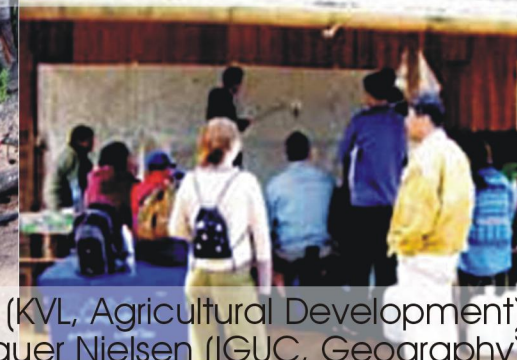




A case study of tourism and natural resource management in Ban Pang Daeng Nai, Thailand



Rural production or production of the rural ?



AD02021.
ED1757.
ED1818.
Supervisors:

Lisbeth Dahlmann-Hansen (KVL, Agricultural Development)
Laurits Rauer Nielsen (IGUC, Geography)
Tina Kristina Thorman (RUC, International Development Studies)
Peter Oksen & Thorsten Treue



Rural Production or Production of the Rural?

A case study of tourism and natural resource management in Ban Pang Daeng Nai, Thailand

Authors:	AD 02021	Lisbeth Dahlmann-Hansen (KVL)
	ED 1757	Laurits Rauer Nielsen (IGUC)
	ED 1818	Tina Kristina Thorman (RUC)

Supervisors:	Peter Oksen (RUC)
	Thorsten Treue (KVL)

Word count: 12,595

March 2003

SLUSE, Thorvaldsensvej 40, 3rd floor, room R-323, 1871 Frederiksberg C, Denmark

ABSTRACT

The village of Ban Pang Daeng Nai is influenced by the presence of tourism in various ways. These include impacts on the daily life of the villagers due to the demand for attention the presence of tourism has, as well as more indirect impacts, such as changes in agricultural practices due to the access to cash tourism brings with it, and the direct and indirect impact on the environment that tourism has. These environmental impacts include the effects of changed agricultural practices as well as the effects elephants have on the forest and soil, when tourists ride them. Tourists come to the village to experience hill tribe people and their culture. Villagers try to create an income on tourists through selling souvenirs and performing shows for them, or through accommodating them in their guesthouses. We found that the villagers owning guesthouses were the ones who were most directly affected by tourism, and thus it is through this group of villagers that the indirect impacts of tourism are strongest.

LIST OF ABBREVIATIONS

DO: Dissolved Oxygen Content (mg O₂/L)

EC: Electric Conductivity (μS/cm)

GIS: Geographical Information System

GPS: Global Positioning System

ILUNRM: Interdisciplinary Land Use and Natural Resource Management

K: Potassium

NH₄⁺: Ammonium

NO₃⁻: Nitrate

RFD: Royal Forestry Department

NDVI: Normalised Digital Vegetation Index

NPK: Nitrogen, Phosphorous and Potassium

P: Phosphorous

SLUSE: The Danish University Consortium on Sustainable Land Use and Natural Resource Management

SOM: Soil Organic Matter

UHDP: Upland Holistic Development Project

CONTENTS

1. Introduction	1
1.1 Introducing Ban Pang Daeng Nai	1
1.2 Problem Statement	1
1.2.1 The beginning/the given problem	1
1.2.2 Focus	6
2. Methodology	7
2.1 Sampling strategy	7
2.2 Structured interview	7
2.3 Semi-structured interview	8
2.4 Unstructured interview	9
2.5 Observation	10
2.6 Mapping	10
2.7 Soil sampling	11
2.8 Village meetings	12
3.0 Results and discussion	13
3.1 Results of village meetings	13
3.2 Impacts on the human sphere	13
3.2.1 Land limitation	13
3.2.2 Tourism in Thailand	23
3.2.3 Type of tourism in BPDN	24
3.2.4 Development of tourism in BPDN	24
3.2.5 Why this change in tourism?	25
3.2.6 How is tourism organized inside the village?	27
3.2.7 Why do tourists come?	28
3.2.8 Impact of tourism on the agricultural production system in BPDN	30
3.3 Impact on the environmental sphere	34
3.3.2 Indirect affects	34
3.3.2.1 Change in perception of the value of the forest	34
3.3.2.2 The connection between agricultural practises and changes/differences in the environment	35
3.5 Suggestions for further investigations	37

4. Synthesis & conclusion	38
5. Perspective	40
6. Acknowledgements	41
7. References	42
Appendices	44

1. Introduction

1.1 Introducing Ban Pang Daeng Nai

The village of Ban Pang Daeng Nai (BPDN) is situated on the bank of the Huai Hok Stream in Mae To watershed within Chiang Dao district, Chiang Mai Province in Northern Thailand.

The village has a Buddhist population of approximately 250 people spread on 49 households. It was founded in 1983-1984 (1985, according to Howard & Wattanapun, 2001, p. 84) by Palaung who originally came from Burma. The Palaung settled at what was then known as Pang Daeng under the leadership of Kam Hieng, who is also the village headman today (Howard & Wattanapun 2001, p. 87). To this day they have not achieved Thai citizenship, therefore they cannot achieve ownership of their land. The village has only got a dirt road, has no electricity and has piped water that is filtered. The piped water system was constructed with external assistance, but there is not enough water in it for irrigating neither fields nor gardens, and the Huai Hok Stream is dry much of the year (Howard & Wattanapun 2001, p. 89). However, on one occasion we did speak with a villager who was washing a water pump (Honda, estimated 200 l/min) which was currently out of order, but had been used for irrigating gardens, when the stream is high enough to pump from. The villagers are mainly farmers, even though they also raise cash through involvement in tourism and working as day labourers in nearby orchards and fields or in construction, this work is mainly seasonal (Howard & Wattanapun 2001, p. 91).

1.2 Problem statement

1.2.1 The beginning/the given problem

From the outset we worked with the following research question:

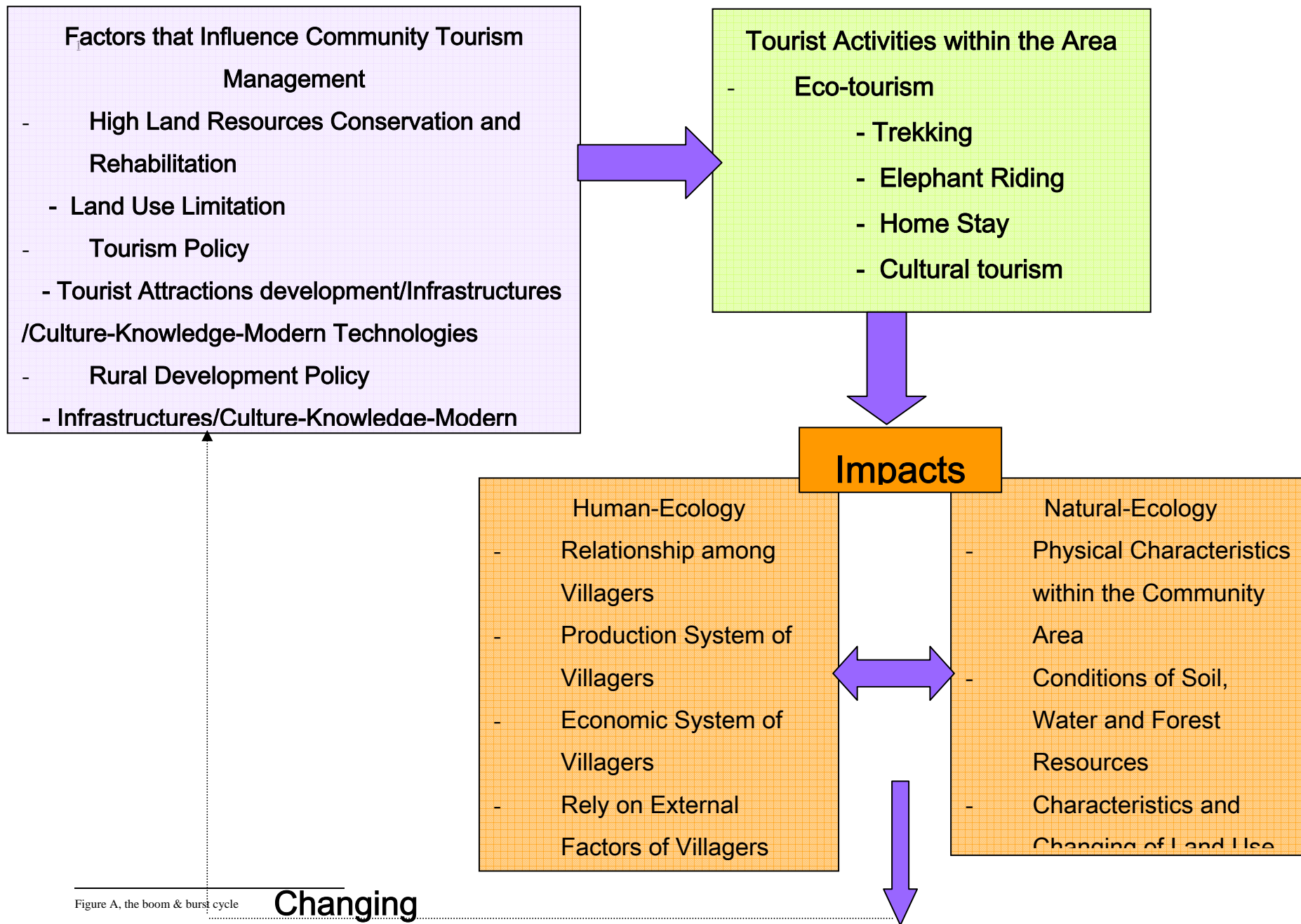
Why is Ban Pang Daeng Nai receiving tourists and what are the consequences for the villagers and their environment?

We found it useful to work on the three parts of this question as if they were three separate, though obviously closely linked questions.

1. Why is BPDN receiving tourists?
2. What are the consequences of tourism for the villagers?
3. What are the consequences of tourism for their environment?

In Thailand, prior to the practical fieldwork, we agreed to adopt a scope of analysis that was presented to us by Ms. Tawan, one of the Thai students, who has been working in the area earlier. The framework is presented in figure A below, and is in fact a cyclic causal connection that indicates that tourism is a result of many different factors, both structural conditions that are external and internal to the village as well as the physical characteristics of the landscape in the area. It further indicates that these conditions enables tourism in the form of trekking, elephant riding, home stays and cultural tourism to take place. That tourism takes place in the area has impacts on both the human-ecological and physical ecological characteristics of the village and the surrounding landscape.

These impacts are affecting the structural conditions and physical characteristics that are in fact the factors that led to tourism in the first place, thus undermining the presence of tourism. In a broader perspective, this way of seeing the impact of tourism is to see tourism as a “boom & burst” business, which has great impact on the lives of the villagers that are exposed to it. Not only does it offer a source of income while it takes place. It also changes the conditions under which they live fundamentally. A central part of our field studies was to document the presence of this “boom & burst” industry in BPDN.



Within this framework we identified several problem areas and central questions to be investigated:

A: Tourism policy from the government.

- i) *In supporting tourism, does government policy cause people from outside the village to come and make benefits out of the village?*
- ii) *Is tourism the reason for conflicts among stakeholders?*

B: Changes in livelihood in communities

- i) *Does tourism cause changes in livelihood and cultural commercialization?*

C: Degradation of natural resources (soil, water, forest)

- i) *Does tourism cause destruction to natural resources?*

D: Changes in Agricultural systems

- i) *Is cash income from tourism invested on agriculture?*

E: Tourism in the village: Limitations & Possibilities

- i) *Does cultural commercialization and degradation of natural resources lead to decrease in tourism?*
- ii) *If given the choice, would villagers organize tourism themselves?*
- iii) *Are the conflicts among stakeholders the reason for changes in tourism?*

We went to the field to collect data attempting to investigate these questions.

Our final problem statement is:

How is life in the village and the surrounding environment influenced by tourism and how are they in turn influencing tourism?

1.2.2 Focus

Questions	Data needed
Which constraints are there to the villagers land use?	Constraints to villagers' tenure rights National park/protected area boundaries Land classification zone Land ownership
How has tourism in BPDN developed?	History and extent of tourism
How do the villagers see tourism and its possibilities?	Villagers' perception of -the role of tourists in their society -their own options for influencing the development of tourism -the potential of tourism in the future
How is tourism organised?	Cash flow Participants in tourism
What kind of tourists come to BPDN, and why?	Background information on tourists: Types of tourism Tourists perception of the village Villagers' and tourguides' perception of why tourists come
Which impacts does tourism have on the agricultural production system of BPDN	Cash is spent on agricultural inputs Description of the production system Size of holdings Land ownership
Does tourism directly affect the environment – specifically the condition of the soil, the water and the forest?	Villagers' perceptions of the influence of tourism on the environment.
Which indirect effects does tourism have on the environment?	Villagers attitude towards the forest Soil fertility in different fields.

2.0 Methodology

2.1 Sampling strategy

For the structured and semi-structured interviews, we used various sampling methods, according to our intentions with the different interviews. For the structured interviews we used all households within the village as the sample, defined by the villagers present at the first community meeting (see below). The village boundary was quite easily identified, as all the houses in the village were close together, and there were no other houses in sight.

For the Semi-structured interviews with the villagers, we decided to use a stratified random sampling (as defined by Cohen et al, (2000, p. 101)), by categorizing the villagers into three strata according to their level of involvement in tourism. One group consisted of 6 households owning a guesthouse. One group contained the 32 households that are somewhat involved in tourism, which means that the women make and sell souvenirs to the tourists, or the girls sing and dance for the tourists, or the boys play drums for the tourists. The last group consist of the 11 households, which are not involved in the tourist business. We chose this stratification in order to be able to compare the results of interviews from one group to the results from another, as we expected the differences to tell us something about the impacts of tourism on the villagers' lives and perceptions. Within each group we randomly selected 4 households for interviews, in this way ensuring that a reasonable number of households would be interviewed in all groups. We did not adjust the sample sizes to the size of the strata, because the relatively small number of total in depth interviews we were able to conduct, does not make statistical analysis relevant, and it was more important to be sure that all groups were properly represented. Within each strata the households were selected by lottery, but some of them were discarded, either from lack of interest in being interviewed, language problems or, in the case of guesthouse owners, to avoid interviewing the owners of the same guesthouse.

We went to the households and made appointments before interviewing, asking their willingness to participate in relatively long interviews.

2.2 Structured interviews

Structured interviews differ from both Semi-structured interviews and unstructured interviews (below) in that they are designed to generate quantitative data, and that the coverage of the survey is completely decided upon when designing the questionnaire. Thus there is no possibility for the interviewer to adapt the interview while it is going on (Casley & Kumar 1998, p 54). We initiated our investigations in BPDN by doing a survey of all households in the form of structured interviews

performed by a Danish and a Thai student in co-operation, assisted by an interpreter. The aim was to gain basic information on the households in the village that was of common interest for all working teams. The issues covered were such as the size and occupation of the household, time of residence in Thailand and in BPDN, ownership of land and some questions aiming at getting an impression of the wealth of the household (appendix X). To test our questionnaire we conducted 3 pilot interviews and adapted the design of the questionnaire according to our experience.

2.3 Semi-structured interviews

Semi-structured interviews are the most structured kind of what Casley & Kumar (1998 p. 11) calls qualitative interviews. The technique is to use an open-ended questionnaire, listing the specific questions to be asked. Ideally, the respondents are encouraged to express themselves fully, rather than giving one answer, out of a number of options. The interviewer is in control of the interview in that he can decide on the sequence of the questions, and he is allowed to ask additional questions, if it is found to be relevant in the situation. The strength of semi-structured interviews is that the data achieved is somewhat comparable, since all respondents have been asked the same questions and using the questionnaire as a tool makes success less dependent on the individual skills and experience of the researcher (Casley & Kumar 1998, p 13f)

We used semi-structured interviews with the 12 household from our **in depth sample** to investigate the villagers' perceptions of various aspects of tourism in the village, and their perception of the connection between tourism and the environment, and to identify the connections between tourism and agricultural land use and land use practices. The three working teams interviewed the households separately (with some exceptions), usually in teams consisting of at least one Danish and one Thai member of the working team, and one interpreter.

During the fieldwork we developed visualisation and cross-checking methods to assist the recollection of details on fields and crop history, and thus the first interviews were not carried out in the same way as the later ones, when we had fine-tuned our approach. We mostly interviewed men, which might have given a bias in the answers, especially regarding those questions that relate to the women's duties in the household. The interview guides can be found in appendix (X).

Key informants were chosen in areas of tourism, tourist trekking routes and the culture of the Palaung and the history of the village.

These key informants were interviewed using semi-structured interviews, in cooperation between working teams and between Danish and Thai students.

Semi-structured interviews were carried out with an RFD officer, a park ranger and Mr. Rick Burnette from the Upland Holistic Development project (UHDP), as these were seen as **stakeholders**² in the natural resource management of the village, and therefore important sources of information.

The interviews with the RFD officer and the park ranger were conducted in their office in Chiang Dao and Mr. Rick Burnette was interviewed over the phone, as this was the only way to reach him. In the beginning of our stay we used semi-structured interviews to interview both short-term and overnight tourists and tour guides. Once we realized that this method was only suitable when we interviewed **overnight tourists** and **tour guides**, we only used it for these. The interviews were in depth interviews, where we collected data on the tourists' and tour guides' perception of the village, the villagers, general information about the tourism industry, and their opinion about it. The interview normally lasted for 35-45 minutes.

2.4 Unstructured interviews

Unstructured interviews are identical to what Casley & Kumar (1998 p. 11) calls "Informal, Conversational Interviews" and are characterised by the interviewer having complete freedom and flexibility to explore broad subjects with the respondents. The interview takes the form of an informal conversation, but is still guided by the interviewer, who has a number of topics to cover. This technique demands good skills of the interviewer, since the interview can easily become unfocused and be very time-consuming. Furthermore the data gathered through an unstructured interview can be hard to compare to the results of other unstructured interviews since respondents will have different focuses. The strength of the technique is that it might reveal issues that were not foreseen by the researcher, and that respondents might give information that would not be volunteered under more formal settings.

We used unstructured interviews interviewing **village women** about handicraft production and economy related to selling souvenirs. This was convenient because the interview was made while the village women were producing handicraft, or waiting for tourists. The interviews were done informally, so the women did not have to stop their activities, and thereby take time from their business.

We also used unstructured interviews with the **short-term tourists** and **tour guides**. In Chiang Mai, prior to our arrival in the village, we developed questionnaires to guide the interviews with the

² Stakeholders: People who may influence or be affected by the issue in question (Hobley, 1996.)

short term tourists and the tour guides, but after we had made a few interviews, we found that these tourists and tour guides seemed stressed and uncomfortable by the formal way that it was conducted. We therefore shifted to unstructured interviews to make the conversation more informal and free. These interviews normally lasted 5-10 minutes, where we were walking around in the village, talking to the tourists and tourguides at the same time. This method seemed most appropriate because we did not take too much time from their visit in the village. The problem by using this method has been, that we sometimes did not ask the interviewees about the same topics, and therefore the data has not been as comparable as we hoped that it would be.

2.5 Observation

Observation was used for different purposes and in different ways during our stay in the village. The first objective was to confirm and supplement data collected through other methods. The second objective was to observe while other methods were applied at the same time. The third way was where we spontaneously were observing something interesting, and therefore looked more into it, by asking villagers directly about it.

2.6 Mapping

Mapping of BPDN was done in order to assess the area farmed by the villagers, and the intensity of the agriculture. The latter by comparing farmed land with fallow land. However, it turned out that all villagers were practising permanent agriculture and used only dry-season fallows, so mapping of fallow areas was not relevant. Furthermore, the maps created of the village area is useful for identifying which constraints there are to the land use in the area. The following mapping activities were undertaken:

- The boundaries of BPDN were partly tracked with a GPS, partly estimated in accordance with the information given by the villager who was showing us the boundary. Prior to walking the village perimeter the villager and the headman had made a sketch of the village area, agreeing on the area that we should be shown.
- The fields on the southern bank of the stream were tracked by walking the border between fields and forest.
- The village of BPDN itself was mapped by walking its perimeter and tracking the route on GPS.

- The teak plantation north of the village was mapped by walking its perimeter and tracking the route on GPS.
- The fields in the forest on the southern side of the stream were mapped by walking their perimeters and tracking the route on GPS.

Afterwards the areas were digitised using ArcView GIS.

2.7 Soil sampling

In order to discover differences in the soil fertility caused by tourism, we decided to identify farmers whose involvement in tourism had caused them to reduce the time spent in the fields, and compare them with farmers who had agriculture as their first priority. The identification was done through semi-structured interviews (see above), asking farmers how much time they spent on farming and on tourism respectively, if they would spend more time farming, in case they didn't work with tourists, and if they somehow compensated for such lost time. We expected the guesthouse owners to be the ones who spend most time on tourism, and therefore the ones most likely to reduce their working time in the fields in favour of tourism related work, but out of the three guest-house owners interviewed, only one found that his time in the fields was reduced due to work with tourism. This farmer's soil was compared to that of another farmer who did not work with tourism. We found these two farmers to be a fairly close match in terms of the workforce/acreage ratios, the slope and aspect of the fields, the crops grown etc (see appendix X).

In both fields three soil samples were taken (in the center of the field, and in the low-lying SW and higher NE corners, respectively) from the top 15 cm with an auger. Alternatively five samples could have been taken in each field, and these could have been mixed into a composite sample.

Lack of time in the field made it more feasible to take only three samples, and then analyse them separately to allow for within-field variation. The choice of the exact spots was based on a casual estimation of being in the intended part of the field. The soils were dried in the shade, but unfortunately the samples from one field were left in plastic bags in darkness overnight. For each field, some of the soil from each of the three samples was mixed for compound samples for organic matter analysis. All six samples were analysed for nitrate (NO_3^-), Ammonium (NH_4^+), Potassium (K) and Phosphorous (P), as well as pH, using the NPK-soil-test-kit from the University of Maejo. The analysis of the soil was not optimal. A mortar was not available, and thus the grinding was done on newspapers with a glass bottle. The analysis itself was done with the available field test-kit,

containing an extraction-solution, and chemicals in dissolved and powdered form to mix with the soil extract for a colour-reaction, and four-step colour-scales for comparison. No information was provided as to which chemicals were used for extraction and colour-reactions, and only relative values were indicated by the colour-scales.

2.8 Village meetings

We arranged a community meeting in order to introduce ourselves to the community and gather some background information. The villagers present at the first community meeting were selected by the headman, as those who knew about tourism. After presenting ourselves, the villagers made a drawing, indicating all 49 households, and for each, the name of the head of household, the number of members, and also the location of the fields. The women made a crop calendar indicating which crops were sown and harvested in which month. Afterwards an activity calendar was created, showing high and low seasons of tourism and agricultural work and earnings from both. Our facilitator had the villagers explain their crop rotation systems, and make an income ranking showing the importance of different income sources, prices of different cash crops, the income from and investment in tourism. In the end a problem ranking for the village was made. This was done rather quickly and with the headman playing a major role.

The information gathered from this community meeting helped us identify and distinguish between the households, and was thus a major prerequisite for our successful village survey.

Not much of the information is used directly in our analysis, and thus it will not be presented in the results part, but it is mentioned here, because it was an important factor in getting a good start and a basis from which to choose how to proceed.

At the second village meeting working team A and B briefly presented their preliminary results and discussed them with the villagers. Working team C aimed at verifying the results that had been found through the in dept interviews. This was done through listing the constraints and asking the villagers which constraint they found to be most important. They indicated their opinion by raising their hands. The villagers were also asked whether they could think of any constraints that were not listed.

3 Results and discussion

3.1 Results of village meetings

From the problem ranking at the first village meeting we found that the major problems for the villagers in BPDN is:

1. Nationality (citizenship)
2. Land tenure
3. Lack of land for agriculture
4. Electricity
5. Road (tarmac)
6. Sports field

When asked at the second village meeting, the villagers added no constraints to the list working team C presented to them, and the villagers indicated, after some discussion among those present (approximately 60 villagers), that the ranking of the constraints to their agricultural production was:

1. Lack of water (35 raised hands)
2. Lack of cash for investment (35 raised hands)
3. Lack of land to farm (20 hands)
- Lack of labour (0 hands)
- Too few cash crops (0 hands)

Thus we got an order of priority of the problems that we had found through our questionnaire, however, it is remarkable that two of the constraints were apparently not considered important by anyone present. This might indicate that the method we applied for verification is not quite valid.

3.2 Impacts on the human sphere

3.2.1 Land use limitations

Not only do the villagers of BPDN lack the legal rights that accompany a Thai citizenship, since they only possess blue identity cards³, the village itself is also situated in an area where there are various legal constraints to the land use. In order to identify these constraints we mapped different areas in BPDN. The areas mapped are :

³ Holding a Blue Identity Card means that one does not have citizenship, but has permission to remain in the Chiang Province (Howard & Wattanapun, 2001, p. 95).

1. the area that is considered to belong to BPDN according to the villager and the Headman
2. the area covered by RFD teak plantation
3. the area occupied by the village itself
4. areas inside the Sri Lana national park that have been cleared and are now farmed.

The first area was mapped in order to get an idea of what the villagers considered theirs, and in order to get a first impression of the village surroundings. The second area was mapped in order to be able to identify the area covered by plantation, so that this would not be identified as a potential agricultural area on the vegetation map. The third area was mapped for the same reason as the plantation and in order to position the village itself. The fourth area was mapped, in order to document that the farmers were actually farming fields inside the Sri Lana National Park, and in order to be able to allow identification of the fields on the vegetation map.

After creating polygons of these areas in ArcView, different maps were made, including:

- map of BPDN and Sri Lana National Park (fig. XX)
- map of BPDN and the Forest Classification Zones (fig. XX)
- map of BPDN and the Watershed Classification Zones (fig. XX)
- map of BPDN and the vegetation in the area (the vegetation map consists of bands NDVI, 3, 2 of Aster satellite image February 20th 2000) (fig. XX)

The first map indicates, that the area shown to us by the villager (and thus the village and plantation inside this area) is largely outside Sri Lana National Park, and thus these areas are not subject to any restrictions on this account. However, the villagers that we met in the fields across the stream (inside the national park) told us, that they were in fact from BPDN, and thus the village's fields are not entirely outside Sri Lana National Park.

The second map (fig. XX) shows that there are three Forest Classification Zones;

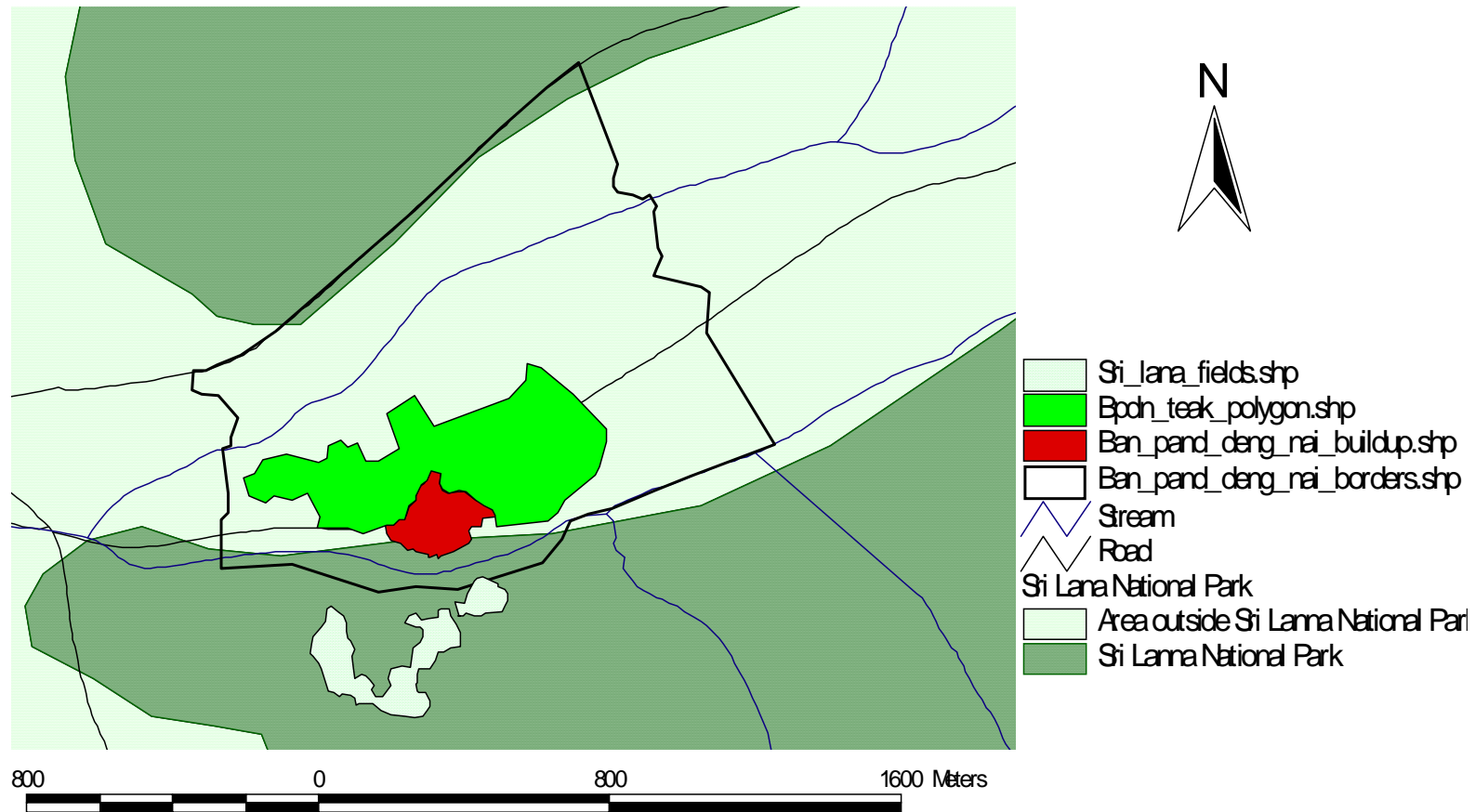
1. the agricultural zone consisting of deforested areas suitable for agriculture.
2. the economic zone consisting of economic forest, where commercial plantations and areas reserved for landless farmers also can be found.
3. the conservation zone consisting of areas designated as national parks, wildlife sanctuaries, first class watershed areas, existing natural forests, mangrove conservation, forest parks and arboretums.

(Traynor et al 2002 p. 8)

The areas inside the National Park are in the Forest Conservation Zone, whereas the areas outside the national park are in the Economic zone. So, on account of the forest utilisation classes, villagers are in fact encroaching their agriculture into areas, that are not designated for agricultural purposes. However, the village itself and the areas shown to us by the villager are in the economic zone, where farming is legal, if the villagers have been allocated the land as landless farmers. We are unaware if this is the case but we assume not, since they are not Thai citizens. Furthermore there are five different watershed classification zones (table XX), these are shown on the third map, figure XX. BPDN is more or less situated in Watershed Class 4, except for the fields that are inside Sri Lana National Park, which are in Watershed Class 2. Class 2 is called commercial forests and is on high elevations with steep to very steep slopes. Forestry and mining activities may only be conducted under strict supervision, agriculture is strictly prohibited in these areas, and reforestation programmes must be conducted immediately. Class 4 is defined as areas for upland farming on gently sloping lands where mining, forestry and other land uses may be conducted under supervision. Areas sloping 18-25% and with soil depths less than 50 cm is recommended to be used for fruit trees and plantations, whereas slopes with 6-18% slope should be used for agronomic crops if appropriate soil conservation measures are applied. (Traynor et al 2002 p. 7). So, on account of the watershed classifications the fields inside the national park are there against government policy, and the fields shown to us by the villager is in an area, where agriculture is completely acceptable, as long as appropriate soil conservation measures are taken, and slopes of more than 18% are not farmed.

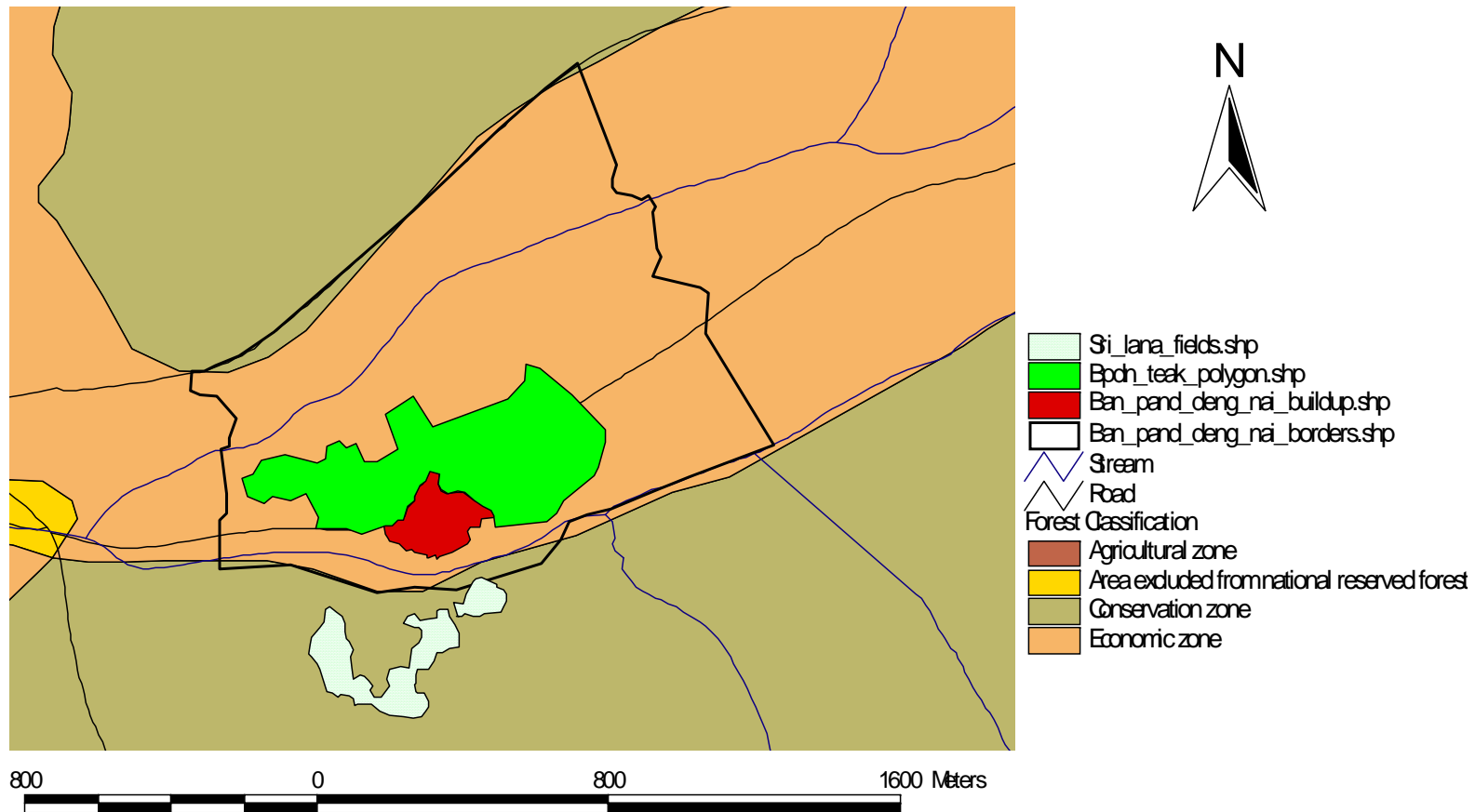
The vegetation map (figure XX) indicates that most of the area inside the village boundaries are farmed, the main exceptions being the area covered by the teak plantation and the village itself, which means that the only way the villagers can expand their agriculture is by expanding into the national park, which is also adjacent to the village. It seems that this is exactly where the villagers have expanded, in fact the two cleared areas that we have mapped fit rather well to two areas that are obviously fields on the vegetation map.

Sri Lana National Park



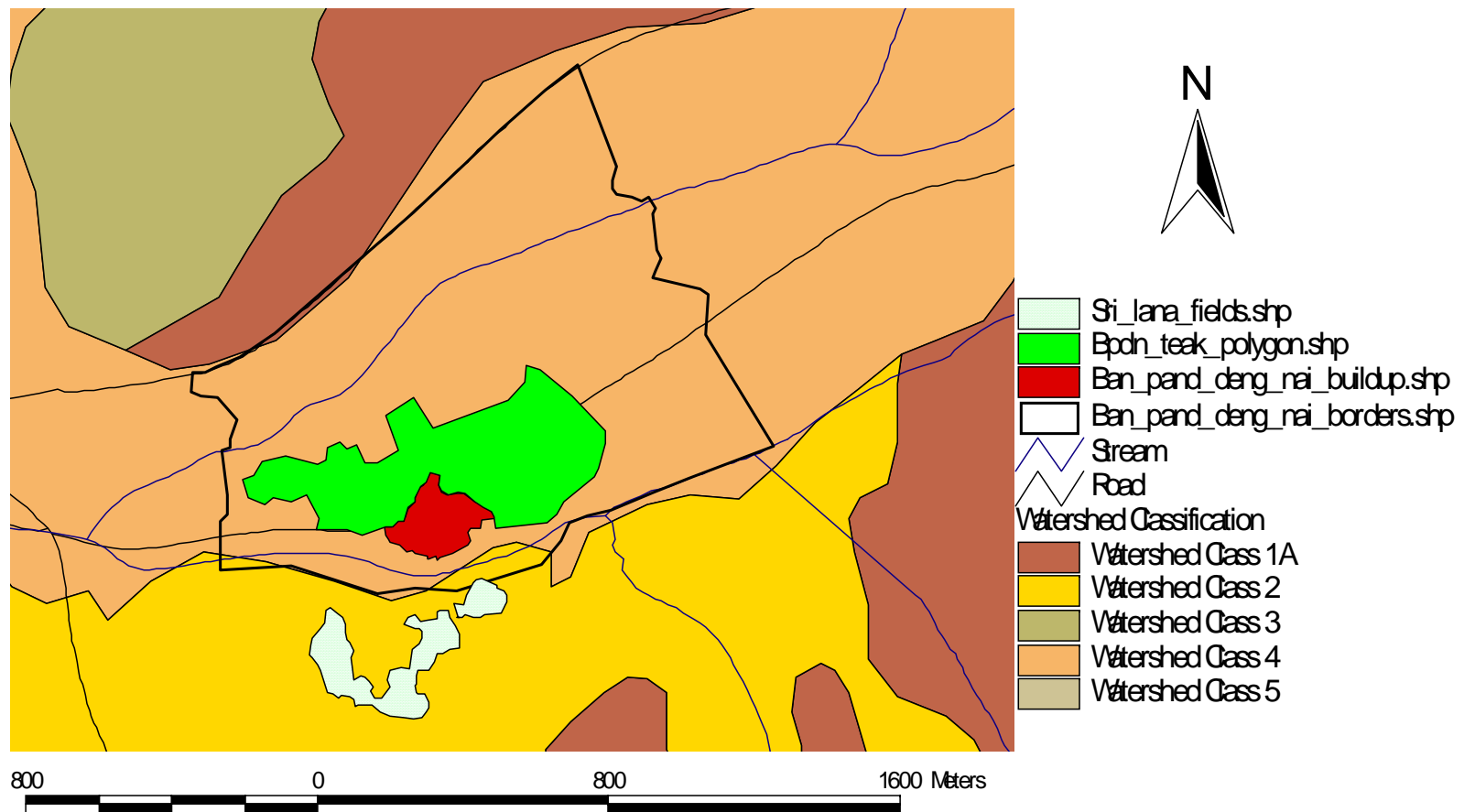
Figur 1 Ban Pang Daeng Nai and Sri Lana National Park

Forest Classification Zones



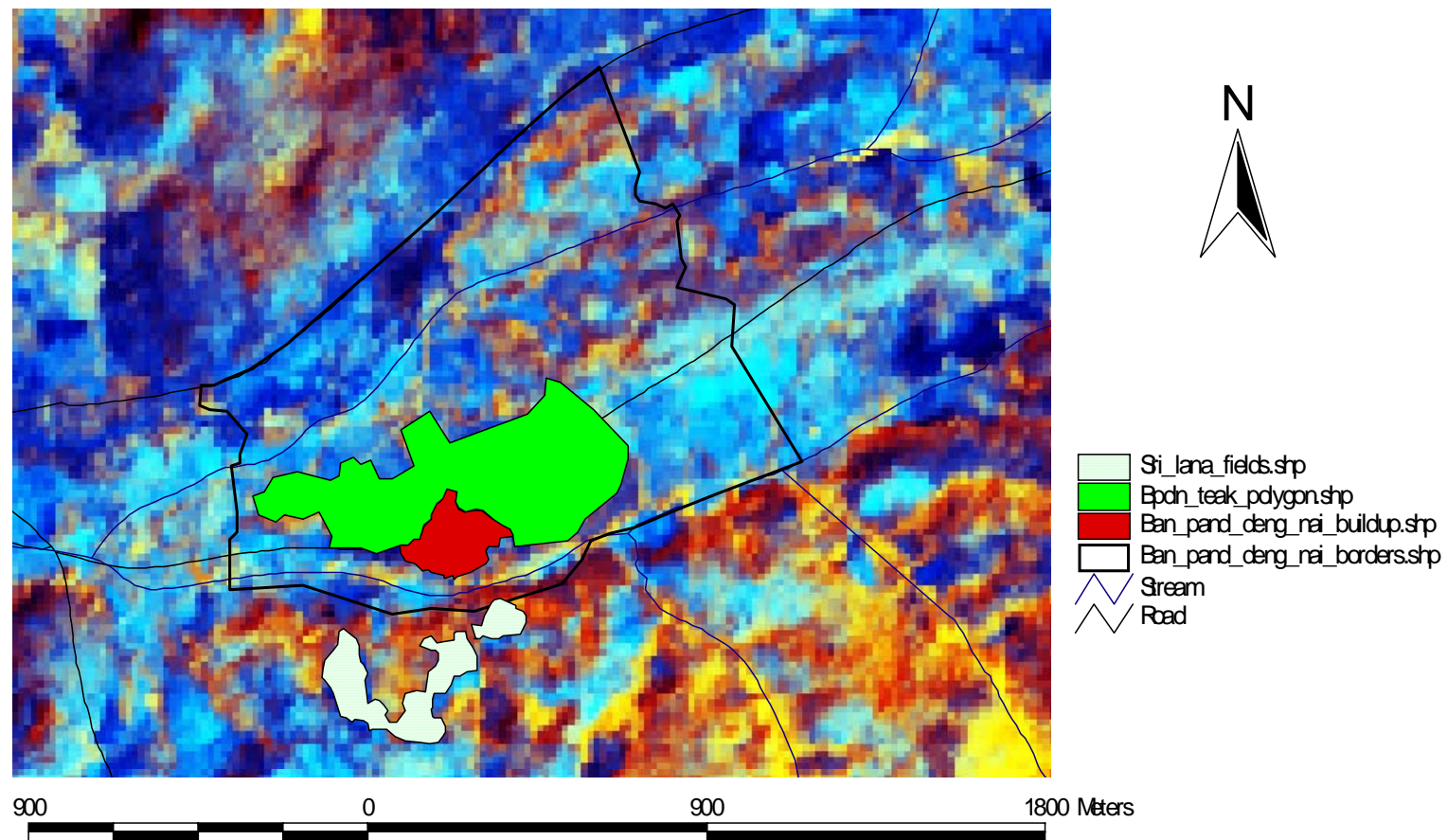
Figur 2 Ban Pang Daeng Nai and Forest Classification Zones

Watershed Classification Zones



Figur 3 Ban Pang Daeng Nai and Watershed Classification Zones

Vegetation: NDM, 3, 2 ASTER 20 Februar 2000



Figur 4 Ban Pang Daeng Nai Vegetation map

WSC	Attributes	Land Use	Land Use Practices	Area	
				Rai	%
1 A	High elevations and steep slopes	Protected or conservation forest and headwater source	No harvesting of forest products. Kept permanently as a headwater source. Priority of Royal Thai Government is forest protection activities. <u>In abandoned shifting cultivation areas reforestation programmes must be undertaken immediately.</u> Areas that have been converted to permanent settlement to be strictly supervised	63817	31
2	High elevations with steep to very steep slopes.	Commercial forests	Forestry and mining activities strictly supervised by concerned agencies. Agricultural practices strictly prohibited. Immediate reforestation programmes to be conducted.	96543	47
3	Steep slopes with less erosive landforms.	Fruit-tree plantation	Land utilisation for forestry, mining and agriculture and others permitted, but soil and water conservation activities strictly required. Areas with soil depth >50 cm recommended for fruit trees and orchards and economic plantations or permanent cash crops.	43818	21
4	Gentle sloping lands	Upland farming	Forestry, mining and other land uses supervised by Royal Thai Government. Areas with slopes in range 18-25% and soil depth <50 cm recommended for fruit tree plantations and forestry. Slopes between 6-18% should be used for agronomic crops with appropriate soil conservation measures.	908	<1
5	Gentle slopes or flat areas.	Lowland farming	All kinds of land use allowed. Areas with soil depth <50 cm recommended for agronomic crops, woodlots, fruit trees and recreation. Areas with soil depth >50 cm recommended for paddy fields and agronomic crops.	2525	1
Total	-	-	-	207611	100

Source: Watershed Classification Committee of Thailand, 1984.

Table XX (from Traynor et al 2002 p. 7)

Thus it seems that the main constraint to the villagers agriculture is not necessarily the official land use classifications, as agriculture can be acceptable within these, but the simple fact that they lack land to farm, as they also stated as the third most important problem during the problem ranking at our first village meeting. This lack of land is probably partly due to the establishment of the teak plantation five years ago, as it was planted on areas that were in fact farmed by the villagers according to the headman. Therefore the actions taken by the RFD to reforest the economic forest zone/watershed class 4 area may in fact be leading to deforestation of the conservation forest zone/watershed class 2 area. But, given the fact that farming in the economic forest zone/watershed class 4 area is not necessarily against government policy, the major constraints to the villagers land tenure rights must be the fact that they do not have Thai citizenship and only possess blue identity cards, which, as it was explained to us, is only a temporary residence permit, which does not give the option of holding any kind of land certificates. We wanted to investigate whether the villagers wished to achieve Thai citizenship, in order to get the rights that follow so that they could improve their tenure rights by getting some kind of legal documents on their right to the land they farm. However, we only got to ask this question to two households in our sample (who both wanted Thai citizenship) before we decided to skip the question, since it turned out to be a very sensitive topic that made people suspicious about our intentions with the study. However, we are convinced that they all wished Thai citizenship and improve their tenure rights, as this was listed as the first and second most important problems in the problem ranking at the first village meeting. The result of these insecure tenure rights is that the villagers have to “buy” or rent the land that they farm from other hill tribes, city people or lowlanders who have Thai citizenship, and are able to hold certificates to it. However, this doesn’t really improve the villagers land tenure security since they are not able to get any kind of legal documents on these arrangements either. Yet we got the impression, that the villagers found this arrangement better than having no claim to the land at all. On this background we got the impression that the village is in what Bilsborrow & Ogendo (1992) calls the tenorial or first phase of the responses of land-use practises to population growth, where claims to land are settled. This is done partly to avoid future conflicts of owner/use rights in the face of both external and internal stimuli. In the case of BPDN the settlement of land claims must be mainly motivated by the external stimuli of the establishment of the RFD plantation, and the land tenure constraints present in the adjacent national park, assuming that population growth in the village is limited to the natural growth, since the villagers have decided not to let anyone from the outside settle in the village.

3.2.2 Tourism in Thailand

Thailand has gone through a rapid expansion of the tourist industry during the last 40 years. From receiving relatively few tourists in 1960, namely 81.000, the number of arriving stay-over tourists has increased tremendously, reaching almost 7 million arrivals in 1995 (Weaver, 1998, p.165).

Apart from Bangkok and the southern coastal area, the third most important tourist area is based in Chiang Mai in Northern Thailand, where the trekking industry concentrated around the hill tribes near the borders of Myanmar and Laos, is important. The first two destinations mainly receive tourists who basically enjoy relaxing, shopping and visiting cultural sites, the third is a more alternative form, combining culture, adventure and nature-based experiences (Weaver, 1998, p.166).

Hill trekking in the mountains in Northern Thailand emerged in the 1970s. Until recently, Thailand has been the only South East Asian country in which hill tribes have been accessible for foreigners without restrictions. This has probably been one of the main reasons trekking in Northern Thailand has developed into the mass industry it is today. In mid-1980s more than 100.000 tourists yearly joined a trekking tour, spending on average 3 nights in the hill country (Weaver, 1998, p.168). In 1993 approximately 1,5 million foreign tourists visited Chiang Mai Province (Kaosa-ard et al., 2001, p.116), which could indicate an increasing number of hill trekkers.

Introducing tourism in what used to be remote and somewhat isolated areas has introduced new economic opportunities for the people involved. Kaosa-ard et al. (2001, p.131) argues that the trekking industry has increased income in the villages. Hutasingh argues that the distribution of the money from the tourism industry in Northern Thailand is uneven, leaving most of the money in the pockets of tour-operator and guides, and only little with the villagers (Hutasingh, 1999). From our fieldwork we know that this is the case in BPDN. Tourists were paying approximately 1000 baht a day to join a tour, and tour guides are earning approximately 700 baht a day. There is no money between the village and the tour guides/agency except for payment for accommodation. The possibility for villagers to make money from tourism were either to produce and sell souvenirs, to sing or play for the tourists or to own a guesthouse, but the revenue from these activities is relatively small compared to what the tour guide and the agency earns.

According to Weaver (1998, pp.168-169) tour-guides and tour-operators from outside, have been the decision-makers within the trekking industry, leaving the hill-tribes themselves with little or, in most cases, nothing to say. Hutasingh agrees with this, suggesting that local participants should be

involved in the planning and management of tours to a higher extent (Hutasingsh, 1999). These topics will be explored later in this paper.

3.2.3 Type of tourism in BPDN

At present BPDN receives different kind of tourists. They can be divided into two broad groups; short-term tourists and overnight tourists. During the first 5 days in BPDN, we interviewed representatives from the 14 groups that came to the village. In total our sample consists of interview with 31 tourists. We also intended to interview all tour-guides, however this was not fully feasible, as they were busy working. We succeeded in interviewing 9 of the tour-guides.

The short-term tourists are coming to the village as a part of a one-day tour, where they usually visit 4-5 villages. Most of them travel in groups of about 10 persons, accompanied by a tourist guide. The age of the tourists is usually 50+, with a few exceptions. They come and leave by pick-up trucks or minibuses, and stay in the village for about 30-45 minutes. During the first 5 days of our stay, the village received 10 of these groups.

The overnight tourists is a more diverse group. They come to the village either on foot, by bicycle or by vehicle, and leave either on foot, by bicycle or by elephant, the latter most common. They come to stay overnight in the village as a part of a 2-4 days trek, and sleep in one of the village guesthouses. Their trekking programme is more individual than the short-term tourists', but common for all tourists we saw in the village was that they were accompanied by a tourist guide. The age difference in this group is big, ranging from a 4 year old child, who travelled with her parents, to a couple near the age of 60. In the first 5 days of our stay, 4 groups of overnight tourists visited the village, and the groups consisted of between 2-4 members.

3.2.4 Development of tourism in BPDN

After interviewing key-informers, villagers and tourist guides it became clear that tourism in BPDN has not always been as at present. Tourism can be divided in to three periods: "before tourism boom" (prior to 1993), "tourism boom" (1993-1999) and "after tourism boom" (1999-). First we thought that the number of arriving tourists was the indicator that our informers separated tourism in to the three categories by, but when we looked deeper in to our data, we found that the number of overnight tourists was the most important factor, at least for the division between the periods of "tourism boom" and "after tourism boom".

“Before tourism boom” (prior to 1993):

The village only received few tourists. The groups that came were mainly overnight tourists, who stayed in the public guesthouse. Groups came 5-6 times a year. There was only a limited sale of souvenirs. The tourist activities were trekking and elephant riding. There were also a limited number of short-term tourists visiting the village, but we do not have reliable data of how many.

“Tourism boom” (1993-1999):

The village received many tourists, both short term tourists and overnight tourists. The overnight tourists came in groups of 10-12, and stayed in the public guesthouse until the 4 new private guesthouses were build in 1995. As “before tourism boom” the activities of the overnight tourists were elephant riding and trekking. The increase in the amount of overnight tourists was caused by SK Travel, a travel agency that mainly sent Dutch tourists, who booked their tour as a part of a tour, when they started to arrange overnight stays in the village as part of their trekking tours. The short-term tourists come through many different travel agencies, either as part of a package tour bought at home or a single tour bought in Bangkok or Chiang Mai at a local tour agency. The women started to sell more souvenirs, and in 1997 the souvenir industry boomed.

“After tourism boom” (1999- present)

The village receive fewer overnight tourists. In 1999 SK Travel moved their overnight groups to Mae John, a nearby village. The number of short-term tourists is the same, or slightly reduced. The activities of the overnight tourists are still trekking and elephant riding, but new activities like bicycle tours have also emerged. The overnight tourists come through different travel agencies, and a new Dutch company, Wiang Travel, has started to send tourists more regularly. The tours are both bought as part of a package, or independently at a local tour agency. There has been a little reduction in the number of saleswomen, but there are still about 20.

3.2.5 Why this change in tourism?

We do not have any data on how and why tourism suddenly boomed in the village, but the villagers all agree that the tour agencies and tour guides are the ones deciding if tourists come at all. They do not see themselves a part of the overall organization of tourism, and they do not see it as a possibility to organize tours themselves, even though they would like more tourists to visit the village. A reason could be that they do not consider it an option that they themselves could be more

active actors in promoting and further developing the tourism business in the village. They purely see their position as being in the village, making the village attractive for the tourists and the tour guides.

When we asked the villagers why tourism has changed after the tourism boom the most common answer was that the village had grown to civilized for the tourists, at least the tourists from the SK Travel Agency, but when we asked more in to the reasons for SK Travel Agency to move their business, it became clear that there had been some kind of conflict between the village and the elephant and rafting place owner. It has been very difficult to get any clear information on this conflict, and the villagers were not willing to talk much about it. What we did find out was that he had kept his elephants in the village some years ago, for some reason the villagers threw him and his elephants out, and he moved his elephants to Mae John. Since he was the one cooperating with SK Tour Agency, they also moved their tourists to stay overnight in Mae John. We asked the representative from RFD about the elephant owner when we interviewed him in Chiang Dao, and he informed us that his business is illegal, and that he does not hold permission to have elephants in the area. He informed us that they had tried to raid his elephant camp several times, but as he always disappeared before the police came, so they had never succeeded in catching him. He further told us that the elephant owner is a powerful person in Chiang Dao District, who has "friends in most high places", and therefore received information about the raids before they happened. Reasons for throwing the elephant owner out of the village could be that the villagers were afraid of getting thrown out themselves by RFD due to the presence of the elephants, or that the villagers were unable to get reasonable refunding, when the elephants damaged their crops. We do not know this for sure, but if we had been in the village for more time, we would probably have been able to get more confident with the villagers, and get access to more sensitive data on this issue.

Even though SK has moved their overnight tourists to Mae John, they still send short time tourists to the village, and all other tour guides seemed satisfied with the village condition, so we have reasons to believe that the incidence with SK will only influence the village for a period of time, since new travel agencies have started to send overnight tourists since SK stopped.

3.2.6 How is tourism organized inside the village?

After interviewing key informers and villagers we found that since tourism boomed, a village fund had been established. For every tourist that stays overnight in the village, the guesthouse owner has to pay some money to the village fund, normally 20 baht per person. The money from the fund is spent on transport when somebody goes on village business or on food for community working days. This fund may actually be an important reason why the villagers talk about the problem with the reduction of overnight tourists. This is because the village fund is the only way that the households without any involvement in tourism can in some way benefit from it. We have not looked specifically into this since it is something that came up during the last part of the fieldwork, but it could be interesting to explore further.

On the everyday level tourism is organised in several systems. On the overall level it seems that the guesthouse owner in household 2 receives most of the bookings of the guesthouses from the rafting place in Mae John. The travel agency calls there and the messages are picked up by the head of household 2, who goes back to arrange it in the village. The three other guesthouse owners in our in depth sample said that they had no contact with any travel agency or guides, one mentioned that he tried to give a good service, so that the guide would pick his guesthouse next time that he visited the village.

It usually cost between bh40-bh50 per tourist to stay overnight in the guesthouse. Besides the revenue after paying the village fund, the guesthouse owner has the possibility to make money by selling soft drinks, beer, whisky and water. When asked, the villagers in our in depth sample, without guesthouses, all wanted to own a guesthouse, but the expense in building it held them back. From the guesthouse owners we know that it cost approximately bh10.000 to build a guesthouse, mattresses etc. included. The revenue of a guesthouse owner is between bh4000-bh6000 a year.

The saleswomen are not organized, and there is no clear picture of who sells where or when. From our observations we found that whenever tourists arrived in the village, the saleswomen showed up and followed them around. They were normally sitting down and had the, mostly homemade, souvenirs on a blanket in front of them. As the tourists moved around in the village, they packed their things and followed them, and chose a new place to sit down. Our informers said that it is an open market, that all are welcome to join, but representatives from the houses in the far end of the village explained that it was difficult for them to join the business, because it took them too long

time to get to the place where the tourists arrived, and that the tourists almost never got to their part of the village. Others said that their household did not participate in this business because the wife was too shy to sell things. The money made on souvenirs by the women is usually spent in the household, and mostly the men do not have anything to do with this money. The women normally make the souvenirs and from several unstructured and indebt interviews we know that they can double their investment by selling souvenirs. For instance, if they invest bh2000 in raw materials, they can make bh4000 selling the handicraft. At first glance it seems like a good business, but as we saw how much work was put in to weaving and sowing, it became clear that to make bh100 in revenue it would take at least 5 hours work. The ones we asked usually had a profit of approximately bh2000 a year, and that the production of souvenirs usually was in the season with less fieldwork.

When overnight tourists come to the village, the guide asks them if they want to have a drum show or a singing show. The villagers then arrange the show and perform it by the bonfire at night. We do not have clear data on how it is organized, and who gets to make shows when, but all overnight groups that stayed in the village enjoyed some kind of cultural performance. Kids perform the shows, and the money they make, usually bh20 a person a show, is spent on school equipment.

Even though our data show that tourism affects the daily lives of the villagers involved, for instance in the fact that they spend time with tourism activities, they did not see this as a constraint to their other activities. When asked if tourism had changed anything, all informants in our in depth sample answered no.

3.2.7 Why do tourists come?

We asked both tourists and tour guides why they came to the village, and besides that, we asked the villagers in our in debt sample why they thought the tourists came to the village. We found that the villagers have a good idea of why tourists come, i.e. that they want to see the Palaungs and experience their culture. It is plausible to conclude that everybody perceive the Palaung culture as a the main attraction. Most of the villagers in the in depth sample also said that the tourists wanted to see the Palaung houses, and some mentioned the costume. When we asked the tourists why they came to exactly BPDN, the most common answer was that it was part of a tour/trek that fitted into their overall travel plan. The short term tourists answered that it was convenient that the trip was a one day tour, and that they got to see a number of villages, and most of the overnight tourists said

that it was a good way to get to know more about the hill tribes to stay in the village overnight. The guides answered that the reason for picking BPDN was that it was a relatively clean village, that it was still not too civilized, and that they had kept their culture alive.

To our surprise only one of the overnight tourists mentioned nature as an important reason for going on the trek, but this could be because our questions was put, so they thought that we were only interested in their opinion of the village. We tried to avoid this by starting the interview with some broad questions, and by asking them about their knowledge about the concept of eco-tourism before narrowing down to questions about the village. Only two of the 31 tourists who were asked this question had any idea of what it is. Another reason could also be that they simply went on the trek to experience culture more than nature.

When we asked the tourists about their general impression of the village, something unexpected came up. Most of the tourists felt uncomfortable about the souvenir business. They told us that the saleswomen were too pushy, and the fact that they followed them around ruined some of their experience. Most of the short term tourists also mentioned that they had thought that it should be exciting to visit the village, but that they felt that the villagers became objectified, which made them feel not wanted in the village. When we had heard this a couple of times, we started to ask them how they thought that this feeling could be avoided, and most of the interviewees answered that some interaction with the villagers, besides the buying of souvenirs, would make them feel more comfortable. The reason that it was the short term tourists who said this and not the overnight tourists, could be that the overnight tourists got to experience some kind of interaction with the villagers, both with their host family in the guesthouse, who, among other things, helped to prepare the dinner, and with the villagers that make the show for them at night.

Our division of tourists into the “short term” and “overnight” categories resembles that of Cohen (2001, pp.120-121), who distinguishes between The Jungle Tour and The Tribal Village Tour. The Jungle Tour is divided into two subtypes: The Standard Jungle Tour and The Special Jungle Tour. The Standard Jungle Tour tourists are similar to our overnight tourists, doing a 3-4 day trek, staying overnight in remote villages. The Village Tour is divided into The Town Tour and the Excursion Tour. The Excursion Tour tourists are similar to our short term tourists, going to nearby villages by car or boat. Cohen further characterizes The Village Tour tourists, our short-term

tourists, as being “... *not deeply concerned with the authenticity of their experience*” and having “...*no strong desire to interact with the native population.*” (Cohen, 2001, p.121). This is in contrast with our findings, but since Cohen made his fieldwork in the 1970s, tourist desires can have changed since then, and a new trend can have appeared. In Cohen’s definitions, accessibility is also a central issue, but BPDN falls in the overlap between the nearby and the remote, because it is close to a paved road, but the last 3-4 km to the village is a dirt road in rather bad condition.

3.2.8 Impacts of tourism on the agricultural production system in BPDN

We have investigated if tourism has any effect on the agricultural production practices of the villagers, through asking about several different things, concerning this issue. To some extent we can distinguish the guesthouse owners from the souvenir selling group and those not involved in tourism through these results. The questions we asked concerned:

Cultivated land: there is not a very striking difference between the three groups, when it comes to the amount of cultivated land, as it can be seen in the table below most villagers farm between 10 and 20 rai. However the farmer having most land is household 34 (30 rai) who are also a guesthouse owner, and the farmer having the least land is household 4 (5 rai) whose household is only partly involved in tourism, through selling souvenirs. Actually two of the four households with guesthouses have only got 10 rai, which is quite little land.

Land tenure: Land tenure in our sample is as indicated in table XX above. Land for farming is achieved either through buying it from a lowlander or someone else who can hold a certificate for it clearing it, achieving it as a gift, renting or borrowing it. There is a difference between the three groups, in that in the guesthouse owner group, everyone has either been given their land by relatives, cleared or bought it (except household 2 who claims he was given one plot by the RFD), whereas there are two households in the group not involved in tourism who rent or borrow land, and two households in the souvenir selling group who rent or borrow land. This might point to that the households with guesthouses have better possibilities for raising the cash necessary to buy land. It must be kept in mind that the villagers cannot hold any land certificates what so ever, as they are not Thai citizens.

Households owning guest houses	Cultivated land and land tenure	Households selling souvenirs	Cultivated land and land tenure	Households not involved in tourism	Cultivated land and land tenure
2	10 Rai, bought, given by RFD	1	16 rai, bought, cleared, rents	30	13 Rai, bought, cleared
19	10 Rai, bought, cleared	4	5 Rai, bought	29	20 Rai, gift, bought
34	30 Rai, bought, gift	39	15,5 Rai bought	38	10,75 Rai, bought, rented
37	18 Rai, bought	46	18,5 Rai bought, cleared borrows, rents 2,5 rai	22	18,5 rai, gift, bought, cleared, borrows

Table XX Cultivated land and land tenure

Mechanisation and land preparation: As indicated in table XX below, two of the guesthouse owning household's use a tractor for ploughing the land, whereas only one household in the souvenir-selling group use tractors, and none of the households that are not involved in tourism use tractors. It seems that it is very much a matter of the characteristics of the cultivated land (sloping or flat) that determines if ploughing by tractor is applied, so it is probably not only due to the involvement in tourism that two guesthouse owners use a tractor. The main part of the households uses only hand tools for preparing the land. Thus even though it has turned out that the group most involved in tourism also applies mechanic traction to a further extent than the other two groups, this indicator is probably not very decisive for our investigation of whether cash from tourism is invested in agriculture.

Fertilizer: We found that no households in the sample applied chemical fertilizer.

Households owning guest houses	Labour and technology used	Households selling souvenirs	Labour and technology used	Households not involved in tourism	Labour and technology used
2	Household and exchange labour, hand tools, tractor (ploughing)	1	Household and exchange labour, tractor (ploughing)	30	Household and exchange labour, sometimes hired labour, hand tools
19	Household and exchange labour, hand tools	4	Household and exchange labour, tractor	29	Household and exchange labour -
34	Household and exchange labour, hand tools, tractor (ploughing)	39	hand tools, tractor, hand tools	38	Household and exchange labour, hand tools
37	Household and exchange labour, tractor (ploughing)	46	Household and exchange labour, hand tools	22	Household labour, hand tools

Table XX Labour and technology used

Pesticides: All the villagers use a variety of pesticides and herbicides, but we do not have data that can document a difference in the amount or kind of chemicals applied by the different groups, so we cannot conclude anything on this background. However, household 19 informed us that he started using pesticides after the tourists arrived, since he was then able to invest in it, and it saved time in the fields, so that he got more time to work with tourism. This, however, is not a trend we can track in our sample.

Cash investment: The data on cash investments in the agricultural production seems to indicate that the households involved in tourism actually invest more cash in the agricultural production than the households not involved in tourism since the highest expenses to agriculture are in this group, with household no. 2, 34 and 37 spending bh7,400 bh8,000 and bh6,300 for inputs. However the souvenir group spends amounts that are comparable to those spent by household no. 19 which is also a guesthouse owner. The third group seems to be spending the least on agricultural inputs, with household no. 37 spending the most (bh4,000), whereas no. 38 effectively spends bh1,310 (bh2,310 including bh1,000 land rent), which is considerably lower than the expenses in the guesthouse owning group. Household no. 29 did not recall the expenses, and household no. 30 claims to spent bh5,000 on rice, however there must be a misunderstanding or misinterpretation, since no one else in the village spent money on rice seeds, so this expense is probably for rice for consumption.

Households owning guest houses	Expense for inputs to agriculture	Households selling souvenirs	Expense for inputs to agriculture	Households not involved in tourism	Expense for inputs to agriculture
2	7400B	1	5865B	30	5000B + pesticides
19	3500B	4	1850B + groundnut	29	No idea
34	8000B	39	4050B	38	2310B incl. 1000B rent
37	6300B	46	4200B incl. 650B rent	22	4000B

Table XX Expense for inputs to agriculture

Time spent in agriculture: most of the guesthouse owners do not seem to think that their involvement in tourism takes time away from their agriculture, tourism mostly fits in between the agricultural work. However, one guesthouse owner tells that he is sometimes called back from the field when tourists arrive, and another says that his sons are taking care of the fields anyway. So, tourism must take time, but it seems that there is a surplus of labour to take it from and that the villagers do not consider it a problem.

On this background, we believe that it is safe to say that involvement in tourism affects the agricultural production, even though it might be a very weak impact. Tourism seems to take time away from the fields, and it seems that involvement in tourism provides cash for investment in agriculture; either through inputs or through gaining more secure tenure right to the land.

3.3 Impacts on the environmental sphere

3.3.1 Direct impacts from tourism

From interviews we can tell that the villagers in general perceive the greatest environmental threat from tourism to be the elephants, not the tourists themselves. Some do not really see the elephants as a problem, and some do not find that the problems are very big, but others are scared of the elephants and say that they destroy the forest and the plants in the village, they compress the soil and make big holes, and they drop excrements in the stream, which makes the water undrinkable and cause skin problems for people who bathe in the stream. Mr. Burnette from UHDP shares their perception. The interviews with the officer from the RFD and the park ranger further support this view, as they explained that the elephants are in the area illegally, and they have unsuccessfully tried to get rid of them.

It seems entirely reasonable to believe that the presence and traffic of elephants cause immediately observable environmental destruction. It will, however, take more thorough investigations to discover how important and long lasting these effect are on the general condition of the surrounding environment.

3.3.2 Indirect effects

3.3.2.1 Change in perception of the value of the forest

From interviews with the household in our in depth sample, it appears that the people in the village value the forest for its ecological functions. Many believe that they could not live without the forest and that they would have no water without it. The weather-regulating functions of the forest were also mentioned in an interview. Others use forest products, such as wood and rattan.

In a key informant interview we were told that the villagers take good care of the forest because they fear that the RFD will evict them if they damage the forest - not because they have any special cultural or religious relations with the forest and the trees. Furthermore, in one of the in depth interviews, probing gave us the information that the RFD had been informing the villagers over the radio, that they should not destroy the forest, because then they would have less water. On the other

hand, we observed recently cleared fields belonging to the villagers, but we have not investigated who exactly cleared this land.

The villagers' perception of the value of the forest does not seem to be linked to its role as a tourist attraction, though this was not thoroughly investigated. In fact, a casual observation of the strip of forest lining the tourist tracks suggest that the villagers realize that the tourists appreciate the forest scenery and therefore avoids clearing the forest along the tourists tracks.

Thus it is difficult to give any confident statement about this issue without further research.

To investigate whether tourism have caused the villagers to perceive the forest as more valuable than before, because it represents an asset as a tourist attraction, we should not only have asked how they valued the forest, but also have asked whether they believed the tourists would continue to come, if the forest disappeared. We should also have dug deeper into the reasons for their statements of the importance of the forest. Have they been told about the connection between the forest and the availability of water, and by whom? By authorities, NGOs or their own parents or teachers? Or have they reasoned it out through experience and comparison with other places?

3.3.2.2 The connection between changes in agricultural practices and changes/differences in the environment.

As stated in chapter about impact on agriculture, we believe that tourism affects the agricultural production in BPDN to some extent, in that it takes away time from the fields, provides cash for inputs to agriculture and perhaps changes the tenure rights. These impacts may be very weak at this point, but if tourism were to become more important in this village, the impacts would become more pronounced, and is important to consider the impacts on the natural resources, on which the primary livelihoods of the villagers are presently based. Changes in the agricultural practices will mainly affect the soil. Soil characteristics such as texture, nutrient contents, soil organic matter content (SOM) and the presence of soil biota are all affected by agricultural practices, including cropping patterns, soil treatment, yields, fertilizing and chemical inputs (Christensen & Johnston, 1997, p. 399; Wijnands, 1999, p. 28).

In our investigation of the effect of changed agricultural practices on the soil, we focused on the time constraint and its consequences, which we assume to be either reduced intensity or increased use of technology to substitute for labour. From the interviews with the households of the in depth sample, we found that out of the three guesthouse owners that we interviewed on this subject, two allocated time from fieldwork for working with tourists. One of them declared that the amount of

time thus diverted from fieldwork was really insignificant compared to the amount of time diverted by other causes, such as disease, business etc., and would not significantly affect his yields.

The other farmer was not sure if his time working with tourists made any difference to his yields. He explained that regarding the tourists, the busiest time a year was in July and August, when the main fieldwork is weeding. In this period he might spend 7-8 days every months working with tourism instead of agriculture. Both farmers denied doing anything to compensate for the lost time, and thus the possible effect of time allocation is decreased intensity of farming, not substitution of labour with technology.

Results from the soil samples showed that the soil from the field belonging to the guesthouse owner who took away time from his fieldwork in order to work with tourism had a slightly higher content of organic matter and nutrients (NH_4^+ , NO_3^- , P), compared to the soil from the other field.

This result could be explained by the slightly reduced amount of time that the guesthouse owner spends in his fields, leading to a slightly less intensive use of the land. But it is difficult to be sure of this explanation, with such a small investigation. Soil is a very heterogeneous material, and there can be large variations in nutrient contents within very short distances. Given the large variation between soils in general, such small differences between just two fields are not conclusive, as it could easily just be a natural variation between the two fields. Furthermore, it is not certain that less intensive farming in the form of less time spent in the fields will lead to increased nutrient levels in the soil. In our case, the season when the workload from tourism is highest, is in the season when weeding is the main agricultural work. If the weeds are not cleared from the fields, they take up nutrients, that the crop needs, but whether more nutrients are left in the soil, depends on whether the critical competition between weeds and crops is over nutrients or other factors (e.g. water or light).

However, if the weeds are left in the fields to decompose, the nutrients be returned to the soil.

It is our impression from the interviews that some farmers leave the weeds in the fields, while others remove them or burn them, and such differences in practice could easily explain the differences in soil fertility. Unfortunately, we did not check the practices of these two farmers, except asking if they use fertilizer, to which both answered no.

However, the overall issue of the changes in farming practices and effects on the soil fertility is something that could be looked into more deeply, and the investigations could further include correlations between differences in the condition of the soil and several factors such as the type of land tenure, the level of mechanisation, and the amount and type of pesticides used.

In order to get a thorough understanding of the condition of the soils in the area and to properly document a difference related to the tourism-related changes in agriculture, it is not sufficient to sample only two farmers. Preferably all 6 owners of guesthouses should have been interviewed, and samples should have been taken from all their fields, and also from at least as many fields belonging to farmers who are not involved in tourism, and all should have been compared with regards to the above mentioned factors.

3.5 Suggestions for further investigations

While we were in the village we found that there were several conditions that could have been interesting to look into. Apart from topics already mentioned, these are presented here. In relation to the impact of tourism on the environment, it would have been useful to collect data on how much firewood the villagers use for bonfires for the tourists, to discover how and if this influence encroachment on the forest. It would also have been useful to look into the water consumption of tourists, to see if this has a significant impact on the water consumption of the village. It would have been helpful to have looked into the kinship of the villagers in order to get an overview of whether this has any influence on how and to what extend villagers are involved in tourism. It would also have been interesting to look into the newly started migration trend of young women going to the city to work as domestic help, to get an idea of what the future livelihood strategies in the village would look like. The last striking topic is the issue of how the informal buying and selling of land is organized. It seemed like a sensitive topic, with a lot of political undertones, which obviously has a lot of influence on the villagers' livelihood strategies.

4 Synthesis & conclusion

The livelihood strategies of the villagers in BPDN are affected by the limited access to land for agricultural purposes, these limitations are caused by the restrictions on land use in the vicinity of the village that are imposed by the authorities. These restrictions include conservation measures regarding forest in the Sri Lanka National Park, and the establishment of a teak plantation on the fields formerly farmed by the villagers. Other livelihood strategies pursued by the villagers include the involvement in tourism through souvenir selling, singing/drumming shows and providing accommodation for tourists in guesthouses. Owning a guesthouse is the most profitable form of tourist business in the village, and the villagers are not involved in organising tourism outside the village. They do not consider further involvement in the tourism business as an option; they are in fact passive receivers of customers, and to some extent clients of the tour guides. Even though the villagers do not think that tourism has decisive impacts on their daily lives, we were able to identify some direct links between the presence of tourism and their daily lives. These include the workload of producing handicraft for selling to the tourists, being called back from the field to service tourists in the guesthouses as well as the increased access to cash for investment in agriculture. This cash is to some extent spent on increasing tenure security and opening the possibility of using chemical inputs in the farming practices. We expected the changed agricultural practices to influence soil fertility levels, and we found slightly higher soil fertility in the field owned by a guesthouse owner than in the field owned by a villager who was not involved in tourism. However our sample of two fields is not sufficient to conclude that a causal link is present. More direct effects of tourism on the environment are through the elephants that are used for riding tours. These are considered by both villagers and authorities to be harmful to the forest, the soil and the water. Tourism does not seem to have the environmentally positive effect of increasing the value of the forest in the eyes of the villagers. Rather it appears that the villagers' perception of the forest and its value is influenced by rhetorics of RFD and presumably others.

The villagers' perception of culture rather than nature being the major tourist attraction is probably one reason why tourism has not increased the perceived value of the forest. This same perception also worries the villagers because they are aware that tourists come to get an authentic impression of the local culture and the traditional rural life. This conflicts with the villagers' own interests in developing their village, and introducing electricity and paved road etc. In order to realize these goals, the village needs income, e.g. from tourism. In the perception of the villagers, tourism has decreased since 1999, and they assume that the reason for this is that they have already been

modernized in some ways. However we believe that this is only a temporary dip, caused by the conflict over the moving of the elephants from the village, which made the big agency move their tourist to another village. Since new agencies that are satisfied with the conditions in the village have started to send tourists to the village, we do not believe that the state of the village is too developed yet to attract tourists. However we found an unexpected issue that could harm tourism in the long run, namely that the tourists were uncomfortable because they felt that the villagers got objectified, as there were not enough interaction between tourists and villagers.

So the villagers are in a position that Rigg & Ritchie (2002 p. 364) express in this form: *“Hill peoples fully recognise that their tourist value is embedded in maintaining tradition – even if it is a fiction – even while the industry generates the funds that permit such people to escape tradition and embrace modernity”* and even though this might not be the aim of the villagers the tourists get the feeling that the villagers are objectified, which could perhaps also be expressed as being a fiction. However, it has not come to the point where agriculture is only *“supporting a minority of inhabitants in the countryside”* (Rigg & Ritchie 2002 p. 359) but it seems that the first steps have been taken to *“a gradual shift from production **in** the countryside to consumption **of** the countryside”* Rigg & Ritchie (2002 p. 361). Thus, in BPDN life is not a question of rural production *or* production of the rural, but rural production ***and*** production of the rural.

5 Perspective

In the light of our research, where we found that the villagers have no possibilities in expanding agricultural land, and that their tenure rights are very weak, which probably rules out heavy investments in intensification, we will now reflect on the future possibilities in expanding tourism activities in the village.

From our fieldwork we know that the short term tourists felt that the villagers were objectified because they had no interaction with them apart from buying souvenirs. We also know that the tourists want to experience traditional hill tribe culture. Introducing activities that tourists could choose to join could possibly solve this problem. There are several ways to make such activities. One way could be to make a living/working museum, where the tourists could participate in weaving traditional hill tribe handicraft, cooking traditional hill tribe food or learn hill tribe songs and fairytales. Another way is to introduce farm holidays where the tourists could join the villagers in their daily routines, and thereby get a deeper knowledge about hill tribe rural life.

By introducing activities like this the villagers would have the opportunity to become more actively involved in the planning and arranging the tourism, like Hutasingh also suggests above. Their culture and daily life would become a commodity that they could sell. However, it would also be a step towards further commercialisation of the Palaung culture in the direction of the “*consumption of the countryside*” that Rigg & Ritchie (2002, p. 360) argues is going on in rural Thailand. But the villagers’ minds were clear on this issue; they would like more tourists to come to their village, and they are aware that they would have to “keep the show alive”, in that they state that tour-guides have told the women to keep on wearing the traditional Palaung dress, and that the village must not become “too civilised”, if they want tourists to keep on coming, and thus if they want to keep the opportunity to “*escape tradition and embrace modernity*” (Rigg & Ritchie 2002, p. 364).

One of the problems by developing this kind of business could be that the villagers would invest the revenue in developing the village further, and by that ruin the business they have just build up, because the village, in the eyes of the tourists, would lose its authenticity. From our point of view this is the biggest dilemma, namely that tourists want authenticity, the villagers wants tourists, but on the other hand, the villagers also want further modernisation, which the tourists come to the village to avoid. We do not know how to solve this dilemma.

6 Acknowledgements

First of all we would like to thank all villagers in BPDN for being obliging and letting us study the village in a pleasant atmosphere and for participating in providing us with data.

We would also like to thank Adjan Phikul for her deep involvement and assistance in the field, our Thai counterparts and translators for challenging cooperation, and Sean, the Canadian Anthropologist who came out of nowhere, to stay in BPDN for months, for giving us inspiration in a supportive way. Further we would like to thank all stakeholders for participating in interviews, Mr. Nikom for providing us with the base-camp and MJU and CMU for housing us during the preparation before and after the fieldwork. At last we would like to thank SLUSE for giving us the opportunity to experience interdisciplinary and cross-cultural collaboration.

7 References

Song Report

Bilsborrow E. R. & Ogendo, H. W. O. O. (1992) **Population-driven Changes in Land Use in Developing Countries**, Ambio Vol 21, pp. 37-45

Casley, D.J. & Kumar, K. (1998) **The Collection, Analysis, and Use of Monitoring and Evaluation Data**, Washington D.C. World Bank

Christensen, B.T. & Johnston, A.E. (1997): Soil Organic Matter and Soil Quality - Lessons learned from long-term experiments at Askov and Rothamsted. In: Gregorich, E.G. and Carter, M.R. (Eds.), **Soil Quality for Crop Production and Ecosystem Health**. Elsevier, Amsterdam, NL. pp. 399-430

Cohen, E. (2001): **Thai Tourism, Hill Tribes, Islands and Open-Ended Prostitution**, Bangkok, White Lotus, pp. 1-145

Cohen, L., Manion, L. & Morrison K. (2000): **Research Methods in Education**. 5th edition. London.

Hobley, M. (Editor) 1996. **Participatory forestry: the process of change in India and Nepal**. Rural Development Forestry Study Guide 3, ODI, Oxford.

Howard, C. M. & Wattanapun, W. (2001) **The Palaung in Northern Thailand**, Chiang Mai, Silkworm Books

Hutasingh, Onnucha: **Guides have limited idea of proper tours**, Bangkok Post 28 nov. 1999 (www.bangkokpost.com)

Kaosa-ard, M. Bezic, D. & White, S. (2001), **Domestic Tourism in Thailand: Supply and Demand**. pp. 109-141 in: Ghimire, K. B. (ed.):

Rigg, J. & Ritchie, M. (2002), Production, consumption and imagination in rural Thailand, **Journal of Rural Studies**, vol. 18 pp. 359-371

Weaver, D. B. (1998): **Ecotourism in the Less Developed World** pp. 160-179, UK, Cab International

Wijnands, F.W.T. (1999): Crop Rotations in Organic Farming: Theory and Practice. In: Olesen et al. (Eds.): *Designing and Testing Crop Rotations for Organic Farming*, DARCOF report 1/1999 pp. 21-36.

Appendices

Appendix X

Interview guides

HOUSEHOLD SURVEY INTERVIEWS

- 1 Status in household?
 - 2 Occupation
 - 3 Number of members in household?
 - 4 Age of members in household?
 - 5 Does anybody speak Thai?
 - 6 Would you like to participate in more interviews?
 - 7 If yes, when do you have time?
 - 8 How long time have you been living in the village?
 - 9 How long have you been in Thailand?
 - 10 How many rais do your household grow? Own? In how many plots? Rent? Rent out?
 - 11 Do you and your family have any kind of vehicles? (motorbike, tractor, car etc.)
 - 12 Do you have a battery?
 - 13 TV?
 - 14 Radio?
 - 15 Sowing machine?
 - 16 Other electric equipment?
 - 17 Do you have running water?
 - 18 Shower?
 - 19 What equipment does the household use in the forest, field and in the household?
 - 20 Which animals does the household have?
 - 21 How is the household involved in tourism?
- Observations

TEAM A INTERVIEWGUIDE

1. What do you think about the tourism in the village? Advances\disadvances
2. How has tourism developed in the village?
3. What do you think about this development?
4. Why do you think tourism has developed the way it has?
5. What type of tourists visit the village
6. Did any member of the household move out during the last year? Why?
7. Did any new members move in to the household during the last year? Why?
8. Before the tourism boom, what were your households income sources? How much earned?
9. During tourism boom, what were your households income sources? How much earned?
10. After tourism boom, what were your households income sources, how much earned?
11. After tourism, has there been any changes in your family on the following:
 1. Daily type of food
 2. Culturel food (skipped)
 3. Facilities in daily life
 4. Costume
 5. Singing \ fairytales
 6. Language
 7. Work devided between men and women
 8. House construction
 9. Taking care of babies
 10. Money value (Skipped)
 11. Education (skipped)
 12. Cooperation af people in the community for activities
 13. Community independence (skipped)
 14. Others (Please specify (skipped)
12. Dit tourism increase your income? Did tourism increase your expenses?
13. Does members in your household want to study foreign languages?
14. Do you prefer Thai or foreign tourists? (Skipped)
15. Do you want to have a guesthouse near your house? Why\why not?
16. Do you want tourists to rent your hosuse? Why\why not?
17. Are you interested in joining the tourist buisness? What are you interested in?
18. What do you think the tourists know about the village before arrival?
19. Why do you thik tourists come
20. Have you invested in tourism in any way?
21. Do you have any cooperation with a touragency or a tourguide? How?
22. Do the village have cooperation with a touragency or a guide? How?
23. How do you atract tourists to the village?
24. Do the guides encourage you to change behaviour when tourists arrive?
25. How is income from tourism distributed in the village?
26. From your point of view, who bennefits from tourism?
27. Do you have any idea about advantages and disadvantages of tourism to the family and the community?
28. Do you think that your family should tke part in taking care of the community in order to attract tourists? Why?

29. Have you heard of tourists asking for special things? Or going out of the track? (This Q was originally about drugs)
30. Is there anything according to tourism you would like to do different if it was possible?
31. Would you like the tourists to stay away? Why?
32. Would you like more tourists? Why?
33. Do you know anything about ecotourism? Describe...
34. Do you have any relatives living in villages nearby?
35. Do you provide food for tourists in the guesthouse?
36. If yes, do you charge extra for that?

Questionary to tourguides:

Province of birth:

Age:

How long have you been a tourguide:

How long have you been guiding trips in this area/village?

Is it an ecotour (If yes how):

Why do you take tourists to this particular village?

How much do you earn (pr, tourist / pr. trek):

How much is paid for accommodation for tourists' pr. night:

How is the trek marketing?

Have there been any changes in the village since you start comming here (infrastructure ect.):

Tourist attractions in the area/Village:

Who benefits from tourism?

Questionnaire to Tourists

Age:

Nationality:

Male: Female:

Travel plan:

Purpose of travel:

Budget:

- Whole travel
- This trek

Price of trip/trekking:

How much money is spend /believed to be spend in this village:

Where/how was the trip/trek booked?

How was marketing?

Why this particular trip/trek:

- Nature
- Culture
- Party
- Other

Why:

How long is the trip/ trek (which day is this on the trip 1.2.3 day):

How long is the stay in this village:

Why this particular village:

Knowledge of the area before arrival:

Source of knowledge:

Knowledge of village before arrival:

Source of knowledge:

Expectations about village before arrival:

Expectations of the whole trip/trek:

Knowledge of ecotourism/ Cultural tourism:

Was this trip categorized as an ecotour:

Has your expectations been fulfilled so far:

Who benefits from tourism (Tour agency, tour guides, villagers):

Overnight accommodation: (private, guesthouse, tent ect.)

Food (guides cook, restaurants, guesthouse, private):

Attractions in the area: (Knowledge about and importance of):

- Clothes
- Dances
- Rituals
- Food
- Scenery
- Undisturbed nature
- Forest
- Rare species
- Contact with local people

Perception of villagers:

TEAM B INTERVIEWGUIDE

Household name and number:

Total area farmed:

(not including vegetable gardens)

Number of plots

Size of plots

Location of plots

Most recent crop

Previous crop

Time spent on farming

Time a year with less fieldwork

Time spent on tourism

Would you spend more time in the fields, if you didn't work with tourism?

Do you send others to do your fieldwork in your place?

Do you in any other way compensate for less time in the fields?

How do you think tourism affect the:

Forest

Plants

Animals

Soil

Water

Have you ever heard of tourists leaving the track when they were trekking?

How do you think the elephant route affects the:

Forest

Plants

Animals

soil

Water

How do you think it affects the road, when the van bring tourists to the village in the rainy season?

How do you value the forest?

Why have the elephants moved to Mae Jon?

TEAM C INTERVIEWGUIDE

Question

1 Which crops do you grow?

2 How many crops a year?

3A How many rai of land do you cultivate?

3B How much land is fallow? How long is the fallow?

3C How did you achieve it? (buy, clear, rent)

3 For how many years have you owned the land?

3E did you sell any land?

3F If they bought or sold land: -when? -why? -price? -how did you get the money? How did you spend the money?

4 How do you cultivate? (technology: machine, people, animals); -on high land?, -on low land?

5 Do you prepare the land before cultivation? -how?

6 Do you use fertilizer? -what type? How much? How long?

7 Do you use pesticides/insecticide? -which kind?

8 What is the quantity of production each year? (ask about units)

*maize

*black beans

*groundnuts

*red beans

*rice

*mango

*soy bean

*payee

9 How did you use your production? (sale or consumption) sold

9 consumed

10 How much money do you get from selling agricultural products?

11 How much cash do you invest in your cultivation?

12 Have you made terraces, irrigation canals, (wells) or planted trees in your fields?

13 If you had more money for investment in agriculture, how would you improve your agriculture? -expand fields? -change

13 If you had more labour.....

14 Do you want to have Thai citizenship? -why? -what benefits will it give you?

Gardens

changes made to the interviewguide:

23.1.03 we agreed to delete question 14 (about Tahi citizenship)

23.1.03 after a discussion on the evening meeting we agreed to add two questions from a second (otherwise ignored) interviewguide

"wells" were added to question 12 when we learned that some had wells in their fields

question 13 was also asked with regard to more labour, when we learned that this in some cases gave more information, than when we just asked with regard to more money

Appendix X

Comparison of farmers for soil sampling

19: Namsaeng (Namsang Lungmuang)

Guesthouse owner

During March & April, not much work in the fields
If the tourists come, I will stay here all day.

The busy season is the rainy season, July and August.
Perhaps 7-8 days pr. month in this period there are tourists.
Yes I would work in the fields, if there wasn't tourists.
No, I just let the three other members of my family do the work,
unless it is urgent work (e.g. harvest),
I do nothing to compensate for the lost time
No tractor, no fertilizer, no change in agriculture because of tourism.
Maize twice a year, other crops only once, black beans,
red beans, payee and groundnuts relay intercropped with maize
cultivates: 10 rai in 3 plots: 4 rai lowland, 2 & 4 rai highland
3-4 months of fallow (feb, mar, apr)
Soil treatment: cutting grass, digging the soil
no fertilizer
herbicide: atozin: 2 kg for all plots, uses hormones to
Yields:
maize: 9350kg
black beans: 147kg
groundnuts: 51 thang (10 kg)=510kg
red beans: bad crop
rice: 75 thang (12g)=900kg
mango 367
payee: not yet harvested (only grown for N-fixation, keep for next year)

maize seeds: 1500baht, herbicides: 2000baht
trees: longan (just planted), mango, papaya, teak, bananas
6 people (3-4 working)
use only handtools for agriculture

30 Naytaan

Not involved in tourism

N.A
N.A

N.A
N.A

N.A

one crop a year, relay intercropping
Cultivates: 13 rai in 2 plots: highland: 2 rai, lowland 11 rai
fallow feb, mar, apr
Soil treatment: cutting grass, digging the soil
no fertilizer
herbicides: kamazon (mixes 5liters and 2kg (powder), round up: 5 liters
Yields:
maize: 10000kg
13 thang (12kg)=156kg
groundnuts: 120thang (with shells)(12kg)=1440kg
red beans: expects 20-25 thang (12kg)=240-300kg, not harvested
rice: 80thang (with shells) (12kg): 960kg

rice: 5000b, pesticides????

6 people (3-4 working)

Appendix X
Field diaries

Field diary for Tina Kristina Thorman (workingteam A), Thailand jan-feb.2003

17.01.03

16.00: Interview with shorttime tourists

20.00: Interview with headman

21.00: In debt interview with overnight tourists

18.01.03

Interview with Old villager and Headman

14.00: Basecamp, typing questionaries for the 3 workingteams and general household survey

20.00: Village meeting

19.01.03

General household survey (mixed teams)

Interview with short time tourists

20.01.03

General household surveys (mixed teams)

Interview short time tourists (2 groups)

In debt interview with overnight tourists (2 groups)

21.01.03

Interview shorttime tourists (3 groups)

22.01.03

Interview shorttime tourists (2 groups)

In debt interview HH 46

Preparing for presenting 23.1.03

23.01.03

Presenting in Chiang Dao

24.01.03

Day off

25.1.03

In debt interview HH 19

In debt interview with Key informer HH 2

In debt interview HH 29

In debt interview HH 30

26.01.03

In debt interview HH 1

In debt interview HH 2

In debt interview HH 37

In debt interview HH 22

27.01.03

In debt interview HH 34 (in Mae John)

In debt interview HH 38

In debt interview HH 4

In debt interview HH 39

28.01.03

Stakeholder interview in Chiang Dao (National Park Ranger and RFD)

Community meeting

Field diary for Tina Lisbeth Dahlman Hansen (workingteam B), Thailand jan-feb.2003

17/1

Arrival.

Meeting with the headman.

Agreement on key informants and community meeting.

18/1

Key informant interviews with the headman and a village elder.

Walk to the community forest, along the elephant path.

Short conversation with farmer met on the way.

Community meeting.

19/1

Village survey.

20/1

Water sampling.

21/1

Water analysis.

Brief interview with the headman.

Transcribing of notes from village survey

Sampling

22/1

Interview with household sample, HHs # 30, 39.

25/1

Interview with household sample, HHs # 29, 39, 38

26/1

Interview with household sample, HHs # 2, 37

27/1

Interview with household sample, HHs # 1, 19

Soil sampling HH # 19

28/1

Interview with Rick Burnette (UHDP)

Soil sampling HH # 30

Community meeting

Field diary for Laurits Rauer Nielsen (workingteam C), Thailand January 2003

17.01.03

First meeting with headman

18.01.03

GPS tracking of village boundaries, elephant track to Mae John and tourist track from Mae John with a villager as guide

Village meeting

19.01.03

General household survey (mixed teams)

GPS tracking of BPDN village itself

GIS in basecamp

20.01.03

General household surveys (mixed teams)

Evening meeting

21.01.03

GPS tracking of the teak plantation surrounding BPDN

22.01.03

In debt interview with 3 households

Measuring slope on fields

Preparing for presenting 23.1.03

23.01.03

Presentation in Chiang Dao

24.01.03

Day off

25.1.03

In debt interviews

GIS in base camp

26.01.03

In debt interviews

GPS tracking of fields just across the river and in Sri Lana national park

27.01.03

In debt interviews

GIS in base camp

28.01.03

Community meeting