

# Conflict over Forest Resource Use in Ban Pang Eka, Mae Ram Watershed, Chiang Mai Province, Northern Thailand



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## Group declaration

This report is a group work within which individuals add their own contribution in order to address the research questions in the study. Therefore, in the report we have done all of its sections together and the ideas reflected in each sections of the report are the group members' ideas supported with acknowledged literatures where ever necessary. However, to make every group member get involved in writing the ideas and organise the final report, we have divided the sections so that the initial draft will be written by group members whose names are mentioned in the following table. Then, the draft idea presented by individual members have been commented on and even changed as per the group's interest.

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## **Abstract**

Studies indicate that the Thai Government's policy to conserve forest resources in protected areas has resulted in conflict between local population and government official. Thus, this study was initiated to determine the underlying causes and consequences of the conflict on local villagers' livelihood and forest resources as well as effectiveness of the procedure used to manage it. Both qualitative and quantitative information has been collected from different sources. According to the finding, the underlying cause of the conflict have been found to be the national forest protection policy which sees forests as free from human interference resulting in establishment of conservation areas in place where the village Ban Pang Eka is already established. The establishment of such conservation forests resulted in restriction of agricultural lands which further brought change in villagers' livelihood strategies of the villagers to labour work. Although it is hardly possible to correlate the conflict with the degradation of the forest, both the direct and indirect evidences show that the forest in the area is in the trend of degradation and the conflict over the use of the forest has its own share to the degradation. Further more, the procedures used to manage the conflict by establishing a community forest which was proposed by villagers didn't have legal recognition and the conflict was left suspended without being addressed in a proper manner. Based on this particular study which was done basically on local level views, the problem concerning forest resource management in Ban Pang Eka village has affected both the villagers and the forest resources. Thus there is a need to consider local participation and views in management of forest resource in the area since it is certain that the place cannot be free from human involvement.

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# 1. Introduction

Forest cover in Thailand is often said to have fallen from more than 50 % in the 1960's to around 15 % forest cover in the year 2000 (Sato, 2000). The degradation has been especially high in the lowlands due to the policy of export-led growth in the 1960s and 1970s that caused a massive expansion of the agricultural land (Buch-Hansen et al., 2006). Since these major changes in the landscape occurred mainly in the lowland the forest cover is more intact (43 % forest cover) in the northern more mountainous part of Thailand, even though it is also under pressure in this region (Forsyth & Walker, 2008).

In the 1980s the degradation started causing great environmental concern, especially in the northern Thailand since that is the region with largest forest cover. In 1985, the National Forest Policy reinforced an aim of maintaining at least 40 % national forest cover by setting aside 25 % of the country's land as economic forest and the remaining 15 % as conservation forest. However, the policy was modified following a national logging ban in 1989 as a result of the disastrous flood in the southern Thailand. The change in the policy have been officially adopted in 1992 by reversing the parts of the conservation forest of which 15 % for conservation and 25 % for economic use to 25 % for conservation and 15 % for economic use. Due to the comparatively high forest cover in the northern Thailand, this part was particularly affected with 50 % of the area classified as conservation forest. As much of the area in northern Thailand had already been changed into agricultural land, the conservation forest categorization in reality covered large areas of agricultural land as well. This means that following the official plan, parts of agricultural lands were also included in the conservation. As a result of this policy most of the northern parts of the country have been affected (Forsyth & Walker, 2008).

Because of this mismatch between the official classification and the realities, a lot of farmers have experienced that their land has turned in to "ambiguous land" in which their agricultural activities are officially illegal, a problem still as present today as before. One of the most prevailing challenges in managing protected areas in Thailand is the conflict resulting from utilization of 'ambiguous lands' which are legally owned by the state but are being used by the local population. Therefore, in understanding the complexities of environmental degradation in Thailand it is helpful to study the conflict concerning ambiguous lands and the people who inhabit them (Roth, 2004; Walker, 2001 and Sato, 2000).

National parks and conservation forests are good examples of conflicting areas where the efforts of conservation have been targeted, though with limited success with respect to the goals. The conflicting situation started with the Thailand's government nation building initiatives and national strategic plan for protecting areas as national parks (Roth, 2004). The Royal Forest Department (RFD) decided in 1973 that fourteen forest areas should be established as national parks. This was followed by the National Parks' committee decision of incorporating only those forests which were in good conditions to be under national parks and excluding areas inhabited by villagers. Yet this was later expanded to also include areas inhabited by local people. One of the national parks was the Doi Suthep-Pui National Park which is located in the province of Chiang Mai. The village of Ban Pang Eka, which is the focus of this study, is found in the Doi Suthep-Pui National Park and the conservation forest in the Mae Ram watershed. The national park was although first established in 1981 declared as Thailand's 24<sup>th</sup> national park, constituting 161.06 square kilometres. This was followed by annexation of additional 100 square kilometres of the buffer zone areas to be part of the stated park resulting in a total area of 261.06 square kilometres. The establishment of the national park resulted in the enclosure of a significant portion of Mae Ram Watershed to be Doi Suthep-Pui National Park ([www.dnp.go.th](http://www.dnp.go.th)).

In addition, the Thai government has been trying to protect the forest lands through different strategies some of which prohibit tree cutting and burning by law, and not allowing full land tenure, but only user rights in forest lands (Roth, 2004). The imposition of forestry laws and regulations by the Thai government which was intended to resolve the problem of deforestation has resulted in conflict between Royal Forest Department and park officials and the local population over the use and control of forest resources. This is because the livelihood of the local forest-dependent communities and forest user groups has become in question (Amornsanguansin & Routray, 1998). Still, due to various reasons such as logging and agricultural expansion, the efforts implemented by the Royal Forest Department in protection of forest and natural resources didn't meet its objectives, and the forest resource in the country is still diminishing (Forsyth & Walker, 2008).

The village of Ban Pang Eka is located in Chiang Mai province, one of the provinces in which problems of conflict between forest protection and rural livelihood exists. The village is inhabited by the Karen people, one of the ethnic minorities in Thailand. As we have seen the village has experienced both the establishment of a national park and conservation forest. The villagers have therefore experienced all the restrictions and problems caused by the conservation policies in the country.



## ***1.1 Research Objective***

Considering the aforementioned basic situations of the natural resource use conflict in northern Thailand, this study tries to investigate the major causes of conflict about use of forest resources between government officials and the local population in Ban Pang Eka. The aim is also to investigate the consequences of the conflict on local livelihood and the forest resource. Furthermore, the study looks into how community forest can help to manage the conflict.

## ***1.3 Main research question***

How do local livelihood interests and higher level interests over use of forest resources differ and how can these conflicts be managed?

### **1.3.1 Sub-research questions**

The following chapter will explain why each of the research questions is included, what the more specific focus will be and what data is required.

#### *1. What are the underlying causes of the conflict over use of the forest resources in the area?*

To investigate the underlying causes of conflict over use of forest resource in the area, we need to know the nature of the actual conflicts, history of the conflict, the different stakeholders and relationship between them. It is also important to know about the roles, needs and interests of different stakeholders, the conflict roots and evolution

#### *2. What consequences have these conflicts of interests had on local livelihoods?*

To investigate the consequences of the conflict on local livelihood, the level of dependence of the community of Ban Pang Eka on the forest and the changes observed in the livelihood due to the conflicts was considered.

#### *3. What consequences have these conflicts of interests had on local forest resources?*

To investigate the consequences of the conflict on the forest resources in the area, we need to know about the different classification of forests and the overall condition of the forest. It is also important to know about the evolution of the forest over time.

#### *4. What procedures have been used to manage the conflicts of interests in the area?*

To investigate the likelihood of the conflict to happen in the future or its impact on the villagers' livelihood as well as on the forest resources, it is important to see the procedures

used in managing the conflict. Thus this question aims at points related to specific measures taken by the conflicting parties (villagers and officials), their perception about the community forest, possible implication of the differences in the perception of the community forest in the management of the forest resource and improving livelihoods of the villagers.

## **2. Methods**

This chapter describes the different methods used in the field to collect the data which were used to answer our research questions. To increase the validity of our results, triangulation of data and method of data collection were used.

### ***2.1 Study area***

The study was carried out in the village of Ban Pan Eka in Mae Ram Watershed, Mae Rim (District), Chiang Mai (Province) in northern Thailand. The village area is found inside the Suthep-Pui National Park and the conservation forest protected by the Royal Forestry Department. Currently, the village consists of about 67 households where initially it was established with only 4 households. The population of the village are is dominantly Karen ethnic group which have come from the border of Thailand and Burma. Their economic activity in the past was based on shifting cultivation of rice basically for household consumption. The Karen tribe are known for their close attachments to forest and forests have both economic and religious/cultural value for them.

### ***2.2 Data collection Methods***

#### **2.2.1 Semi-structured interview**

The semi-structured interview was used to triangulate with data from the questionnaire and to get detailed understanding of some the major issues of our study. Specifically, the semi-structured interview was used to obtain an in-depth insight about the causes of conflicts, consequences of the conflict on the villagers livelihoods and forest resource base of the area, importance of community forestry for the villagers livelihoods and management of natural resources, the key stakeholders involved in the conflict, interest of the different stakeholders and the relationship among them.

Semi-structured interviews was carried out with the local Royal Forestry Department officers, National Park authorities, a researcher from Chang Mai University, an NGO (Northern Farmers Network), committee members of Community Forestry, a religious leader and the leader of the village.

#### **2.2.2 Survey**

The household survey was conducted using structured questionnaires which covered the demographic characteristics of the households, causes and consequences of conflict of interest between local people and park authorities, livelihood strategies, land ownership status, perception of local community about

community forestry. The survey questionnaire was pre-tested before the actual implementation of the survey and the original survey questionnaire was modified and implemented.

### **2.2.3 Participatory Rural Appraisal (PRA) methods**

Different PRA techniques were used to identify the main livelihood strategies, resource uses from the forest, seasonality of activities and the main problems in the village. They are presented together as each method is often seen as part of a general PRA toolbox (Mikkelsen 2005).

#### ***Focus group discussion***

Group discussions was conducted with groups of 6 men and 7 women separately, as well as community forestry committee members, to have the overall understanding of the villagers about the causes of the conflict, consequences of the conflict on their livelihood and on forest resources as well as the procedures used in managing the conflict.

#### ***Seasonal calendar***

The seasonal activity calendar was conducted to see to what extent the situation of the observed livelihood activities vary throughout the year. It was mainly used to know the time allocation that the villagers make for labour work outside the village as compared to the other agricultural and forest related activities.

#### ***Preference ranking exercises***

This is used to quickly identify main problems, opportunities or preferences as experienced by individuals or groups of stakeholders it is conducted using local measures, judgment, and materials such as seeds; sticks etc usually help to demystify the research process (Mikkelsen 2005). Thus, in this context we used the preference ranking exercise to determine the importance of different forest products for the villagers, priorities of major problems of the village which can help us in understanding forest use situation in relation to the restrictions resulted from the conflict.

#### ***Transect walk***

The purpose of using the transect walk is to have an overall, first hand impression of the village, the forest and the surroundings (Mikkelsen 2005). In our context, transect walk was conducted in collaboration with key informants from the village (village head and a professional working in RFD at Chaing Mai) to help us understand issue related to agricultural land, condition of the forest, forest use procedures and the overall activities around the village.

## 2.2.4 Forest Resource Assessment

To understand the condition of forest, structural analysis of the forest was done using 20X20 m quadrants on six plots selected from conservation and national park forests (three plots from each). The plots were selected purposively in order to represent the forest resources in the village. The forests under the different management were selected to investigate the differences that resulted from the different management rules applied. The Diameter at Breast Height (DBH at 1.40 meter above ground level) and tree species with diameter above 5cm occurring in each quadrant were recorded. All individual trees with DBH 5-10 cm were considered as regenerating individuals (Sundriyal, et al, 1994). Regeneration potential of trees in the forest (number of saplings with 5-10 cm DBH) was estimated for the forest. Species diversity was calculated using the method described by Simpson (Sri-Ngernyuang)

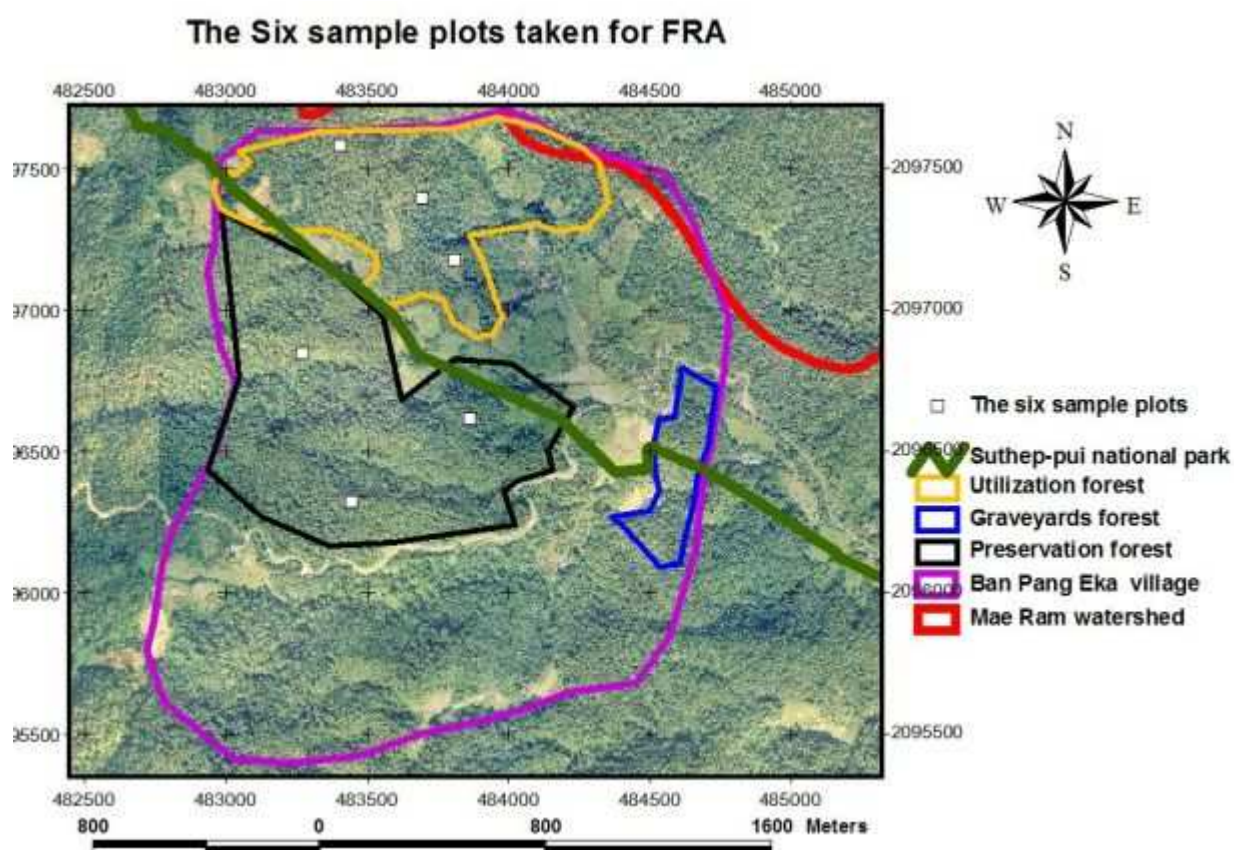


Figure 2.1: The sample plots for Forest Resource Assessment (FRA)

## 2.2.5 Global Positioning System (GPS) mapping

The GPS mapping was used to see if there was any expansion of agricultural into the forest as compared to the satellite map developed in 2002.

### ***2.3 Sampling Design***

The initial plan for sampling strategy was to use stratified random sampling technique based on wealth categories (using size of agricultural land, number of livestock's and household food self-sufficiency as a major indicator of wealth as is used by the villagers as criteria to indicate wealth status) and ethnicity. However, according to the households' land holding obtained from the head of the village, almost all of the villagers have land size less than 5 rai. In addition, as it has been explained by village head, the land size classification cannot indicate the wealth distribution of the households. The ethnicity criterion was also not helpful as almost more than 95% of the villagers are Karen. Thus we used snowball sampling technique in which the first respondent was identified by the translator and the following respondents were recommended by villagers being interviewed. In total 25 households (37% of the village population) were interviewed.

Key informants as well as participants for PRA techniques were selected purposely based on the relevance and level of information they will give us in relation to the purpose of our study.

### ***2.4 Data Analysis***

The portion of the data that is readily quantifiable (data from the closed ended questions) was analyzed using SPSS software. The data which was collected from key informant interviews, group discussions, PRA techniques and direct observational was analyzed using qualitative assessment methods. Finally the output of the analysis from the SPSS was discussed using, tables, graphs, frequencies and percentages.

### **3. The underlying causes of the conflict**

This chapter will present the major causes for the conflict. The findings will be based on primary data and literature review.

#### **3.1 Results**

The underlying causes for the conflict have been found to be the different perceptions of forest and the way it should be used. Furthermore, the top down approach of the government in deciding over local natural resources in general and forest in particular. The villagers of Ban Pang Eka, see the forest as contributing to their livelihood and have always been living with the forest. The Royal Forest Department and the department responsible for the national park see the forest as an area that should be under conservation and is best conserved without human interference (interviews with community forest committee, interview with University Professor, survey and Forsyth & Walker, 2008).

The national park and the conservation forest is established with that perception and today they are the concrete causes of the conflict as they put restrictions on how the villagers can use the forest. The biggest problem is that they can't expand their agricultural land and that they have restrictions in the use of the forest (Ranking exercise and survey). Therefore, the interest of the villagers is to get legal recognition for their village in the area, have legal right to expand their agricultural lands and to use the forest resources around the village. The villagers are claiming that the forest in their area belongs to them and that they know better how to manage the forest resources. The leader of the committee of the community forest<sup>1</sup> also mentioned that the interest of the villagers is to have legal land tenure as a community, not as individuals as they think that individual land ownership will lead to a capitalization of the land (interview with CF committee).

The other primary stakeholders, the Royal Forest Department, the National Parks Department and the TAO<sup>2</sup> have similar interest in the conflict with different level of involvement. Based on the interview with the park officials, the aim of the national parks department is to conserve the biological diversity of the forest under the park management and making the area attractive for

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<sup>1</sup> Even though it does not have legal recognition, the villagers have created a community forest to try to manage the conflict. This will not be discussed in depth in this chapter as we only treat the causes for the conflict here. Therefore, the community forest as a way of managing the conflict will be discussed in chapter 6 answering research question 4.

<sup>2</sup> The TAO is a sub-district administration office

tourism. The Royal Forestry Department is more responsible for the management of conservation and economic forests. Thus their interest is to conserve the forest resources by enforcing some rules on the use of the forest resources. The TAO is also responsible for the management of forest resources in close collaboration both with local community and RFD. Thus their interest is to monitor that the forest resources in the area are utilized and managed properly. It is clear that there is a divergence of interest between the local villagers and the two stakeholders (RFD and Doi Suthep Pui-national park management). This divergence of interest led to the existence of conflict over the use and management of forest resources in the village.

The Tambon administration Organisation (TAO) yet agrees with the problems that the villagers put forward and confirm that the village has been there before the establishment of the National Park and therefore has the right to be there and should be helped in managing the problem. The TAO is though adding to the causes of the conflict by noting that one of the problems is the increasing size of the village, which is also confirmed by the survey where it can be seen that 25 % of the respondents have been living 20 years or less in the village. This tendency can be assumed to be general in the area as many villagers in Ban Pang Eka blame outsiders and people in general for the decrease in forest products (interview with the TAO and survey).

### **3.2 Discussion**

That the different perceptions are an issue of conflict is very clear when the director of the Royal Forest Department in 1999, stated what his opinion is: *“A virgin forest is an untouched forest but that’s a utopian notion so we have to find a way to mingle the two (forest and human occupation) with minimum impact. But please don’t ever say we need humans in the forest to protect it. That’s a lie”* (Forsyth & Walker, 2008: 52). It is clear from this statement that the RFD in reality would prefer to move the villagers out of the areas under protection. This was actually the procedure before the director of the RFD presented his statement, some villages were in fact moved and another 600 in the province of Chiang Mai were on the list to be moved (Forsyth & Walker, 2008). The village of Ban Pang Eka was categorized as a village that should be moved.

However, during the 1990s the resistance and the shortage of land to the relocated villages made it clear that the large scale resettlement of villages was not possible. Therefore land use regulation is today a more common approach than relocation. The village of Ban Pang Eka was not moved before the government changed policy and today the village is instead subject to a range of restrictions (interview with members of CF committee and Forsyth & Walker 2008).



The regulations were tightened up in 1992 after a disastrous flooding in 1989. It was decided that 25 % of Thailand's land cover should be classified as conservation forest. This has had a significant impact on the northern Thailand where 50 % of the land has been classified as conservation forest. Watershed is divided into different categories ranging from class 1A to 5 with class 1A having the highest priority of protection. Ban Pang Eka is located in class 1A since most of the area is on slopes steeper than 35 degrees, which is the definition of steep slopes; class 1A is defined as very high elevation and very steep slopes. The Royal Forest Department states that class 1A areas must be *“strictly kept permanently as head water sources”* and *“immediate reforestation programs must be undertaken on the abundant shifting (cultivation) area”*. This classification system is scientific and has been criticized for not incorporating *“locally relevant socio-economic variables”* (Forsyth & Walker, 2008: 42). Furthermore: *“... classification of forest serves the role of maintaining forest as state property, for production, protection and allocation purposes on a much broader scale than the indigenous classification”* (Ganjanapan in Hirsch 1997: 254).

The conservation forest and the categorization of it, along with the criticism, is again an indication of different perceptions of the forest. The “indigenous” categorization is more in relation to how they use the forest and the forest is seen as a mean to sustain their livelihood. They typically classify it in three different categories: watershed forest, sacred forest and village woodlot. Watershed forest is typically strictly protected by the villagers since it is protecting the water. The second type is sacred forest, which is typically a lot smaller than the watershed forest; the sacred forest is protected for religious reasons. In the third type, the village woodlot, everything is allowed to a certain extent (Ganjanapan in Hirsch, 1997). The villagers of Ban Pang Eka has roughly the same idea of the forest<sup>3</sup>, whereas the Royal Forest Department has put them into class 1a which means they are not allowed to use any of the forest surrounding them.

The Karen people have traditionally been using shifting cultivation, or slash-and-burn as it is also called. The shifting cultivation is being blamed for 40 % of the deforestation in Thailand, both by public opinion and by government reports, and moreover it is thought to be the cause of biodiversity loss and smoke haze. One of the Royal Forest Department's officers put some of these perceptions of the shifting cultivation into words: *“This practice has caused deforestation and destruction of the ecosystem of catchment areas and decreased biodiversity in the hill evergreen forest... As a result, there is now a large area of wasteland on the mountains and a lack of water in the summer, with*

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<sup>3</sup> In the village of Ban Pang Eka the preservation forest covers both what is termed the watershed forest and the sacred forest, the utilization forest is what is called the village woodlot.

*floods and landslides occurring in the rainy season*” (Forsyth & Walker, 2008: 71). The assumption that the shifting cultivation is causing so much of the deforestation along with loss of forest cover in northern Thailand, which is put at a decrease from 69 % in 1961 to 43 % in 1998, is what has caused the state intervention. Yet what these numbers are not showing is the cover for the upland alone. The percentage for the upland forest cover is a lot higher and thus the deforestation does not seem to have been so radical here. The blame on the hill tribes for having destroyed the forest could therefore have its origin in the conflict between the scientific methods and the “indigenous” ones. Though, it could also be the central government’s historical wish to exercise control over the more remote areas (Forsyth & Walker). The villagers of Ban Pang Eka do somehow express some of the same impressions when they complain that they were not involved at all in the establishment of neither the national park nor the conservation forest. They give the impression that it is a very top-down approach being used in the management of the forest, which is consistent with the Royal Forest Department’s trust in scientific knowledge, which can also be seen by the prohibition of the shifting cultivation for the villagers in Ban Pang Eka.

There are a lot of areas where different perceptions collide between the villagers of Ban Pang Eka and the Royal Forest Department and the national park. This can also be seen on the different ways that the government officials and the villagers divide the forest surrounding Ban Pang Eka.

The following map shows the division between the national park and the conservation forest and the next one shows the villager’s division of the forest in their area. It should although be mentioned that the Royal Forest Department’s classification of the conservation forest is not shown on the map.

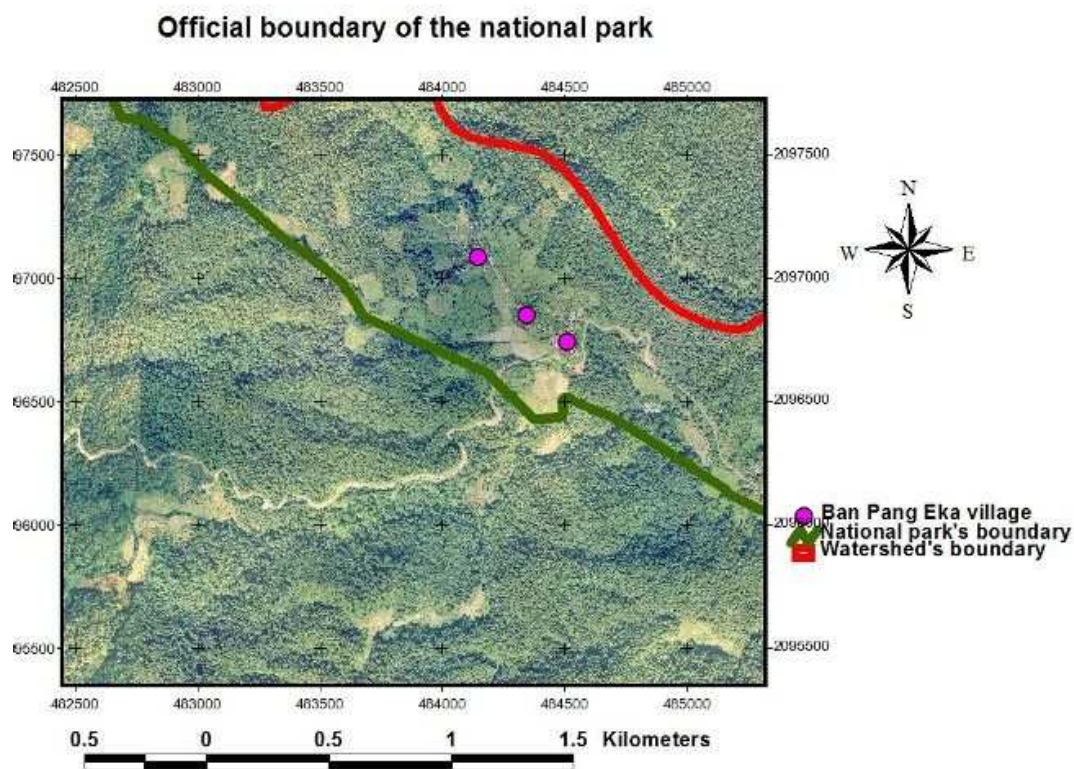


Figure 3.1 Map of the boundary between the national park and the preservation forest

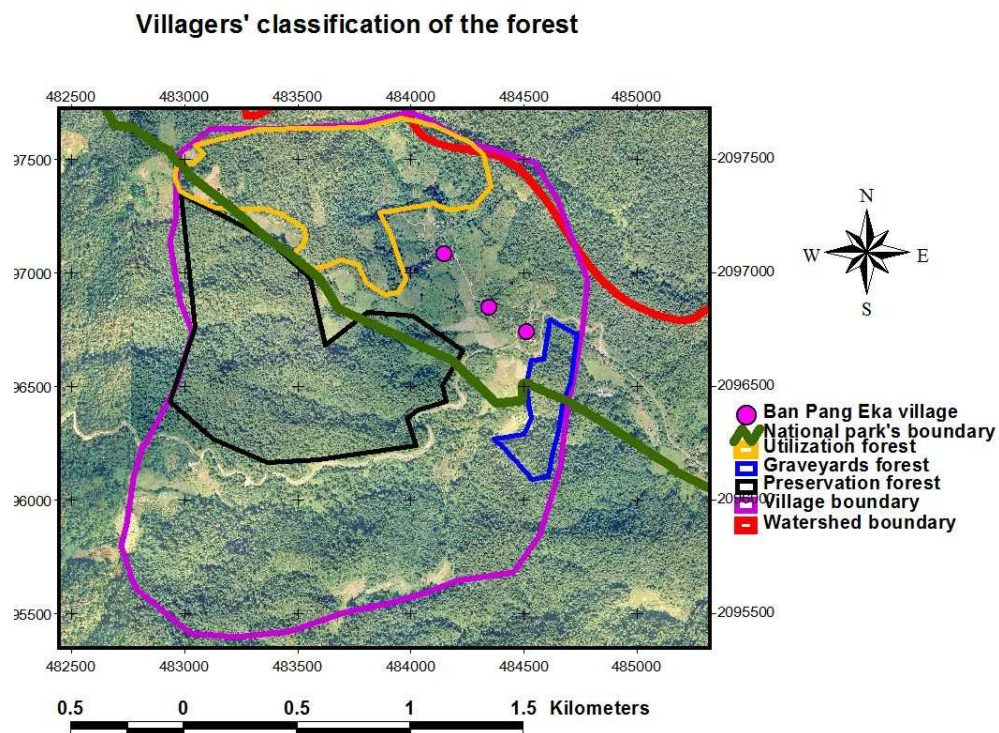


Figure 3.2. Villagers' classification of forest

During the field work, a variety of perceptions of the different boundaries have been presented. Stakeholders' perceptions about the boundary between the national park and the conservation forest, which is also the border between the Royal Forestry Department and the national park administration, are relatively equal and there don't seem to be much dispute about them. This case seems to be more about uncertainty in how the two departments share the administration and responsibility. It seems as the national park officers also patrol and administrate part of the conservation forest for the Royal Forestry Department and it can therefore be difficult for the villagers to find out who they have to address their problems (interview with park officer, RFD officer and different villagers).

The location of the community forest also seems to cause some uncertainty. The most reliable explanation though seems to come from the committee of the community forest; both because they are the ones that should know the best and because it appears to be the most reasonable<sup>4</sup>.

With all the borders there are some doubt as to where the exact location is on the ground and no one has been able to give exact reasonable explanations. For the officers of the Royal Forest Department, the border of the conservation forest is going to be established in the near future.

In the case of the community forest, as with the National Park and the conservation forest, the problems at the moment seem to be more about the use of the area and not where it is located.

In summary, the causes for the conflict are the different perceptions of the forest and the use of it expressed through the creation of the national park and the conservation forest, which have put restrictions on how the villagers can use the forest. Furthermore is the increase in population in the area.

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<sup>4</sup> This is because it was drawn by the committee of the community forest, and because it includes the whole area surrounding the village.

## **4. Consequences of the conflict on the livelihood in Ban Pang Eka**

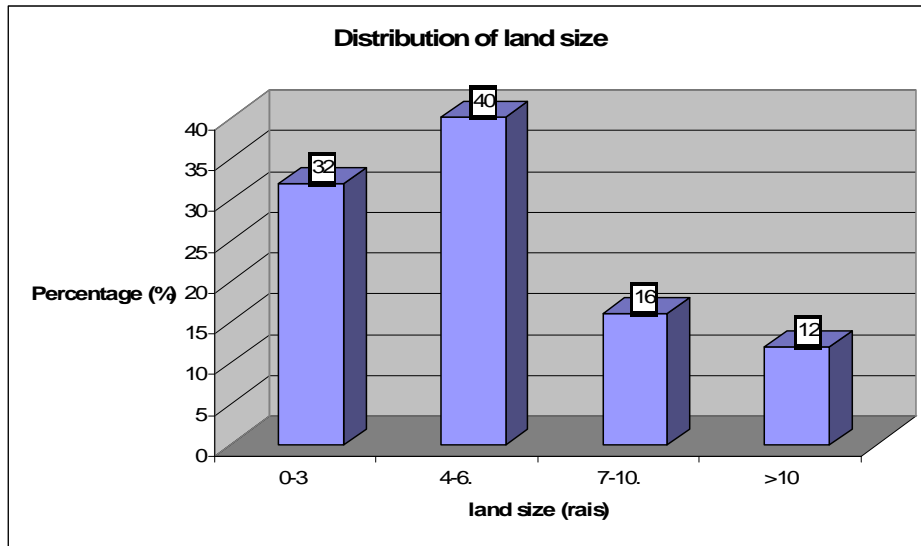
This chapter aims at analyzing the livelihood of local people in the environment of this conflict: *“livelihood in conflict is defined as the ways in which people access and mobilize resources that enable them to increase their economic security and thereby reduce the vulnerability created and exacerbated by conflict, and pursue goals necessary for their survival and possible return”* (www.gdrc.org). Based on this definition, 3 important bases to focus on when addressing livelihood in conflict situation is suggested: (1) the main concern of the people and the change over time, (2) the availability of resources they used, and (3) the strategies to access and mobilize those resources (www.gdrc.org). Since, the purpose is to relate the concept of livelihood to the conflict over forest; this approach would be adapted in this study by mainly focussing on the natural resource which is one of the 5 assets in the livelihood framework. IFAD (International Found for Agricultural Development) has proposed some components of the natural resources that are: land and produce, water and aquatic resources, trees and forest products, wildlife (<http://www.ifad.org>). We will also refer to some components of the others assets of the framework depending on the importance and direct relationships with our issue.

### **4.1 Results**

#### **4.1.1 Restriction of the expansion of agricultural land**

During the FGD separately with men and women, it was highly stressed by the villagers that the major problem in their livelihood is the limitation in expansion of agricultural lands (law enforced by the government)

The distribution of land size among the respondent is presented in the following figure:



*\*\*1 rais = 0.6ha*

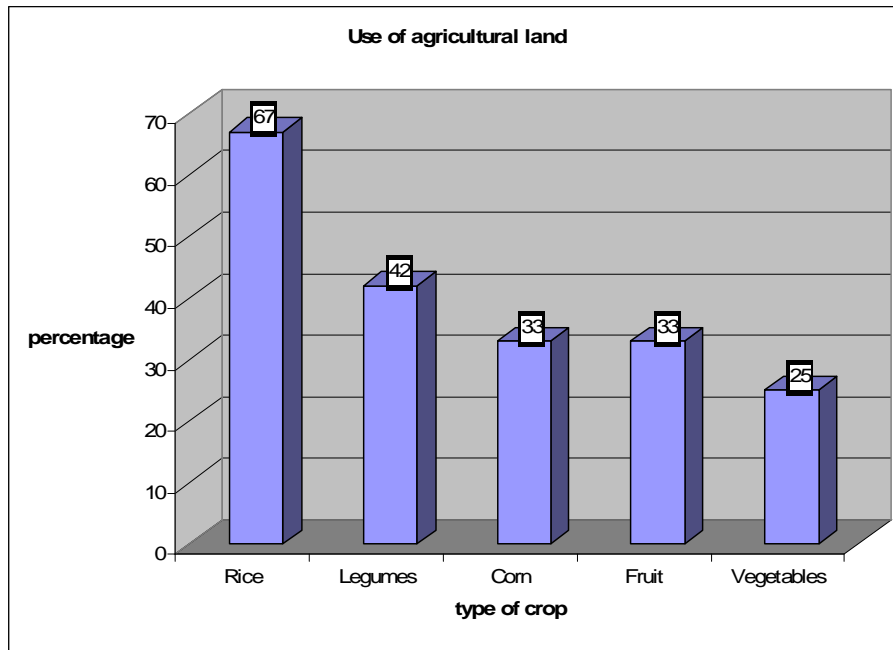
*Source: (Own Survey, March, 2009)*

Figure 4.1: Distribution of land size

Only few of the villagers have agricultural lands greater than 10 rai (12%). Most of them (72%) have less than 7 rai. From the discussion it was indicated that the villagers are afraid to expand their land in risk to be arrested and become landless. It has also been confirmed during a transect walk that there has not been any expansion of land compared to 2002 satellite photo.

The direct effect of this situation on production has been the change in the agriculture system moving from a shifting fallow cultivation to continuous land farming. During the survey, some of the respondents have explained that this is the major cause of the decrease of the fertility of the soil and then the production. Finally the production is dependent on only one season (rainy season). This situation is not new, but from the point of view of the villagers it constitutes a big constrains in this context of restriction of land.

The products cultivated on those lands are: rice, legumes (groundnut, long bean, etc), corn, fruit (banana, papaya, litchi, etc) and vegetables (tomato, pepper, different leaves, etc). The following graph presents the percentage of people involved in each of the different agricultural products:



\*\* The percentages are not cumulative. It has been estimated by considering the number of people who cultivate the product (in each category). This means that the same person can cultivate many products and be considered for each category.

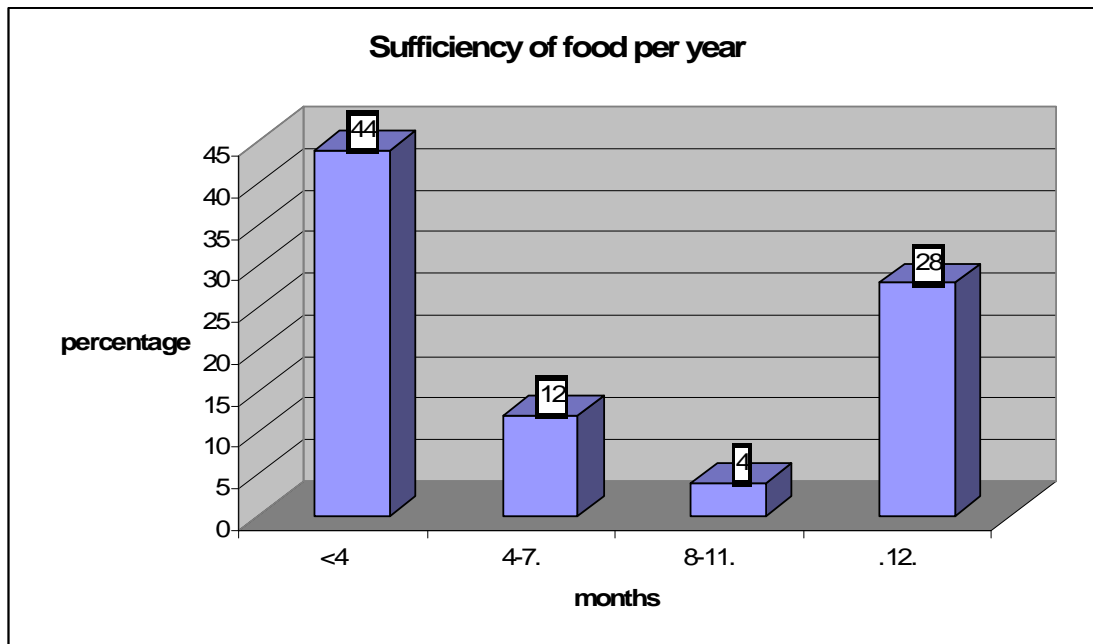
*Source: (Own Survey, March, 2009)*

Figure 4.2: Distribution of agricultural land use

It can be observed that the majority of the respondents use their land for the production of rice (67%) and legume (42%). But there is less priority to the other crops. This suggests that people are more interested in producing the basic food than to diversify their production. This choice of priority can be related to the insufficiency of the size of the land or to the lack of time (see seasonal calendar).

The major use of the agricultural product is for own consumption. Only 37, 5% of the respondents have the possibility to sell their products and among which only few (21%) people sell cereals.

Thereafter some of them said that they buy food from the market, especially what they do not produce but also sometimes what they produce when it is not sufficient for the whole year. It was also asked about the shortage of food during the year. The results of the survey are showed by the following graph:



Source: (Own Survey, March, 2009)

Figure 4.3: Distribution of land size

Only few people (28%) usually have enough for the whole year. The rest (72%) have a shortage of food. The largest portion of the respondents (44%) explained that the food they produce is usually sufficient only for a period less than 4 months which is really short and 16% have sufficient agricultural product for a period from 4 to 11 months. It means the majority of the villagers buy more than they produce. This result can also be related to the size of land that is too small and then reduce the possibility to produce enough for the whole year.

#### 4.1.2 Restriction on tree logging

From the perception of the authorities and local people, logging trees is one of the most illegal activities. Moreover, during the FGDs, villagers have ranked timber as the second most important natural resource from the forest. But through the FGD it was said that it is a normal activity carried out by villagers during rainy season (two months). This suggests that this resource may be very important for the local people. From the survey, 72% use timber and only few people (8%) of them admitted that they sell it. Actually the change in the access to this product is not clear.



### **4.1.3 Access to grazing land and other forest products**

#### *Grazing land*

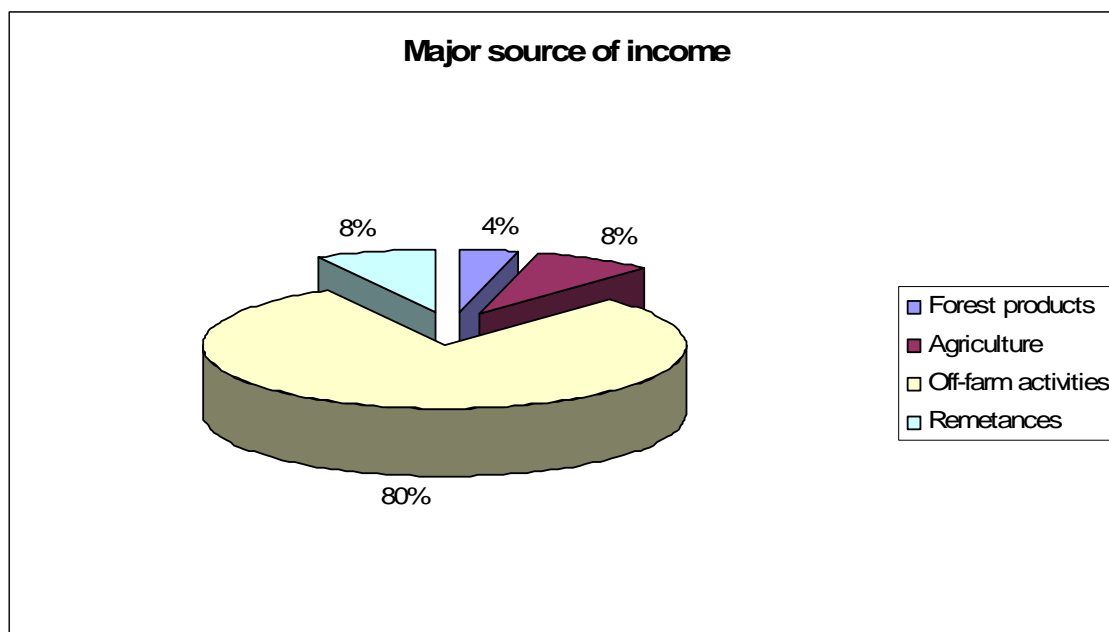
Grazing land (due to the chance it gives to collect all the products on the land) is the most important activity classified separately by men and women during the FGD. Regarding that activity, the villagers have explained that this activity give the chance and the right to collect all kind of forest products from the land. From the survey results, 42 % of the respondents are involved in that activity (buffalo or cattle grazing). From our interviews and discussion with park officials, community forest committee and villagers, the rules regarding these activities seem to be more flexible especially in the utilization forest. Then, the way the rules are seem not to affect so much this activity in the forest.

#### *Others products*

The other products that the local people collect from the forest are: firewood, mushroom, bamboo, orchids, medicinal plants, wild animals, leaves, ants etc. All the respondents use firewood and mushroom from the forest and the most sold products by the respondents during the survey are mushrooms (36 respondents use it for both purposes: selling and own consumption). Firewood is also the second most important activity ranked by the women during FGD. In the case of those products, the interview with the authorities, the CF committee and the villagers show a big flexibility regarding this activity and the easy access by villagers, especially when it is for own consumption. Once again the rules seem to not really affect the access to these resources.

### **4.14 Change in the source of income**

The main consequence resulting of the expansion of land is the change in their major source of income from agriculture to labour work in cities. The change in the source of income is the most important consequence of the conflict on the livelihood. Most of the villagers have shifted from agriculture to off-farm activities as the main source of income. The actual scheme is showed by the following diagram:



*Source: (Own Survey, March, 2009)*

Figure 4.4: Major source of income

Most of the respondents (80%) stated that their major source of income is based on off-farm activities (64% in labour work and 16% in employed work). The percentage of people who have agriculture as the major source of income is 8 %. The FGDs revealed that restriction of land and economical problem are the two most important problems that explain this situation. Also, from the discussion with some villagers, it was said that before the conflict, agriculture was the main source of income.

#### 4.1.5 Change in the Social capital

Moreover, during the FGD and interview, the villagers mentioned that they spend less time in the forest compared to the past due to the off farm activities they have started doing. The CF committee explained that this situation has affected the relationship between the villagers and nowadays, people have less time to help each other. The seasonal calendar shows the encroachment between the different activities and also how local people can be busy by the intensity of the activities. They explained during the FGD that, in that period of intense activity (rainy season), they usually go to their land or forest only in the weekends.

Activities	January	February	March	April	May	June	July	August	September	October	November	December
Labor work												
Mushroom												
Timber collection												
Bamboo shoot												
Wild animal hunting												
Handcraft making												
Rice production												
Soya bean												
Groundnut production												
Corn production												
Vegetables												
Banana												
Lychee												
Lonyan												
Mango												
Coconut												

Source: (Own Survey, March, 2009)

Table 4.1: Seasonal calendar

From the interview, we have also heard that the new generation, that is generally more educated, has become less conscious about the Karen traditions regarding forest due to the contact with the city.

## 4.2 Discussion

The main consequence of the conflict has been restriction in expansion of agricultural lands that resulted in change of major source of income/livelihood strategy. Today, agriculture is no longer an important activity. Indeed, the restricted size of the land goes together with population growth in the village (resulting in need for more lands), decrease of the soil fertility, steep slope of the land (which makes agriculture difficult), shortage of water and lack of irrigation system. The shortage of water in turn have resulted in dependence on only one season of production making agriculture less dependable and have negatively affected the income generated from production.

Furthermore the shortage of food during the year increases the vulnerability of the local people. On the other hand, the absence of the Royal Forest Project, the culture (ethnic), and the insecurity of the land do not motivate the projects and also the villagers to invest. This situation could justify why intensification of production has not been chosen as an option compared to the other villages in the upper zone of the same watershed. In this situation, since agriculture is practiced only for own consumption, it is understandable that there was a need for the villagers to look for other sources of income that can help to cover the expenses in the households. Then, the proximity of the city and the attraction of the tourism sector have certainly been some good options for the villagers to get new jobs.

Even though the major source of income has changed, the local people are still dependent on the forest, especially in terms of NTFP and timber. According to the law, collection of timber and NTFP from watershed 1A (protected area) is considered an illegal activity. Indeed, *“illegal forest activities include all illegal acts related to forest ecosystems, forest industries, and timber and non-timber forest products. They include acts related to the establishment of rights to the land and corrupt activities used to acquire forest concessions”* (Center for International Forestry Research (CIFOR), 1993). The same author explains that one of the major causes of illegal forest activities is the “legislation discriminating” against livelihood uses of the forest. In Ban Pan Eka, illegal activities has been the second livelihood alternative to access to the natural resources in the forest. One of the members of the community forest explains: It is not possible for the villagers to sell forest products to cover the expenses of the household. Moreover the school has been moved from the village and in this case, it became difficult to cover transport and education fees for the children who have to go to another village. In this situation the villagers found them obliged to break the rules, and this increases the illegal activities.

The relationship between the local people and the park officers and the flexibility of the rules allow people to use the forest products, but just for own consumption. In the case of the NTFP, it seems that the issue of the conflict doesn't really affect the contribution to the local livelihood since the rules are flexible enough and then people still have access to it. In the case of the timber logging, the rule is stricter and the survey results revealed that few people (8%) sell timber. We are a little reserved about this percentage because since it is an important illegal activity, people are maybe not willing to reveal us the truth. This has been confirmed during an informal conversation with one of the respondent during the survey. Moreover the observation of logged tree from the forest cannot tell as much about the contribution to the livelihood. Indeed, from the point of view of the local people, this activity is mainly carried out by outsiders. It is also difficult to say how this activity has changed over time due to the fact that we didn't have data about income generated from timber before the conflict and at which extent it has changed and then has affected the livelihood finance.

But still, the economical problem is ongoing. This situation has also affected the relation between the local people since most of them are less dependent on the forest compared to the past and spend more of their time in labour and employed work. Moreover, the fact that the new generation are actually less attached to the tradition in relation the forest could result in connection towards the city life and emergence of socio economical disparity.

In summary, there is an indication of consequence of the conflict in change of livelihood strategies from agriculture to labour work. On the other hand, the cost of transportation is the only information we have got so far about the problem they actually face in the labour work. Then it is still under question if the changed livelihood is towards better life. It is also clear that not all people can go out and work in labour job, especially the poor or old people. The opinion of the villagers about need of more agricultural lands could indicate how much they are affected.

## 5 Consequences of the conflict on forest resources

This section of the study explains about the results on assessments made on local forest resources followed by discussing the impacts of villagers' activities over the forest. Issues like factors affecting the forest resources (such as expansion of agricultural land, illegal logging, and forest fire), the de facto laws of conservation forest, and perception of villagers regarding the overall trend of forest resource in the area will be presented.

### 5.1 Results

#### 5.1.1 Results from Forest Resource Assessment (FRA)/tree measurement

From the six sample plots considered for forest resource assessment (Figure 2.1), a total of 39 different tree species were identified and categorized in terms of both local and scientific names. The preservation forest has 28 different types of tree species where as the conservation forest has 26 different types of tree species. In terms of stem density (meaning, number of trees per hectare), the preservation forest has larger average value, 842 trees/hectare as compared to the average value to the utilization forest which is 775 trees/hectare. In terms of average tree basal area per hectare, the average basal area for the whole forest is 39.98m<sup>2</sup>/ha from which the basal area for preservation forest is 49.35m<sup>2</sup>/ha and the basal area for utilization forest is 30.61. The following table summarizes the results of forest measurement.

Stands	Altitude(mal)	Inclination (degree)	Number of species	Stem density(trees./ha )	Total basal area(m2/ha)	Species diversity index
<b>Utilization/Conservation forest</b>						
CFP1	605	11.50	12	600	<b>24.31</b>	0.89
CFP2	777	15	15	850	<b>38.28</b>	0.92
CFP3	836	13	17	875	<b>29.24</b>	0.91
<b>Mean</b>	<b>739</b>	<b>13.20</b>	<b>26</b>	<b>775</b>	<b>30.61</b>	<b>0.91</b>
<b>SD</b>			<b>2</b>	<b>124</b>	<b>5.78</b>	<b>0.122</b>
<b>Preservation/National Park forest</b>						
PFP1	638	16	9	650	<b>38.73</b>	0.62
PFP2	711	13	15	1150	<b>35.05</b>	0.92
PFP3	670	13	14	725	<b>74.26</b>	0.77
<b>Mean</b>	<b>673</b>	<b>14</b>	<b>28</b>	<b>842</b>	<b>49.35</b>	0.77
			<b>4</b>	<b>230</b>	<b>17.93</b>	0.1
<b>Grand mean</b>	<b>706</b>	<b>13.6</b>	<b>39</b>	<b>809.0</b>	<b>39.98</b>	

Source: (Own FRA, March, 2009)

Table 5.1: Summary Forest Resource Assessment (FRA) in six sample plots at Ban Pang E-ka forest

The figures indicated below (figure 5.1 and figure 5.2) shows the distribution of tree diameter for each sample plot taken from the two major local level category of forest resources. Figure 3.1, shows that the utilization/conservation forest is dominated by smaller trees with lower DBH indicating that there is no tree beyond DBH size of 55 cm. In plot 1 of the utilization forest, there is no tree with DBH size of 5.0 – 10.0 cm, where as in plot 2 and plot 3, there are larger number of

trees with DBH of 5.0-10.0 cm as well as with DBH of 10.0-15.0 cm. Among the three plots in preservation forest, plot 3 has trees with larger number DBH as compared to the rest two plots. For example it is in plot 3 that trees with DBH of 85-90 are available.



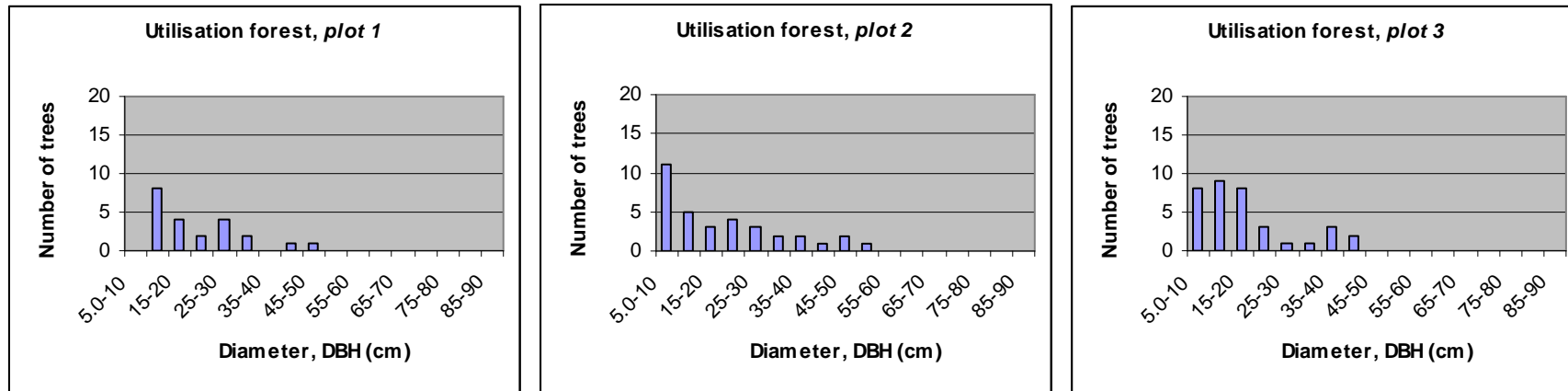


Figure 5.1: Distribution of tree diameter, DBH(cm) of the three plots in the utilization forest (Own measurement, March, 2009)

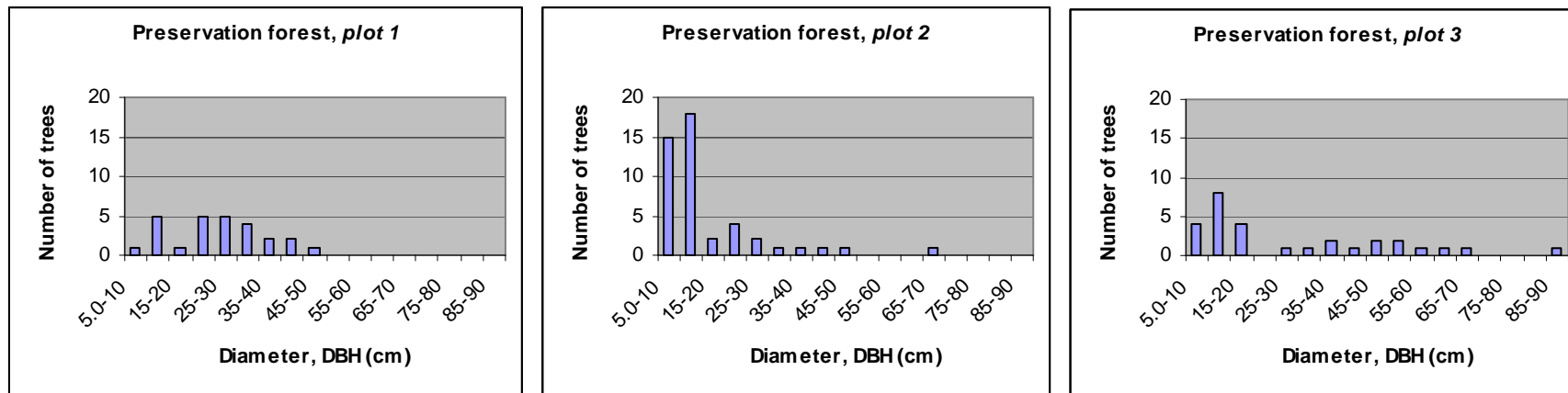
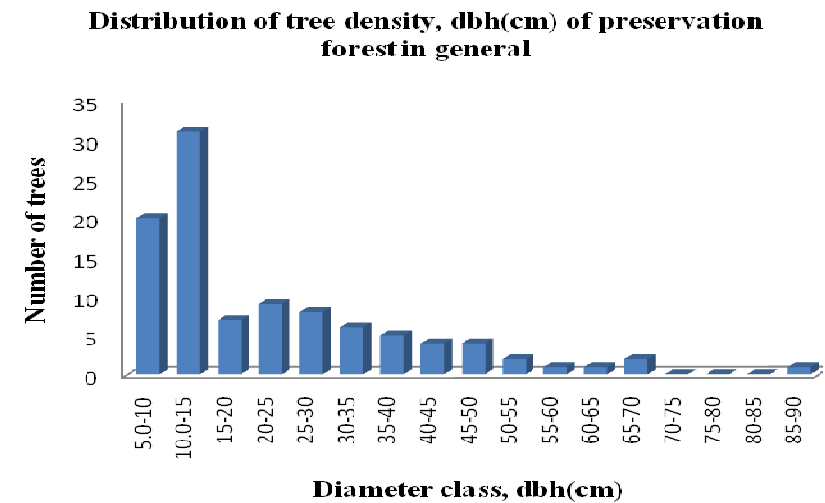
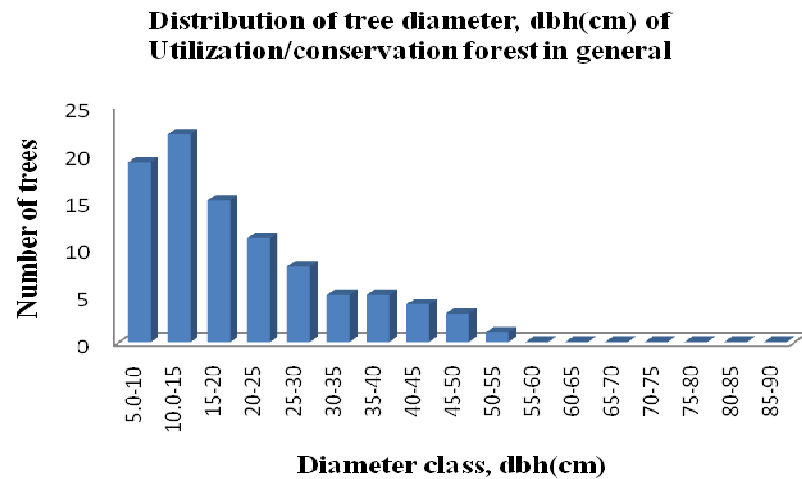


Figure 5.2: Distribution of tree diameter, DBH(cm) of the three plots in the preservation forest (Own measurement, March, 2009)

The following two graphs are set to compare the average structure of tree basal area in conservation and preservation forests. The conservation forest has trees of lower DBH, mostly with trees less than 50cm DBH as compared with the preservation forest which has a tree diameter ranging up to 85-90 cm. Although the distribution is not even, the overall nature of DBH distribution of the forest decreases with increasing DBH.



Source: (Own measurement, March, 2009)

Figure 5.3: Distribution of Tree Diameter, DBH(cm) of utilization/conservation versus preservation forests in general

The importance value index was calculated for each species and the result of the five dominant tree species is presented in the following two tables (table 3.2 and table 3.3). The highest importance value index (IVI) was recorded for *Shorea siamensis* followed by *Vitex limoniifolia* in conservation forest where as *Shorea robusta* and *Dipterocarpus tuberculatus* had highest IVI in the preservation forest, respectively. Simpson's diversity index (also known as Species diversity index) was also calculated for each plot. The result showed that conservation forest has larger species diversity index (0.92) as compared to the preservation forest (0.77).

Species name	Basal area (m <sup>2</sup> /ha)	Relative frequency (%)	Relative density (%)	Relative dominance (%)	Importance value Index (%)
<i>Shorea siamensis</i>	0.009	11.8	11.8	18.8	42.4
<i>Vitex limoniifolia</i>	0.007	8.6	8.5	8.1	25.2
<i>Quercus kerrii</i>	0.008	9.7	9.6	4.8	24.1
<i>Quercus Sp</i>	0.006	7.5	7.5	8.6	23.6
<i>Dipterocarpus tuberculatus</i>	0.005	6.5	6.4	8.9	21.7

Source: (Own measurement, March, 2009)

Table 5.2: Importance value index of conservation forest

Species name	Basal area (m <sup>2</sup> /ha)	Relative frequency (%)	Relative density (%)	Relative dominance (%)	Importance value Index (%)
Shorea robtusa	0.013	15.53	16	14.7	45.7
Deptrocarpus macrocarpus	0.018	20.39	20	1.6	42.3
Shorea siamensis	0.007	7.77	8	10.7	26.2
Vetex limoniifolia	0.006	6.8	7	5.4	19
Schima Wallichii	0.003	2.91	3	9.6	15.1

Source: (Own measurement, March, 2009)

Table 5.3: Importance value index of preservation forest.

### 5.1.2 Results collected using other methods

In addition to Forest Resource Assessment (FRA)/tree measurement, using other methods which are transact walk, key informant interview, comparison of present day ground level facts with 2002 aerial photographs, and observation the following results were found. First, there is no agricultural land expansion towards the forest. Second, restriction over local villagers' practice of grazing and firewood collection disturbs the normal tree regeneration potential of the forest and it affects forest areas adjacent to the village where there are also indicators for the expansion of those effects towards the remaining part of the forest. Third, there is local level infringement of national forest laws and illegal logging both in the utilization and preservation forests (5.7). Fourth, villagers have lower sense of ownership over the forest as compared to pre-conflict periods where they consider the area as their ancestors' forest area for more than a century. Fifth, common to see forest fire in all sections of the forest since villagers have a long-aged tradition of collecting mushrooms from forests they use fire to support better regeneration of mushrooms for the coming rainy seasons.

The survey result on villagers' perception about the trend of forest coverage in the area is set as follows:

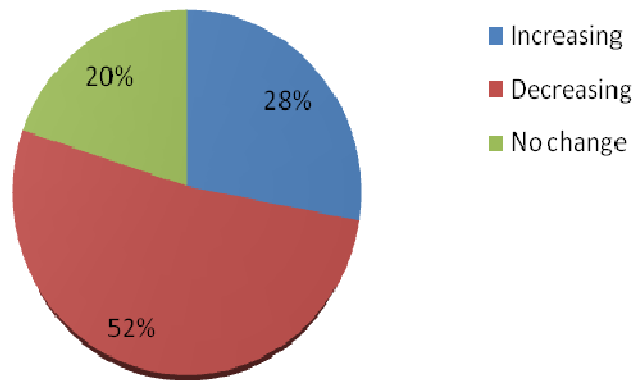


Figure 5.4 Villagers Perception of the Trend in Forest Coverage in the Area

As it is also seen from Figure 3.4, 52% of the respondents in the village believed that the forest coverage in the area as compared to the previous ten years is decreasing, and 28% of the respondents have a perception that the forest coverage in the area is increasing followed by 20% of the respondents who believed that there is no forest cover change in the area.



Source: (Own pictures, 12 March, 2009)

Figure 5.5: Forest fire observed during tree measurement



Source: (Own pictures, 12 March, 2009)

Picture 5.6: Commonly observed logged eak tee(*tectona grandis*) in the area

## 5.2 Discussion

The impact of the conflict on the forest will be discussed by comparing the two type of forest (utilization and preservation forest) in items of the differences in the management rules applied to these forests. The section of the forest called preservation forest by the villagers overlaps with the boundary of the national park. The villagers have also their own rules that tree cutting is not allowed for any kind of use in this part of the forest. On the other hand the part of the forest known as the utilization forest is located within the conservation forest according to official classification where the rules of the forest resource uses are more flexible as compared to the national park. These differences in forest conditions can be explained by the differences in the use of the two forests types.

As it is indicated in the table 5.1, the average number of trees per hectare was higher in the preservation forest as compared to the utilization forest. According to the information obtained from the key informants, based on our observation during the transect walk and data collection time there is high extraction of forest resources in the conservation forest both by the villagers and outsiders for timber and fire wood. Moreover, it was also observed that the incidences of forest fire and grazing activity are more intense in the conservation forest. However, in the preservation forest relatively there is low level of human interferences. This is due to the fact that this part of the forest is recognized by the villagers as section of the forest that should be preserved. In addition the

villagers celebrate their religious activities in some part of this forest (plot 3 for example), and it is strictly forbidden to cut trees from this part.

The average tree basal area was also high in the preservation forest as compared to the conservation forest. The explanation for this result is also the same with the number of trees mentioned above that there is less illegal logging in the preservation forest. Relatively the stem diameter of the trees found in the preservation forest is higher and this led to the overall higher basal area in the preservation forest.

According to the official law of the conservation forest enacted by the RFD, villagers are not allowed to collect any tree except in the case of dead trees. However, at the local level, illegal loggers find a legal loophole by making standing trees to die (figure 3.6) and indirectly collect any kind of timber they need. According to key informants during the FRA activity and transect walk, the type of illegal loggers in case of the utilization forest are mainly local villagers where as in case of preservation forest the illegal loggers are those who are non-local community members from upper and lower stream villagers as well as from nearby villages. According to the perception of the villagers, the reasons for the decreasing trend in forest converge are illegal logging by the outsiders (people from other villages and illegal timber traders) and the increasing in population size in the village.

As it can be seen from table 5.1 there is high variation between the individual plots within the same type of forest especially in terms of the basal area. This variation is partly related to the location of the plots from the village and main asphalt road passing through the area. Plot 1 of the conservation forest was the nearest plot to the village and there is much forest resource exploitation around that plot. In the same way plot 2 of the preservation forest was the nearest to the asphalt road there are some illegal logging in that area. The basal area for the plot 3 of the preservation forest was exceptionally higher as compared to the rest of the plots in both type of forest. This is due to the fact that this plot was taken from the forest area where the villagers celebrate their religious activities for longer time and there is no tree cutting in this site. Thus, the trees found in this specific plot are very big in diameter which contributed to the high tree basal area in that plot.

In terms of the number of tree species there was little variation where the preservation forest has only two tree species more. However in terms of species diversity index there was high variations between the two forests. The conservation forest has higher species diversity index (0.92) as compared to the preservation forest (0.77). Although the number of tree species were higher in the

preservation forest the plots were dominated by few tree species and the calculation of species diversity index takes into account both richness and evenness of the species. In the preservation forest big trees with higher canopy coverage dominated the plots and this situation suppressed the under growth of other tree species.

The analysis of the general distribution of DBH holistically shows us that the richness is mainly attributable to saplings and small trees. The higher frequency of lower DBH indicated that the stand came under positive pressure a few years and this is not all plots taken as a sample, for example plot 1 of the utilization forest.

As a conclusion, regarding the effects of the conflict on the local forest it is possible to say the following points. First, there is no visible evidence regarding the expansion of agricultural lands to the forest. Second, as compared to the preservation forest, tree regeneration potential of the conservation forest seems limited or lower and there is a higher probability that this tree regeneration potential will decrease in the future. Third, there are indicators of forest degradation like illegal logging of trees, forest fire, and grazing both in the utilization and preservation forests. Generally, although it is hard to perfectly correlate the conflict with the degradation of the forest, both the direct and indirect evidences show that the forest in the area is in the trend of degradation and the conflict over the use of the forest has its own share to the degradation.

. On the other hand the forest management in the area which doesn't consider local interests and views has resulted in a decrease in the over all forest resources



## **6. Effectiveness of the community forestry in managing the conflict**

This section focuses on the ways in which the two major conflicting parties, the government representatives and the villagers at Ban Pang Eka, have been working through the conflicting situation using community forest as a tool to manage the conflict. The chapter starts with describing the status of the community forestry at the moment, and then the official perception of community forest will be presented. At last the villager's perception of community forest will be compared with the official one to see if they correspond and if it is possible to use community forest as a way to manage the conflict.

### ***6.1 What is community forestry?***

#### **Some Definitions of Community Forestry:**

*"Community forestry is a village-level forestry activity, decided on collectively and implemented on communal land, where local populations participate in the planning, establishing, managing and harvesting of forest crops, and so receive a major proportion of the socio-economic and ecological benefits from the forest."* (Martel & Whyte, 1992 and [http://www.rainforestinfo.org.au/good\\_wood/comm\\_fy.htm](http://www.rainforestinfo.org.au/good_wood/comm_fy.htm)).

### ***6.2 Status of community forestry at Ban Pang Eka Village***

According to villagers' classification, the community forest in Ban Pang Eka is majorly divided into three different areas: the Preservation forest (sacred forest), the utilization forest and agricultural land. There is a committee responsible for the community forest consisting of about 25 people who all have a large involvement in the forest. However, currently it is only three of the committee members who are voluntarily representing the committee (interview with CF Committee).

The community forestry is not officially recognized but it helped as an area of negotiation by the time when the village was about to be moved out. When the conflict escalated during the 1990s, due to a more strict conservation policy, the villagers were no longer allowed to use the forest at all. After various protests from villagers during these years the villagers of Ban Pang Eka created the community forest with help from NGOs and researchers from Chiang Mai University as a mean of negotiation (interview with CF committee, Northern Farmers Network, Professor).

Today the Royal Forest Department and national park officials have to some extent informally accepted the community forestry initiated by the villagers in trying to settle the conflict. The villagers can collect NTFPs as long as it is for own consumption and can cut some timber if they ask the committee that then have to ask the park officials. The villagers hardly ever ask for permission for cutting timber or for other uses of the forest but it seems as they in general have followed the agreement not to sell it (interview with park official, RFD officer, CF Committee Members).

Currently the conflict over the forest in the area seems to be kept latent by the procedures of the different stakeholders. On the other hand even if it is illegal, farmers continued to use some of their agricultural lands inside the national park (Zurcher, 2005; Interview with committee of CF, Northern Farmers Network and university professor). The problem is that the debate over the community forest bill has been going on for 17 years and has yet to be passed.

## 6.4 Different perception of the community forestry

### 6.4.1 The official view on community forest.

Year	Events	Action taken	Aim
1989	Logging ban resulting from massive flood	Government	Protection of forests
1991	Drafting of CF bill	RFD	Involvement of villagers in management.
1992	Draft law approved	Cabinet	Request for Approval of the bill
1992-95	Draft bill revised	Appointed committee and public hearing	Modification
1993	People draft CF bill	Government and committee	Modification
1994	People campaign	Public	Ask for approval of the people version of the bill.
1996	Draft new version of the bill by National economic and social development board...suan bua version, Chiang Mai	RFD and Gov't representatives, academics and villagers	Modification of the people version of the bill
1996	Opposition of the suan bua version and Ministry revised it	Ministry of agriculture and cooperatives	Modification
1997	Constitutional reform...right of minorities recognised.	National government	Consideration to peoples rights
2000	Signature collection nation wide for approval of people s version	National community forestry network.	Approval of peoples version of the bill.
2001	The Cf bill approved	lower house of the gov't	Approval
2002	CF Bill was approved by the lower house	Parliament members	
2005	CF Bill was revised by the Senate on 15 <sup>th</sup> march	Senetors	Deleted most crucial clause of allow people settled in protected areas.
2002	CF Bill was sent back to lower house	Parliament members	To consider senate version.
2003	Community forest bureau established under RFD	RFD	To manage CF outside protected areas.
2005	CF bill almost approved by join committee	Government, NGOs, and Citizens	Debate continued about people settled in protected areas and type of ownership to be given to villagers while trying to approve the bill..
2008	CF bill still not approved	NGO. Gov't, community	

Source: (Wichawutipong, 2005 and interview with NGO: Northern farmers' network)

Table 6.1: Short summary of the community forestry(CF) bill

Thus as it can be seen from the above table, the community forestry issue has passed through a lot of debate and modification and it has been an issue since 1991. It was first brought up in 1990 when the Royal Forest Department presented a draft bill on the subject it was though criticized for failing to address the needs of villagers. For many “*the initial draft implied little change to centralized bureaucratic control of forests and offered little chance for villagers to start governing forests locally*”( Forsyth & Walker, 2008: 52). This was a beginning for the long going debate about community forestry in Thailand. The debate has as some of the main issues the discussion about whether people are a part of the conflict or a part of the solution and if local people should be allowed to live and use the forest inside protected areas (Zurcher, 2005 and Salam et al., 2006). Thus, the issue of the debate was initially about inclusion of villagers’ views and rights to the bill proposed by the RFD.

However, in recent days, it seems that the idea of participating villagers in management of the forest is partly accepted especially for areas outside protected areas. For these places which are outside protected areas, the community can freely harvest non timber forest products such as mushroom, wild vegetables, bamboo shoots, resins and insects. Firewood collection is regulated in only gathering of dead trees and dead branches. Timber extraction is not allowed even if it is possible to get permission for household and communal use in a step by step basis. The community forest committee decides about permission for household use. In recent condition, the basic issue is whether community forestry should be allowed inside protected areas or not (Wichawutipong, 2005). The Royal Forest Department has started to realise that it is going to be impossible to move the people out of their villages but the debate is hiding the fight for power over forests and land. The policymakers have defined community forest as “*a form of devolved forest governance that empowers local people to shape forest use within a framework of rules established by the central state*” (Forsyth & Walker, 2008). The Royal Forestry Department sees community forest as only being forest, not land and are still reluctant to hand over power.

It is clear that the Ban Pang Eka village and the area claimed by villagers is inside a protected area. This means that the community forest issue is under question and depends on the approval of the community forestry bill.

### **6.4.2 Community forest in villagers' point of view.**

The villagers see the community forest as land belonging to the village where they can do agriculture and manage the forest more freely (interview with Committee of CF and University professor). For the villagers, the community forest includes the area of the village which includes parts of the national park, as well as some parts of the conservation forest. As far as use of community forest is concerned, the villagers' agree that they cannot use the forest for selling purpose. In addition, they believe that the community forest committee is responsible for managing forest use by villagers and control of illegal activities. On the other hand the community forest committee members mentioned that they have no legal back up in order to manage the forest in a better way. Thus, they commented that at its current condition they can't protect the forest from illegal logging.

Based on the survey conducted within the village, about 60% of them responded that they have attended meetings about community forestry at least once in their life. However, the meetings were during the establishment process of the community forestry. Concerning the issues of the meeting, they responded that conservation of the forest, procedures of forest use and illegal logging of trees is the most common. Concerning the benefit from community forestry, 88% of the respondents said that they have benefited. About problems concerning use of community forestry, about 70% of them said there is no problem. In addition, 84% of the respondents said that community forestry is improving their living condition.

For them the community forest is an area of land belonging to the village, both including land and forest. This means that according to the villagers they should have the right to use the forest and the land as they want.

### **6.4.3 Comparison of perceptions about community forestry**

As it has been indicated in the aforementioned parts, there are differences in point of view of what a community forest and ways of using it. The villagers see community forest as the whole area of their village and it includes agricultural land, parts of the national park and parts of the conservation forest. On the other hand, the RFD officials believe that community forestry is outside protected areas (national park and conservation forest in this context) and agricultural lands are not part of community forestry. In addition, it is known that the ban Pang Eka village is inside protected area. Therefore, if the community forestry bill is approved without consideration of community forestry in protected areas or if the boundary of the protected areas i.e the national park and the conservation forest is going to be the same as the satellite maps taken before years, then the situation of conflict will most likely to happen again. At this point it is possible to guess that most villages in northern Thailand are going to be affected from the proposed law. Therefore, this unsettled situation of the forest management as well as its restricted use can affect both the forest resource as well as the local livelihood. It can be seen that there is a need for national park and RFD officials to work

closely with local people in a better way than what it is now. On the other hand, an important decision is needed from the higher level management at national level in maximizing the benefits from people participation in the forest management than top down approach based on strict scientific theory of protection of forest lands. On the other hand, local level capacity in terms of awareness, facilities and management ability using grass root committee should be paid attention. Even if local population have long tradition of protection, there is a need to support the indigenous knowledge in a more systematic way which takes in to account the trends of economic changes and modernization. The problem of changing approach to forest policy over time need to be considered instead of only focusing on the ethnic minorities' role as destructive, which seems overrated. The problem of resource conflict is majorly of poor administration than related to ethnic or social problem (Englehart, 2008). This Idea of state forest management approach rather than villagers degradation which is over emphasized has been explained as "Since the 1980s a number of studies have questioned whether the degradation of natural resources can really be explained by accusations of ignorance or irrational farming practices on the part of rural people, or by the single variable of population growth. Rather, it is argued, problems stem from government laws and policies as well as economic development forces – these increase the pressure on the cash economy to provide livelihoods, and also limit people's rights and access to natural resources" (Mogens Buch-Hansen et. al. 2006: 51, Noel Rajesh, 2005, <http://www.rightsandresources.org> )

At summary, the community forest has so far helped to manage the conflict in Ban Pang Eka. However the status of the community forestry in general in Thailand today doesn't seem to propose new ways to manage the conflict in Ban Pang Eka as the village is located in a highly protected area. At the moment it doesn't seem like the law is being passed in the near future and even though it would it is not likely it would be helpful to the village of Ban Pang Eka. However, still there is a need to handle the issue in a strategic manner because the community forest is benefiting the farmers. Thus balancing the local level potential with possible administrative role will be one way of looking at the solution.

## ***6.6 Perspectives***

For this last section of our research question, the assumption we had in mind before we go to the field and till the time we started key informants interview was that there is legal community forestry. However, the reality gets mixed while we were collecting data. On the other hand, since we are dealing with conflict, the community forestry as it has been brought to the village has helped a lot since it has kept the conflict lower and villagers are assuming some sort of its existence. Thus, taking in to account how much the existing community forestry is far from the theoretical aspect, we decided to keep on working on it, but in the local context.

## **7. Conclusion and recommendation**

### ***7.1 Conclusion***

From the results of the study the following general points can be concluded;

- The underlying cause of the conflict is basically related to the stakeholders' different perceptions about forest use and the government's top down approach in managing natural resources in general and forest in particular. Furthermore the increase in population has added to the conflict.
- The consequences of the conflict on the livelihood is that it has put restrictions on the agricultural expansion and forced them to change their livelihood from agriculture to a more labour based livelihood strategy
- Although it is difficult to completely correlate the conflict with the degradation of the forest, both the direct and indirect evidences show that the forest in the area is in the trend of degradation and the conflict over the use of the forest has its own share to the degradation. Still there are differences between the utilization forest and the preservation forest, the preservation is in better condition.
- Even if the community forest is helping in minimizing the conflict, absence of legal recognition limits the effectiveness of the management of the conflict for present day and for future management of the problem. There is also some doubt to where as an aprovement of the law on community forestry would actually help the villagers of Ban Pang Eka since they live in a highly protected area.

### ***7.2 Recommendation***

From the point of view of forest management and improving the livelihood of the villagers at Ban Pang Eka, there is a need to consider local level interests and potentials together with the scientific approach from the government side. The villagers should also be assisted by extension facilities to use the available agricultural land in a better manner.

### ***7.3 Over all reflections***

As per the study area, we found it very interesting and touching different aspects of livelihood as well as resource management.

Concerning the quality of our data collection methods, we believe that we got sufficient information from key informants' interview. However, In relation to the conflict, views from RFD officials in Chaing Mai could not be included due to lack of willingness of the officials and this may limit some of the issues in our finding. In addition it could also have added to the understanding of the conflict if the perceptions from other villages close to Ban Pang Eka had been investigated. It was though chosen not to investigate this because of lack of time

Another limitation of our study is the missing information about the livelihood aspects before the conflict put restrictions on the use of the land and forest. This is because, the issue of livelihood is very complex and we didn't have time to deal with it in detail. Even though the major consequence of the conflict over natural resource in Ban Pank Eka has been identified in this study, it has not been possible for us in 10 days to cover the whole issue by comparing more in detail the actual situation to the past in order to tell about to what extent the conflict has affected the livelihood, especially in the case of the timber logging. It could also be interesting to analyze the livelihood in the whole to get more information about which asset of the livelihood has been the most affected by the conflict, how differently the different socio-economical classes have been affected and maybe the positive side of the conflict on the livelihood. About the sampling, it has not been easy to get the respondents during the day and also it was quite difficult for the villagers to categorize the different socio- economic classes. But still, with the size of the sample we use a randomly technique it has been possible to make it.

For the third part of our question, the consequence on forest resources is also done in a general terms and it is in the same context as the likelihood issue. Concerning the validity of the methods used in relation to forest measurement, the sample plots were purposely selected to represent the variation in tree density that exists in the area.

For issue of the community forestry and management of the conflict, we found it difficult to explain our data since the community forestry issue has no legal background in Thailand. Thus, since the villagers agree that they have community forestry with established committee and use rights we considered what is practical in the village in relation to the approval of the community forestry bill.



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## 9. Annex

### Summary of Methods used

Research questions	Methods	Sampling
What is the underlying cause of the conflict	<p>Literature review</p> <p>Key informants interview (park officials, RFD Officers, CF Committee, NGO: Northern Farmers Network, village head)</p> <p>Observation,</p> <p>Transect</p>	<p>Relevant literature</p> <p>Purposive sampling for key informants</p>
Consequences of the conflict on local livelihood	<p>Household survey</p> <p>Ranking exercise</p> <p>Focus Group Discussion(FGD)</p> <p>Seasonal activity calendar</p> <p>Key informant interview</p>	<p>Snowball sampling for household survey: 25 respondents selected out of 67 villagers.</p> <p>Purposive sampling for key informants FGD , ranking and calendar</p> <p>FGD with group of men(6) and women(7)</p>
Consequences of the conflict on forest resources	<p>Household survey</p> <p>Key informants interview</p> <p>Forest measurement</p> <p>Transect and observation</p>	<p>Snowball sampling for household survey: 25 respondents selected out of 67 villagers.</p> <p>Purposive sampling for key informants</p>

<p>Effectiveness of the community forestry in managing the conflict</p>	<p>Literature review</p> <p>Household survey</p> <p>Key informants interview</p> <p>Transect and observation</p>	<p>Relevant literature</p> <p>Snowball sampling for household survey: 25 respondents selected out of 67 villagers</p> <p>Purposive sampling for key informants</p>
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## Interview Guides Used

### A. Interview guide for Village head and religious leader

1. How much number of families lives in the village?
2. How much is the average number of people in a family?
3. What criteria do you use to say a household is rich or poor?
4. How many types of ethnic groups live in this village? Karen and lua
5. What is type common religion in this village? Protestant
6. Main source of income to this village?
7. how much is the amount of money the villagers getting from labour work
8. how is the condition of forest in this area compared to the past
9. What benefits are the community getting from the community forestry?,
10. What about the use of the national park?
11. How the idea of the community forestry started?.
12. who decide the boundary of different forests

### B. Interview guide for NGO

1. How was this Ngo Established and who establish it?
2. How are you working with the farmers and what is your objective?
3. What was your role during the establishment of community forestry in Ban Pang Eka?
4. Why the community forestry in the area?
5. problems facing the forest and the villagers
6. current status of the collect

### C. Interview with RFD officer at Mae Ram

1. responsibilities of the RFD in the watershed

2. classification and use rights of different forests
3. illegal activities
4. issue of community forestry , when was it established, why, who establish it,
5. legality
6. administration procedures of the forest and national park
7. problems facing the conservation forest
8. boundaries of different forests

D. Interview guide for Community Forestry Committee Members

1. Number of members
2. Selection procedures and roles
3. When the committee established and why
4. history of the conflict
5. benefits for committee members
6. document keeping procedures
7. power and administration of the area
8. illegal activities
9. problems in relation to the forests
10. boundary of the village
11. their perception about the way the forest should be managed
12. land rights
13. problems in the committee
14. legal issues about the community forestry

E. Focus group discussion guide

15. Benefits the village getting from the forests
16. problems of livelihood
17. borders of different forests
18. illegal activities and use rights
19. issues about the committee
20. condition of the forest
21. issues about the community forestry

F. Interview guide for Head of park official

1. Responsibilities of park officials how are they hired and relation with the village
2. benefits the villagers can get from the park and use rules and control of illegal activities
3. problems facing the national park
4. Establishment of border and how they know it
5. issues related to agricultural land expansion

G. Meeting with TAO director

- How is the TAO working
- Issues about use of different forest lands
- Administration of the forest lands
- Condition of different natural resources in the area
- Issues of land rights
- Problems facing the forest resources
- Need of local people

**H. Interview with university professor**

- History of the conflict
- Classification of forests and protected areas
- Status of community forestry

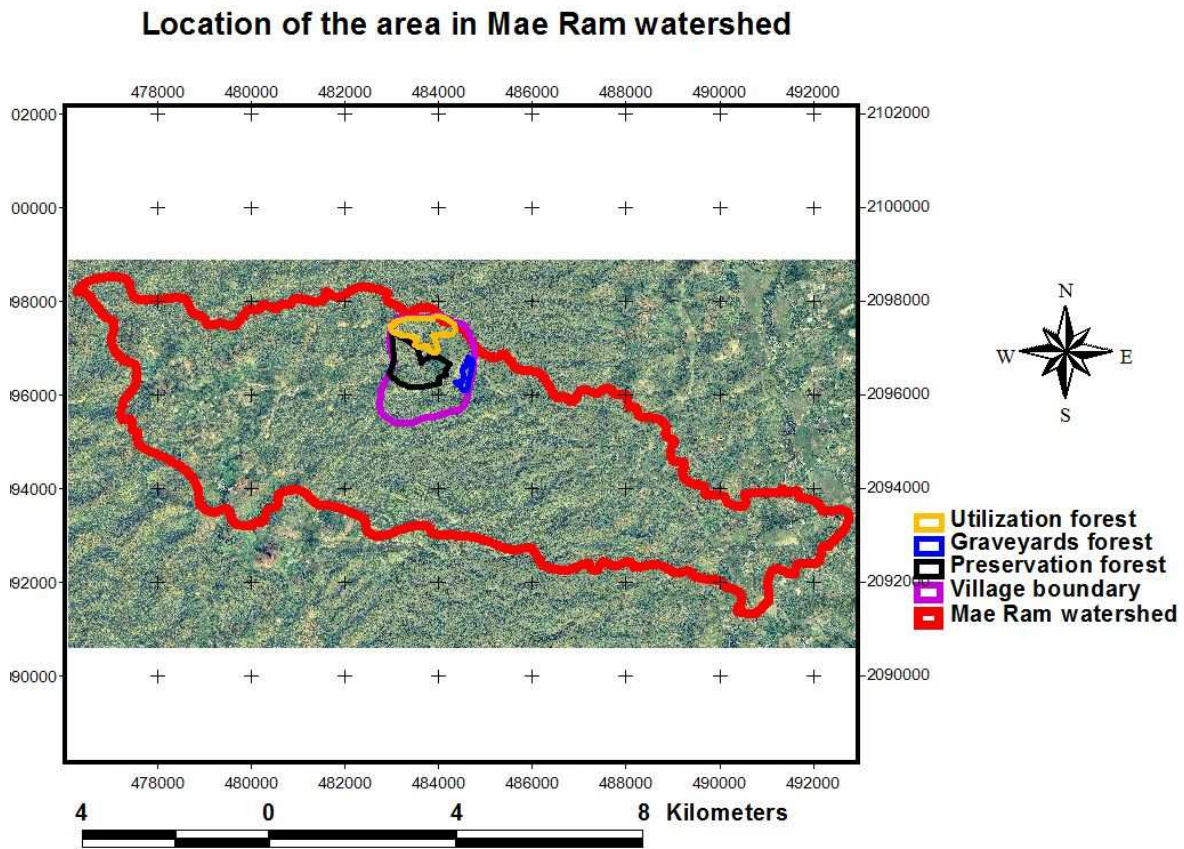


- Role of the university in the forest management
- Issues of land use
- Land use classification
- Ways of forest management
- Precondition for community forestry
- Involved parties...NGOs role

**I. Interview with the head of the tambol (district)**

- Status of community forestry
- Selection procedure of tambol
- Classification of different forests
- Responsibilities of tambol
- Boundary of different forests
- Status of natural resources in the area

## Location of the study area in the Mae Ram watershed



## House hold survey questionnaire

### *Acquaintance and agreement*

*We are students studying MSc degree in chang Mai University as well as Copenhagen of University in Denmark and this work is part of the as partial fulfilment of the requirements of one of the curses in our study. The study intends to assess the condition of forest management and views of the society in Ban Pang Eka area. We will be grateful if you can be able to take some time to respond to our questions.*

*The responses you provide, voluntarily, will all be used for the purpose of our study and we will not write your names on our report and your responses will be kept confidential.*

*The questionnaire takes approximately 5-10 minutes and thank you in advance for your willingness to respond to our questionnaire.*

### **General Instruction**

The following questions concern your knowledge, experience and believe concerning the conditions of forest resources in this area. Thus try to give us your feedback for the following questions.

### **I/ Identification of the household**

1- Date.....Interviewer name.....Identification number.....

2- Location.....Name of the HH-household.....

### **II/ Characterization of the household**

1. Sex of respondent: 1- male 2-female

2. Sex of household head. 1. Male 2. Female

3. Age: \_\_\_\_\_

4. Ethnic \_\_\_\_\_

5. Religion \_\_\_\_\_

6. Education

1-illiterate

2- Adult formation/Alphabetization

3.Primary school

4-Secondary school

5- High School

6. College or university

7. Size of the household \_\_\_\_\_

8. Major source of income

1. forest products 2. Labour work 3. Crafts man/ss trade 4. Employed work

5. Money sent from relatives (remittances) 7.agriculture

9. How long have you lived in this area (years) \_\_\_\_\_

10. If you are not native to this place, from where did you come? \_\_\_\_\_

### III/ Dependence of the household on the park

1/ Forest use, source and purpose :

List of uses	Yes/no	Source (1- National park, 2- Outside the park)	Purpose		
			Selling	Own consumption	Both
1. firewood					
2. Material for construction					
3. timber					
4, Medicinal plants					
Wild orchid					
Wild animal					

2. If you use of land for cultivation, where is the land located? 1. in the park 2. Out side the park \_\_\_\_\_

3. What are the total sizes of your lands (in rais) \_\_\_\_\_

4. Do you own the lands you cultivate (precise the type of tenure)?..

1. Yes ( type of tenure\_\_\_\_\_ )      2. No ( \_\_\_\_\_ )

5- If you use land for grazing, where is the land located?.....

1- Inside the park                      2- Outside the park

6. List the most important crop you cultivate on your land?

Crops	Lists	consumption	Selling
Cereals	1.		
	2.		
	3.		
Vegetables	1.		
	2.		
	3.		
Fruits	1.		
	2.		
	3.		
Legumes	1.		
	2.		
	3.		
Others	1.		
	2.		
	3.		

7. Number of Livestock you have?

<u>Type</u>	<u>Number of animals</u>
○ Cattle	.....
○ Buffalo	.....
○ Goats	.....
○ Pig	.....
○ Chicken	.....
○ Others	.....

8. For how long is the sufficient the food you produce for your home consumption?

1. Less than 2 months. 2. 2-4 months 3. 4- 7 months 5. 8-11 months 6. All year round.

9. Do you buy food from market? 1. Yes 2. No . Precise.....

10. If you use wild animal, how many times in a month do you get the wild animals?

\_\_\_\_\_

### Research Question II: Change in livelihood compared to the past

1. Do you think that your access to natural resources has changed over time?

List of uses	Yes/no	Type of change  1.Increase  2-Decrease  3- No change	Reasons
1.firewood			
2. Material for construction			
3. timber			
4, Medicinal plants			
Quality of land			
cultivation Land			

Grazing land			
Wild animal			
Wild orchid			
Water			
Others (list)			

**Research Question III: Effect of the conflict on local forest resource**

1- How do you evaluate the current forest coverage as compared to some 10 years ago?

1. Increasing..... 2. Decreasing..... 3. No change.....

If 2, mention the reasons

2. Is there a problem of soil erosion in your field?

1. Yes 2. No

If your answer is yes, what reasons do you think are the causes of soil erosion in the area?

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

**Research Question IV: how the local community forestry and changed livelihood help to mitigate the conflict in the area.**

1. Did you hear about community forestry in this area? 1. Yes 2. no

2. Did you participate in any meeting about the CF? 1. Yes 2. No

3. If yes, how many meetings? \_\_\_\_\_

4. What were the meetings about? \_\_\_\_\_

5. Are you benefiting from the project? 1. Yes 2. No

If yes, what are the benefits are you getting from the CF .....

If no, please mention the reasons.....

6. Is there any problem in using the community forestry? 1. Yes 2. No

if yes, what are the problems \_\_\_\_\_

7. What are the solutions do you propose to improve the management of forest \_\_\_\_\_

8. Do you think CF has improved your livelihood? \_\_\_\_\_

9- What do you think is a solution to improve your livelihood?



## Problem Ranking

The villagers were asked to discuss and mention the major problems that they are facing in their village. After listing all the problems in their village they were asked to rank these problems according to their importance.

Major problems in the village	Rank
Lack of job opportunity in the village	4
Low market price of the crops	2
Prohibition of agricultural land expansion	1
Increasing in living expense (eg. High fuel cost to travel to city for work)	3

## Preference Ranking: Forest use preference ranking

Forest		11	10	9	8	7	6	5	4	3	2	1
Use												
1	Mushroom	11	1	9	1	1	6	5	4	3	2	X
2	Bamboo shot	11	11	9	2	2	6	5	4	3	X	
3	Fire wood	11	3	9	3	3	6	5	4	X		
4	Bamboo for construction	4	4	9	4	4	6	5	X			
5	Medicinal plants	5	5	9	5	8	6	X				
6	Timber	6	6	9	6	6	X					
7	Wild animals	11	7	9	7	X						
8	Wild orchids	11	8	9	X							
9	Grazing cattle	9	9	X								
10	Ant egg	11	X									
11	Dry leaves	X										

# Final Synopsis

Park people conflict in Ban Pang Eka, Mea  
Mie watershed Northern Thailand.

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Interdisciplinary Land Use and Natural Resource Management (ILUNRM)

SLUSE Field Course

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**UNIVERSITY OF COPENHAGEN AND ROSKILDE UNIVERSITY**

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## 1. Introduction

One of the most prevalent challenges in managing protected areas in developing countries is the conflict resulting from utilization of 'ambiguous lands' which are legally owned by states but are being used by local population. In addition, understanding the complexities of environmental degradation in Thailand is helpful to study the conflict concerning conservation areas (ambiguous lands) and the people who inhabit them (Roth 2004; Walker 2001; Sato 2000).

National parks are a good example of such areas where the efforts of conservation has been targeted in Thailand but with limited success with respect to the plans.

As part of the government's nation building initiatives (Roth, 2004) and national strategic plan for protecting areas as national parks, the Royal Forest Department (RFD) decided in 1973 that Doi Suthep-Pui and thirteen other forest areas should be established as national parks. This specifically resulted in the enclosure of a significant portion of Mae Ram Watershed to be Doi Suthep-Pui National Park. This was followed by the National Parks' committee decision of incorporating only those forests which were in good conditions to be under national parks and excluding areas inhabited by villagers. After eight years, in 1981, constituting 161.06 square kilometers, Doi Suthep-Pui National Park was declared as Thailand's 24<sup>th</sup> national park. This was followed by annexation of additional 100 square kilometers of the buffer zone areas to be part of the stated park resulted in a total enclosure area of 261.06 square kilometers ([www.dnp.go.th](http://www.dnp.go.th)).

In addition, the Thai government has been trying to protect the forest lands through different strategies some of which prohibit tree cutting and burning by law, and not allowing full land tenure in forest lands up to the extent of evacuating local people (Roth, 2004). The consequence of such consecutive decisions over local natural forests have been many: the livelihood of the local forest-dependent communities and forest user groups has become in question, the imposition of forestry laws and regulations by the Thai government which was intended to resolve the problem of deforestation has resulted in conflict between park officials and the local population over the use and control of forest resources (Amornsanguansin and Routray 1998), intervention of some NGOs in smoothing the situation and advocating for human rights resulted in distrusting tendencies which is believed to have a bearing on conservation strategies especially

in relation to the recently emerging Community Forestry Projects in the area (Roth 2004; Walker 2001; Sato 2000).

As an important work towards understanding the complexities of natural resource conflict, this study tries to investigate the major causes of conflict between the park officials and the local population. Furthermore the consequences of the conflict on local livelihood and the forest resource as well as the effectiveness of the community forestry projects in meeting sustained management of the forest lands while optimizing local benefits and thereby managing the conflict will be investigated. Therefore, it is important for us to investigate the overall aspect of the conflict between park officials and local population in the study area which is a very good opportunity in understanding of the contexts of natural resource conservation.

## **1.2 objectives**

The aim of the study is to determine the major causes of conflict between the park officials and the local population. The effects of the conflicts on local livelihood and the forest resource as well as the effectiveness of the community forestry projects in managing the conflict by meeting sustained management of the forest lands while optimizing local benefits and active participation.

## **1.3 Main research question**

*How do local livelihood interests and higher level interests in the National Park conflict and how may these conflicts be resolved or managed?*

### **1.3.1 Questions to be answered.**

The following chapter will explain why each of the research questions are included and what the more specific focus will be and what data is required for each question.

In the method chapter selected methodological approaches, required data, data sources and collection methods for each research question are comprehensively stated.

2. *What are the underlying causes of existing conflict between local people and park officials over forests and other natural resources?*

To investigate the underlying causes of conflict over forest and natural resources, we need to know the nature of the actual conflicts, history of the conflict, status of the forest land, the different stakeholders and relationship between them. It is also important to know about the roles, needs and interests of different stakeholders, the conflict roots and evolution and geographical location of the different conflicts over park resources.

The progress triangle framework will be used as a main tool in assessing the three dimensions of the conflict issue (substance, Relationship and Procedure) to answer this research question.

2. *What consequences have these conflicts of interests had on local livelihoods?*

To investigate the consequences of the conflict on local livelihood we need to understand the dependence of the community of Ban Pang Eka on the forest and the changes observed in the livelihood due to the conflicts. More specifically we need to know what types of benefits the locals are getting from the forest and what other income generating activities they have, which will show the actual dependence of local people on the forest.

To answer this question the Sustainable Livelihood Approach will be used as a guideline.

3. *What consequences have these conflicts of interests had on forest and other local natural resources?*

To investigate the consequences of the conflict on the natural resources in the area, we need to know about the different natural resources present in the park and the over all condition of the forest. It is also important to know about the evolution of the forest/park (state before

and after conflicts), the location of the changes, how the conflict issue has affected the condition of the park, and the others factors contributing. Here the Forest Resource Assessment will be used as a guideline to answer this question.

4. *How Community forestry and changed livelihood strategies serve to resolve or at least manage the current conflicts of interests?*

To investigate the effectiveness of the community forestry projects in the area we need to know the official strategy with community forestry and what the specific official status it has. Additionally we have to know the participation of the locals in the process, the demarcation process, how the locals are using the community forest and what their opinion about the forest is. Furthermore we need to assess the condition of the forest and what impact the community forest has had on the condition. This will make it possible to see if the community forest is serving to manage the conflict.

## **2. Methods**

This chapter will account for the different methods used to collect data to answer our research questions. The purpose is to show the methodological approach and thereby show on what background that the conclusions are drawn.

This will be done by account for the sampling design used for the different methods.

### **2.1 Study area**

The study will be carried out in the village of Ban Pan Eka in Mae Ram Watershed, Mae Rim in Changwat (District), Chiang Mai (Province) in northern Thailand. The village consists of 80 households and is mainly populated of the Karen people, which is originally a hill tribe from Thailand and Burma. The villagers mainly grow upland rice for self-sufficiency and collect bamboo shoots. The village is situated at the boarder of Suthep-Pui National park (there is some dispute about the actual boarder of the national park) which in most of the Mae Ram watershed is situated.

The area in which the village is situated mainly consists of evergreen forest and mixed deciduous forest.



## 2.2 Data gathering Methods

### 1) What are the underlying causes of existing conflicts between park officials and the villagers in Ban Pang Eka?

Operational questions	Methods	Respondents	Sampling	Comments
Who are the stakeholders in the conflict?	Literature review			
	Informal conversation	Thai students and teachers at Chang Mai university		
What is the substance of the conflict?	semi structured interview	Key informant: Park officials, Amphoe and TAO (local administration, district and subdistricts), development agent	Purposive: expert sampling (people who have knowledge, experience, expertise on the topic and the area)	
		Head of the village and some Local villagers	Purposive: snowball sample (a respondent will be identified based on our criteria, then get the other respondents from him)	The criteria would be based on ethnicity and/or well-being.
What is the boundary of the park? And location of others conflicts over the natural resource in the park?	GPS mapping	Head of the village and some Local villagers	Purposive: snowball sample (a respondent will be identified based on our criteria, then get the other respondents from him)	The criteria would be based on ethnicity and/or well-being
		key informants: Park official and development agent	Purposive: expert sampling (people who have knowledge, experience, expertise on the topic and the area)	
What are the interests and relationship between the stakeholders?	Semi structured interview	Key informant : Park officials, Amphoe and TAO (local administration, district and sub districts), development agent,	Purposive: expert sampling (people who have knowledge, experience, expertise on the topic and	

		ONGs	the area)	
		Head of the village and some Local villagers	Purposive: snowball sample (a respondent will be identified based on our criteria, then get the other respondents from him)	The criteria would be based on ethnicity and/or well-being
What are the stakeholders' perceptions of the root causes of the conflict?	semi structured interviews	Key informants : Park officials, development agent ONG,	Purposive: expert sampling (people who have knowledge, experience, expertise on the topic and the area)	
	Focus Group discussion	local villagers	Purposive: snowball sample (a respondent will be identified based on our criteria, then get the other respondents from him)	The criteria would be based on gender, ethnicity or well-being
What have been the procedures in managing the conflict?	Literature			
	semi structured interviews	Key informants: Park officials, Amphoe and TAO (local administration, district and sub districts), NGO	Purposive: expert sampling (people who have knowledge, experience, expertise on the topic and the area)	
		Head of the village and some Local villagers	Purposive: snowball sample (a respondent will be identified based on our criteria, then get the other respondents from him)	The criteria would be based on ethnicity and/or well-being

## 2) What consequences have these conflicts of interest had on local livelihoods in Ban Pang Eka?

Operational questions	Methods	Respondents	Sampling	Comments
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How is the dependence of local people on the natural and other capitals?	Semi structured interview	Key informants: NGO and development agent	Purposive: expert sampling (people who have knowledge, experience, expertise on the topic and the area)	
	Ranking exercise	Local villagers	Purposive: snowball sample (a respondent will be identified based on our criteria, then get the other respondents from him)	The criteria would be based on ethnicity and well-being
	Focus Group Discussion	Local villagers	Purposive: snowball sample (a respondent will be identified based on our criteria, then get the other respondents from him)	The criteria would be based on gender, ethnicity , well-being
	Survey	Local households	Stratified random sampling (criteria for stratification is ethnic or/and well-being) of the household.  If the village is not big, we will take the 50% of the total household	The most relevant criteria from the both proposed will be decided on the field basing on the context and information we would get
What are the changes in the access to natural resources of the park?	Semi structured interview	Key informants: NGO and development agent	Purposive: expert sampling (people who have knowledge, experience, expertise on the topic and the area)	
	Survey	Local households	Stratified random sampling (criteria for stratification is ethnic or and well-being) of the household.  If the village is not big, we will take the 50% of the total household	The most relevant criteria from the both proposed will be decided on the field basing on the context and information we would get
	Trend analysis	Head of village and some local villagers	Purposive: snowball sample (a respondent will be identified based on our criteria, then get the other respondents from him)	The criteria would be based on gender, ethnicity and well-being

Illegal activities...	Observation			
	Semi structured Interview	Park officials Tao and amphoe (local administration)	Purposive: expert sampling (people who have knowledge, experience, expertise on the topic and the area)	
	Informal conversation	villagers		

**3) What consequences have these conflicts of interest had on forest and local natural resources?**

Operational questions	Methods	Respondents	Sampling	Other comments
What is the condition of forest cover in the area?	Observation/transect			
	Forest area measurement:  Density of trees		Stratified sampling using GPS	
	satellite map	...	...	This will be asked from our university.
	Semi structured interview	Key informants: Park officials, NGO  Development agents	Purposive: expert sampling (people who have knowledge, experience, expertise on the topic and the area)	
		Head of village and some villagers	Purposive: snowball sample (a respondent will be identified based on our criteria, then get the other respondents from him)	The criteria would be based on gender, ethnicity and well-being
	Survey	Local households	Stratified random sampling (criteria for stratification is ethnic or and well-being) of the household.  If the village is not big, we will take the 50% of the total household	The most relevant criteria from the both proposed will be decided on the field basing on the context and information we would get
What is the condition of land in the area?	Observation/transect walk	With local people		
	Semi structured interview	Key informants: Park officials, NGO  Development	Purposive: expert sampling (people who have knowledge, experience, expertise on the topic	

		agents	and the area)	
		Head of village and some villagers	Purposive: snowball sample (a respondent will be identified based on our criteria, then get the other respondents from him)	The criteria would be based on gender, ethnicity and well-being
	Survey	Local households	Stratified random sampling (criteria for stratification is ethnic or and well-being) of the household.  If the village is not big, we will take the 50% of the total household	The most relevant criteria from the both proposed will be decided on the field basing on the context and information we would get
What is the status of wild life in the area?	Observation/transect walk	With local people		
	Semi structured interview	Key informants: Park officials, NGO  Development agents	Purposive: expert sampling (people who have knowledge, experience, expertise on the topic and the area)	
		Head of village and some villagers	Purposive: snowball sample (a respondent will be identified based on our criteria, then get the other respondents from him)	The criteria would be based on gender, ethnicity and well-being
	Survey	Local households	Stratified random sampling (criteria for stratification is ethnic or and well-being) of the household.  If the village is not big, we will take the 50% of the total household	The most relevant criteria from the both proposed will be decided on the field basing on the context and information we would get
What is the condition of water in the area?	Observation/transect walk	With local people		

	Semi structured interview	Key informants: Park officials, NGO  Development agents	Purposive: expert sampling (people who have knowledge, experience, expertise on the topic and the area)	
		Head of village and some villagers	Purposive: snowball sample (a respondent will be identified based on our criteria, then get the other respondents from him)	
	Survey	Local households	Stratified random sampling (criteria for stratification is ethnic or and well-being) of the household.  If the village is not big, we will take the 50% of the total household	The most relevant criteria from the both proposed will be decided on the field basing on the context and information we would get
Is there a change of the natural resources compared the past?(yes/no, what, how)	satellite map			From university
	Semi structured interview	Key informants: Park officials, NGO  Development agents	Purposive: expert sampling (people who have knowledge, experience, expertise on the topic and the area)	
		Head of village and some villagers	Purposive: snowball sample (a respondent will be identified based on our criteria, then get the other respondents from him)	The criteria would be based on gender, ethnicity and well-being
	Survey	Local households	Stratified random sampling (criteria for stratification is ethnic or and well-being) of the household.  If the village is not big, we will take the 50% of the total household	The most relevant criteria from the both proposed will be decided on the field basing on the context and

				information we would get
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**4) How Community Forest and changed livelihood strategies serve to resolve or at least manage the current conflicts of interest?**

Operational questions	Methods	Respondents	Sampling	Other comments
What is the policy of CF in Thailand?	Literature,			
	semi structured interviews	Key informants: Park officials, NGO, local administration	Purposive: expert sampling (people who have knowledge, experience, expertise on the topic and the area)	
How was the CF started in Ban Pang Eka?	Semi-structured interview	Key informants: Park officials, local administration	Purposive: expert sampling (people who have knowledge, experience, expertise on the topic and the area)	
	Focus group discussion	Local villagers	Purposive: snowball sample (a respondent will be identified based on our criteria, then get the other respondents from him)	The criteria would be based on gender, ethnicity and well-being
	Survey	Local Households	Stratified random sampling (criteria for stratification is ethnic or well-being) of the household.  If the village is not big, we will take the 50% of the total	The most relevant criteria from the both proposed will be decided on the field basing on the context and information we



			household	would get
How are the villagers using the CF?	Semi-structured interview	Key informants: Park officials, local administration	Purposive: expert sampling (people who have knowledge, experience, expertise on the topic and the area)	
	Focus group discussion	Local villagers	Purposive: snowball sample (a respondent will be identified based on our criteria, then get the other respondents from him)	The criteria would be based on gender, ethnicity and well-being
	Survey	Local Households	Stratified random sampling (criteria for stratification is ethnic or well-being) of the household.  If the village is not big, we will take the 50% of the total household	The most relevant criteria from the both proposed will be decided on the field basing on the context and information we would get
How CF address the conflict?	Semi-structured interview	Key informants: Park officials, local administration. NGO	Purposive: expert sampling (people who have knowledge, experience, expertise on the topic and the area)	
	Focus group discussion	Local villagers	Purposive: snowball sample (a respondent will be identified based on our criteria, then get the other respondents from him)	The criteria would be based on gender, ethnicity and or well-being
	Survey	Local Households	Stratified random sampling (criteria for stratification is ethnic or well-being) of the household.  If the village is not big, we will	The most relevant criteria from the both proposed will be decided on the field basing on the context

			take the 50% of the total household	and information we would get
What are the involved stakeholders' views of CF?	Semi-structured interview	Key informants: Park officials, local administration, development agent	Purposive: expert sampling (people who have knowledge, experience, expertise on the topic and the area)	
		Local villagers	Purposive: snowball sample (a respondent will be identified based on our criteria, then get the other respondents from him)	The criteria would be based on gender, ethnicity and well-being
	Survey	Local Households	Stratified random sampling (criteria for stratification is ethnic or well-being) of the household.  If the village is not big, we will take the 50% of the total household	The most relevant criteria from the both proposed will be decided on the field basing on the context and information we would get

NB: The different methods mentioned in the table are going to be administrated at only once time to the different interviewee. This means we are not going to the same interviewee many times.

### 2.2.1 Participatory Rural Appraisal (PRA) methods

According to Selener et al. (1999) Participatory Rural Appraisal (PRA) *“is a methodology which helps to identify community problems and to plan solutions with the active participation of the community members”*. Therefore different PRA techniques will be used to identify the main livelihood strategies, natural resource uses and so on.

They will be presented together as each method is often seen as part of a general PRA toolbox (Mikkelsen 2005).

### **2.2.1.1 Semi-structured interview**

The semi-structured interview will be used to triangulate with data from the questionnaire and to go more in depth with some of the data acquired from same questionnaire. The method has been chosen because it can give a deeper understanding of how and why the respondents act as they do. At the same time it works as a guideline and can keep a focus on the subject.

Specifically, the semi-structured interview will be used to obtain in-depth insight about the causes of conflicts, consequences of conflict on the rural livelihoods and natural resource base of the area, importance of CF forestry for the rural livelihoods and management of natural resources, key stakeholders involved in the conflict, interest of the different stakeholders and the relationship between them. Semi-structured interviews will be carried out with the Forestry Department, Park authorities, researchers from Chang Mai University, NGOs working in the area, committees of CF, community leaders, development agents and purposive chosen people from the community.

### **2.2.1.2 Focus group discussion**

Group discussions with the community members or/and stakeholders allow us to explore a range of concerns and interests about the subjects of concern for the group. The process of group discussions raises awareness of resource concerns and conflict and provides a platform to negotiate issues. The information that is gathered during the group meeting might help develop a management plan that is acceptable to all forest user groups (Asian Forest Network, 2002) thus by using this method we will try to observe how a group of villagers/stakeholders, when discussing about the situation, react and to what extent they agree or disagree on the issues. The method also enables us to see the variations and commons between different villagers/stakeholders.

### **2.2.1.3 Historical Trend analysis**

Creating a graph that diagrams changes in the population, rainfall, and trend lines can also be used to chart patterns of forest disturbance and regeneration, volume flow of important forest products over time (Asian Forest Network, 2002). In this study, the trend analysis will be used to get an idea of the change in the availability of forest products and the condition of natural resources in the area over time.

#### **2.2.1.4 Preference ranking exercises**

It is used to quickly identify main problems, opportunities or preferences as experienced by individuals or groups of stakeholders. Using local measures, judgment, and materials such as seeds, sticks etc usually help to demystify the research process (Mikkelsen 2005). Thus, in this context we will use the preference ranking exercise to see the priorities of local population about the major causes of the conflict in the area, uses of the forest, status of the forest resource, and alternative course of action.

#### **2.2.1.5 Transect walk**

This will be conducted in collaboration with key informants.

The purpose of using the transect walk is to have an overall, first hand impression of the village, the forest and the surroundings (Mikkelsen 2005). This will help us in getting an impression of Ban Pang Eka and the surroundings. The method is specifically important to cross check to what extent the information provided by key informants and villagers is valid. It can also indicate the effects of past and present activities on the forest as well as the agricultural land while opening a chance to come across some new areas of investigation.

#### **2.2.1.6 Secondary Data**

The secondary data is used to get as good information as possible about the areas of interest. This saves us time in the field by avoiding unnecessary questions in the interviews and be more focused and specific when we get there. Furthermore the data can to some extent be used to triangulate data when we get back from the field.

#### **2.2.1.7 Ranking exercise**

This is used to quickly identify main problems, opportunities or preferences as experienced by individuals or groups of stakeholders. Using local measures, judgement, and materials such as seeds, sticks etc usually help to demystify the research process (Mikkelsen 2005). Thus, in this context we will use the preference ranking exercise to see the priorities of local population about the major causes of the conflict in the area, uses of the forest and main livelihood strategies.

## **2.2.2 Non PRA methods**

### **2.2.2.1 Global Positioning System (GPS) mapping**

The GPS mapping will in this research be used to define the different stakeholders' perception of the boundary of the national park. In practice it will be conducted with the transect walk. The purpose of the combination is because the boundary is not physical visible and we will therefore examine if the local villagers' understanding of where the boundary is correlates with the park officials' understanding.

### **2.2.2.2 Satellite map**

A satellite map will be used to get an overview of the development in land use in the area and will be helpful in triangulating with data from the PRA methods.

### **2.2.2.3 Survey**

The household survey will be conducted using structured questionnaires which will cover demographic characteristics of the households, causes and consequences of conflict of interest between local people and park authorities, livelihood strategies, land ownership status, perception of local community about community forestry and despites between local people and park authorities. The survey questionnaire will be pre-tested on a few households before the actual implementation of the survey. This is to make sure that the questions and response choices are clear for the respondents and to identify if there are irrelevant, incomplete or redundant questions in the questionnaire. Based on the information obtained during the pre-test adjustment will be made to the questionnaire.

## **2.3 Sampling Design**

Key informants as well as participants for PRA techniques will be selected purposely based on the relevance and level of information they will give us in relation to the purpose of our study. It will take in consideration the points of view from different socio-economical categories. Purposive sampling method will be used for

the selection of key informants and stratified random sampling will be used to categorize the respondents into a certain number of categories based on their ethnicity or the well-being (the best criteria will be found out on the field) Random sampling will be used for the selection of households from each category to administer the structured survey questionnaire. The sample size will be determined based on the population of the villages, time available and variations in the community. But from our information from the Thai students, the size of the population is around 80 households. Then, we suggest 40 households for the sample of the size to be statistically relevant. Stratification criteria, sampling size will be confirmed after getting more information from the field.

## ***2.4 Data Analysis***

The data collected from the primary and secondary sources will be analyzed using qualitative description and descriptive statistics. The portion of the data that is readily quantifiable (data from the closed ended questions) will be analyzed using excels/SPSS software. The data which will be collected from key informant interviews, group discussions, PRA techniques and direct observational will be analyzed using qualitative assessment methods. Finally the output of the analysis from the SPPS will be discussed using tabulation, cross-tabulation, means frequencies and percentages.

### 3. Contribution of group members to the project in relation to area of study

Institution	Name of member	Field of specialisation/interest	Main contribution to the project	Comments
Danish group	Anton	Geography and International Development	Social, political and livelihood aspects and structures, policy analysis	
	Dereje	Management(BA),Environment and Development(MA), and Tropical Forestry(Current Study).	The political, Forestry(forest policy and Community Forestry), Legal aspects of local devt.	
	Fikadu	Rural Development and Human Nutrition	Gender, food security, policy, income generation(livelihood)	
	Marlene	Rural Development	Development aspect, social aspects of research.	
	Mengistu	Plant Sciences (BSc.), Environmental Sciences (MSc), Agricultural Development (Current Study program)	Agronomic, socioeconomic and Environmental aspects)	
	Neila Gómez García	Agricultural Engineering (Environment and land management)	Agricultural, environmental and development aspects	
Thailand group				





## 4. Tentative Time Schedule

The overall research process is divided in 4 phases

Phases	Activity	Time plan
I	Meeting local students and discussion , modification ( if any)	March 4th – 7th
II	Preparation, Contact with key informants, meet park officials, appointment, visit the village and decide about sampling and sample size	March 8th- 11th
III	Data gathering, sharing with local students	March 12- 17th
IV	Preliminary data analysis(check up)	18th- 19th

Details of the plans

Phase I		
Date	activity	Remark
March 4th	meeting local students are arranging meeting	
March 5th	detailed discussion of the research objectives, methods and work plan	
March 6th and 7th	Finalizing the discussion and preparing materials (interview guide, questionnaires).	
Phase II		
March 8th	Contact key informants	
March 9th	contact park officials and interview	
March 10th	Visit the village, and the forest, decide about sampling strategy and sample size, select respondents.	
March 11th	Selection of respondents and start survey	
Phase III		
March 12th	Survey and selection of respondents for ranking exercise and focus group, transect walk	
March 13th- 16th	Survey, transect, interview, ranking,	
March 17th	Finalising the data gathering	
Phase IV		
March 18th	Preliminary analysis and data cleaning	
March 19th	Finalizing the data cleaning and sharing information with local students	

## 5. Reference List

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## 6. Annexes

### House hold survey questionnaire

#### *Acquaintance and agreement*

*We are students studying MSc degree in chang Mai University as well as Copenhagen of University in Denmark and this work is part of the as partial fulfilment of the requirements of one of the curses in our study. The study intends to assess the condition of forest management and views of the society in Ban Pang Eka area. We will be grateful if you can be able to take some time to respond to our questions.*

*The responses you provide, voluntarily, will all be used for the purpose of our study and we will not write your names on our report and your responses will be kept confidential.*

*The questionnaire takes approximately 5-10 minutes and thank you in advance for your willingness to respond to our questionnaire.*

#### **General Instruction**

The following questions concern your knowledge, experience and believe concerning the conditions of forest resources in this area. Thus try to give us your feedback for the following questions.

#### **I/ Identification of the household**

3- Date.....Interviewer name.....Identification number.....

4- Location.....Name of the HH-household.....

#### **II/ Characterization of the household**

1. Sex of respondent: 1- male 2-female
2. Sex of household head. 1. Male 2. Female
3. Age: \_\_\_\_\_
4. Ethnic \_\_\_\_\_
5. Religion \_\_\_\_\_
6. Education
  - 1-iliterate 2- Adult formation/Alphabetization 3.Primary school
  - 4-Secondary school 5- High School 6. College or university
7. Size of the household \_\_\_\_\_
8. Major source of income
  1. Depend on forest 2. Labour work 3. Crafts man/ss trade 4. Employed work
  5. Money sent from relatives 7. Others
9. How long have you lived in this area (years) \_\_\_\_\_
10. If you are not native to this place, from where did you come? \_\_\_\_\_
11. Description of the household in term of socio-economic aspect  
.....

### III/ Dependence of the household on the park

1. What are the natural resources that you use from the forest/park?
  1. firewood /\_\_\_/
  2. Material for construction /\_\_\_/
  3. timber /\_\_\_/
  4. Medicinal plants /\_\_\_/
  5. cultivation Land /\_\_\_/
  6. Grazing land /\_\_\_/
  7. Wild animal /\_\_\_/
  8. Water /\_\_\_/
  9. others (precise) /\_\_\_/
2. Among the lists above, tell us the three most important:
  - 1<sup>st</sup> \_\_\_\_\_
  - 2<sup>nd</sup> \_\_\_\_\_
  - 3<sup>rd</sup> \_\_\_\_\_

3. If you use of firewood, timber, material for construction, or medicinal plants, complete the following table:

List of uses	Use Yes/no	Specify the season	Purpose		
			Selling	Own consumption	Both
1. firewood					
2. Material for construction					
3. timber					
4. Medicinal plants					

4. From where do you get these resources? 1. in the park 2. Out side the park \_\_\_\_\_

5. If you use of land for cultivation, where is the land located? 1. in the park 2. Out side the park \_\_\_\_\_

6. What are the total sizes of your lands (in local unit) \_\_\_\_\_

7. Do you own the lands you cultivate (precise the type of tenure)?..

1. Yes ( type of tenure \_\_\_\_\_ )      2. No (reason \_\_\_\_\_ )

8. How many times in a year do you cultivate (produce) your land?

1. once 2. twice 3. three times 4. Plantation.

## 9. Which of the following crops do you plant in your land?

Crops	Lists	Total land area (in local unit)	Total yield	consumption	Selling
Cereals	1.				
	2.				
	3.				
Vegetables	1.				
	2.				
	3.				
Fruits	1.				
	2.				
	3.				
Legumes	1.				
	2.				
	3.				
Others	1.				
	2.				
	3.				

## 10. How many months in a year do you get food from what you produce?

2. Less than 2 months. 2. 2-4 months 3. 4- 7 months 5. 8-11 months 6. All year round.

## 11. Do you buy food from market? 1. Yes 2. no

## 12. If yes, from where do you get the money?

1. Selling NTFP 2. Selling cattle 3. Labour work 4. Money sent from relatives 5. Others, specify

13. Number of Livestock and other assets 1. None 2. 1-3 3. 4-6 4. 7-9 5. >10

- Type ..... number of animals
- Cattle .....
- Sheep .....
- Buffalo.....
- Goats .....
- Donkeys .....
- Chicken .....
- Others

14. If you use of land for grazing, Where do you graze your cattle?

1. In my land    2. In the park    3. In neighbours land    4. In common lands

15. If you use wild animal, for what purpose do you use wild animals

1. For food    2. For skin (own use)    3. Selling skin    4. Selling other parts specify \_\_\_\_\_

16. How many times in a month do you get the wild animals? \_\_\_\_\_

17. What quantity do you bring at each time? (if differ depending on season, please precise) \_\_\_\_\_

18. If you use of water, from where do you get the water? 1. from the park 2. Out side the park  
3. other places

19. For what purpose do you use it? 1. Home consumption 2. .irrigation 3. Animals 4.

Others \_\_\_\_\_

20. If you use others natural resources, list them:

\_\_\_\_\_

21. how do you evaluate your living condition in general

1. It's getting better 2. It's getting worse 3. Its not changing

#### **IV/ Effect of the conflict on the access to the natural capital**

1. What is the condition of forest cover in the area? 1. Increasing 2. Decreasing 3. No change

2. How do you evaluate the current forest coverage as compared to some 10 years ago?

- 1) Increasing                      2) decreasing at small rate    3) decreasing at faster rate    4) no change if 2 or  
3 mention the reasons. ....

3. Do you think that your access to natural resources has changed over time?

List of uses	Yes/no	Comments on the reasons
1.firewood		
2. Material for construction		
3. timber		
4, Medicinal plants		
cultivation Land		
Quality of land		
Grazing land      Wild animal		
Water		
Others		

4. What have been the new livelihood strategies you have adopted to face this situation?

1. Migration /\_\_\_/,
2. diversification /\_\_\_/,
3. intensification of farm /\_\_\_/,
4. competition (competitive market) /\_\_\_/,



5. others natural resource based/\_\_\_/ (precise),

6. development of off activities /\_\_\_/

5. Why those choices (compared to others possible alternatives).....

6. What are the constrains of these alternatives?.....

7. What is the condition of land in the area? 1. Increasing 2. Decreasing 3. No change

8. Is there a problem of soil erosion in your field?

2. Yes 2. No

9. If your answer is yes, what reasons do you think are the causes of soil erosion in the area?

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

10. How do you evaluate the fertility of your farm land over time?

1) Increasing

2) decreasing

3) no change

11. If your answer to the above question is decreasing, can you mention some of the reasons?

1. \_\_\_\_\_, \_\_\_\_\_

2. \_\_\_\_\_, \_\_\_\_\_

3. \_\_\_\_\_, \_\_\_\_\_

12. What is the status of wild life in the area? 1. Increasing 2. Decreasing 3. No change

13. What is the condition of water in the area? 1. Increasing 2. Decreasing 3. No change

**V/how can the CF projects and changed livelihood can help to manage or at least minimize the conflict in the area.**

1. Did you hear about community forestry project I this area? 1. yes 2. no

2. If yes, when did the project started? \_\_\_\_\_

3. Who started the project? The community 2. The government 3. Both 4. Park officials 5. Don't know

4. Who owns the project? \_\_\_\_\_

5. Did you participate in any meeting about the project? 1. Yes 2. No

6. If yes, how many meetings? \_\_\_\_\_

7. What were the meetings about? \_\_\_\_\_

8. Are you benefiting from the project? 1. Yes 2. No

9. If yes, what are the benefits \_\_\_\_\_

10. If no, please mention the reasons.....

11. Is there any problem in using the community forestry? 1. Yes 2. No

12. if yes, what are the problems \_\_\_\_\_

13. What are the solutions \_\_\_\_\_

14. Is the CF project important for your livelihood in general? \_\_\_\_\_

15. What do you think is a solution to improve your livelihood apart from the CF project? \_\_\_\_\_

16. To which resources of the park do you have legal access?

1. Grazing land 2) fire wood 3) charcoal wood 4) timber wood 4) water 5) agricultural land 6) others, Please specify-----

17. Who owns the forest? 1. The park officials 2. The community 3. The government 4. No one owns

18. Can people from other villages use the forest as much as you use? 1. Yes 2. No ....if no why?

19. If your answer is yes, what is your member ship status?

1. Current member 2. Member from its establishment 3. Never member 4. I don't know  
CF

20. Is there a need to protect the forest area from livestock and human use 1. Yes 2. No

21. If yes, do you have any ideas of how to protect it.

22. Do you think community forestry will improve your living conditions 1? yes 2. no mention reason

23. what do you think is the solution to improve your living condition other than community

forestry \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## **Interview Guide for Villagers**

This Key informant interview has been conducted by students of Chaing Mai and Copenhagen Universities as one of the tools for a study on natural resource conflicts management, a research title selected as the partial fulfillment of the course called ILURM. All the information that respondents give is confidential, their name will not be mentioned in the study.

### **A) Background information**

Name of Interviewer: .....
Date of Interview.....
Location of Interview.....
Length of Interview.....
Interview Process.....
How well were questions understood by the participant?.....

### **B) General information about Bang Pang Eka**

1. What is the name of the local forest at Bang Pang Eka?
2. What is the name of the local Park at the Bang Pang Eka?
3. When was the park established?
4. How was the boundary of the park determined?
5. Who were the participants in establishing the park?
6. How was the Involvement of the local community in establishing the Park's boundary?
7. What is the total area of the park currently?
8. What was and is the aim to establish the national park in the area?
9. Were there any inhabitants before the area was enclosed as a park?
10. What benefits are local people getting from the park?
11. What natural and special resources has the park?

**C) Underlying causes of Conflicts**

1. What are the current problems that the forest/ park is facing?
2. Is there a conflict between park management and local people?
3. What is the conflict about?
4. Who are the stakeholders of the conflict?
5. How is the manifestation of the conflict (examples for incidences of conflict)?
6. What are the immediate causes of the conflicts and how do you know it?
7. What are the economical, social, geographical (park-buffer zone boundary) issues of the conflict?
8. Explain the locations of special conflicting areas using local map
9. What political interests are there? Why?
10. What cultural interests are there? Why?
11. What are the bases of the different interests?
12. How is each stakeholder's interests are judged by others?
13. What sanctions (from whom) are there for the interests of each stakeholder?
14. How the decision-making process looks like? /How decisions are made about the park/natural resources in the park?
15. How the boundary of the park is decided? (collaboration or competitive)
16. Who has what power on the park?
17. What are the effects of power imbalance over the park and local forest?
18. What is the (positive or negative) relationship between the different stakeholders?
19. Who have the highest interests in the Park?
20. Geographical and temporal relationship (past, present)? /Is there any change in the relationship compared to the past? How and why?
21. What is the relationship of the conflict with other conflicts?(if there)
22. What are the origins and causes of the conflicts (historical, economic, cultural, civil, international, and local)?
23. What are the chronological events of the conflicts?
24. What is each stakeholder's perception of the causes of the conflict?

**D) Consequences of the conflict on Local Livelihood at Bang Pang Eka**

1. What are the uses of the forest by the local people?
2. Describe the well-being ranking (categorization and characterization of different socio-economical groups and location)

3. What are the main sources of income in the village, classification, and degree of contribution on the livelihood (food and income source) by different socio-economical groups?
4. What are the uses of the forest by the local people?
5. What are the contributions of the forest use in the livelihood (poor, rich, middle) for sale and personal use?
6. Who exploits the forest the most? And also categorize (poor, rich, middle)? (Point of view)?
7. Other than the local community, are there any users of local forests and resources? Who are they and from where?
8. Who are the most dependant on the forest? How and Why? And also categorize (poor, rich, middle)? (Point of view)?
9. What is the major event that has affected the livelihood and when did it occur?
10. What are the changes in the benefits?
11. Have the conflict affected the livelihood strategies of the poor, middle, and rich people?
12. Are there the illegal activities? Why and by whom?
13. What effect has the conflict on forest-benefits (wood, forest meat, water use, medicinal plants use, fodders...)? (Poor, rich, middle)
14. What effect has the conflict on household income?

#### **E) Effect of the Conflict on the Park**

1. Is there a change of the natural resources compared to the past?
2. What the major event that have affected the park and when did they occur?
3. What are the effects of the conflict on the forest? And how it occur (boundary, forest fire, forest cover (tree, vegetation), species variety, illegal logging)
4. What are the effects of the conflict on the land? And how it occur (erosion, productivity, use, and other threats)
5. What are the effects of the conflict on water? And how it occur (quantity, quality, use, other threats)
6. What are the effects of the conflict on the wild animals? And how it occur (number (extinction), diversity, stability, Hunting)

#### **F) Community Forest and Changed livelihood strategies as solutions**

1. What are the specificities of the Community Forest (CF) Policy in Thailand that can be related to the current conflict? And gathering of documents?
2. How is the participation of the local people in the formulation and implementation of the Community Forest policy?
3. How was the CF started in Ban Pang Eka?
4. Who initiated the CF?
5. When has the CF been started?
6. How was the participation of the local people in starting the Community Forestry in Ban Pang Eka?
7. What benefits are the villagers getting from Community Forestry?
8. Who else get what benefit from community Forestry?
9. Are there winners and losers in the CF? Who are they?
10. How the CF addresses the local natural resource use conflict at Ban Pang Eka?
11. Are there alternative conflict management strategies?( describe them)
12. What strategies are there to mitigate the effect of the conflict on local peoples' livelihood?
13. What approach is used in participating the local people in the Community Forestry?
14. What is the local strength, weaknesses, opportunities and threats of the management of the conflict by the CF
15. What are the views of involved stakeholders towards Community forestry?
16. What are the points of view of the local people about the CF? Does it differ? how

***Thank You Very Much***

## Key Informant Interview Guide *for Park Officials*

This Key informant interview has been conducted by students of Chaing Mai and Copenhagen Universities as one of the tools for a study on natural resource conflicts management, a research title selected as the partial fulfillment of the course called ILURM. All the information that interviewees give is confidential enough that their name will not be mentioned in the study. You as key informant are highly appreciated in giving us valuable information that adds imputes for the successful accomplishment of our study which is expected to have scientific and socio-economic contribution

### G) Background information

Name of Interviewer: .....	H) G e n e r a l  i
Date of Interview.....	
Location of Interview.....	
Length of Interview.....	
Interview Process.....	
How well were questions understood by the participant?.....	

### Information about Bang Pang Eka

12. What is the name of the local forest at Bang Pang Eka?
13. What is the name of the local Park at the Bang Pang Eka?
14. When was the park established?
15. How the boundary of the park was determined?
16. Who are the participants in establishment of the park?
17. How was the Involvement of the local community in establishing the Park's boundary?
18. What is the total area of the park currently?
19. What was the aim to establish the national park in the area?
20. Were there any inhabitants before the area is enclosed as a park?
21. What benefits local people are getting from the park?
22. What natural and special resources it has?

**I) Underlying causes of Conflicts**

25. What are the problems currently the forest/ park are facing?
26. Is there conflict between park management and local people?
27. What is the conflict about?
28. Who are the stakeholders of the conflict?
29. How is the manifestation of the conflict (examples for incidences of conflict)?
30. What are the immediate causes of the conflicts and how do you know it?
31. What are the economical, social, geographical (park-buffer zone boundary) issues of the conflict?
32. Explain the locations of special conflicting areas using local map
33. What political interests are there? Why?
34. What cultural interests are there? Why?
35. What are the bases of the different interests?
36. How each stakeholder's interests are judged by others?
37. What sanctions (from whom) are there for the interests of each stakeholder?
38. How the decision-making process looks like? /How decisions are made about the park/natural resources in the park?
39. How the boundary of the park is decided? (collaboration or competitive)
40. Who has what power on the park?
41. What are the effects of power imbalance over the park and local forest?
42. What is the nature (positive or negative) relationship between the different stakeholders?
43. Who have the highest interests in the Park?
44. Geographical and temporal relationship (past, present)? /Is there any change in the relationship compared to the past? How and why?
45. What is the relationship of the conflict with other conflicts?(if there)
46. What are the origins and causes of the conflicts (historical, economic, cultural, civil, international, and local)?
47. What are the chronological events of the conflicts?
48. What is each stakeholder's perception of the causes of the conflict?
49. Are there the illegal activities? Why and by whom?

**J) Effect of the Conflict on the Park**

7. Is there a change of the natural resources compared to the past?
8. What the major event that have affected the park and when did they occur?



9. What are the effects of the conflict on the forest? And how it occur (boundary, forest fire, forest cover (tree, vegetation), species variety, illegal logging)
10. What are the effects of the conflict on the land? And how it occur (erosion, productivity, use, and other threats)
11. What are the effects of the conflict on water? And how it occur (quantity, quality, use, other threats)
12. What are the effects of the conflict on the wild animals? And how it occur (number (extinction), diversity, stability, Hunting)
13. What are the effects of the conflict on the forest? And how it occur (boundary, forest fire, forest cover (tree, vegetation), species variety, illegal logging)
14. What are the effects of the conflict on the land? And how it occur (erosion, productivity, use, and other threats)
15. What are the effects of the conflict on the wild animals? And how it occur (number (extinction), diversity, stability, Hunting)
16. Are there illegal activities in using natural resources in the park? Mention some examples.

## **K) Community Forest and Changed livelihood strategies as solutions**

17. What are the specificities of the Community Forest (CF) Policy in Thailand that can be related to the current conflict? And gathering of documents?
18. What are the specificities of the Community Forestry (CF) policy in Thailand that can be related to the current conflict?
19. How is the participation of the local people in the formulation and implementation of the Community Forest policy?
20. How was the CF started in Ban Pang Eka?
21. Who initiated the CF?
22. When it has been the CF started?
23. How was the participation of the local people in starting the Community Forestry in Ban Pang Eka?
24. What benefits the villagers are getting from Community Forestry?
25. Who else get what benefit from community Forestry?
26. Are there winners and losers in the CF? Who are they?
27. How the CF addresses the local natural resource use conflict at Ban Pang Eka?
28. Are there alternative conflict management strategies?( describe them)
29. What strategies are there to mitigate the effect of the conflict on local peoples' livelihood?

30. What approach is used in participating the local people in the Community Forestry?
31. What local the strength, weaknesses, opportunities and Threats of in the management of the conflict by the CF
32. What are the views of involved stakeholders towards Community forestry?
33. What are the points of view of the local people about the CF? Does it differ? How?

**Thank You Very Much**

## **Interview Guide for NGO Representative(s)**

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### **L) Background information**

Name of Interviewer: .....
Date of Interview.....
Location of Interview.....
Length of Interview.....
Interview Process.....
How well were questions understood by the participant?.....

### **M) Underlying causes of Conflicts**

50. What are the problems currently the forest/ park are facing?
51. Is there a conflict in using forest and other natural resources? If so, what do you think is the conflict specifically about?
52. Who are the stakeholders of the conflict?
53. How is the manifestation of the conflict (examples for incidences of conflict)?
54. What are the immediate causes of the conflicts and how do you know it?
55. What are the economical, social, geographical (park-buffer zone boundary) issues of the conflict?
56. Explain the locations of special conflicting areas using local map

57. What cultural interests are there? Why?
58. What are the bases of the different interests?
59. How each stakeholder's interests are judged by others?
60. What sanctions (from whom) are there for the interests of each stakeholder?
61. Who has what power on the park?
62. What are the effects of power imbalance over the park and local forest?
63. What is the nature (positive or negative) relationship between the different stakeholders?
64. Who have the highest interests in the Park?
65. Geographical and temporal relationship (past, present)? /Is there any change in the relationship compared to the past? How and why?
66. What is the relationship of the conflict with other conflicts?(if there)
67. What are the origins and causes of the conflicts (historical, economic, cultural, civil, international, and local)?
68. What are the chronological events of the conflicts?
69. What is each stakeholder's perception of the causes of the conflict?

**N) Consequences of the conflict on Local Livelihood at Bang Pang Eka**

15. What are the uses of the forest by the local people?
16. Describe the well-being ranking (categorization and characterization of different socio-economical groups and location)
17. What are the main sources of income in the village, classification, and degree of contribution on the livelihood (food and income source) by different socio-economical groups?
18. What are the uses of the forest by the local people?
19. What are the contributions of the forest use in the livelihood (poor, rich, middle) for sell and consumption?
20. Who exploits the forest the most? And also categorize (poor, rich, middle)? (Point of view)?
21. Other than the local community, are there users of local forests and resources? Who are they and from where?
22. Who are the most dependants on the forest? How and Why? And also categorize (poor, rich, middle)? (Point of view)?
23. What is the major event that has affected the livelihood and when did it occur?
24. What are the changes in the benefits?
25. Have the conflict affected the livelihood strategies of the poor, middle, and rich people?
26. Are there the illegal activities? Why and by whom?

27. What effect has the conflict on forest-benefits (wood, forest meat, water use, medicinal plants use, fodders...)? (Poor, rich, middle)
28. What effect has the conflict on household income?

**O) Effect of the Conflict on the Park**

17. Is there a change of the natural resources compared to the past?
18. What the major event that have affected the park and when did they occur?
19. What are the effects of the conflict on the forest? And how it occur (boundary, forest fire, forest cover (tree, vegetation), species variety, illegal logging)
20. What are the effects of the conflict on the land? And how it occur (erosion, productivity, use, and other threats)
21. What are the effects of the conflict on water? And how it occur (quantity, quality, use, other threats)
22. What are the effects of the conflict on the wild animals? And how it occur (number (extinction), diversity, stability, Hunting)
23. What are the effects of the conflict on the forest? And how it occur (boundary, forest fire, forest cover (tree, vegetation), species variety, illegal logging)
24. What are the effects of the conflict on the land? And how it occur (erosion, productivity, use, and other threats)
25. What are the effects of the conflict on the wild animals? And how it occur (number (extinction), diversity, stability, Hunting)

**P) Community Forest and Changed livelihood strategies as solutions**

34. How was the CF started in Ban Pang Eka? Who initiated the CF? and When?
35. How was the participation of the local people in starting the Community Forestry in Ban Pang Eka?
36. What benefits the villagers are getting from Community Forestry?
37. Who else get what benefit from community Forestry?
38. Are there winners and losers in the CF? Who are they?
39. How the CF addresses the local natural resource use conflict at Ban Pang Eka?
40. Are there alternative conflict management strategies?( describe them)
41. What strategies are there to mitigate the effect of the conflict on local peoples' livelihood?
42. What approach is used in participating the local people in the Community Forestry?
43. What local the strength, weaknesses, opportunities and Threats of in the management of the conflict

by the CF

- 44. What are the views of involved stakeholders towards Community forestry?
- 45. What are the points of view of the local people about the CF? Does it differ? how

***Thank You Very Much***

## **Interview Guide for District (Amphoe) and Sub-district (TAO) Administrators**

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### **Background information**

Name of Interviewer: .....
Date of Interview.....
Location of Interview.....
Length of Interview.....
Interview Process.....
How well were questions understood by the participant?.....

### **Specific questions**

70. What are the problems currently the forest/ park are facing?
71. Is there conflict between park management and local people?
72. What is the conflict about?
73. Who are the stakeholders of the conflict?
74. How is the manifestation of the conflict (examples for incidences of conflict)?
75. What are the immediate causes of the conflicts and how do you know it?
76. What are the economical, social, geographical (park-buffer zone boundary) issues of the conflict?
77. Explain the locations of special conflicting areas using local map
78. What cultural interests are there? Why?
79. What are the bases of the different interests?
80. How each stakeholder's interests are judged by others?
81. What sanctions (from whom) are there for the interests of each stakeholder?

82. How the decision-making process looks like? /How decisions are made about the park/natural resources in the park?
83. How the boundary of the park is decided? (collaboration or competitive)
84. Who has what power on the park?
85. What are the effects of power imbalance over the park and local forest?
86. What is the nature (positive or negative) relationship between the different stakeholders?
87. Who have the highest interests in the Park?
88. Geographical and temporal relationship (past, present)? /Is there any change in the relationship compared to the past? How and why?
89. What is the relationship of the conflict with other conflicts?(if there)
90. What are the origins and causes of the conflicts (historical, economic, cultural, civil, international, and local)?
91. What are the chronological events of the conflicts?
92. What is each stakeholder's perception of the causes of the conflict?
93. What have been the procedures in managing the conflicts?
94. How frequent are the conflicts?
95. Who handle the conflict?
96. What are the mitigation and measures in the management of the conflict?
97. What mechanisms are there to prevent the conflict?
98. What are the specificities of the Community Forest (CF) Policy in Thailand that can be related to the current conflict? And gathering of documents?
99. What are the specificities of the Community Forestry (CF) policy in Thailand that can be related to the current conflict?
100. How is the participation of the local people in the formulation and implementation of the Community Forest policy?
101. How was the CF started in Ban Pang Eka? Who initiated the CF? and When?
102. How was the participation of the local people in starting the Community Forestry in Ban Pang Eka?
103. What benefits the villagers are getting from Community Forestry?
104. Who else get what benefit from community Forestry?
105. Are there winners and losers in the CF? Who are they?
106. How the CF addresses the local natural resource use conflict at Ban Pang Eka?
107. Are there alternative conflict management strategies?( describe them)
108. What strategies are there to mitigate the effect of the conflict on local peoples' livelihood?
109. What approach is used in participating the local people in the Community Forestry?



- 110. What local the strength, weaknesses, opportunities and Threats of in the management of the conflict by the CF
- 111. What are the views of involved stakeholders towards Community forestry?
- 112. What are the points of view of the local people about the CF? Does it differ? how

**Thank You Very Much**

## Key Informant Interview Guide for Local Development Agent (DAs)

This Key informant interview has been conducted by students of Chaing Mai and Copenhagen Universities as one of the tools for a study on natural resource conflicts management, a research title selected as the partial fulfillment of the course called ILURM. All the information that interviewees give is confidential enough that their name will not be mentioned in the study. You as key informant are highly appreciated in giving us valuable information that adds imputes for the successful accomplishment of our study which is expected to have scientific and socio-economic contribution

### Q) Background information

Name of Interviewer: .....
Date of Interview.....
Location of Interview.....
Length of Interview.....
Interview Process.....
How well were questions understood by the participant?.....

### R) Underlying causes of Conflicts

113. What are the problems currently the forest/ park are facing?
114. Is there conflict between park management and local people?
115. What is the conflict about?
116. Who are the stakeholders of the conflict?
117. How is the manifestation of the conflict (examples for incidences of conflict)?
118. What are the immediate causes of the conflicts and how do you know it?
119. What are the economical, social, geographical (park-buffer zone boundary) issues of the conflict?
120. Explain the locations of special conflicting areas using local map
121. What political interests are there? Why?

122. What cultural interests are there? Why?
123. What are the bases of the different interests?
124. How each stakeholder's interests are judged by others?
125. What sanctions (from whom) are there for the interests of each stakeholder?
126. How the decision-making process looks like? /How decisions are made about the park/natural resources in the park?
127. How the boundary of the park is decided? (collaboration or competitive)
128. Who has what power on the park?
129. What are the effects of power imbalance over the park and local forest?
130. What is the nature (positive or negative) relationship between the different stakeholders?
131. Who have the highest interests in the Park?
132. Geographical and temporal relationship (past, present)? /Is there any change in the relationship compared to the past? How and why?
133. What is the relationship of the conflict with other conflicts?(if there)
134. What are the origins and causes of the conflicts (historical, economic, cultural, civil, international, and local)?
135. What are the chronological events of the conflicts?
136. What is each stakeholder's perception of the causes of the conflict?

**S) Effect of the Conflict on the Park**

26. Is there a change of the natural resources compared to the past?
27. What the major event that have affected the park and when did they occur?
28. What are the effects of the conflict on the forest? And how it occur (boundary, forest fire, forest cover (tree, vegetation), species variety, illegal logging)
29. What are the effects of the conflict on the land? And how it occur (erosion, productivity, use, and other threats)
30. What are the effects of the conflict on water? And how it occur (quantity, quality, use, other threats)
31. What are the effects of the conflict on the wild animals? And how it occur (number (extinction), diversity, stability, Hunting)
32. What are the effects of the conflict on the forest? And how it occur (boundary, forest fire, forest cover (tree, vegetation), species variety, illegal logging)
33. What are the effects of the conflict on the land? And how it occur (erosion, productivity, use, and other threats)

34. What are the effects of the conflict on the wild animals? And how it occur (number (extinction), diversity, stability, Hunting)
35. Are there illegal activities in using natural resources in the park? Mention some examples.
36. What are the points of view of the local people about the CF? Does it differ? If yes how?
37. What are the points of view of the others stakeholders view about the CF? Does it differ? If yes how?

**Thank You Very Much**

## References

<http://www.dnp.go.th/parkreserve/asp/style2/default.asp?npid=53&lg=2>

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