alternatives on forest	17	14.4	50	42.4	44	37.3	7	5.9
conservation to the village committee.	56.8							
You always propose or identify threat or weakness of forest	13	11.0	50	42.4	48	40.7	7	5.9
conservation to village committee or community forest committee	53.4							
You participate in planning the detail of forest plantation activities	16	13.6	42	35.6	52	44.1	8	6.7
such as time to plant, place, or variety of plant	49.2							
You participate in demanding or campaigning government	14	11.9	35	29.7	52	44.0	17	14.4
officials to acknowledge when problem arises such as illegal		41	.6					
forest encroachment or the issuance of rule, regulation, Act								

Table 5.13	People's	Participation in	n Searching Problems	and Causes, Ban S	Samkha, Lampang
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Issues	Participation							
	Strongly Participate		Somewhat Participate		Less Participate		Rarely or Never Participate	
	n	%	n	%	n	%	n	%
Participation in Decision								
You participate in deciding problem solving activity on forest area	31	26.3	60	50.9	22	18.6	5	4.2
such as building check dam, fire cushion area.	77.1							
You participate in nominating or electing member of community	15	12.7	53	44.9	41	34.8	9	7.6
forest committee for your village.	57.6							
You participate in setting rule or regulation of this community	13	11.0	48	40.7	47	39.8	10	8.5
forest.		51	.7					
You participate in making decision whether this community forest	13	11.0	36	30.5	49	41.5	20	17.0
should be registered with Royal Forest Department.	41.5							

Table 5.14 People's Participation in Decision, Ban Samkha, Lampang

Issues		Participation								
	Strongly		Som	ewhat	Le	ess	Rarely	or Never		
	Parti	cipate	Parti	cipate	Participate		Participate			
	n	%	n	%	n	%	n	%		
Participation in Implementation										
You participate in different kinds of village activity such as forest	38	32.2	67	56.8	9	7.6	4	3.4		
plantation, check dam construction, worship to forest guardian.		89	0.0							
You persuade neighborhoods to contribute in conserving forest	25	21.2	63	53.4	25	21.2	5	4.2		
such as planting the forest, nourishing trees in forest area.		74	.6							
You always suggest or educate your neighborhoods to refrain	27	22.9	53	44.9	30	25.4	8	6.8		
from destroying or encroaching forest.	67.8									
You participate in joining the training course on forest	11	9.3	58	49.2	36	30.5	13	11.0		
Conservation.		58	.5							
You offer financial assistance such as donation to village	18	15.3	47	39.8	45	38.1	8	6.8		
committee for forest conservation activity.	55.1									
You coordinate and join with people from other village in forest	15	12.7	40	33.9	47	39.8	16	13.7		
activity such as planting the forest, ordaining the forest.	46.6									
You participate in patrolling forest to prevent deforestation and	15	12.7	35	29.7	44	37.3	24	20.3		
forest encroaching.		42	.4							
You notify community forest committee or authorities when seeing	12	10.2	32	27.1	49	41.5	25	21.2		
that there are people violating community forest regulation.		37	.3							

Table 5.15 Participation in Implementation , Ban Samkha, Lampang

Issues	Participation							
	Stro	Strongly		Somewhat		ess	Rarely or Never	
	Parti	cipate	Parti	Participate		cipate	Participate	
	n	%	n	%	n	%	n	%
Participation in Benefits								
You feel proud when your forest gain award or being	65	55.1	41	34.8	9	7.6	3	2.5
acknowledged from outsiders that it is a good model of		89	.9					
community forest.								
You and your neighborhoods have better relationship after joining	40	34.0	63	53.4	13	11.0	2	1.7
different kind of forest conservation	87.4							
You use forest as a source of food to consume such as	30	25.4	55	46.6	26	22.0	7	5.9
mushroom, bamboo, honey.	72.0							
You gain benefit from contacting with other community forest or	20	17.0	57	48.3	32	27.1	9	7.6
forest network.	65.3							
You use forest as a source of income such as selling the forest	18	15.3	36	30.5	34	28.8	30	25.4
products to neighborhoods.	45.8							

Table 5.16 People's Participation in Benefits, Ban Samkha, Lampang

Issues	Participation								
-	Stro	ongly	Som	ewhat	Less		Rarely or Never		
	Participate		Parti	Participate		Participate		cipate	
-	n	%	n	%	n	%	n	%	
Participation in Evaluation									
You always follow the result of forest conservation and evaluate its	10	8.5	63	53.4	35	29.8	10	8.5	
effect.	61.9								
You always follow the result of forest plantation and evaluate its	9	7.6	57	48.3	42	35.6	10	8.5	
effect.	55.9								
You have chance to participate in evaluating performance of this	15	12.7	50	42.4	45	38.1	8	6.8	
community forest committee.		55	.1						

 Table 5.17 People's Participation in Evaluation, Ban Samkha, Lampang

5.3.1.4 Recommendation on Participation and Sustainable Forest Management

Respondents of BSK provided recommendations and opinions concerning forest conservation. They requested more contribution from government authorities in promoting and educating their children in forest conservation. They suggested the government to campaign such activities as Forest Protection Program (Pi-Tak-Pa-Mai Project) and focused more on children participation. In terms of regulations, respondents preferred that they regulated and managed by the community itself rather than government intervention. In addition, some respondents requested to the forest committee that there were some gaps on communication process between the committee and villagers. They asked the village committee to distribute information directly to villagers in the meeting rather than through the village broadcasting.

5.3.2 Participation in Forest Conservation of HMH

5.3.2.1 Personal Characteristics of Respondents

Gender. 71.4 percent were male and 28.6 percent were female. The ratio of male respondents to female respondents was approximately seven to three.

Age. The age of people ranged from 26 years to 79 years, with an average of 49.7 years.

Religion. All respondents were Buddhist.

Marital Status. 87.4 percent were married.

Family Status. 78.2 percent were head of the family.

Education. 42.9 percent of respondents had only a preliminary school education. Only 1.7 percent graduated with a bachelor degree, while 0.8 percent were illiterate.

Occupation. 73.1 percent were farmers. 19.3 percent were laborers.

Family Size. 74.9 percent were in a small family (fewer than 4 persons).

Income. Average monthly income was 2,906.6 Baht.

Social Status. 76.5 percent of respondents were villagers and not in administrative positions in the village. Approximately 17.7 percent played a direct role in forest activities, such as being a forest volunteer or on the forest committee.

Period of Stay. From 119 respondents, the average stay in the community was 37.8 years. The longest was 79 years.

Period of Work. The average length of time that the respondents spent in an administrative position involving the community forest was 3.6 years.

Detail of the findings was summarized in table 5.18

Personal Information	Percentage (Number)
Gender	
Male	71.4 (85)
Female	28.6 (34)
Total	100.0 (119)
Marital Status	, , , , , , , , , , , , , , , , , , ,
Single	7.6 (9)
Married	87.4 (104)
Others	5.0 (6)
Total	100.0 (119)
Status in Family	, , , , , , , , , , , , , , , , , , ,
Head of family	78.2 (93)
Housewife	13.4 (16)
Cousin	8.4 (10)
Total	100.0 (119)
Education Level	
Can not read and write	0.8 (1)
Can read and write	19.3 (23)
Preliminary school	42.9 (51)
Highr preliminary school	20.2 (24)
Secondary school	6.7 (8)
High school	8.4 (10)
Undergraduate	1.7 (2)
Total	100.0 (119)
Occupation	
Labor	19.3 (23)
Merchant	5.9 (7)
Farmer	73.1 (87)
Government Official	1.7 (2)
Total	100.0 (119)
Size of Family	
Less than 4 persons	74.8 (89)
5-6 persons	21.8 (26)
7-8 persons	3.4 (4)
Total	100.0 (119)
Status in Community	
Forest committee	16.0 (19)
Head of village	3.4 (4)
Assistant head of village	1.7 (2)
Member of district	0.8 (1)
Forest volunteer	1.7 (2)
People	76.5 (91)
Total	100.0 (119)

Table 5.18 Number and Percentage of Respondents on Personal Information

5.3.2.2 General Opinion Concerning Forest Conservation

Benefit of the Forest. According to table 5.19, most respondents agreed that HMH benefited to them. Seventy-two point three percent of the respondents perceived that they gained a high benefit from the forest while only 1.7 percent realized a low benefit from the forest. Only 0.8 percent of the sample did not see a benefit from the forest.

Table 5.19 Benefit of the Forest

Benefit of the Forest	Percentage(Number)
High	72.3 (86)
Average	25.2 (30)
Low	1.7 (2)
Not at all	0.8 (1)
Total	100.0 (119)

An open-ended question was asked of the respondents concerning the direct and indirect benefit of the forest, and most of them viewed that forest was useful directly to them as an important source of water. A minority of respondents viewed the forest as a source of material for building homes, and as a source of food.

In terms of indirect benefit from the forest, the respondents opined that the forest provided them with indirect benefits such as strengthening their relationship with their neighbours and facilitating their sense of belonging.

Role in Forest Conservation. To the question concerning which party played the most important role in sustaining their community forest, 69.7 percent of the respondents said that people were the most important element in sustaining the forest. Twenty-eight point six percent gave the importance to the village committee. Only 0.8 percent of respondents viewed that the temple and the school served an important function in sustaining the forest.

Organization/ Party	Percentage (Number)
Temple	0.8 (1)
School	0.8 (1)
People	69.7 (83)
Village Committee	28.6 (34)
Total	100.0 (119)

Table 5.20 Role of Individual or Organization in Forest Conservation

Accountability Regarding Forest Conservation. Forty-three point seven percent of the respondents felt that they had high accountability to perform their duty in conserving the forest. Forty-nine point six percent felt that they had moderate accountability in performing the function. Only 4.2 percent admitted that they did nothing for forest conservation.

 Table 5.21 Degree of Accountability

Degree of Accountability	Percentage (Number)
High	43.7 (52)
Moderate	49.6 (59)
Low	2.5 (3)
Not contribute	4.2 (5)
Total	100.0 (119)

Participation in Forest Conservation. Fifty point four percent of respondents perceived that they participated highly in forest conservation. Forty-seven point one percent answered that they participated moderately in forest conservation. No respondents of the HMH community forest perceived that they did not have any participation in forest conservation.

 Table 5.22 Degree of Participation

Degree of Participation	Percentage (Number)
High	50.4 (60)
Moderate	47.1 (56)
Low	2.5(-3)
Total	100.0(119)

An open-ended question was provided to the respondents so that they could elaborate on their participation. It was found that the respondents were involved with a number of forest activities: planting trees, building check dam, and patrolling the forest.

Factors Encouraging Participation in Forest Conservation.

Respondents were asked to rank the three most important factors that encouraged them to participate in forest conservation. It found that 58.8 percent of respondents answered a strong community leader. Thirty-seven point eight percent admitted that rules and regulations encouraged them to participate in forest conservation activities while 35.3 percent participated because of their need of a water supply.

 Table 5.23 Encourage Factor

Encourage Factor Ranked from Order of Importance	Percentage
1. Strong community leader	58.8
2. Rule and regulation	37.8
3. Need of water supply	35.3

Understanding the Sufficiency Economy Philosophy.

Most of respondents responded that they understood the philosophy, 60.5 percent at a moderate level, and 25.2 percent at a high level, respectively. Only 7.6 percent of respondents admitted that they did not understand the concept of the philosophy.

Degree of Understanding	Percentage (Number)
High	25.2 (30)
Moderate	60.5 (72)
Low	6.7 (8)
Not understand	7.6 (9)
Total	100.0 (119)

Table 5.24 Understanding of Philosophy of Sufficiency Economy

Application of the Sufficiency Economy Philosophy to Forest Conservation. According to table 5.25, from the 110 respondents that answered that they were able to apply the Sufficiency Economy Philosophy to forest conservation, all of them accepted that they could apply the philosophy to forest conservation at different levels. Forty-four point five percent were able to apply the philosophy at a high level, while 54.5 percent did so at a moderate level. A list of activities in their application of philosophy follows.

1) Reasonable use of natural resources in building homes.

2) Refraining from cutting non-mature timbers such as

bamboo timber.

3) Refraining from hunting animals during their breeding

season.

 Table 5.25 Application of Philosophy of Sufficiency Economy to Forest Conservation

Application of Philosophy	Percentage (Number)
High	44.5 (49)
Moderate	54.5 (60)
Low	0.9(1)
Total	100.0(110)

Development of the Forest during the Past Five Years. Fifty-two point one percent of respondents viewed that their forest exhibited better development in the past five years. Forty-one point two percent did not see any change in forest development. Only 6.7 percent observed that the forest was more degradable due to illegal log cutting.

Table 5.26 Development of Forest

Development of Forest in the Past Five Years	Percentage (Number)
Better	52.1 (62)
Same	41.2 (49)
Worsen	6.7 (8)
Total	100.0 (119)

Overall Satisfaction with the Forest. Overall, 95.8 percent of the respondents were satisfied with the current condition of the forest at different levels. Fifty-one point three percent were highly satisfied with their forest, 44.5 percent were moderately satisfied, while only 2.5 percent were dissatisfied.

Table 5.27 Overall Satisfaction

Overall Satisfaction	Percentage (Number)
High	51.3 (61)
Moderate	44.5 (53)
Low	1.7 (2)
Not satisfy	2.5(-3)
Total	100.0 (119)

Access to Community Forest Bill's Information. Seventy-nine percent of the respondents received information on the progress of the community forest bill. Only 13.4 percent never received information regarding the bill.

Table 5.28 Access to Community Forest Bill's (CFB) information

Access to CFB's Information	Percentage (Number)
High	28.6 (34)
Moderate	50.4 (60)
Low	7.6 (9)
Not receive information	13.4 (16)
Total	100.0 (119)

Need for Community Forest Bill. Sixty-seven point two percent of the respondents agreed that they needed a community forest bill. Five percent did not agree with the issuance of the bill and 27.7 percent had not decided whether they needed it.

Table 5.29 Need of Community Forest Bill

Need of Community Forest Bill	Percentage (Number)
Agree	67.2 (80)
Not agree	5.0(6)
Abstain	27.7 (33)
Total	100.0(119)

5.3.2.3 Information Concerning People's Participation in Forest Conservation

1) People's Participation in Searching Problems and Causes

It was found that the respondents participated in all of the

following activities.

(1) Planning the details of forest planting activities (69.7

percent)

(2) Sharing problems or obstacles in forest conservation with the village committee (67.2 percent)

(3) Proposing solutions or identifying the threats or the weaknesses in forest conservation (65.5 percent)

(4) Attending the village meetings or forest committee meetings (64.7 percent)

(5) Discussing or sharing with neighbours about current forest issues in the community, such as deforestation, hunting, or illegal farming in the local forest (63.0 percent)

(6) Proposing the solutions for alternatives to forest conservation to the village committee (61.4 percent)

(7) Demanding that government officials acknowledge when problems arose (53.8 percent) 2) People's Participation in Decisions It was found that respondents participated in all activities. (1) Deciding on problem-solving activities such as the building of check dams, and firebreaks (77.3 percent) (2) Making decisions regarding registering the forest as a community forest with the Royal Forest Department (73.1 percent) (3) Setting up rules or regulations for the community forest (68.1 percent) (4) Nominating or electing members of the community forest committee (68.0 percent) 3) People's Participation in Implementation It was found that the respondents participated in the following activities. (1) Participating in village activities such as forest plantation, building check dams, worshiping the forest guardian (93.3 percent) (2) Suggesting or educating neighbours to refrain from destroying the forest (84.2 percent) (3) Persuading neighborhoods to contribute to consering the forest (79.9 percent) (4) Patrolling the forest (66.4 percent) (5) Notifying the community forest committee about

forest violations (61.4 percent)

percent)

(7) Coordinating forest activities with people from other forest villages (57.1 percent)

(6) Joining training courses on forest conservation (57.2

Respondents of HMH did not focus their participation on providing financial assistance for forest conservation activities.

It was found that the respondents participated in all of the following benefits.

(1) Being proud when the forest won an award or was acknowledged by others (91.6 percent)

(2) Strengthening relationships with neighbours (83.3

percent)

(3) Using the forest as a source of food (79.0 percent)

(4) Gaining benefit from other community forests or forest networks (56.3 percent)

(5) Use of the forest as a source to generate income (53.7

percent)

5) Participation in Evaluation

It was found that the respondents participated in all evaluation activities as follows.

(1) Evaluating performance of community forest committee (68.1 percent)

(2) Following the results of forest planting and evaluation of its effects (65.5 percent)

(3) Following the results of forest conservation and evaluation of its effects (63.0 percent)

Detail on people's participation, activities, including number and percent of respondents according to the distributed questionairres was shown in table 5.30 to 5.34.

Issues	Participation							
	Strongly		Som	ewhat	Less		Rarely or Neve	
	Partie	cipate	Participate		Participate		Participate	
	n	%	n	%	n	%	n	%
Participation in Searching Problems and Causes								
You participate in planning the detail of forest plantation activities	15	12.6	68	57.1	35	29.4	1	0.8
such as time to plant, place, or variety of plant	69.7							
You participate in sharing problems or obstacles on forest	12	10.1	68	57.1	34	28.6	5	4.2
Conservation to village committee.	67.2							
You always propose or identify threat or weakness of forest	10	8.4	68	57.1	35	29.4	6	5.0
Conservation to village committee or community forest committee		65	.5					
You always attend the village meeting or forest committee	10	8.4	67	56.3	37	31.1	5	4.2
Meeting		64	.7					
You always talk, discuss, or share with neighborhoods about the	13	10.9	62	52.1	39	32.8	5	4.2
current forest issue in community such as deforestation, hunting,		63	.0					
or illegal farming in local forest.								
You participate by proposing solution or alternatives on forest	6	5.0	67	56.4	41	34.5	5	4.2
conservation to the village committee.	61.4							
You participate in demanding or campaigning government	4	3.4	60	50.4	46	38.7	9	7.6
officials to acknowledge when problem arises such as illegal		53	.8					
forest encroachment or the issuance of rule, regulation, Act								

Table 5.30 People's Participation in Searching Problems and Causes, Huay Mae Hin Community Forest, Lampang

Issues	Participation							
	Strongly		Somewhat		Less		Rarely or Never	
	Participate		Participate		Participate		Participate	
	n	%	n	%	Ν	%	n	%
Participation in Decision								
You participate in deciding problem solving activity on forest area	18	15.1	74	62.2	24	20.2	3	2.5
such as building check dam, fire cushion area.	77.3							
You participate in making decision whether this community forest	22	18.5	65	54.6	27	22.7	5	4.2
should be registered with Royal Forest Department.		73	.1					
You participate in setting rule or regulation of this community	14	11.8	67	56.3	35	29.4	3	2.5
forest.	68.1							
You participate in nominating or electing member of community	11	9.2	70	58.8	30	25.2	8	6.7
forest committee for your village.		68	.0					

Table 5.31 People's Participation in Decision, Huay Mae Hin Community Forest, Lampang

Issues	Participation							
	Strongly		Some	ewhat	Less		Rarely or Never	
	Parti	cipate	Parti	cipate	Participate		Participate	
	n	%	n	%	n	%	n	%
Participation in Implementation								
You participate in different kinds of village activity such as forest	27	22.7	84	70.6	6	5.0	2	1.7
plantation, check dam construction, worship to forest guardian.		93	3.3					
You always suggest or educate your neighborhoods to refrain	21	17.7	79	66.5	16	13.5	3	2.5
from destroying or encroaching forest.	84.2							
You persuade neighborhoods to contribute in conserving forest	14	11.8	81	68.1	21	17.7	3	2.4
such as planting the forest, nourishing trees in forest area.		79	9.9					
You participate in patrolling forest to prevent deforestation and	16	13.5	63	52.9	31	26.1	9	7.6
forest encroaching.		66	6.4					
You notify community forest committee or authorities when seeing	7	5.9	66	55.5	39	32.8	7	5.8
that there are people violating community forest regulation.		61	1.4					
You participate in joining the training course on forest	12	10.1	56	47.1	35	29.4	16	13.5
Conservation.	57.2							
You coordinate and join with people from other village in forest	10	8.4	58	48.7	37	31.1	14	11.8
activity such as planting the forest, ordaining the forest.		57	7.1					
You offer financial assistance such as donation to village	4	3.4	49	41.2	41	34.4	25	21.0
Committee for forest conservation activity.		44	1.6					

Table 5.32 People's Participation in Implementation, Huay Mae Hin Community Forest, Lampang

Issues	Participation								
	Stro	ongly	Som	ewhat	hat Less		Rarely or Never		
	Parti	cipate	Parti	Participate		Participate		Participate	
	n	%	n	%	n	%	n	%	
Participation in Benefits					_				
You feel proud when your forest gain award or being	44	37.0	65	54.6	8	6.7	2	1.7	
acknowledged from outsiders that it is a good model of	91.6								
community forest.									
You and your neighborhoods have better relationship after joining	17	14.3	82	69.0	17	14.3	3	2.5	
different kind of forest conservation		83	3.3						
You use forest as a source of food to consume such as	22	18.5	72	60.5	13	10.9	12	10.1	
Mushroom, bamboo, honey.		79	9.0						
You gain benefit from contacting with other community forest or	7	5.9	60	50.4	38	31.9	14	11.8	
forest network.		56	5.3						
You use forest as a source of income such as selling the forest	6	5.0	58	48.7	34	28.6	21	17.7	
products to neighborhoods.		53	3.7						

Table 5.33 People's Participation in Benefit, Huay Mae Hin Community Forest, Lampang

Issues	Participation								
	Str	ongly	Son	Somewhat		Less		Rarely or Never	
	Participate		Participate		Participate		Participate		
	n	%	n	%	n	%	n	%	
Participation in Evaluation									
You have chance to participate in evaluating performance of this	9	7.6	72	60.5	32	26.9	6	5.0	
Community forest committee.		6	8.1						
You always follow the result of forest plantation and evaluate its	10	8.4	68	57.1	37	31.1	4	3.4	
effect.		6	5.5						
You always follow the result of forest conservation and evaluate its	6	5.0	69	58.0	39	32.8	5	4.2	
effect.		6	3.0						

Table 5.34 People's Participation in Evaluation, Huay Mae Hin Community Forest, Lampang

5.3.3 Participation in Forest Conservation of BTK

5.3.3.1 Personal Characteristics of the Respondents

Gender. 56.3 percent were male and 43.7 percent were female.

Age. The age of people ranged from 15 years to 86 years, with an average of 50.4 years.

Religion. All respondents were Buddhist.

Marital Status. 67.8 percent were married.

Family Status. 70.1 percent were head of the family.

Education. 47.1 percent of respondents were educated to the preliminary school level. Only 6.9 percent graduated with a bachelor degree, while 3.4 percent were illiterate.

Occupation. 60.9 percent were laborers. 11.5 percent were farmers. Family Size. 80.5 percent were in a small family (less than 4 persons) Income. Average monthly income was 5,011.5 Baht.

Social Status. 92.0 percent of respondents were villagers and not in an administrative position in the village. Approximately of 4.5 percent played a direct role in the forest such as being a forest volunteer and on the forest committee.

Period of Stay. Of the 87 respondents, the average time to stay within the community was 42.3 years. The longest time to stay was 77 years.

Period of Work. The average period of time that the respondents who were in an administrative position were involved in the community forest was 10.9 years.

Detail of the findings was summarized in table 5.35.

Personal Information	Percentage (Number)
Gender	
Male	56.3 (49)
Female	43.7 (38)
Total	100.0 (87)
Marital Status	
Single	14.9 (13)
Married	67.8 (59)
Others	17.2 (15)
Total	100.0 (87)
Status in Family	
Head of family	70.1 (15)
Housewife	17.2 (15)
Cousin	12.6 (11)
Total	100.0 (87)
Education Level	
Can not read and write	3.4 (3)
Can read and write	6.9 (6)
Preliminary school	47.1 (41)
Highr preliminary school	9.2 (8)
Secondary school	16.1 (14)
High school	10.3 (9)
Undergraduate	6.9 (6)
Total	100.0 (87)
Occupation	
Labor	60.9 (53)
Merchant	12.6 (11)
Farmer	11.5 (10)
Government Official	4.6 (4)
Other	10.3 (9)
Total	100.0 (87)
Size of Family	
Less than 4 persons	80.5 (70)
5-6 persons	17.2 (15)
7-8 persons	2.3 (2)
Total	100.0 (87)
Status in Community	
Forest committee	3.4 (3)
Head of village	1.1 (1)
Assistant head of village	1.1 (1)
Member of district	1.1 (1)
Forest volunteer	1.1 (1)
People	92.0 (80)
Total	100.0 (87)

 Table 5.35 Number and Percentage of Respondents on General Information

5.3.3.2 General Opinion Concerning Forest Conservation

Benefit of the Forest. According to table 5.36, most respondents agreed that BTK provided them with benefits. Fifty-six point three percent of respondents admitted that the forest provided them with a high benefit, while 41.4 percent perceived the benefit as moderate. It was not beyond expectation that the respondents of Ban Talad Kee Lek appreciated high benefit in low proportion, compared to that of the other three communities. This may be explained by the low proportion of farmers in the community since most local people worked in the millstone factory for wages, as seen in table 5.35.

Only 1.1 percent of respondents, however, did not see any benefit of the forest.

Benefit of the Forest	Percentage (Number)
High	56.3 (49)
Average	41.4 (36)
Low	1.1 (1)
Not at all	1.1 (1)
Total	100.0 (87)

Table 5.36 Benefit of the Forest

In response to an open-ended question concerning the benefit of the forest, most of respondents perceived the forest as a source of food and a source of water. In terms of indirect benefit from the forest, the respondents opined that the forest built their awareness of belonging and strengthened their relationship with their neighbours.

Role in Forest Conservation. To the question which party played the most important role in sustaining their forest, 75.9 percent of respondents viewed that people were the most important element in sustaining the forest. The temple and school were given low importance, at 11.5 and 9.2 percent respectively. Only 3.4 percent of respondents viewed that the village committee played an important role in forest conservation.

Individual/ Organization	Percentage (Number)
Temple	11.5 (10)
School	9.2 (8)
People	75.9 (66)
Village Committee	3.4 (3)
Total	100.0 (87)

 Table 5.37 Individual or Party that played important role in forest conservation

Accountability Regarding Forest Conservation. Twenty-one point eight percent of respondents felt that they had high accountability to perform their duty in conserving the forest. Sixty-seven point eight percent admitted that they performed duty at a moderate level in conserving the forest. Only 4.6 percent did not perform their duty in forest conservation.

Table 5.38 Degree of Accountability

Degree of Accountability	Percentage (Number)
High	21.8 (19)
Moderate	67.8 (59)
Low	5.7(5)
Not contribute	4.6 (4)
Total	100.0 (87)

Participation in Forest Conservation. Thirty-two point two percent of respondents perceived that they participated highly in forest conservation. Fifty-eight point six percent answered that they participated moderately in forest conservation. Only 2.3 percent admitted that they did not have any participation in forest conservation.

Table 5.39	Degree of P	articipation
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Degree of Participation	Percentage (Number)
High	32.2 (28)
Moderate	58.6(51)
Low	6.9(6)
Not paricipate	2.3 (2)
Total	100.0 (87)

An open-ended question was asked of the respondents to demonstrate the kinds of their participation. Similar to other forest communities, the respondents were involved in a number of forest activities: planting trees, building a check dam, patrolling the forest, and worshipping the forest guardians.

Factors Encouraging Participation in Forest Conservation.

Respondents were asked to rank the three most important factors that encouraged them to participate in forest conservation. It was found that 52.9 percent of respondents said that a strong community leader mostly encouraged them to participate in forest conservation. Forty-one point four percent participated because of an awareness belonging, and 18.4 percent participated because of rules and regulations.

Table 5.40 Encourage Factor

Encourage Factor Ranked from Order of Importance	Percentage
1. Strong community leader	52.9
2. Awareness of belongings of forest	41.4
3. Rule and Regulation	18.4

Understanding the Sufficiency Economy Philosophy. When asked about their understanding of the Sufficiency Economy Philosophy, most respondents perceived that they comprehended the concept of philosophy at different levels: 43.7 precent at a moderate level, and 28.7 percent at a high level, respectively. However, 13.8 percent of respondents understood the philosophy at a low level and 13.8 percent acknowledged that they did not understand the philosophy.

 Table 5.41 Understanding of Philosophy of Sufficiency Economy

Degree of Undenstanding	Percentage (Number)
High	28.7 (25)
Moderate	43.7 (38)
Low	13.8 (12)
Not understand	13.8 (12)
Total	100.0 (87)

Application of the Sufficiency Economy Philosophy to Forest Conservation. According to table 5.42, Seventy-five respondents agreed that they were able to apply the Sufficiency Economy Philosophy to forest conservation differently. Forty-eight percent were able to apply the philosophy at a moderate level and 45.3 percent at high level. Following is a list of their activities in their application of the philosophy.

1) Rely on Sufficiency Agriculture; in the other words, doing agriculture that did not affect the forest.

2) Reasonable use of the forest and planting trees.

Table 5.42 Application of Sufficiency Economy Philosophy to Forest Conservation

Percentage (Number)
45.3 (34)
48.0 (36)
6.7 (5)
100.0 (75)

Development of the Forest in the Past Five Years. Fifty point six percent of the respondents viewed that their forest exhibited better development during the past five years. Thirty-one percent did not see any development and 18.4 percent observed that the forest was degradable due to forest fires, trespass from encroachers, drought, and routine mobile farming.

Table 5.43 Development of Forest

Development of Forest in the Past Five Years	Percentage (Number)
Better	50.6 (44)
Same	31.0(27)
Worsen	18.4(16)
Total	100.0 (87)

Overall Satisfaction with the Forest. Overall, no respondents were dissatisfied with the current condition of the forest. Seventy-one point three percent of respondents were moderately satisfied, while 27.6 percent were highly satisfied.

Table 5.44 Overall Satisfaction

Percentage (Number)
27.6 (24)
71.3 (62)
1.1(1)
100.0 (87)

Access to Community Forest Bill's Information. Ninety-two percent of respondents received information about the community forest bill. Forty-nine point four percent perceived that they had obtained sufficient information regarding the bill. Only 8.0 percent never had access to this information.

 Table 5.45 Access to Community Forest Bill's (CFB) Information

Access to CFB's Information	Percentage (Number)
High	16.1 (14)
Moderate	49.4 (43)
Low	26.4 (23)
Not receive information	8.0 (7)
Total	100.0 (87)

Need for Community Forest Bill. Eighty-six point two percent of respondents agreed that they needed the community forest bill. Four point six percent did not agree with the issuance of the bill. Nine point two percent did not decide whether they needed it.

 Table 5.46 Need of Community Forest Bill

Need of Community Forest Bill	Percentage (Number)
Agree	86.2 (75)
Not agree	4.6 (4)
Abstain	9.2 (8)
Total	100.0 (87)

5.3.3.3 Information Concerning People's Participation in Forest Conservation

1) People's Participation in Searching Problems and Causes

It was found that the respondents of Ban Talad Kee Lek should focus more on participating in all following activities.

(1) Sharing problems or obstacles on forest conservation with the village committee (44.8 percent)

(2) Planning the details of forest planting activities (43.7 percent)

(3) Discussing or sharing with neighbours about the current forest issues in the community such as deforestation, hunting, or illegal farming in the local forest (41.4 percent)

(4) Proposing solutions or alternatives concerning on forest conservation to the village committee (38.0 percent)

(5) Attending village meeting or forest committee meetings (34.4 percent)

(6) Proposing solutions or identifying threats or weakness of forest conservation (33.3 percent)

(7) Demanding that government officials acknowledge when problems arise (29.9 percent)

2) People's Participation in Decision

It was found that respondents participated only in deciding problem- solving activities such as building check dams and firebreaks (56.3 percent). For other activities, respondents should focus more on participation in the following.

(1) Making decisions regarding registering the forest as a community forest with the Royal Forest Department (34.4 percent)

(2) Nominating or electing members of the community forest committee (32.2 percent)

(3) Setting up rules or regulations for the community forest

(27.6 percent)

3) People's Participation in Implementation

	It	was	found	that	respondents	participated	in	two	of	the
following activites.										
(1) Participating in village activities such as forest planting,										
building check dams,	and	d wor	shiping	the fo	orest guardian	(78.2 percen	t)			

(2) Persuading neighborhoods to contribute in conserving the forest (55.1 percent)

Respondents of Ban Talad Kee Lek should focus more on the following participation activities.

(1) Suggesting or educating neighbours to refrain from destroying the forest (42.5 percent)

(2) Joining a training course on forest conservation (41.4 percent)

(3) Coordinating forest activities with people from other forest villages (39.1 percent)

(4) Offering financial assistance for forest conservation activities (36.8 percent)

(5) Patrolling the forest (29.9 percent)

(6) Notifying the community forest committee about forest

violations (25.3 percent)

4) Participation in Benefit

It was found that respondents participated in three benefits.

(1) Being proud when the forest won an award or was acknowledged by others (81.6 percent)

(2) Using the forest as a source of food (78.2 percent)

(3) Strengthening relationships to neighbours (57.4 percent)

However, respondents should focus more on the following

activities.

(1) Using the forest as a source to generate income (44.8

percent)

(2) Gaining benefit with other community forests or forest

networks (37.9 percent)

5) Participation in Evaluation

It was found that respondents should participate more in all evaluation activities listed below.

(1) Following the results of forest planting and evaluating its effects (36.8 percent)

(2) Following the results of forest conservation and evaluation of its effects (34.5 percent)

(3) Evaluating the performance of the community forest committee (27.6 percent)

Detail on people's participation, activities, including number and percent of respondents according to the distributed questionairres was shown in table 5.47 to 5.51.

lssues		Participation								
-		Strongly		Somewhat		Less		or Never		
	Participate		Parti	Participate		Participate		Participate		
	n	%	n	%	n	%	n	%		
Participation in Searching Problems and Causes										
You participate in sharing problems or obstacles on forest	6	6.9	33	37.9	45	51.7	3	3.5		
conservation to village committee.	44		1.8							
You participate in planning the detail of forest plantation activities	9	10.3	29	33.4	40	46.0	9	10.3		
such as time to plant, place, or variety of plant	43		13.7							
You always talk, discuss, or share with neighborhoods about the	10	11.5	26	29.9	41	47.1	10	11.5		
current forest issue in community such as deforestation, hunting,		41	.4							
or illegal farming in local forest.										
You participate by proposing solution or alternatives on forest	5	5.8	28	32.2	47	54.0	7	8.0		
conservation to the village committee.		38	.0							
You always attend the village meeting or forest committee	9	10.3	21	24.1	47	54.0	10	11.5		
Meeting	34		34.4							
You always propose or identify threat or weakness of forest	8	9.2	21	24.1	49	56.3	9	10.4		
conservation to village committee or community forest committee	33		33.3							
You participate in demanding or campaigning government	7	8.1	19	21.8	50	57.5	11	12.6		
officials to acknowledge when problem arises such as illegal		29	.9							
forest encroachment or the issuance of rule, regulation, Act										

Table 5.47 People's Participation in Searching Problems and Causes, Ban Talad Kee Lek, Chiang Mai

Table 5.48 People's Participation in Decision, Ban Talad Kee Lek, Chiang Mai

Issues		Participation								
	Strongly		Somewhat		Less		Rarely or Never			
	Parti	cipate	Participate		Participate		Participate			
	n	%	n	%	n	%	n	%		
Participation in Decision										
You participate in deciding problem solving activity on forest area	12	13.8	37	42.5	30	34.5	8	9.2		
such as building check dam, fire cushion area.		56	.3							
You participate in making decision whether this community forest		10.3	21	24.1	46	52.9	11	12.7		
should be registered with Royal Forest Department.		34	.4							
You participate in nominating or electing member of community	7	8.1	21	24.1	43	49.4	16	18.4		
forest committee for your village.		32.2								
You participate in setting rule or regulation of this community		10.3	15	17.2	48	55.2	15	17.3		
forest.		27	.6							

		Participation								
155005		onaly	y Somewhat		Less		Rarely	or Never		
	Participate						Participate			
	n	%	n	%	n	%	n	%		
Participation in Implementation										
You participate in different kinds of village activity such as forest	32	36.8	36	41.4	16	18.4	3	3.4		
plantation, check dam construction, worship to forest guardian.		78.2		78.2						
You persuade neighborhoods to contribute in conserving forest	11	12.6	37	42.5	27	31.0	12	13.8		
such as planting the forest, nourishing trees in forest area.		55.1								
You always suggest or educate your neighborhoods to refrain	14	16.1	23	26.4	41	47.1	9	10.3		
from destroying or encroaching forest.		42.5		5						
You participate in joining the training course on forest	14	16.1	22	25.3	43	49.4	8	9.2		
conservation.		41		41.4						
You coordinate and join with people from other village in forest	10	11.5	24	27.6	40	46.0	13	14.9		
activity such as planting the forest, ordaining the forest.		39	39.1							
You offer financial assistance such as donation to village	3	3.5	29	33.3	39	44.8	16	18.4		
committee for forest conservation activity.		36		36.8						
You participate in patrolling forest to prevent deforestation and	4	4.6	22	25.3	37	42.5	24	27.6		
forest encroaching.		29								
You notify community forest committee or authorities when seeing	6	6.9	16	18.4	46	52.9	19	21.8		
that there are people violating community forest regulation.		25	.3							

 Table 5.49 People's Participation in Implementation, Ban Talad Kee Lek, Chiang Mai

Table 5.50 People's Participation in Benefits, Ban Talad Kee Lek, Chiang Mai

Issues		Participation								
	Str	ongly Som		ewhat	Less		Rarely or Never			
	Participate		Participate		Participate		Participate			
	n	%	n	%	n	%	n	%		
Participation in Benefits										
You feel proud when your forest gain award or being		55.2	23	26.4	14	16.1	2	2.3		
acknowledged from outsiders that it is a good model of		81.6								
community forest.										
You use forest as a source of food to consume such as		46.0	28	32.2	18	20.7	1	1.1		
mushroom, bamboo, honey.		78.2								
You and your neighborhoods have better relationship after joining	21	24.1	29	33.3	31	35.6	6	6.9		
different kind of forest conservation		57.4								
You use forest as a source of income such as selling the forest	14	16.1	25	28.7	36	41.4	12	13.8		
products to neighborhoods.		44	.8							
You gain benefit from contacting with other community forest or	16	18.4	17	19.5	44	50.6	10	11.5		
forest network.		37	.9							
Table 5.51 People's Participation in Evaluation, Ban Talad Kee Lek, Chiang Mai

Issues	Participation								
		Strongly		Somewhat		Less		Rarely or Never	
	Participate		Part	Participate		Participate		Participate	
	n	%	n	%	n	%	n	%	
Participation in Evaluation									
You always follow the result of forest plantation and evaluate its	8	9.2	24	27.6	50	57.5	5	5.7	
effect.		3	6.8						
You always follow the result of forest conservation and evaluate its	2	2.3	28	32.2	46	52.9	11	12.6	
effect.		3	4.5						
You have chance to participate in evaluating performance of this	5	5.8	19	21.8	51	58.6	12	13.8	
community forest committee.		2	7.6						

5.3.3.4 Recommendation on Participation and Sustainable Forest Management

Some respondents of BTK provided further recommendations and opinions concerning forest conservation. They requested the government authorities to build sense of belonging to the youth and children in the community to appreciate the importance of the forest. They satisfied with the village regulations in conserving the forest, and need only the support from government in terms of wildfire prevention.

5.3.4 Participation in the Forest Conservation of BMR

5.3.4.1 Personal Characteristics of Respondents

Gender. 33.3 percent were male and 66.7 percent were female.

The ratio of male respondents to female respondents was approximately of three to seven.

Age. The age of the people ranged from 21 years to 86 years with an average of 57.1 years.

Religion. All were Buddhist.

Marital Status. 86.2 percent were married.

Family Status. 77.2 percent were head of the family.

Education. 52.0 percent were educated through preliminary school. Only 5.7 percent graduated with a bachelor degree. Four point nine percent were illiterate.

Occupation. 73.2 percent were farmers.

Family Size. 67 percent were in a small family (less than 4

persons).

Income. Average monthly income was 9,737 Baht.

Social Status. 78.9 percent of respondents were villagers and

were not in an administrative position in the village. Approximately of 15.5 percent played direct role with the forest such as being forest volunteers and forest committee members.

Period of Stay. The average time to stay in the community was 45.6 years. The longest time to stay in the village was 82 years.

Period of Work. The average time that respondents were in a position that included community forest activities was 6.7 years.

Detail of the findings was summarized in table 5.52

Personal Information	Percentage (Number)
Gender	
Male	33.3 (41)
Female	66.7 (84)
Total	1000(123)
Marital Status	
Single	8.1 (10)
Married	86.2 (106)
Others	57(7)
Total	100.0(123)
Status in Family	
Head of family	47.2 (58)
Housewife	40.7 (50)
Cousin	12.2(15)
Total	1000(123)
Education Level	100.0 (123)
Can not read and write	49(6)
Can read and write	49(-6)
Preliminary school	520(64)
Highr preliminary school	179(22)
Secondary school	65(-8)
High school	65(8)
Undergraduate	5.7(-7)
Other	1.6(-2)
Total	1.0(2) 1000(123)
Accumation	100.0 (123)
Labor	0.8(12)
Merchant	3.0(12) 3.2(1)
Farmer	73.2(90)
Government Official	73.2(-90)
Other	(5)
Total	0.5(-8)
10tal Size of Femily	100.0 (123)
Loss than 4 persons	77.2 (05)
Less man 4 persons	17.2 (93)
7 8 persons	1/.1(21)
7-0 persons	4.9(0)
More than 9 persons	0.0(1)
10lal Status in Community	100.0 (123)
Status in Community	57(7)
Forest commutee	3.7(7)
Againteent hand of village	0.8(1)
Assistant near of village	$\begin{array}{c} 0.8 \left(1 \right) \\ 0.8 \left(1 \right) \end{array}$
Niember of district	0.8(-1)
rorest volunteer	9.8 (12) 78.0 (07)
reopie	/8.9 (9/)
Uner	5.3 (4)
i otai	100.0(123)

 Table 5.52 Number and Percentage of Respondents on General Information

5.3.4.2 General Opinion Concerning Forest Conservation

Benefits of the Forest. According to table 5.53, most respondents agreed that the Ban Mae Rawan community forest generated benefits for them. Eighty-one point three percent of respondents felt that they receive many benefits from the forest, while 3.3 percent felt that they received only a few benefits.

Only 3.3 percent did not see the benefit of the forest.

Benefit of the Forest	Percentage (Number)
High	81.3 (100)
Average	12.2 (15)
Low	3.3 (4)
Not at all	3.3 (4)
Total	100.0 (123)

In response to an open-ended question concerning the benefit of the forest, most respondents ranked the forest as an important source of food and source of water. In addition, they felt that the forest generated an income for them from the sale of non-timber products.

In terms of the indirect benefit of the forest, respondents opined that it provided them with indirect benefits: strengthening relationships with their neighbours, building a sense of belonging, and hunting.

Role in Forest Conservation. In response to the question of who played the most important role in sustaining their forest, 59.3 percent of respondents viewed that people were the most important element for sustaining the forest. Thirty-five point eight percent of the respondents agreed that the village committee played the most important role in forest conservation, which was a higher rate compared to other communities. The school and temple were given low importance, with 3.3 and 1.6 percent, respectively.

Individual/Organization	Percentage (Number)
Temple	1.6 (2)
School	3.3 (4)
People	59.3 (73)
Village Comittee	35.8 (44)
Total	100.0 (123)

 Table 5.54 Individual or Organization that Plays Important Role in Forest Conservation

Accountability Regarding Forest Conservation. Fifty-two percent of respondents felt that they were highly accountable for performing their duty in conserving the forest. Thirty-nine percent admitted that they performed their duty fairly in conserving the forest. Only 4.1 percent felt that they did not perform their duty toward forest conservation.

Table 5.55 Degree of Accountability

Accountability on Forest	Percentage (Number)
Conservation	- ` ` `
High	52.0 (64)
Moderate	39.0 (48)
Low	4.9 (6)
Not contribute	4.1 (5)
Total	100.0 (123)

Participation in Forest Conservation. Fifty-five point three percent of respondents perceived that they participated highly in forest conservation. Thirty-nine point eight percent answered that they participated moderately in forest conservation. No repsondent felt that he or she did not participate in forest conservation.

Degree of Participation	Percentage (Number)
High	55.3 (68)
Moderate	39.8 (49)
Low	4.9 (6)
Total	100.0 (123)

Table 5.56 Degree of Participation

An open-ended question was asked of the respondents to demonstrate the kinds of their participation. It was found that respondents participated in a number of forest activities: planting trees, building a check dam, patrolling and ordaining the forest, worshipping the forest guardian, being a forest volunteer, and being a lecturer in forest conservation.

Factors Encouraging Participation in Forest Conservation.

Respondents were asked to rank the three most important factors that encouraged them to participate in forest conservation. Forty point seven percent of the respondents stated that a strong community leader mostly motivated them to participate in forest conservation. Twenty-three point six percent participated because of their sense of belonging toward the forest, and sixteen point three percent participated because of their need for water supply.

Table 5.57 Encourage Factor

Encourage Factor Ranked by Order of importance	Percentage
1) Strong community leader	40.7
2) Awareness of belongings of forest	23.6
3) Need of water supply	16.3

Understanding of the Sufficiency Economy Philosophy. When asked about their understanding of the Sufficiency Economy Philosophy, most respondents agreed that they appreciated the philosophy: 50.4 percent at a high level and 41.5 percent at a moderate level. Only 4.1 percent of respondents admitted that they did not understand the concept of the philosophy.

Table 5.58 Understanding of Philosophy of Sufficiency Economy

Degree of Understanding	Percentage (Number)
High	50.4 (62)
Moderate	41.5 (51)
Low	4.1 (5)
Not understand	4.1 (5)
Total	100.0 (123)

Application of the Sufficiency Economy Philosophy to Forest Conservation. According to table 5.59, One hundred eighteen respondents agreed that they were able to apply the Sufficiency Economy Philosophy to forest conservation. Sixty-four point four percent were able to apply the philosophy at a high level, while 32.2 percent felt that they did so at a moderate level. The activities on their applications were given accordingly.

1) Growing vegetables for their own consumption. This would prevent them from trespassing on the forest.

2) Performing household accounting to record their monthly income and expenses.

Table 5.59 Application of Sufficiency Economy Philosophy to Forest Conservation

Degree of Application	Percentage (Number)
High	64.4 (76)
Moderate	32.2 (38)
Low	3.4 (4)
Total	100.0 (118)

Development of the Forest during the Past Five Years. Ninety-three point five percent of respondents viewed that their community forest had better development during the past five years. Only 2.4 percent observed that the forest was degraded due to illegal log cutting.

Table 5.60 Development of Forest

Percentage (Number)
93.5 (115)
4.1 (5)
2.4 (3)
100.0 (123)

Overall Satisfaction with the Forest. Overall, no respondents was dissatisfied with the current condition of the forest. Seventy-nine point seven percent of respondents were highly satisfied, while 19.5 percent were moderately satisfied.

Table 5.61 Overall Satisfaction

Percentage (Number)
79.7 (98)
19.5 (24)
0.8 (1)
100.0 (123)

Access to Community Forest Bill Information. The majority of respondents admitted that they received information about the community forest bill. Only 15.4 percent never received information regarding to the bill.

Table 5.62 Access to Community Forest Bill's (CFB) information

Access to CFB's Information	Percentage (Number)
High	30.9 (38)
Moderate	42.3 (52)
Low	11.4 (14)
Not receive information	15.4 (19)
Total	100.0 (123)

Need for Community Forest Bill. Eighty-five point four percent of respondents agreed that they needed a community forest bill. Four point one percent did not agree with the issuance of the bill and 10.6 percent had not decided whether they needed it or not.

Table 5.63 Need of Community Forest Bill

Need of Community Forest Bill	Percentage (Number)
Agree	85.4 (105)
Not agree	4.1 (5)
Abstain	10.6 (13)
Total	100.0 (123)

5.3.4.3 Information Concerning the People's Participation in Forest Conservation

1) People's Participation in Searching Problems and Causes

It was found that the respondents participated in all of the following activities.

(1) Attending village meetings or forest committee meetings

(3) Planning the details of forest planting activities (62.6

(65.9 percent)

(2) Sharing problems on or obstacles to forest conservation with the village committee (63.4 percent)

percent)

(4) Proposing solutions or alternatives for forest conservation to the village committee (61.0 percent)

(5) Discussing or sharing with neighborhoods about the current forest issues in the community such as deforestation, hunting, or illegal farming in the local forest (59.4 percent)

(6) Proposing solutions or identifying threats or weaknesses in forest conservation (52.9 percent)

However, the respondents of Ban Mae Rawan should play a stronger role in demanding that government officials acknowledge when problem occurs.

2) People's Participation in Decisions

It was found that respondents participated in all activities.

(1) Deciding problem-solving activities such as building a check dam and firebreaks (64.2 percent)

(2) Nominating or electing members of the community forest committee (63.4 percent)

(3) Setting up rules or regulations for the community forest (58.6 percent)

(4) Making decisions regarding registering the forest as a community forest with the Royal Forest Department (56.9 percent)

3) People's Participation in Implementation

	It was	found	that	respondents	participated	in	the	six	followi	ing
activities.										

(1) Participating in village activities such as forest planting, building a check dam, and worshiping the forest guardian (82.2 percent)

(2) Persuading neighbours to contribute to conserving the forest (77.2 percent)

(3) Suggesting or educating neighbours to refrain from destroying the forest (69.9 percent)

(4) Providing financial assistance for forest conservation activities (57.0 percent)

(5) Coordinating forest activities with people from other forest villages (52.9 percent)

(6) Joining the training courses on forest conservation (52.0

percent)

However, there were two implementation activities that respondents should focus on more and participate in accordingly.

(1) Forest patrolling (49.6 percent)

(2) Notifying the community forest committee about forest

violations (40.7 percent)

4) Participation in Benefits

It was found that respondents participated in the four following

benefits.

(1) Being proud when the forest won an award or was acknowledged by others (84.6 percent)

(2) Strengthening relationships with neighbours (82.9 percent)

(3) Using the forest as a source of food (68.3 percent)

(4) Gaining benefits from other community forests or forest

networks (52.8 percent)

However, respondents should focus more on the proper use of the forest as a source to generate income (49.6 percent)

5) Participation in Evaluation

It was found that respondents participated in all of the evaluation activities below.

(1) Evaluating the performance of the community forest committee (60.2 percent)

(2) Following the results of forest planting and evaluation of its effects (53.7 percent)

(3) Following the results of forest conservation and evaluation of its effects (51.2 percent)

Detail on people's participation, activities, including number and percent of respondents according to the distributed questionairres was shown in table 5.64 to 5.68.

Issues	Participation								
	Stro	ongly	Som	ewhat	L	ess	Rarely	or Never	
	Parti	cipate	Parti	cipate	Participate		Participate		
	n	%	n	%	n	%	n	%	
Participation in Searching Problems and Causes									
You always attend the village meeting or forest committee	28	22.8	53	43.1	32	26.0	10	8.1	
Meeting		65	.9						
You participate in sharing problems or obstacles on forest	32	26.0	46	37.4	35	28.5	10	8.1	
conservation to village committee.	63.4								
You participate in planning the detail of forest plantation activities	30	24.4	47	38.2	36	29.3	10	8.1	
such as time to plant, place, or variety of plant	62.6								
You participate by proposing solution or alternatives on forest	19	15.5	56	45.5	39	31.7	9	7.3	
conservation to the village committee.		61	.0						
You always talk, discuss, or share with neighborhoods about the	27	22.0	46	37.4	33	26.8	17	13.8	
current forest issue in community such as deforestation, hunting,		59	.4						
or illegal farming in local forest.									
You always propose or identify threat or weakness of forest	23	18.7	42	34.2	46	37.4	12	9.8	
conservation to village committee or community forest committee		52	.9						
You participate in demanding or campaigning government	19	15.5	37	30.1	47	38.2	20	16.3	
officials to acknowledge when problem arises such as illegal		45	.6						
forest encroachment or the issuance of rule, regulation, Act									

Table 5.64People's Participation in Searching Problems and Causes, Ban Mae Rawan, Tak

Issues	Participation								
	Stro	ongly	Somewhat		Less		Rarely or Neve		
	Participate		Participate		Participate		Participate		
	n	%	Ν	%	n	%	n	%	
Participation in Decision									
You participate in deciding problem solving activity on forest area	26	21.1	53	43.1	35	28.5	9	7.3	
such as building check dam, fire cushion area.	64.2								
You participate in nominating or electing member of community	31	25.2	47	38.2	34	27.6	11	8.9	
forest committee for your village.		63	.4						
You participate in setting rule or regulation of this community	21	17.1	51	41.5	37	30.1	14	11.4	
forest.		58	.6						
You participate in making decision whether this community forest	22	17.9	48	39.0	41	33.3	12	9.8	
should be registered with Royal Forest Department.		56	.9						

Table 5.65People's Participation in Decision, Ban Mae Rawan, Tak

Issues	Participation								
	Stro	ongly	Som	ewhat	Less		Rarely or Neve		
	Parti	cipate	Participate		Participate		Participate		
	n	%	n	%	n	%	n	%	
Participation in Implementation									
You participate in different kinds of village activity such as forest	47	38.2	54	44.0	17	13.8	5	4.0	
plantation, check dam construction, worship to forest guardian.		82	.2						
You persuade neighborhoods to contribute in conserving forest	38	30.9	57	46.3	23	18.7	5	4.1	
such as planting the forest, nourishing trees in forest area.	77.2								
You always suggest or educate your neighborhoods to refrain	23	18.7	63	51.2	29	23.6	8	6.5	
from destroying or encroaching forest.	69.9		69.9						
You offer financial assistance such as donation to village	20	16.3	50	40.7	41	33.3	12	9.7	
Committee for forest conservation activity.		57	.0						
You coordinate and join with people from other village in forest	21	17.1	44	35.8	38	30.9	20	16.3	
activity such as planting the forest, ordaining the forest.		52	.9						
You participate in joining the training course on forest	25	20.3	39	31.7	39	31.7	20	16.3	
conservation.		52	.0						
You participate in patrolling forest to prevent deforestation and	23	18.7	38	30.9	35	28.4	27	22.0	
forest encroaching.		49	.6						
You notify community forest committee or authorities when seeing	15	12.2	35	28.5	45	36.6	28	22.7	
that there are people violating community forest regulation.		40	.7						

Table 5.66People's Participation in Implementation, Ban Mae Rawan, Tak

Issues	Participation								
	Stro	ongly	Som	Somewhat		Less		or Never	
	Parti	cipate	Parti	Participate		Participate		cipate	
	n	%	n	%	n	%	n	%	
Participation in Benefits									
You feel proud when your forest gain award or being	81	65.9	23	18.7	15	12.2	4	3.3	
acknowledged from outsiders that it is a good model of		84	.6						
community forest.									
You and your neighborhoods have better relationship after joining	55	44.7	47	38.2	18	14.6	3	2.4	
different kind of forest conservation		82	.9						
You use forest as a source of food to consume such as	38	30.9	46	37.4	25	20.3	14	11.4	
mushroom, bamboo, honey.		68	.3						
You gain benefit from contacting with other community forest or	18	14.6	47	38.2	38	30.9	20	16.3	
forest network.		52	.8						
You use forest as a source of income such as selling the forest	16	13.0	45	36.6	32	26.0	30	24.4	
products to neighborhoods.		49	.6						

Table 5.67People's Participation in Benefits, Ban Mae Rawan, Tak

Table 5.68 People's Participation in Evaluation, Ban Mae Rawan, Tak

Issues	Participation								
-	Strongly		Som	Somewhat		ess	Rarely or Ne		
	Participate		Parti	Participate		Participate		cipate	
-	n	%	n	%	n	%	n	%	
Participation in Evaluation									
You always follow the result of forest plantation and evaluate its	23	18.7	43	35.0	44	35.8	13	10.6	
effect.		53	.7						
You always follow the result of forest conservation and evaluate its	22	17.9	41	33.3	45	36.6	15	12.2	
effect.		51	.2						
You have chance to participate in evaluating performance of this	21	17.1	53	43.1	38	30.9	11	8.9	
Community forest committee.		60	.2						

5.3.4.4 Recommendations on Participation and Sustainable Forest Management

The respondents of BMR provided further recommendations and opinions concerning forest conservation. Most of them suggested that the forest committee focus on forest planting, and build more endurable check dams (concrete check dams, for example). They were satisfied with the current forest committee of the village in terms of leadership. They expected the government to give more importance to the community forest; however, they preferred them to confine their role to a supporting unit.

5.4 Conclusion and Key Findings

5.4.1 Conclusion and Key Findings on BSK

BSK was an old, traditional, and small rural community, located in Lampang. Most of the villagers performed agriculture for a living. In the past, the village had struggled through a deforestation period from logging concessions, gradually building up the forest conservation value and becoming a famous model community forest in the North.

Despite the severely degraded state of the forest, the turning point of forest conservation in BSK is reflected in its historical background in 1980 when the villagers seriously suffered from a shortage of water and food in their forest. It was undeniable that the concessions in the past adversely affected every forest; however, only a few community forests succeeded in recovering the state of forest, whereas BSK was one of that did. Their story of success began with the elders of the community, who succeeded in drawing lessons from their past sufferings and conveyed them to their children. Elders and leaders such as Tawn, Jamnong, Chai, and Srinuan gradually built the conservation value of the community, and finally villagers agreed to set up their mission to conserve the forest. The community forest committee was established; forest regulations were set up; forest boundaries were defined; and the children were taught to build the check dam. Elders, leaders, teachers,

youth and parents, collaborated on conserving their community forest with the strong binding of local culture and ceremonies.

In the qualitative study, the researcher explored the key factors to the success of BSK. Key factors identified by scholars were found in Ban Samkha. These factors included, but are not limited to, leadership, mutual benefit from the forest, local culture, trust, local organization, sense of belonging, network, participation, conflict resolution mechanism, and support from authorities. Emerging from the Thai forest community was indigenous wisdom and an historical driving force. In congruence with the qualitative findings, the quantitative study revealed that villagers valued most 1) the leader, 2) benefits from the forest, and 3) traditional beliefs as the factors that encouraged participation in forest conservation activities.

From the five kinds of participation, BSK villagers participated in all activities in the evaluation. Additionally, they strongly valued sharing benefits in terms of being proud when their forest was referred to as a model for other communities.

The performance of BSK in forest conservation sounds promising to the forest people. Many visitors have come to the community with different purposes: project implementation, study visits, long stays, and recreation. The future sustainability of their forest depended on how the villagers were prepared to handle the changes of the explored key factors. BSK needed to prepare for a change in its leader in the near future, changes in unstable government policy regarding the community forest bill, the ability to preserve the local culture, etc.

Key Issues	Findings
Characteristics of the Community Forest	Small and rural community
Suffering in the past	Logging Concession
Key Problem	Wildfire
Registration with the Royal Forest Department	Unregistered
Community Dependence on the Forest	High
Entrance to the Forest	There is only one entry to the
	forest. This physical geography
	helps the community to monitor
	timber cutting.
Forest Network	Jang Network
Forest Conservation Practice	Firebreak, check dam
Key Success Factors	Strong sense of community,
	kinship, trust, traditional beliefs
	and culture, mutual benefits,
	strong leader, local organization,
	sense of belonging, network, rules,
	defined boundaries, participation,
	conflict resolution mechanism,
	intervention, group reputation,
	indigenous wisdom, historical
	driving force, application of
	sufficiency economy
Trend of Sustainability	Diversified forest, increase of non
	timber forest product (NTFB)
Strength of Community Forest	Leader reproduce of culture
	check dam
Weakness of Community Forest	Indebtedness of villagers in the
	past
Opportunity	Community Enterprise,
	Intervention from SCG
Threat	Next generation of leader, New
	incomer to the community

Table 5.69 Key Findings on the Ban Samkha Community Forest, Lampang

5.4.2 Conclusion and Key Findings on HMH

HMH was a small village located in the district of Ngao, Lampang province. Referred as an outstanding model forest of Ngao, the community was very famous for its sustainable wild bamboo management. Its innovation in establishing an effective harvesting zone of bamboo strongly promoted the value of forest conservation on the part of the villagers. The community forest committee, with the support of the Ngao Forest Development Association, played a dominant role in forest management. The community was able to preserve its harvested culture due to various key success factors. In terms of participation, HMH villagers participated in all activities. They focused on participation in such activities as forest planting, check dam building, and worshiping the forest guardian. Additionally, the villagers shared benefits in terms of being proud when their forest was referred to as a model forest by other communities.

Presently, the practice of bamboo management satisfied local needs without compromising the conservation objective of HMH. Nevertheless, there are three constraints that HMH has to cope with.

1) Management of future capacity to care for the wild bamboo forest. That is, the harvesting of wild bamboo should not beyond its carrying capacity in order to avoid unsustainable overexploitation of the forest resources. It is a major challenge for the leaders and villagers to keep a balance of conservation and utilization of the natural wild bamboo.

Currently, HMH villagers utilize bamboo in medium value processing (chopsticks) and low value processing (charcoal). Should the community be able to cope with future carrying capacity constraints, the factory could move to premium processing of bamboo (laminated furniture) and villagers would gain higher income than in the present.

2) The change in natural leaders and forestry officials.

3) Ability to communicate to nearby villages to abstain from illegal timber cutting and forest encroachment.

Key Issues	Findings
Characteristics of the Community Forest	Small community
Suffering in the Past	Logging concession
Key Problems	Illegal Timber Cutting, Forest
	Encroachment
Registration with the Royal Forest Department	Registered
Community Dependence on the Forest	High
Entrance to the Forest	There are many entries to the
	forest.
Forest Network	Ngao's Forest Network
Forest Conservation Practice	Firebreak, check dam
Key Success Factors	Indigenous innovation, sense of
-	community, strong leaders,
	traditional beliefs and culture,
	value, local organization, mutual
	benefit, forest network, trust,
	conflict resolution, clear
	boundaries, participation,
	historical driving force, external
	support, sufficiency economy.
Trend of Sustainability	Diversified forest, Increase of non
	timber forest products (NTFB)
Strength of Community Forest	Sustainable Bamboo Management
Weakness of Community Forest	Different village headman and
	forest leader may cause
	managerial conflict in
	coordinating
Opportunity	Expansion of bamboo factory
Threat	Carrying capacity of wild hamboo
	forest. Change of leader

Table 5.70 Key Findings on the Huay Mae Hin Community Forest, Lampang

5.4.3 Conclusion and Key Findings on BTK

BTK was included in the case study due to the primary investigation into how it could succeed in conserving the forest. Despite its unfavorable environment for forest conservation, the achievement of forest conservation at BTK sounded impressive. Its close vicinity to urban Chiang Mai and the establishment of a millstone factory in the village did not impede their forest conservation practice. People maintained a traditional way of Lanna with high esteem for natural spirits.

Few people may be aware that the nearby Huay Hong Krai village, a famous development and learning center in Doi Saket, used to be a part of BTK. Both communities shared the same area and forest until its official separation in 1986.

Presently, the state of the forest in Huay Hong Krai is fertile due to its internal strengths, and the strong support of the government.

It is astonishing that the BTK community has been able to succeed in conserving the forest despite a constrained budget and support compared to Huay Hong Krai. The community forest gained prestige from visitors for its value of forest conservation value, and became a model forest in the region. Its forest practice, the key factors in its success and participation were therefore intensively explored.

Historically, Ban Talad Kee Lek was long a traditional community of Lua, located on Doi Saket for many hundreds of year. The villagers were less dependent on the forest due to the millstone factory and the jobs offered at Huay Hong Krai. The practice of forest conservation at BTK was mainly implemented through a long-standing cultural connection between the people and forest. Since the villagers recognized the survival of their forest as a tangible link with their Lua ancestors, the cultural reproduction of Poo Ja Tevada Raksa Khun Nam (Phee Khun Nam), and forest ordaining were dominant in this forest community. The role of the religious leader at BTK was outstanding.

Although the quantitative data identified that the villagers of BTK should be more focused on many participative activities, particularly in searching problems and causes, and in the evaluation process, the qualitative study revealed that the collection and use of culturally significant resources were one of the most important factors in the success of their forest conservation. The survival of this community forest relies on how the new generation will preserve the traditional culture while the accessibility of modern education and technology is being diffused into the community.

Key Issues	Findings
Characteristics of Community Forest	Small community, close to urban
Suffering in the Past	Logging Concession
Key Area Problems	Wildfires, Forest Encroachment
Registration with the Royal Forest Department	Registered
Community Dependence on the Forest	Moderate
Entrance to the Forest	There are many entries to the forest
Forest Network	Mae Phong's Natural Conservation Network
Forest Conservation Practice	Firebreak, Forest Planting, Forest
	Ordaining, Phee Khun Nam
Key Success Factors	Sense of community, sharing
	benefit, strong leaders, traditional
	beliefs and culture, trust, sense of
	belonging, common value,
	resolution mechanism, local
	organization, rule, forest network,
	clear boundaries, participation,
	sufficiency economy.
Trend of Sustainability	Increase of non-timber forest
	products (NTFB), Less dependence
	on forest
Strength of Community Forest	Culture reproduction, religious
	leader
Weakness of Community Forest	Less dependence on forest may
	affect the ambition toward forest
	conservation
Opportunity	Development and know-how from
	Huay Hong Krai
Threat	Modernization from the nearby
	urban area, cultural change due to
	modern education, change of leader

 Table 5.71 Key Findings on the Ban Talad Kee Lek Community Forest, Chiang Mai

5.4.4 Conclusion and Key Findings on BMR

Although BMR declared its own community forest in 2000, the village has been through numbers of socialization events that have inspired the value of forest conservation value around Pha Thon: the set up of Rai Dong, the granite concession, and experience sharing with other forest communities. With the finding factors such as strong leaders, forest culture, trust, and the "Wan" characteristic of villagers, BMR became a strong community forest and a leader of forest conservation in Pha Thon.

The field study revealed numbers of key success factors for BMR. However, some factors were not explicitly shown in the field study. The role of the religious leader did not outstandingly contribute to the success of forest conservation. Although there was a number of local groups in the village, indigenous innovation in forest conservation was also indistinct in the study.

However, because some factors are missing does not mean the failure of forest conservation in BMR. Their success depended upon a number of factors identified in this analysis. The practice of forest conservation at BMR seemed to be effective enough. Their success was constituted by three main reasons: the small area of the community forest compared to Pha Thon, their own internal strength as in key variables found, and the sharing of benefits in Rai Dong. The future challenges to BMR included how they would transfer their culture of forest conservation to other stakeholders in Pha Thon, where many villages inYok Kra Brat have been involved with different leaders, norms, and surrounding environments.

Key Issues	Findings
Characteristics of the Community Forest	Small community
Key Area Problems	Illegal timber cutting, forest
	encroachment
Registration with the Royal Forest Department	Registered
Community Dependence on the Forest	High
Forest Network	Pha Thon's Forest Network
Forest Conservation Practice	Firebreak, check dam
Key Success Factors	Traditional culture and value,
	kinship, mutual benefit, strong
	leader, trust, local organization,
	network, participation, sense of
	belonging, reciprocity and sharing,
	rules and conflict resolution
	mechanism, historical driving
	force, group reputation,
	sufficiency economy
Trend of Sustainability	Diversified forest, increase of non-
	timber forest products (NTFB)
Strength of Community Forest	Diversified leader, Sharing benefit
6	in Rai Dong, contribution of the
	youth
Weakness of Community Forest	Strongly dependent on leaders,
-	many entries to the forest
Opportunity	Increased members of Pha Thon
	Network
Threat	Change of future leader,
	cooperation from stakeholders in
	Pha Thon

Table 5.72 Key Findings on the Ban Mae Rawan Community Forest, Tak

5.5 Synthesis of the Four Case Studies

Although the purpose of this study was not to evaluate the performance of the community forests in forest conservation, the researcher compared and contrasted their practice, factors in success, and participation in forest conservation in order to draw commonalities and differences.

5.5.1 Practice of Forest Conservation

From the field study in Lampang, BSK focused its main practice on the check dam, while HMH focused on sustainable bamboo management. At Doi Saket, BTK strongly positioned itself as a cultural forest while BMR of Tak focused strongly on networking. Although the four community forests focused on different key practices, they shared some similarities. Every forest was taken care of by the community forest committee, with a set of forest regulations. The selection and administrative structure of the forest committee were very informal in all case studies. Every community forest had its village headman as the leader of the forest committee, except in HMH. With this difference, HMH has been more challenged with uncertainty in balancing power and conflicts of management between the leaders.

The practice of forest regulation enforcement varied for each community forest. HMH seemed to have strict enforcement of forest regulations. On the other hand, BSK, BTK and BMR lessened their forest restrictions based on the value of sympathy.

The study found that the location and features of the community forest resulted in different practices in forest conservation. BSK enjoyed the advantage of having only one entry to the forest. Therefore, it was easy for the community to monitor forest encroachment and timber cutting. The forest patrol performed mainly to prevent wildfires and build firebreaks. Compared to BSK, other community forests found more difficulties in monitoring forest encroachment because of its many entries to the forest.

While BTK and HMH gave importance to forest planting, BSK and BMR practiced this differently. BSK accentuated the preservation aspect in building the check dam and firebreaks. Their feature of deciduous dipterocarp forest (Pha Teng Lang) did not facilitate forest planting practices.

Table 5.73 summarizes major practices in forest conservation in the four case studies.

	BSK	HMH	BTK	BMR
Outstanding	Check Dam	Innovation	Cutural	Network
Activities		Harvesting	Reproduction	Enforcement
Administered by	Forest	Forest	Forest	Forest
	Committee	Committee	Committee	Committee
Regulation	Soft	Hard	Soft	Soft
Enforcement				
Forest Planting	Not Focus	Focus	Focus	Not Focus

 Table 5.73 Summary of Major Practices in the Four Case Studies

For the supplementary study of KW, two main practices of the best model community forest in 2008 were addressed.

1) Similar to Rai Dong in BMR, KW was dominant in applying the Sufficiency Economy Philosophy, Nakorn Por-Phiang, to segregate people from forest encroachment. People were satisfied with their sufficient living in Nakorn Por-Phiang, with the support of career development by officials.

2) There were three layers of the community forest committee: the consulting committee, the committee, and the youth committee. The structure of the forest committee distinctly represented the transfer of the leader from one generation to the next.

5.5.2 Key Success Factors

According to the success factors of Ostrom (1990), Saneh Chamarik (1992), Colhotra (1995), Komol Pragthong (1995), four community forests shared common key factors in forest conservation: a strong sense of community, mutual benefits, a strong formal leader, a strong natural leader, local organization, a strong sense of belonging, common value, network, rules, clear defined boundaries, participation, a conflict resolution mechanism, and external support.

While other community forests possessed strong formal and natural leaders, religious leader was very distinct in such cultural forest as BTK.

The state of potential recovery was found important to the success of forest conservation. Although the state of potential forest recovery could not be verified explicitly in the field study, the documentary review and interviews confirmed the existence of this factor when the community began to conserve its community forest.

This study added other factors that emerged differently in the Thai community forest's setting. A strong kinship relationship, an historical driving force, and group reputation were found in BSK and BMR. Indigenous innovation did not explicitly existed to other community forests, except in HMH, where sustainable bamboo management was a major practice.

The application of the Sufficiency Economy was found as one of the key success factors in the forest conservation of all community forests.

Table 5.74 summarizes success factors to forest conservation in the four case studies.

	BSK	HMH	ВТК	BMR
1) Strong Sense of Community				
2) Mutual Benefit	\checkmark	\checkmark	\checkmark	\checkmark
3) Strong Formal Leader	\checkmark	\checkmark	\checkmark	\checkmark
4) Strong Natural Leader	\checkmark	\checkmark	\checkmark	\checkmark
5) Strong Religious Leader	-	-	\checkmark	-
6) Local Organization	\checkmark	\checkmark	\checkmark	\checkmark
7) Sense of Belonging	\checkmark	\checkmark	\checkmark	\checkmark
8) Common Value	\checkmark	\checkmark	\checkmark	\checkmark
9) Network	\checkmark	\checkmark	\checkmark	\checkmark
10) Rule	\checkmark	\checkmark	\checkmark	
11) Clear Defined Boundary	\checkmark	\checkmark	\checkmark	\checkmark
12) Participation	\checkmark	\checkmark	\checkmark	\checkmark
13) Conflict Resolution	\checkmark	\checkmark	\checkmark	\checkmark
Mechanism				
14) External Support	\checkmark	\checkmark		
Other Variables Emerged in				
the Field Study				
15) Strong Kinship Relationship	\checkmark	-	-	\checkmark
16) Historical Driving Force	\checkmark	\checkmark	-	
17) Group Reputation	\checkmark	-	-	
18) Trust	\checkmark	\checkmark	\checkmark	\checkmark
19) Innovation	-	\checkmark	-	-
20) Application of Sufficiency Economy Philosophy	\checkmark	\checkmark		

 Table 5.74 Summary of Outstanding Success Factors in Four Case Studies

Although the supplementary study of KW was limited to its key practice, some other success factors explicitly observed in the field study were: leadership of the formal leader (Kamnan Soonthorn), mutual benefit from the forest, clearly-defined boundaries of the forest, local organization, rules, people's participation, external support, and the application of the Sufficiency Economy Philosophy. Other factors may possibly exist but are missing from the study because their features could not be recognized explicitly.

5.5.3 People's Participation

Among the four community forests, the people of HMH showed impressive participation in all five kinds of participation. In congruence with the field study, the qualitative data presented a high percentage in decision regarding problem solving activities, for example, the harvesting of bamboo timber in conserved forest. BSK, BMR, and BTK, they mainly focused their participation on the sharing of benefits in terms of pride in their forest as a model forest in the region. In terms of percentage, the people of BTK needed to participate more in searching problems and causes, and in evaluation.

Table 5.75 concluded the area of participation needed to be improved for the four community forests, where the percentage of people's participation does not reach fifty percent.

	BSK	HMH	BTK	BMR
1.Searching Problem				
1) Share the problem			\checkmark	
2) Attend the meeting			\checkmark	
3) Discuss with neighbors			\checkmark	
4) Propose alternatives			\checkmark	
5) Identify threat			\checkmark	
6) Plan the details	\checkmark		\checkmark	
7) Demand to officials	\checkmark		\checkmark	\checkmark
2.Decision in				
1) Problem solving activity				
2) Elect forest committee			\checkmark	
3) Set up regulation			\checkmark	
4) Register with the RFD	\checkmark		\checkmark	
3.Implementation in				
1) Village activity				
2) Persuade the neighbors				
3) Educate the neighbors			\checkmark	
4) Join the forest training			\checkmark	
5) Offer financial assistance		\checkmark	\checkmark	
6) Coordinate to other forest	\checkmark		\checkmark	
7) Forest patrolling	\checkmark		\checkmark	
8) Notify of forest violation	\checkmark		\checkmark	\checkmark
4.Benefit in				
1) Proud of the forest				
2) Relationship with neighbor				
3) Source of food				
4) Forest network			\checkmark	
5) Source of income	\checkmark		\checkmark	
5.Evaluation in				
1) Forest conservation			\checkmark	
2) Forest Plantation			\checkmark	
3) Performance of committee			\checkmark	

Table 5.75 Area of Participation Needed in Four Case Studies

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

The last chapter presents the conclusions, general recommendations, and implications for future study based on the findings of this study.

6.1 Concluding Analysis

From the study it can be seen that every community forest experienced a crisis from forest encroachment, logging concessions, and granite concessions that seriously affected the state of the forest. The villagers learned from experience with deforestation and from their shared experiences, and encouraged themselves to make structural changes in order to conserve the forest. With widespread of participatory forest management in the past decade, the idea of the community forest was introduced and established, with a certain level of governmental intervention and support from private organizations. Most government intervention was in the form of additional budget support and project implementation in registering as a community forest under the Royal Forest Department (RFD). Support from private organizations was usually represented through forest developmental projects under the work of non-profit foundations.

Registration with the RFD as a registered community forest did not present the success or failure of the community forest. Rather, it communicated the community's trust in the government. In this study, the community forests that registered under the RFD were Ban Talad Kee Lek, Ban Hua Thung, and Ban Mae Rawan. They welcomed for the intervention, mostly in terms of additional financial support. Ban Samkha was the only traditional forest that did not register their community forest because they were not comfortable with intervention from authorities. Ban Samkha leaders were sensitive about committing their forest to a government program. Rather, they preferred to look after the forest by themselves and through their network, and sought support from alliances in the private sector. Nevertheless, they did not refuse a routine support from the government.

The researcher found that all community forests rarely mentioned forestry officials during the conversation. Even in the community forest that registered with the RFD, they preferred that government officials remain confines to their role as an advisor, not a player. This signified their attempt to be self-reliant regarding their own community rather than heavily dependent on others.

The leader was an important person in the success of forest conservation. In the Thai rural community forest setting, particularly in the North, it was usual to see people living together in a traditional way of life. Their way of living strengthened people's friendship, solidarity, and respect. In this way, the community had more than one leader in addition to the village headman, most of whom were local to the village, representing elders and natural leaders from the career group. Every community forest in the study possessed a natural leader. Phra Khru Manop, the abbot of Wat Doi Jom Jang, was an example of a religious leader in Ban Talad Kee Lek that played a dominant role in the success of forest conservation. Khru Srinuan was a good example of a natural leader in Ban Samkha, while Kaewma Trongjai represented the elder of Ban Mae Rawan. Leadership, skillful communication, positive ambition, trust, sharing and reciprocity, and ability to cooperate were general characteristics commonly found among the leaders in this study. It was quite difficult for a new comer from an other place to become a leader of the community since he or she had to gain the trust of the villagers.

However, community forests should prepare themselves for the next generation of leaders. Many successful community forests have lost their balance due to the change or the retirement or death of the leader. Ban Samkha and Ban Mae Rawan represented a good movement in this regard. Ban Samkha beautifully nurtured in children and youth a sense of belonging to their forest through the historical driving force of Tibpala's story. Ban Mae Rawan focused on the importance of the youth leaders and prepared them for forest conservation in the future. Khao Wong, the best model forest in 2008, was another good example of having a youth forest committee. On the other hand, the Huay Mae Hin community forest was challenged by a recent change in its village headman.

In building the sense of belonging to the forest, clever leaders were able to address mutual benefits and implement a benefit-sharing scheme among the villagers. Every community forest in this study perceived the mutual benefit from the forest as a source of food, water, and non-timber forest products. Huay Mae Hin's sustainable bamboo management was the most outstanding example in terms of mutual benefit. When the villagers understood that forest conservation generated them a return, they were willing to participate in forest conservation. In this study, the people's participation was another key factor that constituted the success for all community forests.

In order to manage the benefits from the forest, the community forest committee in each village enforced a set of forest regulations. These forest regulations, from another point of view, were regarded as a rule of benefit sharing in the forest. The degree of regulation enforcement varied in each forest community.

Community forests in the North involved a number of stakeholders surrounding the forest. In most cases, forest encroachment and timber cutting were from the nearby villages and outsiders, which were too difficult for a community to control. In this study, networking, formal and informal, was established in all cases. The forest network at Pha Thon was a good example of the importance of the network in forest conservation.

The people in the North were strongly tied to cultural rites. Strong leaders manipulated the belief in household spirits, the forest guardian (Phee Khun Nam), and forest ordaining in conserving the forest. The reproduction of culture and beliefs helped the villagers to abstrain from forest deforestation. However, challenges remained when the community forest needed to preserve its culture and beliefs amid the dissemination of a modern education. Some cultural rites became extinct with changes in education and in the state of the forest.

The successful community forest used indigenous innovation to conserve the forest. The mountain bamboo, the check dam, the bamboo harvesting, and the herb group represented these local innovations, and leaders applied these innovative tools to harmonize forest utilization and its sustainability.

In this study, the successful community forest applied the sufficiency economy philosophy in their life, work, and in forest conservation. The degree of application was explicitly observed in Rai Dong and Nakorn Por-Piang.

In the end, it can be seen that the success of the community forest in the North did not depend on the existing numbers of community forests; rather, it was effective management practices that determined the potential for success. As community forests differed in terms of location, forest features, norm, and culture, finding of one fixed formula for success was not possible. Different conservation practices of each community forest could lead to the success and sustainability of their forest conservation.

Although the movement of the community forest was uncertain due to the lack of a community forest bill, a strong community forest committee, with a set of key factors, could be an effective mechanism for protecting the forest. To some extent, the future of the community forest in Thailand sounded promising while the need for a community forest bill becomes more evident.


Figure 6.1 Putting Together Forest Practice and Key Success Factors of Four Case Studies

6.2 Recommendations

1) The quantitative data showed different percentage in kinds of participation. In order to increase the participation, relevant stakeholders such as leaders and forestry authorities could promote and arrange programs to encourage villagers to participate more in such activities. In this study, it was seen that Ban Samkha and Ban Talad Kee Lek could encourage villagers for a more participation in forest patrolling and notifying of forest encroachment to the forest committee. Huay Mae Hin's villagers could participate more in financial donation to forest activity. It was felt that Ban Mae Rawan villagers could participate more in notifying the forest encroachment.

2) Although participation existed in all community forests, it was still necessary for leaders to ensure the ongoing and meaningful participation of villagers, not only at the beginning, but throughout the process of participation beginning from the stage of searching problems to the stage of evaluation.

3) Forest encroachers are able to exploit benefits from the forest due to different degrees of forest regulation enforcement in each community forest. Therefore, the community forest, as a network, should establish unique standards of rules and regulations for forest resource exploitation.

4) As networking is an important factor in forest conservation, the community forest committee should encourage and support the exchange study of forest practices among forest networks. Priority should be given to those villagers that did not attend or participated least in forest conservation activities, in order to make them aware of the issues surrounding the conservation of the forest.

5) Legislation regarding the community forest bill was introduced to the formal process more than a decade ago, but has since lain dormant. Relevant parties should facilitate its enaction to help authorities to assist with the conservation of community forests.

6.3 Recommendations for Future Research

There are many possibilities for future research. Replication of the study with community forests in other regions of the country could generate a wider perspective concerning practices and key factors in the success of various community forests throughout the country. Also, future study of successful and unsuccessful community forests in the same region would be an alternative in terms of exploring the success factors of the community forest in Thailand.

BIBLIOGRAPHY

- Aekgamol Onsri. 2001. Factors Affecting the Empowerment of Community Organization Networks. Master's thesis, National Institute of Development Administration. (In Thai)
- Anan Ganjanapan. 1992. Community Forestry in Northern Thailand. In Regional Development and Change in Southeast Asia in the 1990s. Amara Pongsapich, Michal C. Howard, and Jacques Amyot, eds. Bangkok: Social Research Institute, Chulalongkorn University. Pp 75-84.
- Anan Ganjanapan and Mingsueb Kaosart. 1995. Evolution of Land Encroachment In Forest Area: Case Study on the Upper North of Thailand. Bangkok: Thailand Development Research Institute. (In Thai)
- Apichai Puntasen. 1996. The Tambon Council and Community Forest Management. In Seeing Forests for Trees: Environment and Environmentalism in Thailand. Phillip Hirsch, ed. Chiang Mai: Silk Worm Books.
- Baker, Susan. 2006. Sustainable Development. Routledge. New York.
- Barbier, E.B. 1987. The Concept of Sustainable Economic Development. Environmental Conservation. 14, 2: 101-110.
- Bass, B. M. 1990. Handbook of Leadership: A Survey of Theory and Research. New York: Free Press.
- Berkes, Fikret. 1989. Common Property Resource: Ecology and Community-Based Sustainable Development. London: Belhaven Press.
- Blair W. Harry and Olpadwala D. Porus. 1987. Forestry in Development Planning: Lesson from the Rural Experience. Colorado: Westview Press.
- Boonruean Taokham. Assistant to the Headman of Ban Samkha Village. Hua Suar Sub-District. 2009 (February, 8). Interview.
- Boonsong Boonjaroen. Ban Sam Kha's Community Forest Committee. Hua Suar Sub-District. 2009 (February, 7). Interview.
- Boonyen Sitthiyakorn. Member of Mae Phong Sub-District Administration. Doi Sa Ket District. 2009 (March, 9). Interview.
- Chai Bothisita. 2006. Art and Science of Qualitative Study. Bangkok: Amarin Printing. (In Thai)

- Chai Wongtrakul. Ban Samkha's Community Forest Committee. Hua Suar Sub-District. 2009 (February, 6). Interview.
- Chalardchai Ramitanondh et al. 1993. Community Forest in Thailand: Development Pattern In the North. Bangkok: Local Community Development Institute. (In Thai)
- Chamnong JunJom. Headman of the Ban Samkha Village. Hua Suar Sub-District. 2009 (March, 7). Interview.
- Chatthip Natsupha. 2000. **The History of Thai Economy**. Bangkok: Chulalongkorn University.
- Chayan Vaddhanaphuti. 1984. Cultural and Ideological Reproduction in Rural Northern Thailand. Doctoral dissertation, Standford University.
- Cherd Thammayod. Huay Mae Hin's Community Forest Committee. Ngao District. 2009 (February, 20). Interview.
- Cohen, J. and Uphoff, N.T. 1980. **Rural Development Participation**. Ithaca: Cornell University.
- Coleman, S. James. 1998. Social Capital in the Creation of Human Capital. American Journal of Sociology. 94 (supplement): S95-S20.
- Colhotra, Kailash. C. 1995. Community Development and Conservation of Forest Biodiversity through Community Forestry: Proceeding of an International Seminar held in Bangkok, Thailand, October 26-28, 1994. Bangkok: Regional Community Forestry Training Center.
- Community Development Department (CDD). 1999. Empower Community. Bangkok: Bopit Press. (In Thai)
- Creswell, John W. 1998. Qualitative Inquiry and Research Design. CA: Sage Publication.
- Daly, H.E. and Cobb, J.B. 1989. For The Common Good. Boston, MA: Beacon Press.
- Damrong Sriphraram. 2007. **The Direction of Forestry Management in the 111 Years Seminar of Royal Forest Department**. Retrieved August 20, 2009 from http://www.measwatch.org/autopage/show_page.php?t =27&s_id=635&d_id=632
- Dusit Wethchakit. 1992. People Participation and Resource Pool for Community Forestry. Bangkok. Sukhothai Thammathirat Open University. (In Thai)

- Ekins, P. 2000. Economic Growth and Environmental Sustainability: the Prospects for Green Growth. London: Routledge.
- Flaherty, S. Mark and Filipchuk, V.R. 1993. Forest Management in Northern Thailand: a Rural Thai Perspective. **Geoforum** 24: 263-275.
- Fongnuan Yardfoong. Assistant to the Headman of Ban Talad Kee Lek Village. Doi Sa Ket District. 2009 (March, 10). Interview.
- Food and Agriculture Organization. 1999. White Paper: The Worlds' Forest. Bangkok: FAO. (In Thai)
- Gilmour, D.A. and Fisher, R.J. 1991. Villagers, Forest and Foresters: The Philosophy, Process and Practice of Community Forestry in Nepal. Kathmandu: Sahayogi Press.
- Grootaert, C. and Bastelaer, T. 2002. The Role of Social Capital in Development: An Emperical Assessment. Cambridge: Cambridge University Press.
- Hanifan, L. J. 1920. The Community Center. Boston: Silver Burdett.
- Her Majesty Queen Sirikit. 2007. A part of Speech on 11th August 2007. Retrived 23 August 2009 from http://www/oknation.net/blog/talkwith OKNation/2007/09/11/entry-1
- Her Majesty Queen Sirikit. 2008. A part of Speech on 11th August 2008. Retrived 23 August 2009 from http://www.raorakpar.org/ raorakpar board/index.php?topic=93.0
- Hubermand, A.M. and Miles, Matthew B. 1994. Data Management and Analysis Methods. In **Handbook of Qualitative Research**. Norman K. Danzin and Yvonna S. Lincoln, eds. California: Sage Publication. Pp. 428-440.
- Ismail, S. and Partha, D. 2000. Social Capital: A Multifaceted Perspective. Washington, D.C: The World Bank.
- IUCN Commission on National Parks and Protected Areas. 1994. Guidelines for Protected Area Management Categories. Cambridge: IUCN.
- Jamnong Junjom. Ban Samkha's Community Forest Committee. Hua Suar Sub-District. 2009 (February, 7). Interview.
- Jamroen Thipha. Citizen of Ban Mae Rawan Village. Sarm Ngao District. 2009 (April, 11). Interview.
- Kaew Tednam. Ban Talad Kee Lek's Community Forest Committee. Doi Sa Ket District. 2009 (March, 11). Interview.

- Kaewma Trongjai. Ban Mae Rawan's Community Forest Committee. Sarm Ngao District. 2009 (April, 9). Interview.
- Kitichai Ratana. 2005. Diversified Community Forest. Bangkok: Vision Media. (In Thai)
- Kitti Wongmuangkan. Member of Yok Kra Bat Sub-District Administration. Sarm Ngao District. 2009 (April,10). Interview.
- Komol Pragtong. 1991. Social Forestry in Thailand: Policy Evolution and Institutional Arrangement. Paper presented at Interim Meeting on Social Forestry and Community Development in Thailand, UNCERD, Nagoya, Japan.
- Komol Pragtong. 1995. **Community Forestry in Thailand.** Bangkok: Royal Forest Department. Ministry of Agricuture and Cooperatives. (In Thai)
- Lawshe, C. H. 1975. A Quantitative Approach to Content Validity. Personnel Psychology. 28 (April): 563-575.
- Mae Tha Tambon Administrative Organization. 2004. Development Planning of Tambon.
- Manoon Tednam. Local philosopher of Ban Talad Kee Lek. Doi Sa Ket District. 2009 (March, 9). Interview.
- Manop Jinajai. Ban Talad Kee Lek's Community Forest Committee. Doi Sa Ket District. 2009 (March, 8). Interview.
- Mongkol Thioud. Member of Yok Kra Bat Sub-District Administration. Sarm Ngao District. 2009 (April, 10). Interview.
- Monthai Pramooljakko.1995. Factors Affecting Community Forest Conservation: A Case Study of Tambon Srangtonoy, Huatapan District, Amnajcharoen Province. Master's thesis, National Institute of Development Administration. (In Thai)
- Montri Kunphoommarl. 2000. Sustaining Thailand's Forest Resources: A Case Study of Villagers' Values and Practices. Doctoral dissertation, Michigan State University.
- Murray, Ross G. 1955. Community Organization: Theory and Principles. New York: Harper & Row Publishers.
- Narayan, Deepa and Pritchett, Lant. 1999. Cents and Sociability: Household Income and Social Capital in Rural Tanzania. **Economic Development and Cultural Change**. 47, 4 (July): 871-897.

- Naschai Moonsai. Representative of Youth in Ban Mae Rawan Village. Sarm Ngao District. 2009 (April 7). Interview.
- National Economic and Social Development Board. 1987. 6th National Economic and Social Development Plan. (1987-1991). Bangkok: The Board. (In Thai)
- . 1992. 7th National Economic and Social Development Plan. (1992-1996). Bangkok: The Board. (In Thai)
- _____. 1997. 8th National Economic and Social Development Plan. (1997-2001). Bangkok: The Board. (In Thai)
 - _____. 2002. 9th National Economic and Social Development Plan. (2002-2006). Bangkok: The Board. (In Thai)
- Nirun Jongwuthiwate. 1984. **Technique, Practice, and Method to Facilitate People Particiaption in Community Development.** Bangkok: Mahidaol University. (In Thai)
- Nisa Chootoh. 2002. Qualitative Research. Bangkok: Print Pro. (In Thai)
- Niwat Ruangpanij. 2005. Forests and Forestry in Thailand. Bangkok: Academic Promotion Center Publishing House. (In Thai)
- Noi Uthanondh. Huay Mae Hin's Community Forest Committee. Ngao District. 2009 (February,19). Interview.
- Ostrom, E. 1990. Governing the Commons. New York: Cambridge University.
- Pairat Decharin. 1984. **Participation of Rural in Strategy Development**. Bangkok: Mahidol University.
- Paitoon Worsorn. 1989. Case Study of People Characteristic in Successful Community and Unsucessful Community. Master's thesis, Silpakorn University. (In Thai)
- Phra Dhammapidok. 1995. **Sustainable Development**. Bangkok: Komol Publishing.
- Phra Kru Manop Kittiyano. Abbot of Wat Phra Thad Doi Jom Jang. Doi Sa Ket District. 2009 (March, 9). Interview.
- Pichit Pitakthepsombat. 2005. **The Sample Survey: Theory and Practice**. Bangkok: Semadhama Publishing House. (In Thai)

- Pinkaew Launggaramsri and Petchmala Malapetch. 1992. Illegal Logging in Thailand. In the Future of People and Forests in Thailand After the Logging Ban, Pinkaew Laungaramsri and Noel Rahesh, eds. Bangkok: Project for Ecological Recovery.
- Pongdej Rattanukul. 2004. Social Capital and Management of Community Forests. Master's thesis, National Institute of Development Administration.
- Pongsiri Nondhachai. Assistant to the Headman of Ban Mae Rawan Village. Sarm Ngao District. 2009 (April, 11). Interview.
- Poplin, D.E. 1972. Communities: A Survey of Theories and Methods of Research. New York: Macmillan.
- Pradit Srivilai. Headman of Ban Mae Rawan Village. Sarm Ngao District. 2009 (April, 9). Interview.
- Pranee Tangnoi. Assistant to the Headman of Ban Mae Rawan Village. Sarm Ngao District. 2009 (April, 11). Interview.
- Prapan Srinuan. Headman of the Huay Mae Hin Village. Ngao District. 2009 (February, 15). Interview.
- Prapee Kerdpermpoom. 2004. Strengths and Weaknesses of Rural Community Organizations: Cases of Two Sub-Districts in Thailand. Doctoral dissertation, National Institute of Development Administration.
- Prasong Jantakad and Gilmour, D. 1999. Forest Rehabilitation Policy and Practice in Thailand. (Mimeograph)
- Prawase Wasi. 1999. Sufficiency Economy and Civil Society: Guideline for Socio-Economic Recovery. Bangkok: Moh-Chaobaan Press. (In Thai)
- Prom Wongjina. Ban Sam Kha's Community Forest Committee. Hua Suar Sub-District. 2009 (February, 8). Interview.
- Putnam, R. 1993. The Prosperous Community Social Capital and Public Life: American Prospect. 4,13 (March): 35-42.
- Rames Khanhirun. 2003. Evaluation of the Economic Incentives of the Khao Wong Community Forest Management Cooperation. Master's thesis, Mahidol University. (In Thai)
- Regional Community Forestry Training Center for Asia and the Pacific. 1993. Policy and Legislation in Community Forestry. Bangkok: Regional Community Forestry Training Center.

- Regional Community Forestry Training Center for Asia and the Pacific. 2007.
 Community Forestry at a Crossroads: Reflections and Future Directions in the Development of Community Forestry. Proceedings of an International Seminar held in Bangkok, Thailand 17-19 July, 1997. Bangkok: RECOFTC.
- Regional Community Forestry Training Center for Asia and the Pacific. 2007. Sharing the Weath, Improving the Distribution of Benefits and Costs from Community Forestry: Policy and Legal Frameworks. Sythesis of discussions at the Second Community Forestry Forum. Bangkok: RECOFTC.
- Reid, David. 1995. Sustainable Development: An Introductory Guide. London: Earthscan.
- Royal Forest Department. 1988. **Community Forest Management**. Bangkok: Office of National Conservative Forest Management. (In Thai)
- Royal Forest Department. 1994. **The 97th Year of Royal Forest Department**. Bangkok: Ministry of Agriculture and Cooperatives. (In Thai)
- Royal Forest Department. 2006. **The Promotion of Community Forest Management**. Bangkok: Office of Community Forest Management. (In Thai)
- Royal Forest Department. 2008. Forest Area. Retrived July 18, 2009 from http:// www. forest.go.th/stat/stat50/TAB3.htm
- Royal Forest Department. 2009. **Registered Community Forests in Thailand**. Retrived July 18, 2009 from http://www.forest.go.th/ community_ extension/datapermit/serch/datattvill.asp
- Rungnapar Phattanavibool. 2001. **Bamboo in Thailand**. Bangkok: Cooperative Society Printing.
- Sakda Maneewong. Royal Forest Department. Doi Sa Ket . 2009 (February, 7). Interview.
- Salam, A., Noguchi T. and Rachanee Pothitan. 1996. Current Forest Management in Thailand: Current Situation and Dynamics in the Context of Sustainable Development. Environmental Management. 43 (March): 381-395.
- Salisa Phungsangkaew. 1994. People Participation in Forest Conservation: A Case Study of Ban Huay Kaew Community Forest, Amphoe San Kam Paeng, Changwat Chiang Mai. Master's thesis. National Institute of Development Administration.

- Sandhita Kanchanapun. 1997. Cooperation in Forest Management Between Temple and Government. Chiang Mai: Chiang Mai University. (In Thai)
- Saneh Chamarik and Yos Santasombat. 1992. Community Forests in Thailand: Directions for Development. Bangkok: Local Development Institute (LDI) Foundation.
- Serageldin, I. and Grootaert, C. 2000. Defining Social Capital: an Integrating View. In **Social Capital: A Multifaceted Perspective**. Partha Dasgupta and Ismail Serageldin, eds. Washington D.C.: World Bank.
- Sinha, Himadri. 2006. People and Forest: Unfolding the Participation Mystique. New Delhi: Concept Publishing.
- Som Thi-In-Toh. Huay Mae Hin's Community Forest Committee. Ngao District. 2009 (February,20). Interview.
- Sombat Kusumawalee et al. 2006. Cultural Strength of Community and Development on Philosophy of Sufficiency Economy. Bangkok: National Institue of Development Administration. (In Thai)
- Somboon Thaiyantho. Headman of the Ban Talad Kee Lek Village. Doi Sa Ket District. 2009 (February, 8). Interview.
- Somkid Thidlangka.Vice-President of Mae Phong Sub-District Administration. Doi Sa Ket District 2009 (February, 9). Interview.
- Somsak Sookwong. 2007. Community Forest Management : For Human and Forest . Bangkok: Thaweewat Printing. (In Thai)
- Somsak Sookwong. 2008. A Decade of Green World Award. Bangkok: Petrolium of Thailand. (In Thai)
- Soontorn Amnaj. Head of Wang Ta Krae Sub-District, Khao Wong Community Forest. Nhong Bua Ra Hel District. 2008 (December, 21). Interview.
- Sopin Tongpan et al. 1990. **Deforestation and Poverty**: **Can Commercial and Social Forestry Break the Vicious Circle?** Bangkok: Thailand Development Research Institute (TDRI).
- Srinuan Wongtrakul. Teacher at Ban Sam Kha School. Hua Suar Sub-District. 2009 (February,6). Interview.
- Sriprae Poomlom. Ban Samkha's Community Forest Committee. Hua Suar Sub-District. 2009 (February, 7). Interview.

Stewart, David W. and Shamdasani, Prem N.1991. Focus Group: Theory and Practice. Newbury Park, California: Sage Publications.

Sumai Maimun. Royal Forest Department. 2009 (February, 21). Interview.

- Supang Chantavanich. 2001. Data Collection in Qualitative Research. In Handbook of Qualitative Research for Development Work. Uthai Dulayakase, ed. Khon Kaen: Khon Kaen University. Pp. 170-187. (In Thai)
- Sureerat Krisnarangsan. 1997. Forest Management of Community Organization: Case Study at Kor Tung, Lampoon. Master's thesis, Thammasat University. (In Thai)
- Suthad Rajchai. Chairman of Community Forest Committee. Ngao District. 2009 (February, 17). Interview.
- Tanorm Pastsan. Citizen of Ban Mae Rawan Village. Sarm Ngao District. 2009 (April, 9). Interview.
- Thad Indraprasith. Ban Sam Kha's Community Forest Committee. Hua Suar Sub-District. 2009 (February, 8). Interview.
- Thanongsak Kumkainam et al. 1991. Practice of Social Development. Bangkok: Borpit Press. (In Thai)
- Thawat Sirimala. 1996. Participation of Children Development Committee: Case Study on Ampher Panomsarakham, Chacherngsao. Master's thesis, National Institue of Development Administration. (In Thai)
- Thon Yaso. Ban Sam Kha's Community Forest Committee. Hua Suar Sub-District. 2009 (February, 9). Interview.
- Toonailah Uthananth. Senior Citizen of Ban Mae Rawan Village. Sarm Ngao District. 2009 (April, 9). Interview.
- Ubon Janthik. President of Ngao's Forest Development Assocaition. Ngao District. 2009 (February, 21). Interview.
- United Nations. 1975. Popular Participation in Decision Making for Development. New York: United Nations.
- United Nations Development Program. 1992. Human Development Report. Delhi: Oxford University Press.

- United Nations Development Program. 2004. Community Forests in Thailand. Bangkok: UNDP.
- Uphoff, Norman. 1986. Local Institution Development: An Analysis Sourcebook. Connecticut: Kumanan Press.
- Uphoff, T. Norman, Cohen, M. John and Goldsmith, A. Auther. 1979. Feasibility and Application of Rural Development Participation: A-State-of-theart- paper. Ithaca, New York: Cornell University.
- Veer, Cor and Chamberlain, Jim, eds. 1992. Local Organizations in Community Forestry Extension in Asia. Bangkok: FAO.
- Veerawat Dheeraprasert et al. 2005. After the Logging Ban: Politics of Forest Management in Thailand. Bangkok: Foundation for Ecological Recovery.
- Viraa Jinajai. President of Ban Talad Kee Lek's Housewife Group. Doi Sa Ket District. 2009 (March, 8). Interview.
- Wanpen Worklang. 1991. Farmers Participation in Developing Small Scale Water Resource. Master's thesis. National Institute of Development Administration. (In Thai)
- White, Alastair. 1982. Why Community Participation: a Discussion of the Arguments, Community Participation: Current Issue and Lesson Learned. New York: United Nations.
- Winyoo Lamsang. Huay Mae Hin's Commuity Forest Committee. Ngao District. 2009 (February, 22). Interview.
- Woolcock, M. and Narayan, D. 2000. Social Capital: Implications for Development Theory, Research, and Policy. The World Bank Research Observer, vol.15, no.2. Washington, D.C.: World Bank.
- World Commission on Environment and Development (WCED). 1987. Our Common Future. Melbourns, Australia: Oxford University Press.
- World Commission on Forests and Sustainable Development. 1999. Our Forest Our future. Cambridge: Cambridge University Press.
- Yamane, T. 1973. **Statistics: An Introductory Analysis.** 3rd ed., Singapore: Times Printer.
- Yos Santasombat. 1999. Biodiversity and Local Knowledge for Sustainable Development. Chiang Mai: Nopburi Printing.

APPENDICES

APPENDIX A

Aerial Photo of Case Studies



Aerial Photo of Ban Sam Kha Community Forest, Lampang



Aerial Photo of Huay Mae Hin Community Forest, Lampang



Aerial Photo of Ban Talad Kee Lek Community Forest, Chaing Mai



Aerial Photo of Yok Kra Bat Sub-District and Ban Mae Rawan



f

Layout of Ban Mae Rawan Community Forest and PhaThon

APPENDIX B

Correspondence, Questionnaire and Content Validity



คณะรัฐประศาสนศาสตร์ สถาบันบัณฑิคพัฒนบริหารศาสตร์ คลองงั่น บางกะบี กทม. 10240

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เรื่อง ขอความอนุเคราะห์ในการเก็บข้อมูล เรียน อธิบดีกรมป่าไม้

ที่ ศษ 0526.02/ 101

ด้วย นายพรเทพ ศรีธนาธร นักศึกษาหลักสูตรปรัชญาคุษฎีบัณฑิต (การบริหารการพัฒนา) หลักสูตรนานาชาติ คณะรัฐประศาสนศาสตร์ สถาบันบัณฑิตพัฒนบริหารศาสตร์ รหัสประจำตัวนักศึกษา 4510131002 กำลังอยู่ระหว่างการจัดทำวิทยานิพนธ์ เรื่อง การจัดการทรัพยากรป่าไม้โดยชุมชนท้องถิ่นอย่างยั่งยืน: กลไกและกระบวนการการมีส่วนร่วม และความสำเร็จของชุมชนในการอนุรักษ์ทรัพยากรป่าไม้ (Sustainable Community Forest Management in Local Development: Community Practice, People Participation and the Success of Forest Conservation) โดยมี ผศ. คร. ไฟโรจน์ กัทรนรากุล เป็นที่ปรึกษาวิทยานิพนธ์หลัก โดย ขอบเขตการวิจัยจะทำการวิจัยและเก็บข้อมูลเกี่ยวกับชาวบ้าน ผู้นำชุมชน รวมไปถึงเจ้าหน้าที่จากหน่วยงานของ ท่าน ในพื้นที่ป่าชุมชนต่างๆ จำนวน 5 แห่ง ดังนี้ 1) ป่าชุมชนบ้านทั่วยแม่หิน จังหวัดลำปาง 2) ป่าชุมชนบ้าน สามขา จังหวัดลำปาง 3) ป่าชุมชนบ้านแม่ระวาน จังหวัดตาก 4) ป่าชุมชนบ้านตลาดขี้เหลีก จังหวัดเริ่มไม จังหวัดสำปาง 5) ป่าชุมชนเขาวง จังหวัดรัยภูมิ ทั้งนี้ นักศึกษาได้มีการประสานงานกับเจ้าหน้าที่สำนักจัดกาปาชุมชน และเจ้าหน้าที่

คณะรัฐประสาสนศาสตร์ หวังเป็นอย่างยิ่งว่าจะได้รับความอนุเคราะห์จากท่านเป็นอย่างดี และ ขอขอบคุณมา ณ โอกาสนี้

รองศาสตราจารย์

ขอแสดงความนับถือ

Z 117

(พรเพ็ญ เพชรสุขศิริ) รองคณบดีฝ่าขวิชาการคณะรัฐประศาสนศาสตร์

หลักสูตรปริญญาเอก โทรศัพท์/โทรสาร 02 374 4977

Guidelines for observation / interview

(Interview of Leaders of the village and Community Forest Committee)

Researcher introduces, explains the purpose of the interview, and asks permission to record the conversation including using and quoting all or part of their words from the interview in the dissertation. Researcher ensures that information will be used only for academic purpose and asks them to express opinion freely.

1. Background and history of this village

2. Relationship between forest and local people

3. What is the belief of people toward local forest? Who gain power in managing forest in this community? Why?

4. What is the career of local people? Do they rely on forest? Are there any concession to outsiders in the past?

5. In the past, how do people act to forest? What are the features of forest compared to the present? Was there any problem to forest conservation? How could they struggle?6. The importance of community forest to local people. How community forest affects to the living of local people?

7. How this community forest occured? Are there any problem or obstacles? How it affected to local people?

8. How local people in the village conform to conserve forest? Who are the leaders? How are they?

9. Did the people agree with registering of community forest with the RFD?

10. Opportunity and Threat of this community forest.

11. Is there any rule or regulation of this community forest? What is it? Who enforce the regulation?

12. What is your role to this community forest?

13. Do you satisfied with the forest committee? How do they work? What is the practice? What is the selection criteria?

14. Do you participate in forest conservation? In what activity? What motivated you or your family to participate in conserving this forest? Present the factors and open end question as guidelined.

15. How does community react when the forest is registered as community forest? 16. Do you think this forest is in success?

If yes, what are the key factors that support the forest to be remained in good shape? 17. Do you satisfy with the current regulation of this community forest? How should it be changed?

18. What is the role of government official or non-government organization to this community forest?

19. Are there any invaders to this forest? How do the committee handle with the problem and would they be punished?

20. Do you think the community can solve deforestation problem? How?

21. Recommendation on sustainable forest management to this community forest

- Forest committee

- Regulation

- Forest Network

- Community Forest Bill

22. What support do you need from government on forest conservation?

- Budget

- Know-How

- Etc

23. What is your expectation to this forest in the future?

24. From your opinion, what organization plays the most dominant role to conserve your forest?

25. In what degree do you think local people in this community forest participate to conserve the forest?

Questionnaire for Household

Part 1 Personal information

1.Gender O Male O Female 2.Age.....years 3.Religious..... 4.Marital status..... 5.Status in family O Head of family O Housewife O Cousin 6.Education O can not read and write O can read and write O elementary school O High elementary school O Secondary school O High school O Undergraduate O Other..... 7.Occupation O Labor O Merchant **O** Farmer O Government Official O Other 8.Member of family O 1-4 O 5-6 O 7-8 O Upper than 9 9. Monthly Income Baht 10. Social status O Forest committee O Head of village O Assistant Head of village O Member of district **O** Forest Volunteer O People O Other.....

Part 2 General opinion concerning forest conservation

Indirect benefit

.....Building awareness of belongings

.....Other (Please identify)

15. What entity plays the most important role in sustaining the forest in your community?

O Temple O School O People O Village Committee O Other.....

16. In what degree do you think you contribute to conserve the forest in the community?

O High	O Moderate
O Little	O Not at all

17. In what degree do you think you participate in conserving forest in the community?O HighO ModerateO LowO Not at all

18. What kind of forest activities do you participate?

19. What factors most motivate you to participate in conserving community forest? Please write the number by ranking the order of importance accordingly: 1 = most important $2 = 2^{nd}$ important $3 = 3^{rd}$ important)

 Strong community leader

 Traditional belief and culture

 Rule and regulation

 Awareness of belongings of forest

 Reliance on forest products

 Need of water source

 Family and ancestor

 Indebtedness

 Other (please identify)

20. In what degree do you think you understand the philosophy of sufficiency economy?O HighO ModerateO LowO Not at all

21. From question 20, if you understand in some extent, do you think what degree you can apply the philosophy of sufficiency economy to forest conservation activity?

O High	O Moderate
O Low	O Not at all

22. From question 21, in what way you apply the philosophy of sufficiency economy to forest conservation?

23. What do you think about the development of forest at present compared to those in the past five years? O Better O Same O Worsen

24. From question 23 if your answer is 'decrease', Please explain.

25. In overall, in what degree do you satisfy with the current condition of this community forest?

O High	O Moderate
O Low	O Unsatisfied

26. In what degree do you absorb information regarding Community Forest Act.? O High O Moderate O Low O Not at all

27. Do you agree with the issue of Community Forest Act? O Agree O Disagree O Abstain

Issue	Level of Participation			
	Most	More	Less	Least
<u>1. Participation in searching</u> problems and its causes				
 You participate in sharing problems or obstacles on forest conservation to village committee You participate by proposing solution or alternatives on forest 	()	()	()	()
committee 3. You always talk, discuss, or share with neighborhoods about the current forest issue in	()	()	()	()
deforestation, hunting, or illegal farming in local forest.	()	()	()	()
4. You always attend the village meeting or forest committee meeting 5 You participate in planning	()	()	()	()
the detail of forest plantation activities such as time to plant, place, or variety of plant 6. You always propose or identify threat or weakness of	()	()	()	()
forest conservation to village committee or community forest committee 7. You participate in demanding or campaigning government	()	()	()	()
problem arises such as illegal forest encroachment or the issuance of rule, regulation, Act	()	()	()	()

Part 3 Information concerning level of people participation in forest conservation

	<u>Most</u>	More	Less	Least
2. Participation in decision				
 You participate in deciding problem solving activity on forest area such as building check dam, fire cushion area You participate in making decision whether this 	()	()	()	()
community forest should be registered with Royal Forest Department 3. You participate in setting rule	()	()	()	()
or regulation of this community forest 4. You participate in nominating or electing member of	()	()	()	()
community forest committee for your village	()	()	()	()
3. Participation in implementation	<u>Most</u>	<u>More</u>	<u>Less</u>	<u>Least</u>
1.You participate in different kinds of village activity such as forest plantation, check dam construction, worship to forest guardian	()	()	()	()
 You participate in patrolling forest to prevent deforestation and forest encroaching You offer financial assistance such as donation to village 	()	()	()	()
committee for forest conservation activity 4. You persuade neighborhoods to contribute in conserving	()	()	()	()
forest, nourishing trees in forest area 5. You always suggest or educate your neighborhoods to	()	()	()	()
refrain from destroying or encroaching forest		()	()	()

	<u>Most</u>	<u>More</u>	Less	<u>Least</u>
 6. You participate in joining the training course on forest conservation 7. You coordinate and join with 	()	()	()	()
 people from other village in forest activity such as planting the forest, ordaining the forest 8. You notify community forest 	()	()	()	()
committee or authorities when seeing that there are people violating community forest regulation	()	()	()	()
Part 4. Participation in benefits	<u>Most</u>	<u>More</u>	<u>Less</u>	<u>Least</u>
1. You use forest as a source of food to consume such as mushroom, bamboo, honey	()	()	()	()
 You use forest as a source of income such as selling the forest products to neighborhoods You feel proud when your 	()	()	()	()
forest gain award or being acknowledged from outsiders that it is a good model of community forest	()	()	()	()
4. You gain benefit from contacting with other community forest or forest network 5 You and your neighborhoods	()	()	()	()
have better relationship after joining different kind of forest conservation	()	()	()	()

	<u>Most</u>	<u>More</u>	Less	Least
 5. Participation in evaluating You always follow the result of forest plantation and evaluate its effect You always follow the result of forest conservation and evaluate its effect You have chance to participate in evaluating performance of this community forest committee 	()	()	()	()
	()	()	()	()
	()	()	()	()

Part 4 Recommendation or further opinion regarding to participation and sustainable forest management (if any)

<u>แบบสอบถาม</u>

คำชี้แจงประกอบแบบสอบถามเชิงปริมาณ

แบบสอบถามฉบับนี้ พัฒนาขึ้นเพื่อใช้ประกอบการทำวิทยานิพนธ์ในระดับปริญญาเอก (หลักสูตร นานาชาติ) คณะรัฐประศาสน์ศาสตร์ สถาบันบัณฑิตพัฒนบริหารศาสตร์ เรื่อง "การจัดการทรัพยากรป่าไม้ โดยชุมชนท้องถิ่นอย่างยั่งยืน: กลไกและกระบวนการ การมีส่วนร่วมของชุมชน และความสำเร็จของชุมชน ในการอนุรักษ์ทรัพยากรป่าไม้" โดยมีวัตถุประสงค์เพื่อศึกษากระบวนการ การมีส่วนร่วม และปัจจัย แวคล้อมที่เอื้ออำนวยให้ชุมชนท้องถิ่นประสบผลสำเร็จในการจัดการและอนุรักษ์ทรัพยากรป่าไม้ ข้อมูลที่ ได้จากการศึกษาครั้งนี้ ผู้ศึกษาจะนำไปใช้วิเคราะห์ประกอบการศึกษาเชิงคุณภาพ และเพื่อเป็นข้อมูลสำหรับ ผู้ที่เกี่ยวข้องทั้งภาครัฐและเอกชนที่อาจนำไปใช้เป็นแนวทางในการกำหนดนโยบาย และวางแผนการบริหาร จัดการอนุรักษ์ป่า รวมถึงส่งเสริมด้านการมีส่วนร่วมของประชาชนที่อาศัยในพื้นที่ติดกับป่าชุมชนในการ ช่วยกันอนุรักษ์ป่าให้ประสบ ผลสำเร็จอย่างยั่งยืน

จึงใคร่ขอความกรุณาจากท่านในการตอบแบบสอบถามนี้ทุกข้อ ครัวเรือนละ ๑ ชุด ทั้งนี้คำตอบของท่านจะ ถือเป็นความลับและนำไปใช้ประโยชน์เพื่อการศึกษานี้เท่านั้น ผู้วิจัยขอขอบคุณเป็นอย่างสูงที่ท่านได้กรุณา ให้ความร่วมมือในการตอบแบบสอบ ถามนี้

แบบสอบถามนี้ ประกอบด้วยเนื้อหา ๔ ส่วน ได้แก่ ส่วนที่ ๑ ข้อมูลทั่วไปของผู้ถูกสัมภาษณ์ ส่วนที่ ๒ ข้อมูลความเห็นทั่วไปเกี่ยวกับการจัดการและอนุรักษ์ป่าชุมชน ส่วนที่ ๓ ข้อมูลเกี่ยวกับระดับการมีส่วนร่วมในการรักษาป่าชุมชน ส่วนที่ ๔ ข้อแนะนำหรือความเห็นเพิ่มเติมเกี่ยวกับการมีส่วนร่วมและการอนุรักษ์ป่าชุมชนอย่างยั่งยืน

แบบสอบถามมีจำนวนทั้งสิ้น ๑๐ หน้า (รวมจดหมายนำ) หากมีคำถามหรือข้อเสนอแนะต่างๆ กรุณาติดต่อ นายพรเทพ ศรีธนาธร เบอร์ติดต่อ 086-330-1589 Email: <u>ptnida@hotmail.com</u>

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ผสบกาษณ	ເລາເກ	
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พื้นที่
ชื่อ-สกุล ผู้ถูกสัมภาษณ์
ที่อยู่และเบอร์ติดต่อ
วันเดือนปีในการสัมภาษณ์
ข้อสังเกตเพิ่มเติมจากการสัมภาษณ์

ส่วนที่ 1 ข้อมูลส่วนบุคคล

<u>้ คำชี้แจง</u> โปรดทำเครื่องหมาย / ในวงกลม หรือ เติมข้อความลงในช่องว่าง

- 1. เพศ
 - 0 ชาย

O หญิง

- 2. อายุ.....ปี
- 3. ศาสนา.....
- 4. สถานภาพสมรส.....
- 5. สถานภาพในครอบครัว
 - O หัวหน้าครัวเรือน
 - O ภรรยาหัวหน้าครัวเรือน
 - O สมาชิกในครัวเรือน
- 6. ระดับการศึกษา
 - O อ่านไม่ออก เขียนไม่ได้
 - O อ่านออก เขียนได้
 - O ประถมศึกษาตอนต้น
 - O ประถมศึกษาตอนปลาย
 - ${
 m O}$ มัธยมศึกษาตอนต้น

O มัธยมศึกษาตอนปลาย O ปริญญาตรี O อื่นๆ.....

7. อาชีพหลัก

O รับจ้าง/แรงงาน O ด้าขาย 0 เกษตรกร O ราชการ/ รัฐวิสาหกิจ O อื่นๆ

8. ขนาดของครัวเรือน

- O ไม่เกิน 4 คน O 5-6 คน O 7-8 คน O9 คนขึ้นไป
- 9. รายได้ต่อเดือน.....บาท

10.สถานภาพ/ตำแหน่งในชุมชนของผู้ให้ข้อมูล

O กรรมการป่าใม้หมู่บ้าน (ระบุ)..... O ผู้ใหญ่บ้าน O ผู้ช่วยผู้ใหญ่บ้าน O สมาชิก อบต O อาสาพิทักษ์ป่า O ประชาชนทั่วไป O อื่นๆ..... 11.ระยะเวลาที่อยู่ในชุมชน.....ปี 12.ระยะเวลาที่อยู่ในตำแหน่งที่เกี่ยวข้องกับป่าชุมชน.....บี

O น้อย O ไม่ได้ประโยชน์ 4. จากข้อ 13) หากมีประโยชน์ ท่านได้ใช้ประโยชน์จากป่าชุมชนนี้ในทางใดบ้าง (ทำเครื่องหมาย √หน้าข้อที่ท่านเห็นด้วย และ ท่านสามารอดอบได้มากกว่า 1 ข้อ) ประโยชน์ทางตรง 	O น้อย O ไม่ได้ประโยชน์ 4. จากข้อ 13) หากมีประโยชน์ ท่านได้ใช้ประโยชน์จากป่าชุมชนนี้ในทางใดบ้าง (ทำเครื่องหมาย √หน้าข้อที่ท่านเห็นด้วย และ ท่านสามารถดอบได้มากกว่า 1 ข้อ) <u>ประโยชน์ทางตรง</u> 	0 N III	O ปานกลาง
 4. จากข้อ 13) หากมีประโยชน์ ท่านได้ใช้ประโยชน์จากป่าขุมชนนี้ในทางใดบ้าง (ทำเครื่องหมาย √หน้าข้อที่ท่านเห็นด้วย และ ท่านสามารอดอบได้มากกว่า 1 ข้อ) <u>ประโยชน์ทางตรง</u>	 4. จากข้อ 13) หากมีประโยชน์ ท่านได้ใช้ประโยชน์จากป่าขุมชนนี้ในทางใดบ้าง (ทำเครื่องหมาย √หน้าข้อที่ท่านเห็นด้วย และ ท่านสามารอดอบได้มากกว่า 1 ข้อ) <u>ประโยชน์ทางตรง</u>	O น้อย	O ไม่ได้ประโยชน์
(ทำเครื่องหมาย √หน้าข้อที่ท่านเห็นด้วย และ ท่านสามารอดอบได้มากกว่า 1 ข้อ) <u>ประโยชน์ทางครง</u> 	(ทำเครื่องหมาย √หน้าข้อที่ท่านเห็นด้วย และ ท่านสามารถดอนได้มากกว่า 1 ข้อ) <u>ประโยชน์ทางครง</u> 	4. จากข้อ 13) หากมีประ	ะ โยชน์ ท่านได้ใช้ประ โยชน์จากป่าชุมชนนี้ในทางใดบ้าง
 <u>ประโยชน์ทางตรง</u> ใช้วัสดุธรรมชาติจากป่าในการปลูกสร้างที่อยู่อาศัย ให้เป็นแหล่งน้ำ หาของป่าเช่น เห็ด ผัก มด รังผึ้ง เพื่อนำไปบริโภค หาของป่าเช่น เห็ด ผัก มด รังผึ้ง เพื่อนำไปบริโภค หาสมุนไพรเป็นยารักษาโรค นำผลผลิตที่ได้จากป่าไปผลิตเป็นงานด้านศิลปหัดถกรรมเพื่อเพิ่มรายได้ อื่นๆ (โปรดระบุ) ได้สัมพันธภาพที่ดีกับเพื่อนบ้านจากการร่วมกิจกรรมรักษาป่าชุมชน ถ่าสัตว์เพื่อบริโภค สร้างความสำนึกในการรักอื่นกำเนิด อื่นๆ (โปรดระบุ) ได้สุมพันธภาพที่ดีกับเพื่อนบ้านจากการร่วมกิจกรรมรักษาป่าชุมชน ถ่าสัตว์เพื่อบริโภค สร้างความสำนึกในการรักอื่นกำเนิด อื่นๆ (โปรดระบุ) ไรงาามดีกหรือกลุ่มองศ์กรใดมีบทบาทในการส่งเสริมการอนุรักษ์ป่า ชุม มากที่สุด O วัด O โรงเรียน 	 ประโยชน์ทางตรง ใช้วัสดุธรรมชาติจากป่าในการปลูกสร้างที่อยู่อาศัย ใช้บันแหล่งน้ำ หาของป่าเช่น เห็ด ผัก มด รังผึ้ง เพื่อนำไปบริโภก หาของป่าเช่น เห็ด ผัก มด รังผึ้ง เพื่อนำไปบริโภก หาสมุนไพรเป็นยารักษาโรก นำผลผลิตที่ได้จากป่าไปผลิตเป็นงานด้านศิลปหัดอกรรมเพื่อเพิ่มรายได้ อื่นๆ (โปรดระบุ) ได้สัมพันธภาพที่ดีกับเพื่อนบ้านจากการร่วมกิจกรรมรักษาป่าชุมชน ล่าสัตว์เพื่อบริโภค สร้างความสำนึกในการรักอิ่นกำเนิด อื่นๆ (โปรดระบุ) ได้สุด ไปรูปๆ (โปรดระบุ) 	(ทำเครื่องหมาย 🗸 หน้าข้อ	อที่ท่านเห็นด้วย และ ท่านสามารถตอบได้มากกว่า 1 ข้อ)
 ใช้วัสดุธรรมชาติจากป่าในการปลูกสร้างที่อยู่อาศัย ให้เป็นแหล่งน้ำ หาของป่าเช่น เห็ด ผัก มด รังผึ้ง เพื่อนำไปบริโภล หาของป่าเช่น เห็ด ผัก มด รังผึ้ง เพื่อนำไปขาย หาสมุนไพรเป็นยารักษาโรค นำผลผลิตที่ได้จากป่าไปผลิตเป็นงานด้านศิลปหัดถกรรมเพื่อเพิ่มรายได้ อื่นๆ (โปรดระบุ) ประโยชนทางอ้อม เกล้ามีพื้นธภาพที่ดีกับเพื่อนบ้านจากการร่วมกิจกรรมรักษาป่าชุมชน ล่าสัตว์เพื่อบริโภค สร้างความสำนึกในการรักอิ่นกำเนิด อื่นๆ (โปรดระบุ) 15.ท่านลิตว่า ในชุมชนแห่งนี้ สมาชิกหรือกลุ่มองค์กรใดมีบทบาทในการส่งเสริมการอนุรักษ์ป่า ชุม มากที่สุด O รัด O โรงเรียน 	 ใช้วัสดุธรรมชาติจากป่าในการปลูกสร้างที่อยู่อาศัย ใช้เป็นแหล่งน้ำ หาของป่าเช่น เห็ค ผัก มด รังผึ้ง เพื่อนำไปบริโภค หาของป่าเช่น เห็ค ผัก มด รังผึ้ง เพื่อนำไปบริโภค หาสมุนไพรเป็นยารักษาโรค นำผลผลิตที่ได้จากป่าไปผลิตเป็นงานด้านศิลปหัดถกรรมเพื่อเพิ่มรายได้ อื่นๆ (โปรดระบุ) ได้สัมพันธภาพที่ดีกับเพื่อนบ้านจากการร่วมกิจกรรมรักษาป่าชุมชน ล่าสัตว์เพื่อบริโภค สร้างความสำนึกในการรักถิ่นกำเนิด อื่นๆ (โปรดระบุ) ได้สัมพันธภาพที่ดีกับเพื่อนบ้านจากการร่วมกิจกรรมรักษาป่าชุมชน ล่าสัตว์เพื่อบริโภค สร้างความสำนึกในการรักถิ่นกำเนิด อื่นๆ (โปรดระบุ) 	<u>ประโยชน์ทางตรง</u>	
 	 ใช้เป็นแหล่งน้ำ 	ใช้วัสคุธรรม	มชาติจากป่าในการปลูกสร้างที่อยู่อาศัย
 	 	ใช้เป็นแหล่งนั้	้ำ
 	 	หาของป่าเช่น	เห็ด ผัก มด รังผึ้ง เพื่อนำไปบริโภค
 	 	หาของป่าเช่น	เห็ด ผัก มด รังผึ้ง เพื่อนำไปขาย
 นำผลผลิตที่ได้จากป่าไปผลิตเป็นงานด้านสิลปหัดถกรรมเพื่อเพิ่มรายได้ อื่นๆ (โปรดระบุ) <u>ประโยชนทางอ้อม</u> ได้สัมพันธภาพที่ดีกับเพื่อนบ้านจากการร่วมกิจกรรมรักษาป่าชุมชน ถ่าสัตว์เพื่อบริโภค สร้างความสำนึกในการรักถิ่นกำเนิด อื่นๆ (โปรดระบุ) 15.ท่านดิดว่า ในชุมชนแห่งนี้ สมาชิกหรือกลุ่มองค์กรใดมีบทบาทในการส่งเสริมการอนุรักษ์ป่า ชุม มากที่สุด O วัด O โรงเรียน 	 นำผลผลิตที่ได้จากป่าไปผลิตเป็นงานด้านสิลปหัตถกรรมเพื่อเพิ่มรายได้ 	หาสมุนไพรเป็	ในขารักษาโรค
		นำผลผลิตที่ได	จ้จากป่าไปผลิตเป็นงานด้านศิลปหัตถกรรมเพื่อเพิ่มรายได้
 <u>ประโชชนทางอ้อม</u> 	 <u>ประโยชนทางอ้อม</u> ใต้สัมพันธภาพที่ดีกับเพื่อนบ้านจากการร่วมกิจกรรมรักษาป่าชุมชน 	อื่นๆ (โปรดร	າະນຸ)
 <u>ประโยชนทางอ้อม</u> ได้สัมพันธภาพที่ดีกับเพื่อนบ้านจากการร่วมกิจกรรมรักษาป่าชุมชน 	 <u>ประโยชนทางอ้อม</u> ใด้สัมพันธภาพที่ดีกับเพื่อนบ้านจากการร่วมกิจกรรมรักษาป่าชุมชน 		· ·
 <u>ประโยชนทางอ้อม</u> 	 <u>ประโยชนทางอ้อม</u> 		
 <u>ประโยชนทางอ้อม</u> 	 <u>ประโยชนทางอ้อม</u> 		
 <u>ประโยชนทางอ้อม</u> 	 <u>ประโยชนทางอ้อม</u> 		
 	 		
 	 	ประโยชนทางอ้อม	
 	 	<u>ประโยชนทางอ้อม</u> ได้สัมพันธภา	พที่ดีกับเพื่อบบ้านจากการร่วมกิจกรรมรักษาป่าชมชบ
		<u>ประโยชนทางอ้อม</u> ได้สัมพันธภา ล่าสัตว์เพื่อบริ	พที่ดีกับเพื่อนบ้านจากการร่วมกิจกรรมรักษาป่าชุมชน โภค
 15.ท่านคิดว่า ในชุมชนแห่งนี้ สมาชิกหรือกลุ่มองค์กรใดมีบทบาทในการส่งเสริมการอนุรักษ์ป่า ชุม บากที่สุด O วัด O โรงเรียน 	 15.ท่านคิดว่า ในชุมชนแห่งนี้ สมาชิกหรือกลุ่มองค์กรใดมีบทบาทในการส่งเสริมการอนุรักษ์ป่า ชุม มากที่สุด 0 วัด 0 โรงเรียน 	<u>ประโยชนทางอ้อม</u> ได้สัมพันธภา ถ่าสัตว์เพื่อบริ สร้างดาาบสา:	พที่ดีกับเพื่อนบ้านจากการร่วมกิจกรรมรักษาป่าชุมชน โภค นึกในการรักถิ่นกำเนิด
15.ท่านคิดว่า ในชุมชนแห่งนี้ สมาชิกหรือกลุ่มองค์กรใดมีบทบาทในการส่งเสริมการอนุรักษ์ป่า ชุม มากที่สุด O วัด O โรงเรียน	15.ท่านคิดว่า ในชุมชนแห่งนี้ สมาชิกหรือกลุ่มองค์กรใดมีบทบาทในการส่งเสริมการอนุรักษ์ป่า ชุม มากที่สุด O วัด O โรงเรียน	<u>ประโยชนทางอ้อม</u> ได้สัมพันธภา ล่าสัตว์เพื่อบริ สร้างความสำ อื่นๆ (โปรด	พที่ดีกับเพื่อนบ้านจากการร่วมกิจกรรมรักษาป่าชุมชน โภค นึกในการรักถิ่นกำเนิด กระบ)
15.ท่านคิดว่า ในชุมชนแห่งนี้ สมาชิกหรือกลุ่มองค์กรใดมีบทบาทในการส่งเสริมการอนุรักษ์ป่า ชุม มากที่สุด O วัด O โรงเรียน	15.ท่านคิดว่า ในชุมชนแห่งนี้ สมาชิกหรือกลุ่มองค์กรใคมีบทบาทในการส่งเสริมการอนุรักษ์ป่า ชุม มากที่สุด O วัด O โรงเรียน	<u>ประโยชนทางอ้อม</u> ใด้สัมพันธภา ถ่าสัตว์เพื่อบริ สร้างความสำ อื่นๆ (โปรค	พที่ดีกับเพื่อนบ้านจากการร่วมกิจกรรมรักษาป่าชุมชน โภค นึกในการรักถิ่นกำเนิด เระบุ)
15.ท่านคิดว่า ในชุมชนแห่งนี้ สมาชิกหรือกลุ่มองค์กรใดมีบทบาทในการส่งเสริมการอนุรักษ์ป่า ชุม มากที่สุด O วัด O โรงเรียน	15.ท่านคิดว่า ในชุมชนแห่งนี้ สมาชิกหรือกลุ่มองค์กรใดมีบทบาทในการส่งเสริมการอนุรักษ์ป่า ชุม มากที่สุด O วัด O โรงเรียน	<u>ประโยชนทางอ้อม</u> ใด้สัมพันธภา ล่าสัตว์เพื่อบริ สร้างความสำ ^เ อื่นๆ (โปรด	พที่ดีกับเพื่อนบ้านจากการร่วมกิจกรรมรักษาป่าชุมชน โภค นึกในการรักถิ่นกำเนิด เระบุ)
15.ท่านคิดว่า ในชุมชนแห่งนี้ สมาชิกหรือกลุ่มองค์กรใดมีบทบาทในการส่งเสริมการอนุรักษ์ป่า ชุม มากที่สุด O วัด O โรงเรียน	15.ท่านคิดว่า ในชุมชนแห่งนี้ สมาชิกหรือกลุ่มองค์กรใดมีบทบาทในการส่งเสริมการอนุรักษ์ป่า ชุม มากที่สุด O วัด O โรงเรียน	<u>ประโยชนทางอ้อม</u> ใด้สัมพันธภา ถ่าสัตว์เพื่อบริ สร้างความสำ ^เ อื่นๆ (โปรด	พที่ดีกับเพื่อนบ้านจากการร่วมกิจกรรมรักษาป่าชุมชน โภค นึกในการรักถิ่นกำเนิด าระบุ)
 15.ท่านคีดว่า ในชุมชนแห่งนี้ สมาชิกหรือกลุ่มองค์กรไดมีบทบาทในการส่งเสริมการอนุรักษ์ป่า ชุม มากที่สุด O วัด O โรงเรียน 	 15.ท่านคิดว่า ในชุมชนแห่งนี้ สมาชิกหรือกลุ่มองค์กรไดมีบทบาทในการส่งเสริมการอนุรักษ์ป่า ชุม มากที่สุด O วัด O โรงเรียน 	<u>ประโยชนทางอ้อม</u> ได้สัมพันธภา ถ่าสัตว์เพื่อบริ สร้างกวามสำ อื่นๆ (โปรด	พที่ดีกับเพื่อนบ้านจากการร่วมกิจกรรมรักษาป่าชุมชน โภค นึกในการรักถิ่นกำเนิด าระบุ)
มากที่สุด O วัด O โรงเรียน	มากที่สุด O วัด O โรงเรียน	<u>ประโยชนทางอ้อม</u> ใด้สัมพันธภา ถ่าสัตว์เพื่อบริ สร้างความสำ	พที่ดีกับเพื่อนบ้านจากการร่วมกิจกรรมรักษาป่าชุมชน โภค นึกในการรักถิ่นกำเนิด เระบุ)
O วัด O โรงเรียน	O วัด O โรงเรียน	<u>ประโยชนทางอ้อม</u> ใด้สัมพันธภา ถ่าสัตว์เพื่อบริ สร้างความสำ อื่นๆ (โปรค 	พที่ดีกับเพื่อนบ้านจากการร่วมกิจกรรมรักษาป่าชุมชน โภค นึกในการรักถิ่นกำเนิด าระบุ) ห่งนี้ สมาชิกหรือกลุ่มองก์กรใดมีบทบาทในการส่งเสริมการอนุรักษ์ป่า ชุม
		 <u>ประโยชนทางอ้อม</u> ใด้สัมพันธภา ถ่าสัตว์เพื่อบริ สร้างความสำร อื่นๆ (โปรด 15.ท่านคิดว่า ในชุมชนแ มากที่สุด 	พที่ดีกับเพื่อนบ้านจากการร่วมกิจกรรมรักษาป่าชุมชน โภค นึกในการรักถิ่นกำเนิด เระบุ) ห่งนี้ สมาชิกหรือกลุ่มองก์กรใดมีบทบาทในการส่งเสริมการอนุรักษ์ป่า ชุม
0 อื่นๆ	,	 <u>ประโยชนทางอ้อม</u> ใด้สัมพันธภา ล่าสัตว์เพื่อบริ สร้างความสำ อื่นๆ (โปรด อื่นๆ (โปรด มากที่สุด O วัด O โร O ประชาชนในชุมชน O อื่นๆ 	พที่ดีกับเพื่อนบ้านจากการร่วมกิจกรรมรักษาป่าชุมชน โภค นึกในการรักถิ่นกำเนิด เระบุ) ห่งนี้ สมาชิกหรือกลุ่มองค์กรใดมีบทบาทในการส่งเสริมการอนุรักษ์ป่า ชุว งเรียน O กรรมการหมู่บ้าน

16. ท่า	นคิดว่า ตัวท่า	เอง ทำหน้าที่ในการอนุรักษ์ป่าชุมชนมากน้อยเพียงไร
O ມາຄ		O ปานกลาง
O น้อย	I	O ไม่ได้ทำหน้าที่
17. ท่า	นคิดว่าท่านมี	วนร่วมในการอนุรักษ์ทรัพยากรป่าไม้ในป่าชุมชนแห่งนี้เพียงใด
O ມາຄ		O ปานกลาง
O น้อย	I	Oไม่มีส่วนร่วม
18. ใน	เการอนุรักษ์ป่	ชุมชน ท่านมีส่วนร่วมในกิจกรรมใดบ้าง
 19. r ĩ	า่านกิดว่าอะไร โปรดใส่หมายเ	ป็นแรงจูงใจสำคัญที่ทำให้ตัวท่านเข้ามามีส่วนร่วมในการอนุรักษ์ป่าชุมชนแห่งนี้ เขเรียงลำดับความสำคัญ 3 อันดับแรก
((หมายเลข 1 = กำดับที่ 3)	^ะ สำคัญมากที่สุด หมายเลข 2 = สำคัญลำดับที่ 2 หมายเลข 3 = สำคัญ
	. ผู้นำชุมชน	ข้มแข็ง
	. ความเชื่อเ	าะประเพณีท้องถิ่น
	. กฎระเบีย	ป่าชุมชน
	. จิตสำนึกใ	เความเป็นเจ้าของป่า
	. การพึ่งพิง	าของป่า
	. ความต้อง	ารใช้น้ำ
	. ครอบครัว	ละบรรพบรษ
	. ภาวะหนี้ส์	а а Д
	์ อื่นๆ (โป	Ø
ระบ)	• • • • • • • • • • •	
10 Å)		
20.	ท่านมีความเข้	ใจเกี่ยวกับปรัชญาเศรษฐกิจพอเพียงมากน้อยเพียงไร
	O มาก	O ปานกลาง
(O น้อย	O ไม่เข้าใจ
21. ป่าได้มา	จากข้อ 20) กน้อยเพียงใค	ากมีความเข้าใจ ท่านกิดว่าปรัชญาเศรษฐกิจพอเพียงนำมาประยุกต์ใช้กับการอนุรักษ์
	O ມາຄ	O ปานกลาง
(O น้อย	O ไม่สามารถประยุกต์ใช้ได้
22. จากข้อ 21) ได้ ท่านกิดว่านำมาใช้	หากท่านเห็นด้วยว่าหลักปรัชญาเศรษฐกิจพอเพียงสามารถนำมาใช้ในการอนุรักษ์ป่า ได้ในทางใดบ้าง	
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23. ท่านคิดว่า สภาท	ป่าในพื้นที่ป่าชุมชนแห่งนี้ในรอบ 5 ปีที่ผ่านมา เป็นอย่างไร	
${ m O}$ เพิ่มขึ้น	O เหมือนเดิม O ลดลง	
24. หากข้อ 22. ตร 	บว่าลดลง ท่านกิดว่ามีสาเหตุมาจาก 	•
O ມາຄ	O ปานกลาง	
O น้อย	O ไม่พอใจ	
26. ท่านทราบข้อมูล O มาก O น้อย	เกี่ยวกับ พระราชบัญญัติป่าชุมชนมากน้อยเพียงใด O ปานกลาง O ไม่ทราบ	
27.ท่านต้องการให้มี	าารออก พระราชบัญญัติป่าชุมชนหรือไม่	
O ต้องการ	O ไม่ต้องการ	
O ไม่ทราบ		

ประเด็น		การมี	ส่วนร่วม	
	มากที่สุด	มาก	น้อย	น้อยที่สุด
<u>ตอนที่ 1 การมีส่วนร่วมในการค้นหา</u>				
<u>ปัญหาและความต้องการ</u>				
้. 1. ท่านมีส่วนร่วมในการค้นหาปัญหา				
หรืออุปสรรกที่อางเกิดขึ้นต่อการอนุรักษ์ ป่าใช้ในพื้นที่	()	()	()	()
 2. ท่านร่วมเสนอแนวทางแก้ไขปัญหาป่า 	()	()	()	()
ไม้ของหมูบ้านในทัประชุม 3. ท่านนำปัญหาที่ท่านเห็นในชุมชน เช่น การลักลอบตัดไม้หรือล่าสัตว์ มาร่วม พดอยกับเพื่อบบ้าน	()	()	()	()
ฐหนุงการเพอนบาน 4.ท่านเข้าร่วมในการวางแผนแก้ไขปัญหา การทำลายป่าไม้ในหมู่บ้าน	()	()	()	()
5.ท่านเข้าร่วมในการวางแผนกำหนด รายละเอียดของกิจกรรมการปลูกป่าของ หมู่บ้าน เช่น จะปลูกที่ไหน เวลาใด พันธุ์ ไม้ที่ต้องการปลูก	()	()	()	()
 6. ท่านนำเสนอปัญหาข้อบกพร่องในการ ดำเนินงานการอนุรักษ์ป่าชุมชนเพื่อให้ คณะกรรมการหมู่บ้านหรือคณะกรรมการ ป่าชุมชนที่รับผิดชอบได้รับทราบ 7. ท่านมีส่วนร่วมในการเสนอข้อ เรียกร้องต่างๆให้หน่วยงานทางราชการได้ 	()	()	()	()
พิจารณาและแก้ไข				

ส่วนที่ 3 ข้อมูลเกี่ยวกับระดับการมีส่วนร่วมในการจัดการป่าชุมชนของคนในท้องถิ่น

	<u>มากที่สุด</u>	<u>มาก</u>	<u>น้อย</u>	<u>น้อยที่สุด</u>
ตอนที่ 2 การมีส่วนร่วมในการตัดสินใจ				
1. ท่านมีส่วนร่วมในการตัดสินใจเกียว				
กับแนวทางแก้ไขปัญหาการอนุรักษ์ป่าใน				
พื้นที่ เช่น การอนรักษ์ป่า การทำฝายแม้ว				
, การทำแนวกันไฟ	()	()	()	()
2. ท่านมีส่วนร่วมในการตัดสินใจว่าป่า				
ชุมชนแห่งนี้ควรจะขึ้นทะเบียนกับกรมป่า	()	()	()	()
ไม้หรือไม่				
3. ท่านมีส่วนร่วมในการกำหนดกฏ	()	()	()	()
ระเบียบข้อบังคับของป่าชุมชนแห่งนี้				
4. ท่านมีส่วนร่วมในการเสนอชื่อหรือ	()	()	()	()
เลือกคณะกรรมการป่าชุมชนของหมู่บ้าน	()		()	()
	<u>มากที่สุด</u>	<u>มาก</u>	<u>น้อย</u>	<u>น้อยที่สุด</u>
<u>ตอนที่ 3 การมีส่วนร่วมในการปฏิบัติการ</u>				
1. ท่านได้เข้าร่วมกิจกรรมการอนุรักษ์ป่า				
ชุมชนในวาระต่างๆ เช่น กิจกรรมการปลูก				
ต้นไม้ การสร้างฝ่ายแม้ว การทำแนวกันไฟ				
การใหว้ผีขุนน้ำ	()	()	()	()
2.ท่านได้เข้าร่วมในชุดสายตรวจลาด				
ตะเวนพื้นที่เพื่อป้องกันการบุกรุกและ				
ลักลอบตัดไม้ในป่าชุมชน	()	()	()	()
3. ท่านได้ให้ความช่วยเหลือด้านการเงิน				
เช่น การบริจาคเงิน ให้กับคณะกรรมการ				
หมู่บ้านเพื่อนำไปใช้ในการคำเนินงาน	()	()	()	()
อนุรักษ์ป่าชุมชน				()
4. ท่านมีส่วนร่วมในการชักชวนเพื่อน				
บ้านให้ร่วมมือกันในการอนุรักษ์ป่า เช่น				
ร่วมกันปลูกและบำรุงรักษาต้นไม้ที่ปลูก	()	()	()	()
ในพื้นที่ป่าชุมชน				
5.ท่านมีส่วนร่วมในการตักเตือนสมาชิก				
ในชุมชนไม่ให้บุกรุกหรือทำลายป่า	()	()	()	()
				× /

 6. ท่านมีส่วนร่วมในการเข้ารับการ ฝึกอบรมเกี่ยวกับการอนุรักษ์ป่าชุมชน 7. ท่านเคยออกไปร่วมประสานงานกับ หมู่บ้านอื่นในกิจกรรมป่าชุมชน เช่น การ ปลูกป่า บวชป่า 8. ท่านเคยแจ้งคณะกรรมการป่าชุมชน เมื่อมีผู้บุกรุกเข้าไปตัดไม้หรือล่าสัตว์ในป่า ชุมชน 	<u>มากที่สุด</u> () ()	<u>มาก</u> () ()	<u>น้อย</u> () ()	<u>น้อยที่สุด</u> () ()
<u>ตอนที่ 4 การมีส่วนร่วมในผลประโยชน์</u>	<u>มากที่สุด</u>	<u>มาก</u>	<u>น้อย</u>	<u>น้อยที่สุด</u>
 ท่านได้ประโยชน์จากการเก็บหาของ ป่ามาบริโภค เช่น เห็ด หน่อไม้ น้ำผึ้ง ฟืน รายได้ของท่านมาจากการขายของป่าที่ เก็บจากป่าชุมชนเช่น เห็ดโคน อาหารป่า ท่านมีความภากภูมิใจเมื่อป่าชุมชนของ 	()	()	()	()
	()	()	()	()
ทาน เครบรางวลหรอ เครบการตอบรบ จากสังคมว่าเป็นแบบอย่างที่คีของการ จัดการป่าชุมชน	()	()	()	()
4. ท่านได้ประโยชน์จากการติดต่อกับ เครือข่ายป่าชุมชนแห่งอื่น	()	()	()	()
 ภานและเพอนบานมความสามคคและ สนิทสนมกันมากขึ้นหลังจากที่ได้ร่วม กิจกรรมป่าชุมชน 	()	()	()	()

<u>ตอนที่ 5 การมีส่วนร่วมในการประเมินผล</u>	<u>มากที่สุด</u>	<u>มาก</u>	<u>น้อย</u>	<u>น้อยที่สุด</u>
1. ท่านเคยร่วมติดตามผลเพื่อดูว่า				
กิจกรรมการปลูกป่าที่ทำมีผลเป็นอย่างไร				
มีปัญหาหรืออุปสรรคที่จะต้องแก้ไข	()	()	()	()
หรือไม่				
2.ท่านเคยร่วมติดตามผลเพื่อดูว่ากิจกรรม				
รณรงค์การอนุรักษ์ป่าที่ทำมีผลเป็น				
อย่างไร มีปัญหาหรืออุปสรรคที่จะต้อง	()	()	()	()
แก้ไขหรือไม่				
3.ท่านมีส่วนร่วมในการประเมินผล	()	()	()	()
ความสำเร็จของคณะกรรมการป่าชุมชนใน	()	()	()	()
ป่าชุมชนแหงนี้				

ส่วนที่ 4 ข้อแนะนำหรือความเห็นเพิ่มเติมเกี่ยวกับการมีส่วนร่วมและการอนุรักษ์ป่าชุมชนอย่างยั่งยืน

•••••				•••••
•••••	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	•••••	
•••••	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	••••••	••••••
•••••	•••••	•••••	•••••	•••••
•••••	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	••••••	• • • • • • • • • • • • • • • • • • • •

Table of Content Validity Ratio

at Significant Level of 0.05 According to Lawshe, 1975

Number of Person to Evaluate	Minimum Content Validity Ratio (CVR)
5	.99
6	.99
7	.99
8	.78
9	.75
10	.62
11	.59
12	.56
13	.54
14	.51
15	.49
20	.42
25	.37
30	.33
35	.31
40	.29

Issue	Relevant	Irrelevant	CVR
Participation in Searching Problem and Causes			
Question 1	8	0	1
Question 2	7	1	0.88
Question 3	7	1	0.88
Question 4	8	0	1
Question 5	8	0	1
Question 6	8	0	1
Question 7	7	1	0.88
Participation in Decision			
Question 1	8	0	1
Question 2	8	0	1
Question 3	8	0	1
Question 4	8	0	1
Participation in Implementation			
	0	0	1
Question 1	8	0	1
Question 2	8	0	1
Question 5	8	0	1
Question 5	8 8	0	1 0.88
Question 6	8	1	0.88
Question 7	8	1	0.88
Question 8	8	0	1
Paritcipation in Bebefit	0	Ū	1
-			
Question 1	8	0	1
Question 2	8	0	1
Question 3	8	0	1
Question 4	8	0	1
Question 5	8	0	1
Participation in Evaluation			
Question 1	8	0	1
Ouestion 2	8	õ	1
Question 3	8	1	0.88

Content Validity of the Study

People participation in forest conservation	Coefficient Alpha (a)
Participation in searching problem and its causes	.896
Participation in decision making	.736
Participation in implementation	.858
Participation in sharing benefit	.711
Participation in evaluation	.909
Total	.953

Coefficient Alpha of the Study

APPENDIX C

List of Key Informants

List of Key Informants: Ban Samkha Community Forest

1. Mr.Chamnong JunJom	Headman of the Village
2. Mr.Boonruean Taokham	Assistant to the Headman of the Village
3. Mr. Chai Wongtrakul	Community Forest Committee
4. Mrs. Srinuan Wongtrakul	Teacher, Baan Sam Kha School
5. Mr. Thon Yaso	Community Forest Committee
6. Mr. That Indraprasith	Community Forest Committee
7. Mr. Prom Wongjina	Community Forest Committee
8. Mr. Boonsong Boonjaroen	Community Forest Committee

Focus Discussion Groups

Villagers of Ban Samkha Community Forest Committee



Household Interview at Ban Samkha Community Forest

List of Key Informants: Huay Mae Hin Community Forest

1. Mr. Ubon Janthik	President of Ngao's Forest Development
	Assocaition
2. Mr. Suthat Rajchai	Chairman of Community Forest Committee
3. Mr. Prapan Srinuan	Headman of the Village
4. Mr. Cherd Thammayod	Community Forest Committee
5. Mr. Winyoo Lamsang	Commuity Forest Committee
6. Mr. Noi Uthanondh	Community Forest Committee
7. Mr. Som Thi-In-Toh	Community Forest Committee
8. Mr. Sumai Maimun	Royal Forest Department

Focus Discussion Groups

Villagers of Ban Hua Tung Community Forest Committee



Household Interview at Huay Mae Hin Community Forest

List of Key Informants: Ban Talad kee Lek Community Forest

1. Mr. Somkid Thidlangka	Vice-President of sub-district
	administration
2. Mr. Boonyen Sitthiyakorn	Member of sub-district administration
3. Mr. Somboon Thaiyantho	Headman of the village
4. Mrs. Fongnuan Yardfoong	Assistant to the Headman of the village
5. Mr. Kaew Tednam	Community Forest Committee
6. Mr. Manop Jinajai	Community Forest Committee
7. Mrs. Viraa Jinajai	President of Housewife Group
8. Mr. Manoon Tednam	Local philosopher
9. Prakru Manop KittiYano	Abbot of Wat Phra Thad Doi Jom Jang
10. Sakda Maneewong	Royal Forest Department

Focus Discussion Groups

Villagers of Ban Talad Kee Lek Community Forest Committee



Household Interview at Ban Talad Kee Lek Community Forest

List of Key Informants: Ban Mae Rawan Community Forest

1. Mr. Pradit Srivilai	Headman of the village/ Community Forest
	Committee
2. Mr. Pongsiri Nondhachai	Assistant to the Headman/ Community Forest
	Committee
3. Mr. Kitti Wongmuangkan	Member of Sub-District Administration
4. Mr. Mongkol Thioud	Member of Sub-District Administration
5. Mr. Kaewma Trongjai	Community Forest Committee
6. Mr. Toonailah Uthananth	Senior Citizen
7. Mr. Naschai Moonsai	Representative of Youth

Focus Discussion Groups

Villagers of Ban Mae Rawan Community Forest Committee









Appendix D

List of Model Community Forest in Thailand

	Community Forest	Province	Level of
			Outstanding
	North		
1	Ban Pang Pao community forest	Chiangmai	Province
2	Ban Pa Ngeel community forest	Chiangmai	Province
3	Ban Pa Pao Ngam community forest	Chiangmai	Province
4	Ban Nhong Keaw community forest	Mae Hong Son	Province
5	Ban Mae Harn community forest	Mae Hong Son	Region
6	Ban Mae Had community forest	Lampoon	Province
7	Ban Nhong Kok community forest	Lampoon	Province
8	Ban San Ton Pao community forest	Chiangrai	Province
9	Doi Kui Bia community forest	Chiangrai	Province
10	Ban Tung Sai community forest	Chiangrai	Province
11	Ban Sob Pao Mai community forest	Chiangrai	Province
12	Huay Mai Ngoon community forest	Chiangrai	Province
13	Ban Kha Paiboon community forest	Payao	Province
14	Ban Sri Jom Jang communit forest	Payao	Province
15	Ban Phu Yang community forest	Nan	Province
16	Huay Juad community forest	Nan	Province
17	Pa Nam Yao commuity forest	Nan	Province
18	Ban Huay Mae Hin community forest	Lampang	Province
19	Ban Nam Jo community forest	Lampang	Province
20	Ban Pah Maew community forest	Lampang	Province
21	Ban Boon Jam community forest	Prae	Province
22	Ban Mai Jad San community forest	Prae	Province
23	Ban Huay Kon community forest	Prae	Province
24	Ban Huay Pong community forest	Utaradit	Province
25	Ban Huay Prob community forest	Utaradit	Province
26	Ban Patana Worrapong community forest	Petchaboon	Province
27	Ban Tarn Thip community forest	Petchaboon	Province
28	Ban Nhong Yang community fores	Pitsanulok	Province

List of Model Community Forests in Thailand Awarded by Royal Forest Department (September 2008)

	Community Forest	Province	Level of
			Outstanding
29	Ban Khao Noi community forest	Pitsanulok	Province
30	Ban Mae Ra Wan community forest	Tak	Province
31	Ban Mae Geet Luang community forest	Tak	Province
32	Ban Lan Sang community forest	Tak	Province
33	Ban Khao Prik community forest	Kampangpetch	Province
34	Ban Rai Pichit community forest	Kampangpetch	Province
35	Ban Khao Loan community forest	Pichit	Province
36	Ban Wang Ta Mon community forest	Pichit	Province
37	Ban Khao Lam community forest	Nakornsawan	Province
38	Ban Petch Pa Lad community forest	Utaithanee	Province
39	Khao Lao Tien Thong community forest	Chainat	Province
	Northeast		
40	Ban Nhong Plan community forest	Udornthanee	Province
41	Ban Jom Sri community forest	Udornthanee	Province
42	Ban Nonh Daeng community forest	Udornthanee	Province
43	Ban Dong Noi community forest	Leoy	Province
44	Ban Na Jareon community forest	Nhong Bua LamPhu	Province
45	Ban Chok Chai community forest	Nhong Bua Lam Phu	Province
46	Ban Huay Hai community forest	Nhongkai	Province
47	Ban Nhong Auay community forest	Nhongkai	Province
48	Ban Huay Hin Khao community forest	Nhongkai	Province
49	Ban Kud Had community forest	Sakolnakorn	Province
50	Ban Sang Kor community forest	Sakolnakorn	Province
51	Ban Nhong Kha community forest	Sakolnakorn	Province
52	Ban Pracha Sooksun community forest	Sakolnakorn	Province
53	Ban Don Koy community forest	Sakolnakorn	Province
54	Ban Nhong Plan community forest	Sakolnakorn	Province
55	Phu Kwang community forest	Mookdaharn	Province
56	Ban Song Preay community forest	Mookdaharn	Province
57	Ban Sai Thong community forest	Mookdaharn	Province
58	Ban Dong Ka Saen community forest	Nakornpanom	Province

	Community Forest	Province	Level of
			Outstanding
59	Ban Porncharoen community forest	Nakornpanom	Province
60	Pa Don Jao Poo community forest	Khonkaen	Province
61	Pa Khok Mong Na Hee community forest	Khonkaen	Province
62	Khok Lub Pa Kong community forest	Khonkean	Province
63	Khok Rai community forest	Mahasarakarm	Province
64	Ban Wang Hai community forest	Mahasarakarm	Province
65	Ban Krok Hin Lad community forest	Mahasarakarm	Province
66	Khok Pa See community forest	Karnlasin	Province
67	Phu Por Baan Na Udom community forest	Karnlasin	Province
68	Pa Kham Yai- Kham Kwang community forest	Roy-ed	Province
69	Khok Ta See community forest	Roy-ed	Province
70	Dong San community forest	Roy-ed	Province
71	Tam Le Don Yai community forest	Roy-ed	Province
72	Ban Chard community forest	Ubonratchathanee	Province
73	Ban Ta Sira community forest	Ubonratchathanee	Province
74	Ban Don Moo community forest	Ubonratchathanee	Province
75	Kang Ha Huan community forest	Ubonratchathanee	Province
76	Ban Tae wan community forest	Ubonratchathanee	Province
77	Ban Pa Kor community forest	Ubonratchathanee	Province
78	Ban Kham Preay community forest	Ubonratchathanee	Province
79	Ban Nhong Han community forest	Yasothorn	Province
80	Ban Lao Ma Keaw community forest	Yasothorn	Province
81	Ban Thong Sam Rit community forest	Yasothorn	Province
82	Ban Yang Dew community forest	Yasothorn	Province
83	Ban Nhong Hai Noi community forest	Amnajcharoen	Province
84	Ban Phon Thong community forest	Amnajcharoen	Province
85	Chang Tok Tai community forest	Nakornratchasrima	Province
86	Jieb Klang community forest	Nakornratchasrima	Province
87	Alor-Dornban community forest	Surin	Province
88	Ban Mano community forest	Surin	Province
89	Phu Ta Pao community forest	Chaiyapoom	Province

	Community Forest	Province	Level of
			Outstanding
90	Khao Wong community forest	Chaiyapoom	Country
91	Kanchanapisek community forest	Buriram	Province
92	Ban Jarn community forest	Buriram	Province
93	Non Yai community forest	Srisaket	Region
	Middle / East		
94	Bung Pho Lium community forest	Singhburi	Province
95	Khao Ay Pod community forest	Lopburi	Province
96	Ban Neon Maka community forest	Nakornnayok	Province
97	Ban Non Hin Pueng community forest	Pracheenburi	Province
98	Ban Khao Benjakorn community forest	Sakaew	Province
99	Ban Thammarat Nai community forest	Chacherngsao	Province
100	Ban Phra Bhudhabah Noi community forest	Saraburi	Province
101	Ban Nhong Hua Rad community forest	Chonburi	Province
102	Ban Ta Krao Thong community forest	Rayong	Province
103	Ban Jed Luk Neon community forest	Rayong	Province
104	Ban Tha Ra Ma Bon community forest	Chanthaburi	Province
105	Ban Tha Jod community forest	Trad	Province
106	Ban Yang Thon community forest	Kanchanaburi	Province
107	Ban Phai See Thong community forest	Supanburi	Province
108	Ban Nhong Lee community forest	Petchburi	Province
109	Ban Nhong Ta Muang community forest	Prachuabkirikan	Province
110	Pu Yang community forest	Ratchaburi	Region
	South		
111	Ban Muang Taew community forest	Chumporn	Region
112	Ban Tub Jark community forest	Ranong	Province
113	Ban Tung Soong community forest	Krabi	Province
114	Ban Hin Sam Kon community forest	Pang-Nga	Province
115	Ban Klong Le community forest	Nakornsrithammarat	Province
116	Ban Pa Krok community forest	Phuket	Province
117	Ban Yang Kao community forest	Songkha	Province
118	Ban Pa Suan Rook Moon community forest	Trung	Province

	Community Forest	Province	Level of
			Outstanding
119	Ban Nhong Tin community forest	Pattalung	Province
120	Ban Tung Sethdhi community forest	Pattalung	Province
121	Ban Na Prik community forest	Satoon	Province
122	Ban Ku Yi community forest	Narathiwat	Province
123	Ban Tha Rua community forest	Pattanee	Province
124	Ban Chalong Chai community forest	Yala	Province
125	Ban Tam Pueng community forest	Suratthanee	Region

List of Model Community Forests in Thailand
Awarded by Royal Forest Department (September 2009)

	Community Forest	Province	Level of
			Outstanding
	North		
1	Huay Sai Kawl community forest	Lampoon	Country
2	Ban Wang Ta Mon community forest	Sukhothai	Region
3	Ban La Luang Nok community forest	Chiangmai	Province
4	Ban Hua Mae La Ka community forest	Mae Hong Son	Province
5	Ban Ta Tung Luang community forest	Lampoon	Province
6	Ban Pa Lun community forest	Chiangrai	Province
7	Ban Tat King Gang Bon community forest	Payao	Province
8	Ban Kwang community forest	Nan	Province
9	Sa Sob Huak community forest	Lampang	Province
10	Ban Huay Phu Nok community forest	Utraradit	Province
11	Huay Pha Hai community forest	Prae	Province
12	Ban Lan Sang communit forest	Tak	Province
13	Ban Khong Kamin community forest	Kampangpetch	Province
14	Ban NhongYang community forest	Pitsanulok	Province
15	Ban Mae Hu commuity forest	Sukhothai	Province
16	Ban Khao Wong community forest	Saraburi	Province
17	Ban Khong Huay Wai community forest	Nakornsawan	Province
18	Ban Petch Pha Lard community forest	Utaithanee	Province
19	Khao Jed Luk community forest	Pichit	Province
20	Ban Nhong Preau community forest	Phetchaboon	Province
	Northeast		
21	Don Jao Poo community forest	Khonkaen	Food Supply
22	Wangkok community forest	Chaiyaphoom	Region
23	Huay Rai Burapa community forest	Udornthanee	Province
24	Ban Nhong Khon Kaen community forest	Leoy	Province
25	Ban Non Pak Wan community forest	Nhong Bua LamPhu	Province
26	Baan Dong Lao community forest	Nhongkai	Province

	Community Forest	Province	Level of
			Outstanding
27	Baan Khok Yai community forest	Khonkaen	Province
28	Pa Kok Phu Ka Tae community forest	Mahasarakham	Province
29	Phu Muang community forest	Kanrasin	Province
30	Phu Noi community forest	Mookdahan	Province
31	Ban Waree Kasem community forest	Roi-ed	Province
32	Nhong Boon Nak community forest	Nakornratchasima	Province
33	Ban Tung Mon community forest	Surin	Province
34	Ban Nhong Thanon community forest	Buriram	Province
35	Ban Wang Ta Thep community forest	Chaiyaphoom	Province
36	Ban Phra-Baan Jama community forest	Srisaket	Province
37	Ban Nhong Sung community forest	Nakornpanom	Province
38	Ban Pa Muang community forest	Sakolnakorn	Province
39	Dong Yai community forest	Ubonratchathanee	Province
40	Ban Kham Noi community forest	Amnajcharoen	Province
41	Ban Kham Khan Sok community forest	Yasothorn	Province
	Middle / East		
42	Ban Yang Thon community forest	Kanchanaburi	Region
43	Ban Khao Wong community forest	Saraburi	Province
44	Ban Bang Pan community forest	Singhburi	Province
45	Ban Maha Pho community forest	Lopburi	Province
46	Ban Dong Pa Ka community forest	Chainat	Province
47	Ban KhaoYai community forest	Chonburi	Province
48	Ban Sam Yak Nam Phen community forest	Rayong	Province
49	Ban Pong Ma Muang Wan community forest	Chanthaburi	Province
50	Ban Jan Thi community forest	Trad	Province
51	Ban Khao Noi community forest	Ratchaburi	Province
52	Ban Seri Tham community forest	Kanchanaburi	Province
53	Ban Pa Sak community forest	Supanburi	Province
54	Ban Phu Toom community forest	Petchburi	Province
55	Ban Nhong Jik community forest	Prachuab	Province
56	Ban Neon Soong community forest	Pracheenburi	Province

	Community Forest	Province	Level of
			Outstanding
57	Baan Pho Thong community forest	Sakaew	Province
58	Ban Chompoo community forest	Chacherngsao	Province
59	Ban Khong See Siad community forest	Nakornnayok	Province
	South		
60	Ban Sa Kaew community forest	Suratthanee	Region
61	Ban Khao Chong Ko community forest	Suratthanee	Province
62	Ban Porn Lung community forest	Ranong	Province
63	Ban Phu Ra Kam Wan community forest	Chumporn	Province
64	Ban Tham Phra Hor community forest	Nakornsrithammarat	Province
65	Ban Ka La Se community forest	Trung	Province
66	Ban Lam Sin Nua community forest	Pattalung	Province
67	Ban Khong Koi community forest	Songkha	Province
68	Ban Pa te community forest	Satoon	Province
69	Ban Keri Wong community forest	Krabi	Province
70	Ban Khao Mai Pai community forest	Pang Nga	Province
71	Ban Chuurapornpattana 12 community forest	Narathiwat	Province

BIOGRAPHY

NAME	Pornthep Sritanatorn
ACADEMIC BACKGROUND	 1992 Bachelor of Business Administration Thammasat University, Thailand 1997 Master of Business Administration University of Memphis, Tennessee, USA 2000 Master of Arts (English) Thammasat University, Thailand
PRESENT POSITION	2009 Policy and Plan Analyst Professional, Ministry of Agriculture and Cooperatives
EXPERIENCES	Project Analyst, Industrial Finance Corporation of Thailand (IFCT) Credit Analyst, HongKong and Shanghai Banking Corporation (HSBC) Guest Lecturer at Siam University, Faculty of Business Administration Guest Lecturer at Rajabhat Suan Sunandha University, Faculty of Management Science Guest Lecturer at The University of Thai Chamber of Commerce (UTCC), Faculty of Accounting (International Program)