Investigation of Community Forestry Issues in Ban Pha Lai in Northern Thailand

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Abstract
In order to analyse the dilemma faced by a marginalised ethnic hill tribe in the north of Thailand, we have presented various issues concerning power play and actors involved in management of forest resources. We have looked into their roles, opinions and positions towards solving the volatile politically sensitive issue around lack of legal access rights to forest resources on which their social-cultural and economic livelihood is dependent.

This has led to the establishment of community forests which aims to claim their user rights and demonstrate their ability of managing and conserving the forest on which their livelihood depend.

Ban Pha Lai, which is situated within the Sri Lanna National Park, is used as a case study in order to investigate the complexity of community forests which are restricted by current governmental legislations.

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1. Introduction

1.1. Historical review of the forest in Thailand

Relative to their area, the countries in Southeast Asia have experienced the largest loss of tropical forest in the world. Thailand has lost up to 95% of its original forest. (Falvey 2000, p.248) In 1995, the official estimation of forest cover was 25% of the land, but it is expected that only 18% of this area has a healthy forest cover. (Kinch et al. 2001, p.4)

The are different opinions on the main historical factors responsible for Thailand's decline and degradation of the forest. Falvey (2000, p.251) explains the forest destruction by population increase, expansion of low productivity agriculture and legal and illegal logging. Puntasen (1996, p.72) talks about the 1892 state control of land, where communal rights were removed, and logging concessions were issued, as well as the 1961 governmental promotion of rapid "modernisation" as the main factors. Another opinion on the cause of deforestation in Thailand is illegal forest encroachment of rural people, mainly the ethnic minorities, for farming purposes (Lindegaard 2001, p.3).

Increased concern and awareness of environmental degradation has led to several policies concerning classification of protected forest areas, such as national parks. In 1976, there were 16 national parks covering a relatively small area – 9,357 km2 in total. Due to the emerging serious environmental problems that were associated with deforestation, the government established new protected areas and enlarged existing ones. In 1996, 81 national parks and wildlife sanctuaries had been established, covering an area of 41,738 km2 in total – however, not all of this was forested. (Kinch et al. 2001, p.5).

In 1964 the remaining forest areas in Thailand were combined under one administration, and were zoned in protection and economic areas. In 1985 the National Forest Policy Act stated as a goal that at least 40% of the country must be under forest coverage. It was intended that 25% of the country area should be kept as protected forests for nature conservation (Kaiyurawong 2000, p.17). The remaining 15% of the country was designated as production forest. (Mingtipol et al. 2002, p.24).
Migration to, and utilisation of, the protective areas was prohibited, but many ethnic minorities were already occupying the area and their traditional utilisation of the forest was thereby illegalised (Ettrup et al, 1998).

In Northern Thailand many rural communities are dependent on forest products as well as the availability of agricultural land and the growing rural population has contributed to the lack of both (Hirsch 1993, p.54). The environmental consequences of the decrease in forest cover have begun to show during the past decades and many flooding over the years have caused heavy economic losses for the agricultural sector. An estimated 6.400 km2 of commercial crops were destroyed during a flooding in 1989 and many people were killed. The following concern with both the public and the authorities resulted in a resolute national logging ban, and a more conservation-oriented approach to forest management emerged. (Hirsch 1993, p.61).

1.2. The current dilemma of People and Forests in Thailand

In 1992 the Thai Government passed a resolution to have the Royal Forest Department (RFD) divide and zone the National Reserve Forest into three classes according to use: Agriculture, Economic and Conservation (A-, E- and C-zones). The E- and A-zones are for agricultural purposes in relation to forest, i.e. orchards, plantations and community forests, while the C-zone is strictly for

forest conservation. (Ewers 2002, p.3) In Thailand, 10 million people live in the National Reserved forests and 3 million in the Conservation forest (Pintoptang 2000, p.4). Villages situated in the C-zone or National Parks are officially not allowed to use or clear the forest, or even live there. This means that their right of living in the area is fragile. Lack of tenureship and use rights generate a problem of insecure livelihood for the people whose subsistence is dependent on the forest. (Ewers 2002, p.4).

Contradictory zonations of natural resource areas have led to uncertainty of the actual status of the land, due to chaotic administration and too many governmental actors having been involved (Ettrup et al. 1998). Zonation has taken place without consideration of the actual land uses and human settlements, i.e. satellite images and aerial photography have been used, but followed up by insufficient ”ground truthing” which has resulted in the creation of maps not coinciding with reality and many villages are trapped within conservation zones (Kaiyurawong 2000, p.17). According to the policies, people are not allowed to inhabit the conservation zones (issued by RFD in 1992) and thus the government has made relocation schemes. Some communities have been resettled, but they were seldom compensated for their loss of land and livelihood. As a consequence, conflicts arise when people are resettled in areas already occupied by others. The demarcation of the protected areas has therefore shown to be a source of conflicts rather than a means of forest protection. (Kinch et al. 2001, p.5) A common explanation for the lack of success in this respect is that forests have been centrally managed without participation from local communities (Dinesen 1999, p.15). It is increasingly recognised that it is crucial to involve local communities in the planning and implementation of forest management. Andrew Shepherd (1998) suggests that a paradigm shift involving local resource management is in progress in both theory and practise of rural development. Decentralisation is on the agenda and this has put focus on community forestry in Thailand.

1.3. Community forestry in Thailand

The concept of community forestry is based upon an ideal of decentralising management of forests to local people (Martinussen 1999, p.112). It includes indigenous forest management systems and government initiated programs, in which specific community forest users protect and manage state forest in partnership with the government (Hobley 1996, p.16). It attempts to combine environmental, economic and social objectives related to forest issues, and involves the users living in the same area sharing the same resources (Kinch et al. 2001, p.144). Thus community forestry is an active way of promoting sustainable forest management (Shepherd 1998, p.22). In Thailand the Community Forestry Bills have been drafted since 1990, only reaching a compromised agreement in 1996, between the RFD, NGOs and local people, which allows existing communities that had proved their capability of sustainable forest management to establish a community forest (Kinch et al. 2001, p.96). The draft emphasises local conservation and rights to subsistence use of forest within the protected areas. Currently (March 2003) the Bill is still pending in Parliament. If the Bill is enacted, it is hoped to enhance the participation of local communities in the management of forest areas and will legalise the former illegal utilisation of forest products by the locals. The discussion that has emerged in connection with the proposed Community Forestry Bill in Thailand is concerned with whether “man and forest can co-exist”. From official side, the rural people, among others the Hill Tribe People in Northern Thailand, have been blamed and held responsible for the deforestation. This has mainly been substantiated by the fact that they traditionally practised slash and burn agriculture in the forests (Doornbos et al. 2002, p.162; Ayuthaya 1996, p.139).

The issue of community forestry is part of a political contest on gaining rights for forests resources (Ayuthaya 1998, p.116). Many different stakeholders are involved with different objectives. This gives rise to conflicts over natural resource management, where the main question is whether decentralisation of the management should take place or not (Buch-Hansen 2003). The challenge is to find a common objective that can combine the interests of all stakeholders.

1.4. Community Forestry in Ban Pha Lai

In order to study the conflicts between national interests of forest conservation and the marginalised communities, a case study of a community affected by the political changes has been conducted. In January 2003 we spent three weeks in Thailand, staying in Ban Pha Lai village.

Figure 1: Ban Pha Lai in Thailand.

Supported by Mr. Nikom Phutta from the local NGO (Wildlife Fund Thailand) in 1997 Ban Pha Lai formally claimed their rights to the surrounding forest and declared it their community forest. Ban Pha Lai is a small village of 23 households, which is situated furthest up in the Mae To subwatershed (figure 2) in the Chiang Dao District in Northern Thailand.

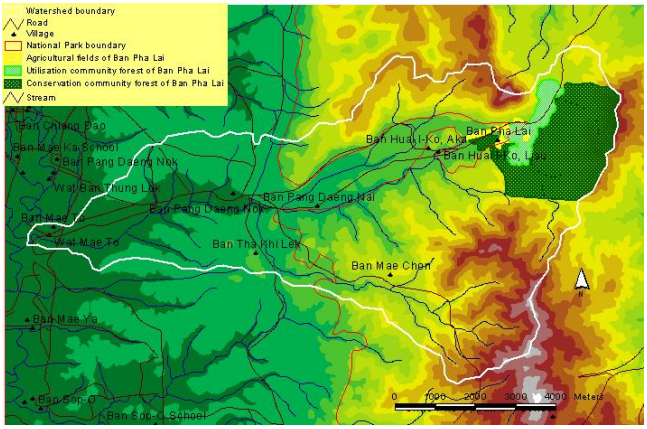

Figure 2: The Mae Tor Watershed

The majority of the Ban Pha Lai people belong to the Karen tribe. Agriculture and forest utilisation play important roles. Slash and burn has traditionally been practised, and the agricultural encroachment on the forest is evident. A vast area of Ban Pha Lai's agricultural fields and

community forest lie within the Sri Lanna National Park and this has made landrights and access to natural resource very controversial. The National Park Department in the area has until now turned a blind eye to the villagers' agricultural activities and forest utilisation within the National Park, because they were already engaged in agricultural production before the area had been declared a National Park in 1989. However, they are not allowed to expand their existing fields and it is strictly forbidden for new settlers to clear land for agricultural activities within the National Park. (Kaewkam-ai 2003) The community forest which they maintain has been divided into two zones: the main part being conservation community forest and the other: utilisation community forest. The situation of Ban Pha Lai can be seen as a case of conflict and uncertainty of land classification and communal right. The establishment of the community forest may be a reaction to the limitation of user rights to natural resources on which their livelihood is dependent.

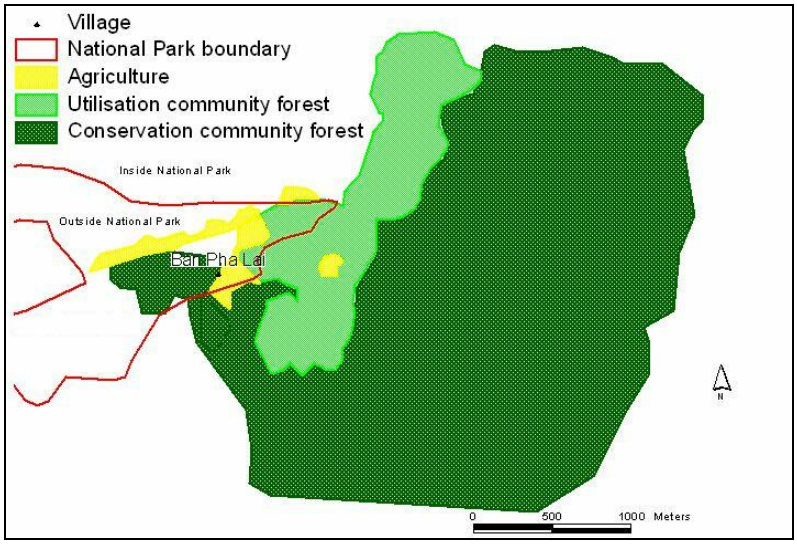

Figure 3: The community forest of Ban Pha Lai.

We have studied Ban Pha Lai, in order to investigate their use of the forest. It is relevant to look into whether the community's involvement has a preserving effect on the forest, both the community forest and the conservation forest surrounding it. Our main objective with this field study and the following report, is to investigate:

Why, how and to which extent do villagers in Ban Pha Lai maintain a community forest and what are the consequences for the villagers of having a community forest and agricultural land situated in a National Park?

2. Methodology

This section describes the different methods applied in the field. The field trip took place in January 2003. Five different groups conducted research on sustainable land use in different locations within the same watershed in the same period of time. The groups were interdisciplinary from both natural and social scientific backgrounds. Our group consisted of 4 Danish students, and 5 Thai students, assisted by three interpreters. We lived in Ban Pha Lai and stayed privately with four of villagers' families. One of the hosts was the village headman.

Working with a sensitive topic such as community forestry amongst ethnic minority groups, we had to consider the consequences that our research may have for the people involved. This project will be available in Thailand and we do not want to risk the security of our informants, so our informants from the household interviews will be kept anonymous.

In order to investigate our research question we split into two groups: the forest group and the village group. The forest group was responsible for conducting the forest surveys, transect walks, soil and water samples. The village group's task was to gather information from the villagers using structured interviews as well as conducting in-depth interviews with key-informants using semi-structured interviews. The two groups worked together on all other parts of the information gathering and daily meeting were held in order to exchange findings, share information and cross check statements made by the villagers with the actual situation in the forest. In this way we continuously could adapt our research and reflect upon our research question. By combing methods from both natural and social sciences we were able to conduct an interdisciplinary study and integrate our educational backgrounds into one study.

2.1. Observations in Ban Pha Lai – including village mapping and meeting

Upon arrival we organised a community meeting with the aim of introducing ourselves and the purpose of our stay. The main purposing being to create better relationship and co-operation, but only half of the households (13 out of 23) were represented and only one woman, who represented her absent husband. It was our intention that all households should be represented. It would have been interesting to know whether they were a representable group of the community, or whether they were selected in a biased manner, since the headman had announced the meeting to the villagers.

We did not succeed in obtaining a relaxed atmosphere and the villagers which appeared uncomfortable did not ask any questions. This could be related to the fact that working with community forestry is a sensitive subject, which was also sensed by their reaction when one of our student group members (working as a RFD-officer) arrived to the meeting in his Royal Forestry Department vehicle.

During the first afternoon we created a spatial map of the village using a GPS and a GIS database (appendix A) in order to get an overview of the households and thereby facilitate and organise our interviews with them. When creating the map details of the social status was noted, i.e. building materials of the house and the presence of valuable equipment (Neuman 2000, p.366).

2.2. Structured interview

A full survey of the 23 households in Ban Pha Lai was conducted by the use of structured interviews (appendix C), which were prepared before visiting the field (appendix B). This method was chosen in order to gain comparable answers to the same questions posed. The aim was to assess

key issues that concern land-use and ownership, use of forest, regulation and conflict management, customs on using CF and changes affecting the forest area.

The interviews were conducted by two groups each consisting of a Danish student, a Thai student and an interpreter. The interviews were held in the homes of the interviewees, as this was most convenient and was thought to contribute to the informal atmosphere. The interviews were not held in isolation from other people. Children, neighbours and at times even the headman were present during the interview. This may have influence the answers given. The Danish students were disadvantaged by the language barrier, which complicated the communication. Especially the fact that the Thai student was able to steer the discussion resulted in much of our understanding being limited by the interpreter's synthesisation of the discussion. For our understanding it could have been better to conduct the interview solely with the interpreter in order to control the pace and the questions asked more strictly. Misinterpretation and own opinions by the interpreter could have affected our findings.

2.3. Semi-structured interview

In-depth semi-structured interview with people or groups identified as key-informants were carried out. This type of interview involves open-ended questions which allow us to discover which issues are really important to the respondent and it allows for diverting from the original interview structure if more important aspects are discovered and it permit self expression and creativity (Neuman 2000, p.260). Considering our limited time in the field we found that semi-structured interviews were especially valuable in our exploratory stage of research.

The information from the structured interview was summarised in a matrix (appendix C) and this facilitated us in identifying patterns and choosing the key informants amongst the villagers, which included the village headman, the members of the community forest committee and a group of women.

We interviewed the village headman in order to get an understanding of the social, economic and political dynamics of the village, as well as the history and development of Ban Pha Lai. By talking to the headman we gained knowledge of the local regulations on the use of forest resources.

The community forest committee members were interviewed in order to clarify uncertainties derived from other interviews and to gain information of the administrative regulation and enforcement of rules.

In order to compensate for having interviewed merely the men, in their role as heads of households, we interviewed a group of women. The women interviewed were selected by coincidence, since they were the first ones we met. Interviewing the women was important because we assumed that there would be a difference in patterns of utilisation, management and perception of the importance of various forest products from the men. Their views are necessary for our understanding of the function of the community forest. We interviewed the women by female interviewers, because we wanted to obtain an informal relaxed atmosphere, since we were aware and informed of the gender hierarchy.

Furthermore interviews were made with external key informants. These were an officer from The Royal Forestry Department, The National Parks Department, The NGO, The Tambol Administrative Organisation (TAO), The Land Department and The Community Development

Department. All interviews were conducted in their respective offices in Chiang Dao together with students from other locations in the Mae To watershed.

2.4. Informal discussion

Informal discussions were used primarily by the Thai students in gaining information from the villagers. The language made it difficult for us to communicate with the locals, but it was additionally limited by their willingness to involve with us. This may have been affected by the general reserved nature of the Karen people (Frovin et al. 2000, p.44) or by the sensitivity of the subject we were investigating. The informants consisted of people that we had special contact with, such as the village headman and other hosts. Also talking to the forest guides during our daily walks proved to be very informative and helpful for our further investigation on the community forest. This way we gained a specific inside knowledge which we may have missed during a formal interview. Special key informant and in-depth interviews became clarified.

2.5. Forest mapping with GPS and satellite images

Mapping the forest was important in order to gain an overview of the area and also essential for discussing management purposes. The existing maps, which the headman possessed, were inaccurate and hand-coloured.

Using local guides, 2 days were spent walking the boundaries of the two community forest zones. GPS devices were used to determine the position of the boundaries in the field, and these data were transferred into a GIS database (prepared by Dr. Suthinee Dontree, Chiang Mai University), enabling us to create fairly accurate maps of the area and the respective boundaries.

The boundaries of the community forest and the zones within follow natural features in the landscape, such as streams and crests of mountains. This together with the existing maps made it possible to draw the boundaries using a topographic layer of the GIS. Satellite images and GPS points from the field were used to demarcate boundaries between forest and agriculture.

2.6. Forest sampling

In order to sample the different vegetation types of the area we made random stratified samples. These were intended to be representable of the three main vegetation types of the forest. The stratification was done in order to obtain larger accuracy than by simple random selection (Rudemo 1979, p.187). Walks in the forest made it clear that three ecological vegetation types dominated the forest, and thereby the variation within these strata would be lower than in the forest as a whole. In combination with observations from the forest walks, a satellite image of the area was used to identify the various vegetation types of the area, and they were located in the field using GPS. This was done in order to sample plots representable of the three main forest types both within the conservation and the utilisation community forest. However, we found that although the same colour showed on the satellite image, it was not always the expected forest type we found in the field. The satellite image used was from year 2000, and thereby the deviation could not be explained by an outdated image. We expect that arial photographs would give a more exact picture of the area, but these were not available to us. Another more time consuming way of mapping the ecological zones of the forest would be walking through it and note whenever the vegetation is shifting. However, as the transition between ecological forest types is not distinct it would, in practise, be difficult to map this way.

The aim was to be able to compare the same forest types within the two zones, and thereby detect possible differences in i.e. age structure estimated via diameter distribution (appendix E), biodiversity, biomass and nutrient content of the soil. Soil samples were taken in each of the forest plots as well as in the agricultural fields. In a field laboratory, analyses were made using an NPK test kit. Furthermore it was our intention to take water samples of the streams inside and outside the utilisation and the conservation community forest. Ideally a comparison of the water quality over years would have been interesting in order to detect differences in quality since the community forest was established. This was especially interesting because all the interviewed villagers stated that the water quality had improved since the establishment of the community forest. However, the historical data were never obtained.

Due to time constraints we only succeeded in conducting one sample of each vegetation type in each zone (3x2=6 samples in total were set). Each sample plot was 20x20 metres square. We identified and recorded all species of trees in the plot. We measured all circumferences over 50cm of trees with a measure tape. The measurement was taken on the tree trunk at breast height (130 cm above ground). A clinometre was used to calculate the heights of some trees, while the majority were estimated. In the bamboo plots, the number of stems in each cluster were counted. All the trees were drawn into a co-ordinate system representing the area, as the Thai students needed this information for estimating crown cover. Additional data to the plots were slope measured with the clinometre, aspects of the slope determined by a compass, and lastly the position of the plot was noted using GPS.

Due to time constraints we did not sample sufficient plots to make our conclusions statistically sound, thus we defer from conclusions but do mention trends.

2.7. Participatory Rural Appraisal (PRA) forest inventory list

After doing interviews with all households, we made a matrix to get an overview of the use of forest products. The matrix enabled us to gather the information obtained through the interviews in a schematic and comprehensive manner. Issues were on the vertical axis, and the households on the horizontal axis which enabled easy comparison of the answers and patterns to be observed. From the matrix it was clear that ten households extracted more products than others. Therefore, we decided to do an in-depth interview with these households in order to create a comprehensive forest inventory list. The reason for choosing this method was because we wanted to learn directly from the people using the resource. Being on site, and letting them participate in defining their own use of the forest resources is very valuable as we gain first hand local knowledge (Mikkelsen 1995, p.69). Two of the female Thai students facilitated the exercise, we catered with drinks and snacks, and the atmosphere was informal, which was evident in the level of participation and the large number of villagers who joined although not obliged to. The fact that the exercise was in Thai only made our involvement marginal whilst happening, but we were provided with a detailed translation of the inventory list conducted.

The inventory list was in the form of a calendar (appendix G), which showed the patterns of forest utilisation in relation to the agricultural calendar which was made at the same time. We had deliberately done this so people could remember the products and the time of harvest more easily, by relating them to the agricultural activities. Three list of the products collected in the forest were created: edible insects and animals, edible plants and usable plants.

The main purpose of creating the list was to get an overview of the extent of forest utilisation. We thought it would be helpful in guiding our observation in the forest. However, we did not do this consistently due to time constraints. Ideally, we would have liked to estimate the production in the forest and compared it to the extraction of forest products. However, we realised that this was not possible with our limited resources and the scarcity of products extracted due to the season. The PRA was useful because it gave us an impression of the variety of forest products used by the villagers as well as their perception of the importance of the products. The information was all based on the consensus of the participants.

2.8. Discussion of methods

There are both advantages and disadvantages to be found in cross-national and cross-cultural surveys (Neuman 2000). The advantages include avoiding offensive behaviour by not knowing the cultural norms. The Thai students had a better feel for what could be asked and what was inappropriate. However, the hierarchical structure of the society may have put the Thai students in a more superior position than the less educated hill tribe villagers. As Westerners we felt that the villagers approached us in a humble manner. A main disadvantage was our inability to control the discussion, due to not understanding the language.

It was difficult to quantify the economic importance of the forest resource for individual households, since a large proportion of the goods are exchanged without money involved. Furthermore, each household could have its own unit for measuring goods, which makes it difficult to estimate their outtake. Another problem is the uncertainties in estimating seasonal outtake.

In our interviews it was interesting to note the similarities of the answers in the village, although our informants represented different age, economic position etc. This could be explained by a possible consensus in the rhetoric of a small ethnically homogenous community. The respondents could have twisted the answers to paint a more idyllic picture of the village. The villagers may have thought that we were capable of influencing their future possibilities and rights and therefore the answers may have been strategic.

The aim of our research has been to test theoretical methods in the field, however the quality of our data collected has not been sufficient in order for us to make final conclusions.

3. Findings and analysis of community forestry in Ban Pha Lai

3.1. History and current situation of Ban Pha Lai:

The village was founded in 1957 by labourers of a logging company. The Karen people were renowned for their skills with elephants, and since these animals were the main work force for extracting timber from the forests, the Karen were preferred employees. The logging company pulled out of the valley and three families settled and founded Ban Pha Lai. Many of the present residents are descendants of these three families.

All the people of Ban Pha Lai belong to the Karen tribe, except four Lisu households, living in the perimeter of the village. The fact that the village mainly consists of one ethnic group makes it more homogeneous than most other villages in the watershed.

Ban Pha Lai has within the last year been supplied with electricity and approximately 10 years ago water system was established, providing water from the forest to several water points in village.
The road to the village is partly tarred, but approximately 2 kilometres from Ban Pha Lai, the tar ends, and a dirt road continues to follow the seasonal stream to Ban Pha Lai. According to the government maps the road continues through Ban Pha Lai and the forest on to the next village. However, visiting the village we found the road on the map to become a footpath at the end of Ban Pha Lai, winding though the forest and crossing streams, by step stones. It is not possible to continue through Ban Pha Lai and into the forest by car.

3.2. Lack of tenure ship for villagers in Ban Pha Lai

None of the villagers in Ban Pha Lai fully own their land which means that they cannot sell it. Half of the villagers (12 out of 23 households) had SPK [Sor Por Kor] on part of their land, which gives the right to farm, raise loans with The Farmer's Bank and entitles them to pass the land through kinship heritage. (Rojanapaiwong 2000, p.75; Mingtipol et al. 2002, p.29)

In 1993, household numbers were given in Chiang Dao district by the TAO in order to legalise the existing settlers and thereby distinguish newcomers from original settlers. A household number is a precondition for obtaining funds from i.e. TAO. In Ban Pha Lai two households did not hold any number, indicating that they have settled after 1993. Migrants settling in Ban Pha Lai between 1993 and 1999 face the risk of being relocated to other areas with SPK, whilst those having settled after 1999 will be sent back to where they came from. (Sampoon, TAO chairman 2003) A reason for making these rules could be an attempt to prevent overutilisation of the natural resources. However, we perceive the rule to be a limitation to the socio-economic development of the area. We observed that a way of overcoming this problem by the villagers was by subdividing the existing plots and household numbers into A and B. This deals with the problem of new generations being able to stay in the village, while it prevents outsiders from settling. The problems in the future will be of land scarcity, as the existing land resource must be shared by the expanding population. This is controlled strictly and illegal expansion of agricultural land, without obtaining title deeds, has in other villagers within the Mae Tor watershed resulted in arrests (Sampoon, TAO chairman 2003).

Over the years the environmental debate between the Thai government and the NGOs has been focusing on the hill tribe people which have been blamed of much of the forest degradation. (Brenner et al. 1999, p.9) The environmental aim of the government is to preserve and expand the forest area in Thailand. Over the last 40 years government policies have forced the Karen to migrate from the forest areas to the lowlands reasoning that the Karen do not practise environmentally

sustainable forest use. This policy has gradually changed towards a more moderate view, which involves local participation as well as recognition of the importance of local knowledge in forest management. This includes recognition of knowledge of the local environment and utility patterns of local natural resources obtained for generations. Local knowledge often plays an important role in understanding problems and solutions for the actual area. (Lindegaard 2001, p.6) The view on the Karen as a people living in harmony with the forest is part of the NGO discourse supporting the Karen's struggle in claiming rights of land. (Frovin et al. 2000, p.49)

3.3. Ban Pha Lai as forest protectors

The local NGO, Wildlife Fund Thailand, has put much effort in educating the people in Ban Pha Lai on sustainable use and protection of the forest, which we assume has resulted in a considerable environmental awareness. The establishment of the community forest has put emphasis on the importance of i.e. patrolling, fire protection and not felling trees close to streams. Furthermore, a considerable part of the community forest is proclaimed conservation area. Whether or not the aim of this is to protect the biodiversity in the conservation area, or it is to please government officials is uncertain. We observed no significant difference between the use of respectively the conservation and utility community forest. This indicates a difference between official and de facto rules and the large official conservation area could be a part of a strategy of avoiding conflicts with National Park Department and/or RFD. However, this observation of indifference may also be due to the fact that it is only 6 years since the conservation zone was established and the impact of conservation may not be clear yet. Another factor, is that we did not observe signs of recent degradation of either of the forests. Both had signs of evident overutilisation, and degradation from the past, which was evident in the large stumps of teak from logging (decades old), as well as signs of fire seen in the vegetation types.

Creating a community forest in Ban Pha Lai may not only be a question of obtaining legal rights to utilise the forest, it could more likely be a question of claiming their political rights in a country where they have lived for generations without being fully recognised as legal citizens, despite having Thai citizenship.

We find that the continued presence of the community forest is an indicator of the government's recognition of local knowledge and potential of managing the natural resources sustainably. However, it could also be a sign of the government's unorganised state and their internal lack of resources. There have been several changes in the management strategies of the area and this has involved a shift in the administration, where the RFD has given the authority to the National Parks Department. The RFD is split into 2 groups. One group has been part of the political process of promoting community forestry. They support pilot launches of community forestry before the enactment of the Community Forestry Bill has taken place. The other group is against the pilot launch until the final approval of the Bill by parliament (Phongsiviwan 2003). During interviews, both the RFD and the National Park Department (independently of each other's statements) accepted the villagers of Ban Pha Lai's use of forest. This was due to their recognition that the villagers were capable of managing the forest in a sustainable way and that they actually are beneficial as forest protectors, as the RFD and NPD do not have sufficient staff to keep supervision of all their areas. Including villagers lessens their workload. Community forestry may support local needs for timber and NTFPs and create opportunities for additional income activities, while at the same time serving the national interest of protecting the forest and biodiversity. (Brenner et al. 1999, p.44)

3.4. Fear of relocation leading to insecure livelihood

The fact that both the forest and some of the agricultural fields of Ban Pha Lai are situated in Sri Lanna National Park means that the village face a risk of relocation, due to their illegal occupation of land. According to the maps we created the agricultural fields of Ban Pha Lai comprise 18 ha out of which 4 ha lie within the National Park. From our interviews with all the households we could sum up the total areas of land on which SPK was held to be 106 rai equalling 17 ha (1 ha=6.25 rai). According to our maps this implies that SPK is held on 3 ha of agricultural land within the National Park.

The situation is complicated because the village has existed long before the declaration of the National Park, and thereby have a reason to claim rights of utilisation of the resource. In the Thai government, decentralisation of forest resource management has recently received recognition and is the contemporary trend. Local institutions are now seen as capable managing resources in an economic and environmentally sustainable way. (Puntasen 1998, p.73) We think this may be one of the reasons for the unofficial acceptance of the Ban Pha Lai's community forest. However, the villagers still risk loosing access to the forest, since it is in the National Park, which according to law is strictly prohibited to occupy (Ayuthaya 1998, p.140). The establishment of the community forest may be a politically strategic action, which attempt to prove their ability of managing the forest in a sustainable way. It seems that the role of the NGO in this political game is to act as a mediator between government and the marginalized ethnic minority group. Their insecure rights leads to lack of long-term investment especially in agricultural areas inside the National Park, but also on the establishment of seedling in the community forest. (Village headman 2003).

It is not possible to grant communities the rights to forest use, if they do not even have the rights to live in the area. Brenner et al. (1999 p.38) claims that villagers must obtain legal ownership of their land in order to have the incentive to invest in their land. Where economic rationality is prevented by policy, over-utilisation of resources may lead to deforestation as short-term logging concessions are made profitable and long-term investments are insecure. (Brenner et al. 1999 p.42) However, since full ownership of the resource is almost never the case in community forests, rights of keeping the products extracted becomes the essential issue. In Thailand the forest is state-owned and the possibility for future local ownership is utopia. This would create a major conflict among the state and other citizens who would feel discriminated (Treue 2003).

During our research in Ban Pha Lai we experienced that the livelihood of the villagers was threatened due to their dependency on natural resources within the National Park. The reserved way the villagers reacted upon our presence could be explained by the sensitivity of our research topic. This could have been aggravated by the presence of government employees in the student group, and the villagers could suspect that our research would be used for official purposes, although we assured them that this was not the intent of the data we collected.

3.5. Justification of a community forest

The Karen culture has traditionally relied on forests and their identity is connected hereto. The forests are home for spiritual ancestors and many rituals are conducted within (Gravers 2001, p.78). In some places we observed spiritual offerings, which had been placed next to felled trees. We also encountered an offering on the path, which consisted of small dolls made out of sticks in colourful clothing. The guide informed us that stepping and spitting on the dolls was supposed to help people get rid of bad dreams.

From the interview we learnt that every household, except one family, were dependent on the forest as a source of subsistence. All the villagers were engaged in agriculture and the little income they earned came from this. An interesting observation was that tourists visited the village, but few villagers took tourism as an opportunity for additional income.

The forest is especially important to the Ban Pha Lai people, since they have limited areas of agriculture and no legal means of expanding their fields. None of the villagers were migrant labourers, so agriculture is the main source of income. Their economy was supplemented by forest products, which substituted i.e. fodder and food, which they otherwise would have been forced to buy or grow in their fields. However, we had difficulties estimating the value of forest products consumed by the villagers and their livestock since no records of extraction were kept. Furthermore NTFPs are a major source of nutrient supplement for the community. We found that the amounts extracted were related with income, and the more income a household makes, the less they utilise the community forest.

Furthermore, the forest is an important supplier of building materials. All structures in the village were built using timber and bamboo, collected in the forest. Firewood was also gathered from the forest, and this, together with crop residues, was the main source of fuel for the daily cooking.

Giving people the right of forest utilisation can limit their need of agricultural land as the forest provides many edible products, which can substitute cultivated crops. (Brenner et al. 1999, p.31)

3.6. Establishment of the community forest in Ban Pha Lai:

The village headman told us that the community forest in Ban Pha Lai was established 1997 in cooperation with a local NGO, whose fundamental objective was to empower local people to claim right to the resources they are dependent on. This was based on an investigation, where the NGO found that 36 villages were situated within the National Park boundaries – Ban Pha Lai was one of them. He consulted the villagers and together they discussed their dependency on the forest areas, and that they could not sustain themselves without utilising the forest. The NGO assisted them defining the boundaries of their future community forest and creating a management plan, which included rules and regulations on forest-use and protection. A forest committee consisting of 10 members was established. The villagers' duties are patrolling in order to prevent intruders and fires. The risk of run-away-fire is reduced by firebreaks and the villagers' fire brigade with man-carried manual pumps. The NGO provides regular management training in order to create awareness of sustainable forest use and get villagers to participate in preserving the forest contributing with their local knowledge.

The NGO co-operates with other organisations in managing community forests in the area; these involve National Park officers, NGO-networks and RFD. The NGO's role is to act as a mediator and create an understanding of the villagers' livelihood and the problems encountered, between the communities and the authorities. According to Mr. Nikom Phutta, the from the local NGO, local people should be able to participate in decision-making at local level and thereby have influence and impact on governmental policies. Local people need to be able to monitor and evaluate decisions made in parliament. Until now there have been no conflicts concerning the community forest between the village and external organisations such as NGO, RFD, and National Park Department. (Phutta 2003) We can conclude that the community forest has been a success in that the National Park Department claimed in an interview, that they would allow the community forest to be maintained as long as it is managed sustainably by the villagers. This was the opinion of the

National Park officer, although the boundaries of community forest in Ban Pha Lai had been determined by the NGO and the community without consulting the National Park Department (Kaewkam-ai 2003).

During our stay in Ban Pha Lai we were unable to critically analyse to which extent the NGO could have dominated the management plan of the community forest. Environmental protection is part of the NGO's political agenda. Whether the communities are used as tools for achieving these objections is not clear, but we should not disregard this possibility. The fact that the management plan of Ban Pha Lai's community forest may have been manipulated by the NGO does not seem unrealistic, since the community do not adhere strictly to the rules (appendix D), which supposedly are made with their own participation.

3.7. Description on the Community Forest in Ban Pha Lai

The main forest type of Northern Thailand is the deciduous forest, which is dominant due to the monsoon summer rains (Pooma and Barfod 2001, p.11). The forest also consists of other vegetation types, which are influenced by topography, altitude, disturbance and moisture (Pooma and Barfod 2001, p.11; Gardner et al. 2000, p.9).

Ban Pha Lai is situated at the head of the Mae To watershed, which makes it an important conservation area, since it provides water to many villages down stream. The altitude of Ban Pha Lai's community forest ranges from approximately 600 to 1000 metres above sea level, which is considered lowland to mid-elevation forest (Gardner et al. 2000, p.11). The forest of Ban Pha Lai contained a wide variety of species (appendix F), and consisted of three main ecological types: dry deciduous dipterocarp, mixed deciduous and bamboo forest. The distinction between forest types was not always clear, as the transition was gradual.

Dry deciduous dipterocarp forest dominated the steep south facing slopes and the exposed dry ridges of the mountains, where there is almost no ground water, due to the thin soil layer, which cannot maintain the water. The dry deciduous dipterocarp forest is dominated by four species of Dipterocarpaceae: *Shorea obtusa, Shorea siamensis, Dipterocarpus tuberculatus and Dipterocarpus obtusifolius* (Gardner et al. 2000, p.12). This description coincided with our own observations in the forest. Furthermore, we observed that the canopy cover was poor, which aggregated dry soils prone to erosion, and dry grass prone to fire. Signs of fire having taken place were evident.

Mixed deciduous forest is present at intermediate moisture sites and mainly dominant on soils derived from limestone, (Pooma and Barfod 2001, p.12), which is the main underlying geological surface of the forest in Ban Pha Lai. The soil was dark and the litter layer indicated high soil organic matter content. Mixed deciduous forest was more diverse in species than dry deciduous dipterocarp forest. The high diversity of trees contributed with many strata which provided good protection to the soil, resulting in minimum soil erosion and evaporation. The mixed deciduous forest is dominated among others by: *Tectona grandis, Pterocarpus macrocarpus, Tectona grandis* (teak) is one of the most valuable trees, which have been the main target of logging concessions (Gardner et al. 2000, p.12).

In the Ban Pha Lai community forest, bamboo forest was common. Where disturbance of the mixed deciduous forest has occurred, the proportion of bamboo has increased. Bamboo is often related with logging and shifting cultivation having taken place in the past (Pooma and Barfod 2001, p.12),

which was the case in the forest, where bamboo dominated disturbed sites such as previously cleared forest for agriculture, intensively logged areas (primarily for teak) and former elephant camps.

Large teak stumps revealed the previous forest. Occasionally we passed logs of teak being processed into planks. Forest guides informed us that the current logging taking place is strictly for own utilisation amongst Ban Pha Lai villagers.

The community forest has been divided into two management zones: The largest is the conservation zone, which constitutes approximately 570 ha, and the utilisation zone, 116 ha (figure 4). These areas have been determined from the GPS data collected in the field and maps were created using GIS.

The conservation zone is an area where the rules state that "no cutting nor destroying" of forest is permitted (appendix D). However, it was evident that bamboo was harvested from the conservation forest. Cuttings in the bamboo showed the search and extraction of bamboo worms. Holes by the foot indicated shoots being dug up. Shredding residue of bamboo used for basket making and various constructions were often encountered. The utilisation appeared to decrease with the distance to the village. Bamboo extraction was tolerated by the headman, who did not consider it a species worth conserving (Village headman 2003). The rules were not strictly adhered to, and we observed several recently cut stumps and even logs lying on the forest floor ready to be processed. The guides did not comment on the findings, and we did not probe as it was an illegal action.

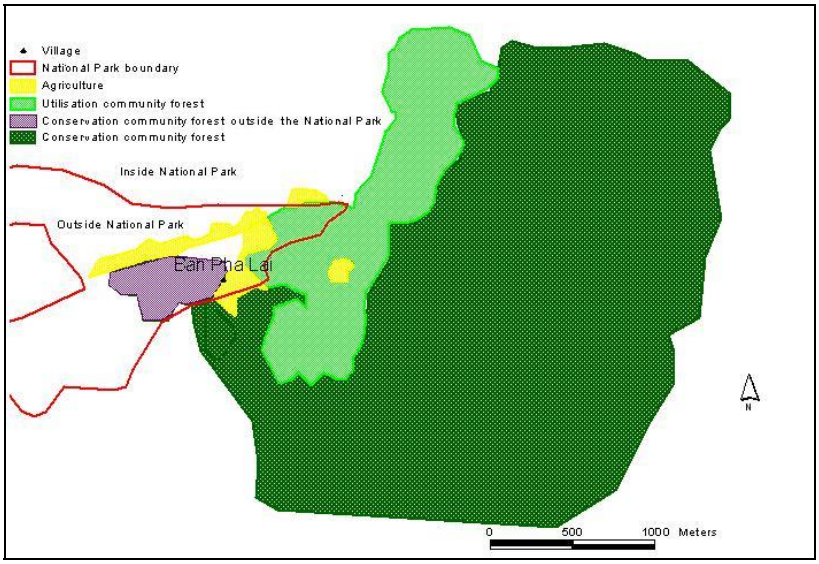

Figure 4: Conservation zone outside the National Park

We were surprised over the fact that a proportion of the conservation community forest is situated outside the National Park boundary and in immediate vicinity to the village (Figure 4), whilst a large part of the utilisation forest is placed within the boundary and further away. A logical explanation for this is that this conservation area is on a steep North-facing slope, which makes it prone to erosion, and under severe circumstances, mudslides.

In the utility zone timber extraction was allowed when permission from the community forest committee was granted. According to the rules and regulations every tree extracted should be

replaced fivefold, but we did not observe any replanting. Bamboos should be cut selectively, leaving some in each cluster. We did not observe a significant difference in the conditions of the two forest zones, conservation and utilisation community forest. A healthy regeneration of forest trees was seen in all parts of the community forest. This can probably be attributed to a decrease of fires in the forest. Over-utilisation was not observed.

3.8. Management of community forest in Ban Pha Lai

Our study of community forest management in practice in Ban Pha Lai revealed that at the time of the establishment of the community forest, the local NGO had been involved in making a general frame-work for the forest management. This management plan involved various restrictions and regulations, which were not adhered to in actuality, indicating that the main reason for making the management plan and set of rules was to satisfy governmental forest protection objectives. This can be supported by the fact that on the plan the majority of the community forest was labelled "conservation zone", which will show their willingness as forest protectors.

In Ban Pha Lai there is a community forest committee which is responsible for management. It consists of 10 members who include 5 officers. The village headman is the chairman of the committee, the other officers include: the vice-chairman, secretary, finance secretary and the community forest co-ordinator.
The main functions of the committee include:

a) Management of the community forest and approval of permits to fell trees in the utilisation forest area if regarded necessary for the building structures. They do not give permit to fell trees for sale.
b) Organise a monthly community forest meeting in order to evaluate the utilisation of the forest and solve problems, which may have occurred among the community forest users within the month.
c) The committee has meetings with the NGO with the purpose of learning management techniques, which they subsequently disseminate to the other villagers.
d) The committee is responsible for making future plans for the forest in co-operation with the RFD in order to achieve the objectives of the community forest.
e) The community forest committee has the power to punish the villagers and outsiders who break the rules of the community forest. The first time offender gets a warning and the products are confiscated. A second time offender is fined and the money is transferred into the community forest account. A third time offender is reported to the police. However, according to the headman, penalties have never been used in practice.

A reason for investments not occurring is due to lack of sufficient funding, since the fact that community forestry is still unofficial in Thailand. Villages, which maintain a community forest cannot secure funding from governmental institutions like the TAO, National Park Department and RFD which control some amount of funds with respect to forest conservation. However, generally RFD offers some technical support with respect to sustainable management practice, although Ban Pha Lai did not receive such support. During an interview with the TAO officer we were told that they did fund communities, which applied for money for "forest protection" omitting the term "community forest".

3.9. Evaluation of the community forest in Ban Pha Lai using the Oakerson Framework.

In this section we use the Oakerson Framework to evaluate the community forest of Ban Pha Lai, because it is a simple modified model of the complex issues of common pool resources

management. It focuses on the different aspects, which influence the utilisation and management of a common resource. This model facilitates the evaluation of sustainability of a natural resource system.

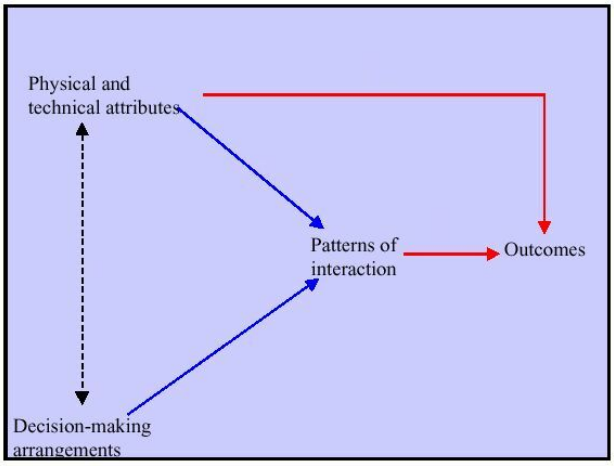

Figure 5: Oakerson's Framework on Common Resource Management (Oakerson 1992, p.53).

From interviews and observations we concluded that Ban Pha Lai's community forest can sufficiently supply the villagers' demand of basic forest products for own consumption, and thereby conflicts of resources are reduced. This is due to its size and condition, which is a result of the physical attributes in the area. From our observations the forest seemed to be in a healthy condition based on the regeneration of trees and the forest cover. The forest guides claimed that fires occurred less frequently since the establishment of the community forest.

The community forest is situated adjacent to mountains and the National Park, which makes it easy to exclude intruders from utilising the forest, and the pressure from the neighbouring village is low since they too have their own community forests. Furthermore, the community forest boundary had been demarcated and a set of rules including fines for unauthorised use had been made.

The community forest rules (appendix D) were set up by the community forest committee in cooperation with the local NGO. They serve to regulate the use of the forest in order to prevent overutilisation, which presumably would be the case in an open-access situation where the resources are exhaustible because of the number of people in the watershed (Ostrom 1999, p.1-2).

An advantage of Ban Pha Lai in solving collective action problems is that they are relatively few members in the community and the fact they are rather homogenous in terms of ethnicity, livelihood and dependency. Co-operative strategies are easier sustained in smaller rather than larger groups of people. (Ostrom 1999, p.8) When asked about conflicts within the community, all 23 households stated that there were none. We must, however, question their perception of a conflict, and their willingness to involve us in internal conflicts.

The rules are made with the villagers' participation through the committee, which supposedly represents them. However, observations in the forest indicated that the rules were not fully practiced. Interviews with the villagers showed that all knew of the rules, but 6 out of 23 were not able to define any of the rules. This could indicate that the NGO had impinged own objectives of sustainable forest use into the regulations and rules, which could be necessary in order to

compromise different stakeholders' political and economical interests. If people do not participate in the formation of the rules they are less likely to obey them and thereby the existence of the common pool resource is threatened in the long run (Nielsen et al. 2002, p.165). We were informed that no penalties had ever been given yet. However, as mentioned earlier all rules were not strictly adhered to, and the fact that action had not taken place, is a weakness to the community, since the breaking of rules with no consequences will inspire other people to do the same (Ostrom 1999, p.8). This adds to our suspicion that the villagers have not been sufficiently involved in creating the rules.

The patterns of interaction of the Ban Pha Lai villagers revealed their common understanding of uniting against the threats from the authorities. The potential consequence of their officially illegal use of the forest is loss of access to the forest resource, on which they are all dependent. This observation can be supported by the absence of apparent conflicts within the village. They have until now been subject to the lenient enforcement of the law by the local authorities, which may be due to the expected changes of the Community Forestry Bill, which is still pending in Parliament. One of the main discussions, which has delayed the enactment of the Bill, is whether the community forests in National Parks will be incorporated and thereby legalised (Buch-Hansen 2003). Brenner et al. (1999, p.42), claims that another reason could be the conservative view which part of the RFD hold, which insists that people and forests cannot co-exist, since a short term economic profit today seems to be the motive of rural people. Whatever the reason, the situation of the villagers remains vulnerable, since their future use of the forest is not secured. In theory the enactment of the Bill could result in either a gain of rights or the more strict enforcement of the law, which prohibits their access.

The villagers were content with the physical outcomes of the forest. 17 out of 23 households stated that the condition of the community forest had changed in a way where the forest had increased in the availability products from the forest. Many expressed that the community forest had had a beneficial effect on the quality and quantity of the water deriving from the forest. We were told that in the past water scarcity was often a problem and the village was dependent on water supplies transported into the village by the TAO.

4. Conclusion and Perspectives

Our investigation of community forestry in Ban Pha Lai has been focused around the research question: *Why, how and to which extent do villagers in Ban Pha Lai maintain a community forest and what are the consequences for the villagers of having a community forest and agricultural land situated in a National Park?*

The forest cover in Thailand has been significantly reduced over the years and this has put forest conservation on the political agenda. Much of the blame has in the past been placed with the hill-tribes of Northern Thailand. This has led to the people in Ban Pha Lai mobilising themselves in conserving the forest in order to prove they capability of managing forest sustainably. They created a community forest in cooperation with the local NGO. We see the organisation of the community forest as a strategy for obtaining legal rights to their current utilisation of the forest.
We established that villagers were dependent on the community forest as a supplement to their subsistence, since agricultural production could hardly sustain their daily needs. The cultural values of the forest are also important for the Karen people and the forest is the foundation of their beliefs and a home of Gods and ancestral spirits.

The Community Forestry Bill is still pending in parliament because it involves the decentralisation of institutional power. The issue of community forestry has become a political game involving many different agents, with different interest in the distribution of power involving natural resource management. In this research we have analysed the relations between three different levels of the parties involved: the authority level, represented by the RFD and the National Park Department, the mediating level of the NGO and the local level of the villagers.
Changes in power structures can result in conflicts, since handing over rights is not always willingly done and this may delay the process. The debate involves dealing with suppressed issues, such as the marginalisation of ethnic minorities.

The community forest in Ban Pha Lai has been formed by the villagers in cooperation with the local NGO. It is characterised by its location in the Sri Lanna National Park and the fact that the largest proportion of it is proclaimed “conservation zone” by the villagers. Rules for managing the community forest are supposed to be enforced by the community forest committee. However, these rules do not correspond with the de facto rules, as the rules are leniently adhered to. Theoretically this is not sustainable in the long run since violation of the rules may escalate and thereby degrade the exhaustible forest resource, although we are not able to conclude that violation of the rules at present state threatens the sustainability of the forest.
A possible reason for the villagers breaking the rules could be that they have not participated sufficiently in the formation of the rules. Apparently the rules do not respond to the needs of the local people, which can be explained by the influence of the NGO, who as a mediator attempts to compromise both governmental and local needs, whilst at the same time satisfying its own environmental ideology.

The local RFD and the National Park Department have unofficially accepted the presence of Ban Pha Lai’s community forest. The community may risk being losers in the political contest over power which involves many parties, and in which the community are vulnerable due to their lack of education and isolated livelihood, which makes them extremely dependent of the NGO’s representation. The fact that so much focus has been put on Ban Pha Lai will inevitable force the National Park Department to take some step of action in the future. They will not be able to turn “the blind eye” to the situation, and the only options will be either to redraw the boundary of the

National Park, change the constitution which denies any extraction of products or in worst case, from the community's perspective, to enforce the existing National Park regulation and prevent the villagers from using the forest.

The unofficial acceptance can be linked to corrupted manner, where the officer who is supposed to enforce the rules have the opportunity to gain personal profits. The villagers informed us that occasionally the RFD officers patrolled the village and often confiscated "illegal wood". The villagers insinuated that the wood was confiscated for the officers' own revenue as well as for stating their authoritative power.

The situation in Ban Pha Lai is further complicated because SPK is held on some agricultural fields within Sri Lanna National Park. The boundaries of the National Park has been arbitrarily drawn, which has resulted in parts of Ban Pha Lai's agricultural fields being trapped inside the National Park. A solution to this overlap has never been found, and in that lies a conflict. Furthermore, their use rights to the forest resources have as a consequence been jeopardised.

The incentive to allow community forestry on the territory of the National Park Department may also be related to the function that the community forest can serve as a buffer zone to the protected areas. The National Parks can be regarded as the core zone of conservation while community forests can act as buffers, on the condition that the people are prevented from further pressurising the core zone. A crucial aspect of forest conservation is to stop the expansion of agriculture into the National Park. However, in order to promote sustainable utilisation and conservation of forests within National Parks through a community forestry programme, it is necessary to overcome the conflicts and mistrust between all stakeholders involved.

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