SLUSE REPORT

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Major changes in land use and their consequent impact on the livelihoods of villagers in Nong Mai Daeng

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ABSTRACT

Inspired by our initial findings during our research on livelihood strategies in Nong Mai Daeng, we decided to focus on three major changes which had occurred in land use and hence our objectives became:

To investigate what has generated:

- A decrease in maize cultivation in favour of cassava production,
- an increase in cattle feeding,
- and a shift in the interest in organic farming.

To further analyse how these changes have affected the livelihoods of the villagers, a discussion about the role and importance of the Village Fund was pursued.

First of all, the production of maize has decreased substantially, simultaneous to an increase in the production of cassava. This diversification is mainly due to the fact that cassava has a higher profitability, the soil is better suited for cassava, it is less labour intensive and there has been a shift in the source of access to credit, giving villagers a voluntary choice of crop production and opportunity for further investment. Secondly, there has been an increase in cattle feeding. This trend has been generated primarily due to the high profitability of this activity. Costs connected to cattle feeding are low due to field grazing and low labour intensity. In addition, the shift in credit source has to some extent contributed to the possibility of purchasing the cattle. Thirdly, there has been a shifting interest in organic farming. The villagers involved in organic farming were motivated by the improvement of soil, better health and an increased income.

In general, these mentioned changes in the villagers' livelihood strategies have allowed them to generate a higher income allowing them to attain better lives by improving aspects such as health and education, but also allowing them to make further investments and diversify their portfolios further.

ACKNOWLEDGEMENTS

We would like to thank our fellow students from Kasetsart University: Miss. Wanida Chaiyasan (Wanida), Mr. Monchai Somboonpong (Chai), Mr. Pisith Ruangpholwiwat (Pee Sith) and Mr. Teerayut Naumthong (Num). We would also like to thank the Thai teachers as well as our own supervisors Kristine Juul (Department Of Geography, RUC) and Anders Jensen (Department of Forestry, KVL) for guidance and support throughout the field course. Gratitude also goes to the people of Nong Mai Daeng Village for welcoming us so warmly and participating in our research. A special thank goes to Mr. Somboon Sila (the Headman) and his wife, not only for their assistance in our research, but also for welcoming us into their home. The cooperation and research would not have been possible without our interpreters Lek and Natt and we send them our warm gratitude. Lastly, we would like to thank the teachers who assisted us in the preparation prior to the actual field trip, especially Peter Oksen (Department Of Geography and International Development Studies, RUC) whose guidance and knowledge had a great impact on our synopsis.

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1. INTRODUCTION

1.1 Background

The province of Nakhon Ratchasima is situated a few hours north of Bangkok and within that province lies Wan Nam Khieo District. In this district we find our study area, the village of Nong Mai Daeng.

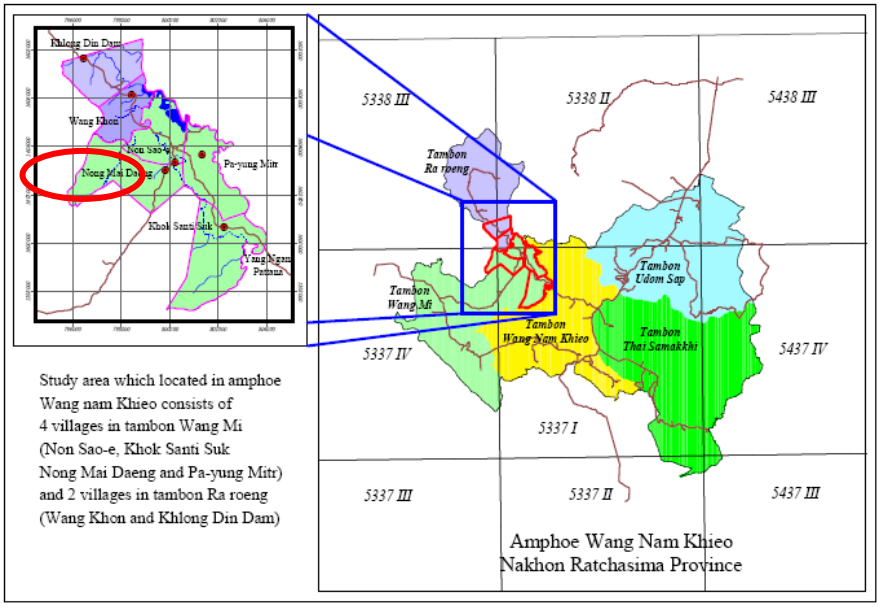


Figure 1 Study Area

The village was officially established in April 1998 when the villagers chose to separate themselves from Non Sao E Village. There are 67 households and 317 people in the village[1], (see Appendix A for Community Map). According to our research, the majority of the villagers have moved to Nong Mai Daeng within the last 25 years. Below is the time line of the village depicting major milestones in its history.

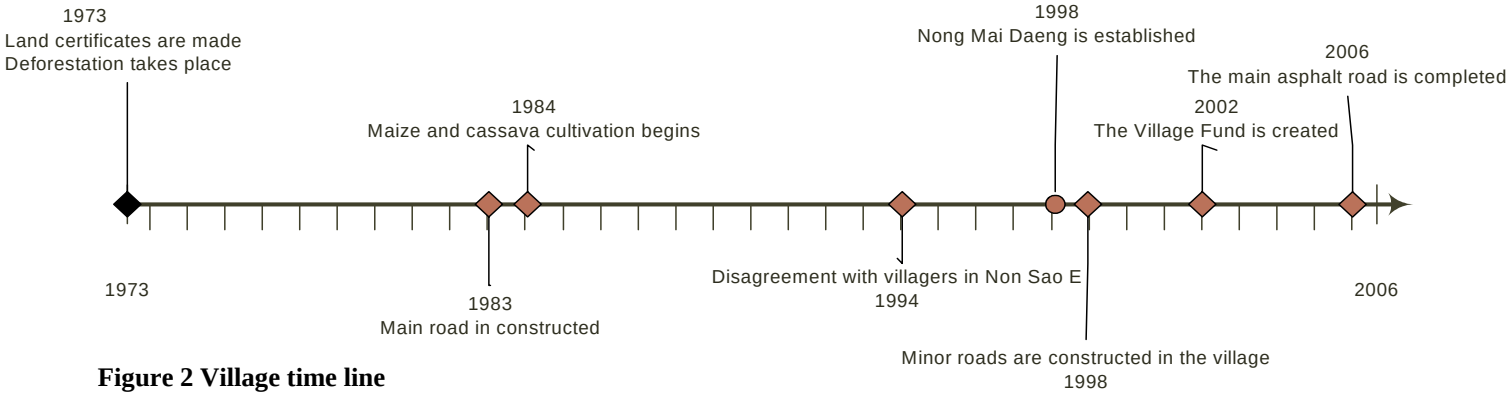


Figure 2 Village time line
(based on information form PRA session)

One of the main characteristics of Nong Mai Daeng village is that the vast majority of the residents still own their own land, and land tenure is mainly held under Phor Bor Thor 5 (local development tax receipt) and the Sor Por Kor 4-01 (agricultural land reform) deeds. The main source of income in the village is

[1] This is an increase of 13 households and 84 people compared with the information provided about Nong Mai Daeng in 2003 (IFS 2006)

agriculture, and maize and cassava are the main cash crops. According to our research, about 76% of the villagers are farmers and the individual farmer owns on average 30 rai[2]. In relation to agriculture, there are two important issues: water accessibility - even though a water supply system has been constructed using the water from artesian wells, the water supply is not sufficient. Furthermore, the majority of farmers use substantial amounts of chemical fertilizers and pesticides which affect the soil degradation and lead to increased production costs (IFS 2006).

Another characteristic of the study area is that 92% of households interviewed are indebted. The average debt of a household in Nong Mai Daeng is of 60,000THB[3] (1,560 USD), and the major sources of loans are the Village Fund and the Bank for Agriculture (own research data).

The Headman of the village is Mr. Somboon Sila, and through conversations with the villagers it is our impression that he is a very popular headman. Mr. Somboon Sila was first elected when the village separated from Non Sao E, and is now running on his second election period.

1.2 Areas of research

In order to be able to understand the changes which have occurred in the rural livelihoods[4], it is necessary to look into the movements there have been within household resources and major issues of relevance for the existence of the same. Prior to arriving at the study area, we had, through literature research, become aware of four major tendencies of (migration, de-agrarianisation, changes in agricultural practices and land tenure) that were thought to play an important role in Northeastern Thailand, (Parnwell, M. 2005; Rigg, J. 2001; Singzon et al 2005) and we had selected these issues to be our main areas of research, (see Appendix J for the Synopsis). Upon arrival however, we soon discovered that these issues were not highly relevant for our specific study area and consequently we chose to adjust our research to the reality present in Nong Mai Daeng Village. A more thorough discussion as to why some of the preliminary research issues were not significant in our study area will be carried out in Results and Discussion. For now, we merely wish to highlight the change from our preliminary areas of research to the ones which we chose to pursue.

As mentioned in Background, Nong Mai Daeng is a relatively new village, and even though a couple of the younger generation have left the village in order to pursue their studies, a clear a migration pattern

[2] In the report it states that about 70% of the villagers are farmers and the individual farmer owns on average 20-30 rai (IFS 2006). Our figures correspond with the figures of the National Statistical Office in Thailand 2003
[3] Debt ranges from 20,000 – 160,000THB amongst households
[4] "*A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living"*. Chambers & Conway in DFID 1999 Sustainable Guidance Sheets

was not evident, as we had come to expect through our preliminary literature search. Furthermore, the vast majority of the villagers were farmers, hence the income generated from off-farm activities was very low, so it quickly became apparent that the process of de-agrarianisation did not pose as big a threat to the rural economy there as it does in other villages in Thailand.

Conversely, the issue of diversification of agricultural practices turned out to be particularly relevant, as major changes have occurred in the land uses during the past five years. The villagers of Nong Mai Daeng have been involved in maize cultivation since 1984[5], but in recent years a growing interest in cassava production has emerged. Hence, these are now the two main cash crops in the village. A second livelihood diversification which is becoming apparent is an increase in cattle feeding. Only a few villagers keep a larger amount of cattle (more than 10 cows) while quite a few households have bought a couple of cows during the last few years, and more people are planning to do so. A third tendency we observed though our interviews with the villagers, is that there is a general interest for organic farming. Most of the households involved in organic farming grow vegetables, (lettuce, tomatoes, eggplants, herbs) but some are involved in organic cassava cultivation.

Another important issue in Nong Mai Daeng is that the majority of villagers are involved in the same fund for financial support. This fund is the Village Fund, also know as the Million Fund which is part of the Village Financial Support Fund. This governmental fund was created in 2001[6] and supplies villagers with loan at lower interest rates than the traders (loan sharks) they usually were involved with (Asiaweek, 2001). The villagers state that it is generally easier to get a loan with the Village Fund, and that they are capable of changing or improving their livelihoods due to the lower interest rate.

In relation to the above issues, we found the land tenure situation to be particular in Nong Mai Daeng in comparison, not only to other villages in the area, but to Thailand as a whole.[7] As mentioned in Background the majority of the villagers owned their own land, which stands in contrast to the average farmer in Thailand who is often forced to rent land. We believe that the ownership of land is linked to the above-mentioned issues and we will therefore pay attention to this matter throughout Results and Discussion, however it will not be treated as a separate part, but rather as an underlying factor of importance.

[5] According to the village time line elaborated during the PRA session
[6] The Village Fund was created in 2001 but not introduced to all 8000 villages simultaneously. In Nong Mai Daeng the Village Fund was introduced in 2002.
[7] Land ownership is the second highest portion in Northeastern Thailand with 78.6% after the Southern area which has the highest portion of 91.5% National Statistical Office in Thailand (2003)

During our research we deemed it important to know what the villagers themselves identify as the major changes in their livelihoods as well as what they identify as their main problems. Through observations and interviews it became evident that the major tendencies in the village were: to decrease maize production while increasing cassava production, to increase cattle feeding, a general interest in organic farming and the villagers' access to credit, mainly through the Village Fund. These issues were of interest and relevance to our study, not only because they constituted the major changes in the village during the last five years, but also because they have been brought about due to the villagers' choice between different competing livelihood strategies, and which would carry with them, consequences that affect their portfolios and general patterns of wealth (or poverty) in this rural community.

1.3 Objectives

The objectives of this paper have therefore been to investigate what has generated:

a) a decrease in maize cultivation in favour of cassava production,
b) an increase in cattle feeding,
c) a shift in the interest in organic farming.

To further analyse how these changes have affected the livelihoods of the villagers, a discussion about the role and importance of the Village Fund has been included throughout.

1.4 Collaboration with Thai counterparts

Our group consisted of two Danish students, with social science and business related backgrounds and we were therefore pleased to team up with the following Thai students:

Mr. Monchai Somboonpong (Chai)	Environmental technology
Mr. Pisith Ruangpholwiwat (Pee Sith)	Soil Sciences
Mr. Teerayut Naumthong (Num)	Fishery
Miss. Wanida Chaiyasan (Wanida)	English language

We hoped that with these diverse educational backgrounds, we would be able to cover several different aspects of the research and looked forward to developing a truly inter-disciplinary project. We had regrettably not contacted the Thai students prior to the field trip but they had already carried out a preliminary field study in each of the villages, and had a general idea of what issues would be interesting to research.

Generally the communication and cooperation in the group worked quite well through the entire field work, and we feel that with our forces combined we were able to gather more information than would otherwise have been possible.

As a practicality we decided to divide ourselves into three subgroups when carrying out questionnaires and interviews, and the two Danes would go into different groups accompanied by one interpreter in each group.

Figure 3 Nong Mai Daeng Group

2. METHODOLOGY

As mentioned in the Collaboration with Thai counterparts we were an interdisciplinary group, and therefore initially planned to complete both social and natural science related investigations. For the Danes' part, we believed that a combination of diverse methods could improve the reliability of the research data, and that a triangulation between natural and social science methods would enable us to cover additional aspects of the research objectives. Unfortunately, there were some misunderstandings as to the intentions of the soil expert in our group who wanted to collect soil samples to re-check a set of secondary soil data he had from the area 20 years back. Furthermore, due to time limitations, the data comparison was not completed before our departure from Thailand and neither was it ever forwarded to us. Therefore, this report relies entirely on social science methods and primary data which was collected through own observation, questionnaires, in-depth interviews with key informants and participatory rural appraisal sessions. .

We are aware that the data material from the qualitative methods is produced in an interaction between interviewer and informants/respondents[8], and the research data depends to a great extent on how and what questions are asked, and therefore as Kirsten Hastrup[9] states, *"Given the nature of fieldwork, there is no absolute, objective world to be reported"* (Hastrup, 1993:35). We have hence chosen to apply both qualitative and quantitative methods in order to obtain not merely a knowledge and understanding of the issues of relevance but in addition an impression of how prevailing these issues are. In this manner, we accomplish a triangulation within the social science framework. A triangulation implies the use of 2 or more different methods which can be used to check the reliability[10] of one another and thereby improve the validity[11] of the research data (Halkier, 2002:18). Triangulation can also be defined as: *"… involving the use of several different sources of information and PRA techniques to achieve social understanding"* (Furze, De Lazy & Birckhead 1996:56) Furthermore, there are always different interpretations and dimensions of the same phenomenon and a combination of different methods, will apply more nuances to the research data (Halkier, 2002:8).

As the field trip to Nong Mai Daeng was limited to 10 days, and in order to make the most of our time there, the Danes had prior to the fieldtrip, made a flexible timetable, (see Appendix B for Preliminary Time Schedule). This was adjusted in collaboration with our Thai counterparts during our very first

[8] The term 'respondent' refers to people to whom surveys or questionnaires are sent or applied, the term 'informants' refers to people who are interviewed in ethnography or in-depth interviews (Furze, De Lazy & Birckhead 1996:49).
[9] Kirsten Hastrup er professor ved Københavns Antropologiske Institut med speciale i bl.a. epistemologi, sprog og kultur.
[10] Reliability is the matter of how the research is carried out and how the data is processed (Halkier, 2002:111)
[11] Validity is the matter of a operationalisation of the theoretic issues of interest (Halkier, 2002:109)

meetings, but it was consequently subject to change during the entire field trip, (see Appendix C for Individual Diaries). Most importantly, we discovered that it was not possible to carry out interviews during the day, as most villagers would be working in the fields, and all activities involving the villagers were therefore to be scheduled in the evening.

In the following part of the report we will present the methods we employed in our data collection: preliminary interview with Headman, questionnaires, PRA session and in-depth interviews with key informant, highlighting our approach, sampling method, information we aimed to collect and other relevant remarks. The strength of these qualitative methods lies in their ability to give detailed insight of people's perceptions, attitudes and livelihoods, which we find necessary to accomplish the objectives of this report.

2.1 Preliminary interview with Headman

During our first day in Nong Mai Daeng we found it important to meet the Headman in order to obtain some general knowledge about the village, and as the Thai students had already been in contact with him, it was only natural for the Danes to be introduced too. We prepared some questions for him, but due to his talkative nature, we only covered the different social groups that exist in the village and briefly touched upon the villagers' concerns about the young generations migrating permanently to larger towns or cities.

Figure 4 Village Headman

The interview carried out with the Headman can be defined as a 'qualitative interview'. In contrast to a more structured interview, the qualitative interview is not limited by a set of predetermined questions to be asked in a given sequence, instead an interview guide lists the topics to be covered. We had decided to use this type of interview with the Headman as our key informant in order to gain an in-depth understanding of the mentioned issues, and possibly generate some hypotheses and guidelines to be used in the questionnaires (Casley & Kumar 1988:11).

2.2 Questionnaires

The preparation of the questionnaires took place in several steps. The Danes had previously written a questionnaire which we presented to our Thai counterparts (see questionnaire in Appendix J Synopsis).

After some editing we decided to begin with some pilot questionnaires, and as expected we found that more adjustments were necessary. We should mention however, that we were advised by one of the Thai teachers that we were not to perform questionnaires, because the villagers had already been subject to this in the preliminary research and because she felt that the data obtained through this method was not sufficiently in-depth, (see Appendix D for the Final Questionnaire).

Our approach was therefore to keep the general content of the questionnaires, but to loosen up on the structure and create a more relaxed atmosphere, which gave the respondents the opportunity to elaborate on their answers and generate the feeling that they were participating in an interview rather than a questionnaire. Our aim of the questionnaires was to shed light on different issues of importance in the village, especially major livelihood diversifications within the last 5 years, and thereby obtain a general knowledge on some of the individual livelihood strategies and hereby obtaining a quantitative dimension of the issues in question. The questionnaire was therefore quite broad covering issues such as household profile, economic situation with emphasis on debt, land tenure, (changes in) agriculture and livestock, migration and social groups.

The questionnaires were designed to generate quantitative data, and were therefore standardized and designed to provide us with data for a socio-economic baseline survey, including some economic and social variables. In order to make the data comparable and easy to analyse we decided on a majority of closed questions (Casley & Kumar 1988:55, 65) but as abovementioned simultaneously allowing the respondent to elaborate on the answers given if desired.

A household can be defined in several different ways, but as a working definition we decided on the following term:

> *"A household comprises a person or a group of persons generally bound by ties of kinship who live together under a single roof or within a single compound and who share a community of life in that they are answerable to the same head and share a common source of food"* (Casley & Kumar 1988:60).

The questionnaires were directed at households, and not individuals as such, which happened to be quite convenient, because although the questions were directed at one respondent, other members of the household would often offer additional answers or comments.

While writing the synopsis the Danes, had concluded that, with the assistance of the Headman, we would be able to elaborate a wealth ranking of the households, and through this classification we would then

carry out a selective sampling of informants for the questionnaires hence obtaining a solid, representative samplification of the village. However, our Thai counterparts had much confidence in the Headman and preferred to question a list of names of respondents which he provided us with. This 'strategy' was then decided upon and all we could do was to emphasize that it was important that the respondents were of different social status, gender, age and involved in different occupational activities. Out of the 67 households in Nong Mai Daeng we were able to survey 25 of them, which is a sample of 15% of the total households.

2.3 Participatory Rural Appraisal

The term Participatory Rural Appraisal (PRA) covers a range of information gathering techniques which are aimed at learning directly from community members based on how they analyse their own situation. According to McCracken et al. cited in Furze et al. (1996:56) the PRA is governed by the two core principles: "optimal ignorance" and "triangulation" which respectively imply that it is not possible to know the object of the research completely and therefore the use of several different sources of information and techniques is essential. The visualisation techniques (mapping, institutional diagram, seasonal calendar etc.) often make it easier for the participants to pass on information.

During our PRA session we chose to carry out the following activities:

→ *Village time line* – the locals were asked to identify important events since the establishment of the village. This was with the purpose of pinpointing key milestones such as when the main road had been completed, when the Village Fund had become available etc. Any milestone which could have influenced the livelihood strategies of the villagers (see Background p.4).

→ *Cropping calendar* – the locals explained when the different agricultural activities take place for the different crops throughout their working calendar. This was initially to see if there were fluctuation in the demand for, or the lack of demand for labour and whether this would have any migratory consequences to or from the village, (see Appendix E for Cropping Calendar).

→ *Crop trend analysis* – this activity was to identify when various local crops had become more popular and when others had lost popularity. This was to clearly identify when rice cultivation had been replaced with maize and see the maize cultivation decrease while the cassava production was increasing (see Appendix F for Crop Trend Analysis).

→ *Discussion of our findings* – this was done so we could present and discuss our findings with the villagers. We were eager to do this as this would serve as a triangulation technique with the conclusions we had derived from the questionnaires.

→ *Suggestions to improve their social groups and occupational activities* - we were very keen to include a discussion part in the PRA session as we hoped that this would enable the locals to analyse

and solve their own situation and for the session to serve as a platform were information and ideas for future projects could be brought to light and discussed.

Figure 5 PRA session

We decided to carry out a PRA session as these activities are methods for creating dialogue between us, the researchers, and the locals and it is an important event for collecting additional information which has been overlooked in the questionnaires and in-depth interviews. (Mikkelsen, 1995)

We also felt that it would be important to hold these activities so that we could collect the villagers' common viewpoint on various topics, simultaneously collecting larger amounts of data than we would through individual questionnaires and interviews. Furthermore, these sessions were important to us because it was an occasion where we could confirm some of the findings we had discovered during our research and finally to generate discussion amongst the villagers of how they could improve or solve common problems and shed light on future projects.

2.4 In-depth interviews

By analysing the data from the questionnaires it was possible to point out some major changes in livelihood strategies and we therefore constructed the in-depth interviews by topic, into the three issues mentioned in our objectives. The sampling strategy for the in-depth interviews was based on the questionnaires through which we could identify which households would be of interest and we completed nine interviews, three of each topic group.

Figure 6 In-depth interview

We approached the respondents in the same way as with the questionnaires, but as it was the second time we asked them to dedicate time to us, we found it appropriate to bring small tokens for them showing our appreciation. Furthermore, we found that a relatively rigid structure of the interview was the most optimal, due to translation difficulties, to ensure we obtained the answers we needed and to avoid taking up too much time on irrelevant issues. When carrying out the interviews, we found that we again had to make

minor adjustments, due to both interviewers and respondents misunderstanding several questions and due to some questions leading to a repetition of information given.

The common goal of the interviews within the three groups of interest was to obtain an understanding of the rationales behind the changes which they had chosen to make in their livelihoods, an aspect we had not been able to cover through the questionnaires and in the PRA session.

2.5 Critique of Methodology

In order to produce quality research findings, one must obtain objective information about the research topic. Using a variety of research methods ensures this. In our study, we were not able to put any natural science methods into use, but this does not lessen the quality of our social science one, although our conclusions may not be as varied as they could have been, had we added a natural science perspective to our arguments. Furthermore, we have come across various problematic issues while collecting and analysing our data which we will now discuss in this section.

First of all, we do not feel confident with the sampling strategy used for the questionnaires. Using the Headman to point out which households to use as respondents meant that we could only hope that he would make an objective choice. Furthermore, while doing the questionnaires we discovered that many of the respondents were related, however family ties between the households are to be expected in a village of this size. Had we been able to carry out the planned sampling strategy, it may have improved the representation of our sample.

A further general issue which should be discussed regarding the questionnaires, is presenting the informants with a set of predetermined responses, of which he/she has to identify one or more of those which they deem applicable. By applying these closed responses the informant may be restricted in their response, as their point of view may not fit with any of the listed options (Casley & Kumar 1988:65). Therefore, we tried to limit the predetermined responses to the bare minimum, but still ensuring comparable data. As mentioned formerly, we also found that the closed question approach helped the translation process.

In relation to the issue of translation, it is evident that when something is translated there is a risk that part of its originality is lost, and the risk is even more accentuated when the interpreters are not experts. We are aware of the fact that some nuances got lost in translation and we would occasionally ask the interpreters to elaborate on their translation as it was incomprehensible.

Regarding the PRA we aimed at having both men and women participate, representing different age groups and occupations. We succeeded in obtaining this goal, although we would have liked the number of participants to be higher than the turnout. We were concerned, that the presence and eager participation of the Headman might have constrained the rest of the participants to contribute freely. He is well liked and respected, hence there is a risk that the other participants may have been reluctant to voice their opinions in order not to contradict him as he possessed the highest status in the village. This however, is only a slight concern and we feel confident that as the issues discussed at the PRA secession were of a relatively factual matter, it has not affected our data in any significant way.

3. RESULTS AND DISCUSSION

In this part of the report, we will present and analyse our research data and where possible draw parallels to literary references on the subject. We have, as presented in our objectives, chosen to focus on three major livelihood changes: maize to cassava production, cattle feeding and organic farming. To begin with we will introduce some figures on our study area and then proceed to discuss why our two previous areas of interest; de-agrarianisation and migration were not of high relevance for Nong Mai Daeng and why we saw it necessary to alter our focus. We will then present and discuss our findings on our 3 topics and then, we will include a discussion on the change of credit source, as we find this to be important to the changes which have occurred. Finally, we will look into the future hopes and plans for the village.

3.1 General Figures of Study Area

First of all, we will give a brief introduction to the village statistics. In total there are 67 households and 317 people in Nong Mai Daeng. Out of the 67 households, we were able to survey 25 of them, which is a sample of 15% of the total households.

Respondents age and gender			
		Male	**Female**
working age	25-60	11	8
senior citizens	>60	4	2
Total		***15***	***10***

Table 1 Respondents - age and gender

Our respondants were mainly of working age (between 25-60 years old) and there was an even distribution between genders (40% of our respondants were female). Within the 25 households we interviewed, live 113 people, which is 36% of the total population of the village. The number of family members per households is usually between 4-512.

Age & gender distribution among h'holds interviewed			
		Male	**Female**
Children	<15	13	11
early working age	15-24	10	11
working age	25-60	27	26
senior citizens	>60	7	8
Total		***57***	***56***

Table 2 Age & gender distribution among households interviewed

[12] People per household vary from 2 to 9 individuals.

The distribution between the different age groups and between genders in the 25 households interviewed show no migratory patterns or gender differentials and according to our research, about 76% of the villagers are farmers and own on average 30 rai of land.

3.2 De-agrarianisation and Migration

During our observation and research of the study area, we were not able to identify any indications to suggest that the process of de-agrarianisation was taking place and what became much more apparent were the changes in livelihood strategies occuring in the use of land which had taken place within the past five years.

According to Jonathan Rigg, a de-agrarianisation process is and has been taking place for a long period of time in Thailand. Not only do people tend to migrate away from the rural areas, but those that remain in the villages, sell their land to capitalists, becoming tenants of their 'former' land, or move away from agriculture altogether by finding off-farm jobs and alternative sources of income. *"The only wealthy farmers ……… are those who have sold their land"* (Ritchie 1996 in Rigg 2001:53) and due to migration, the absence of successors is leading to the abandonment of agricultural land. Agriculture is generally perceived to be an occupation with little future and in order to meet rural families' rising needs, they are increasingly obliged to exploit non-farm opportunities (Rigg 2001).

Occupation	**1974 (%)**	**1985 (%)**	**1991 (%)**
Farming	52.0	47.0	4.8
Farming & wage labour	2.2	17.8	18.3
Farming and other	5.3	2.6	12.5
Wage labour	32.0	26.7	51.0
Self-employed	5.7	4.4	9.6
Govt. employment	2.6	1.5	3.8

Table 3 Occupational change in Ban Lek, Northern Thailand (1974-91) (Ritchie 1993 in Rigg 2003:216)

As mentioned, 76% of the villagers in Non Mai Daeng are involved in farming (2006) and in comparison it is interesting to see that the number for Ban Lek is only 4.8% in 1991 (15 years prior). Only 12% of our total respondents were involved in activities other than agriculture, such as running a food stall, hairdressing or mobile market etc.

A reason for this may be that 96% of our respondents owned land and they have been and are still very reluctant to sell their land. From Figure 7 below one can deduce that 95% of our respondents had some form of land title, whereas only 5% had no proof of land ownership.

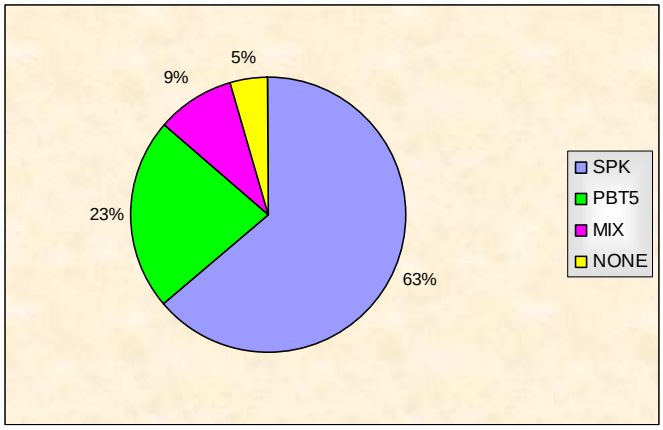


Figure 7 Land titles

When they were asked why they deemed land ownership so important they ranked 'security for future generations' and the most important reason.

Reason	Ranking
Security for future generation	1
Allows further investment	2
Applying for loans	3
Prevents illegal possession	4

Table 4 Reasons why land ownership is important

This was regardless of the fact, that they were often forced to hire labour in order to cultivate the land they owned. Naturally, when owning land, it makes sense to make the best use of it, which to the villagers meant cultivating it, and this we deem a strong motive as to why no de-agrarianisation was occurring. It is highly possible that had the villagers been forced to sell their land, they may have had more incentive to give up on agriculture altogether and take on off-farm activities, either in the neighbouring provinces or in Bangkok. Even though a couple of the younger generations had left the village in order to pursue their studies or find job opportunities elsewhere, their parents were certain that their children would eventually return, and they put much emphasis on the importance of raising their children to care of their land and pursue an agricultural occupation. Several villagers also mentioned that they hoped more jobs would be created in the village in the future in order to make it more attractive for people to live there. In relation to migration, it must also be noted that the village is a newly established village, and as most of the people there had migrated to the village there was no urgent need to up-root again. Many of the villagers had settled in the village during the last 20-30 years, and enjoyed living off their land.

The agricultural activities within the village were as follows: 32% of the respondents are involved with both maize and cassava cultivation. The second major activity is cattle feeding with 18% and cassava and cattle feeding constitutes 14% of the respondents.

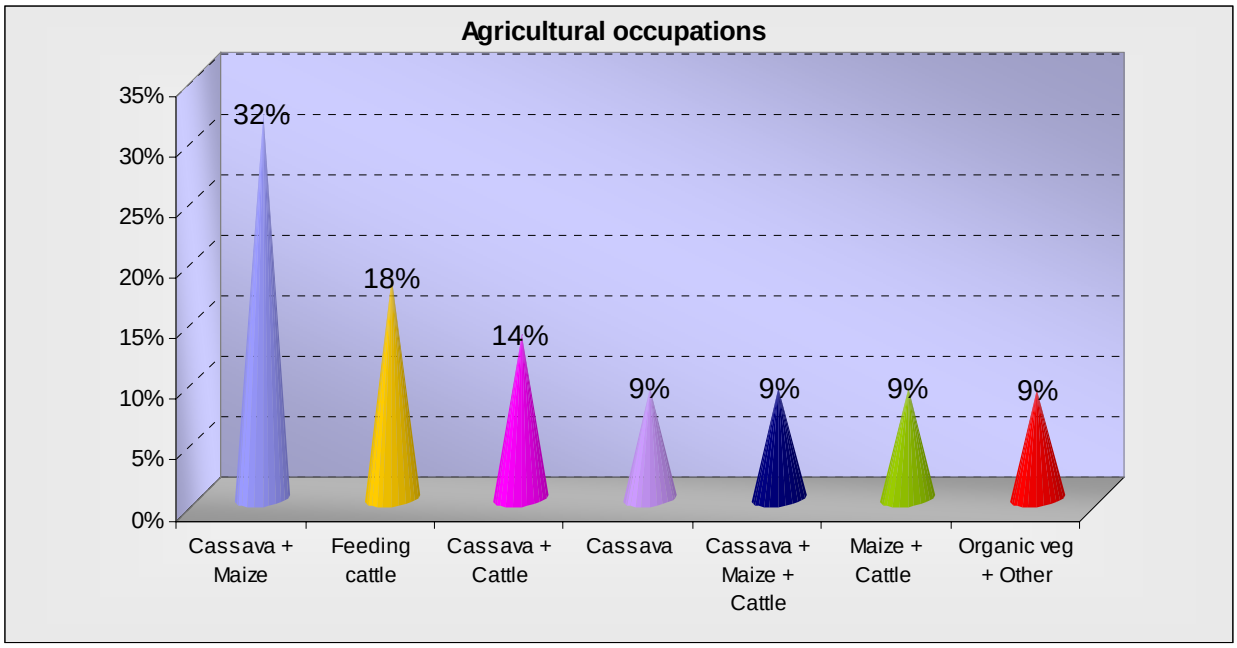


Figure 8 Agricultural Occupations

Now we will look more specifically at why these tendencies are occuring for the three individual groups.

3.3 Maize and cassava production

Maize and cassava are two of the major cash crops grown in Thailand among rice, sugar cane and rubber. Maize was first planted in Thailand in 1959, and at that time, it was planted in the uplands and highlands and used only for home consumption and household animal feed. When Thailand launched its first National Economic and Social Plan in 1961, maize became an export crop like rice. Other factors that stimulated the growth of the industry are the government-promoted crop diversification, improved transportation networks, expansion of upland farming areas, increased demand for grains for domestic livestock, cattle and poultry industry and an increased population growth (Ekasingh et al. 2004:9). As depicted in Figure 9 maize production continued to increase to 12.4 million rai in 1985 due to land clearing but then decreased in planting area in 1999/2000 due to a shift from maize to cassava or sugar cane, caused by lower maize prices. By 2002-3 maize only occupied 7.3 million rai of land. The province of Nakhon Ratchasima (within which Nong Mai Daeng village is situated) is among one of the major producers in Thailand (Agro Food Resources).

This province also produces large quantities of cassava, even though it is a relatively new cash crop compared to maize. The increase in cassava production was mainly due to an increasing demand for cassava pellets in Europe, and this led to an expansion of production from 600,000 rai in 1961 to 9.4 million rai in 1990.The land area to cassava gradually decreased to 6.5 million rai in 1998, but in 2003 it increased again due to a further shift from wheat and maize to cassava (Agro Food Resources). Today

Thailand is the world's largest exporter of tapioca, representing about 80 percent of total world exports. (Foodmarketexchange.com)

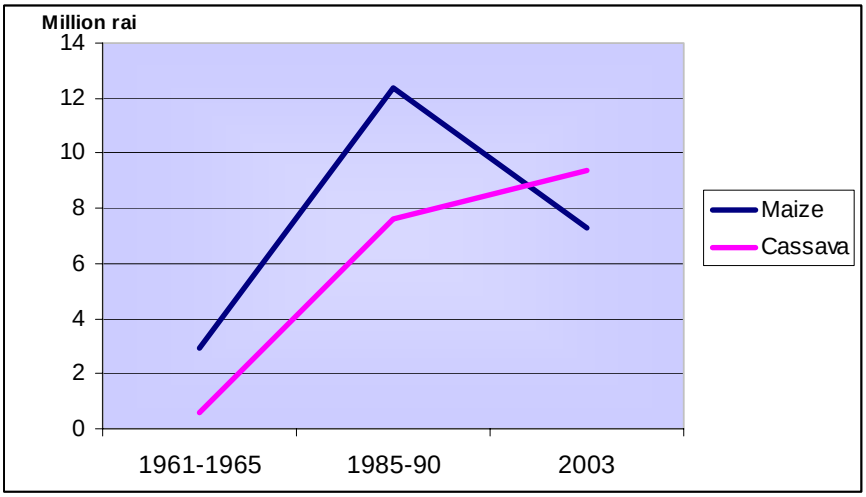
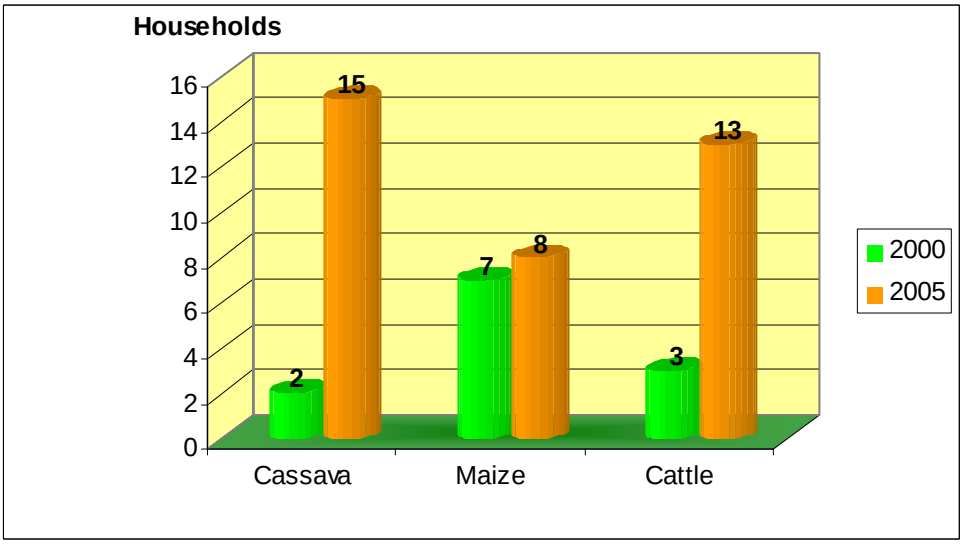


Figure 9 Maize & Cassava production in Thailand

The pattern shown above reflects the trend we have observed during our research in Nong Mai Daeng Village. As formerly shown in Figure 8, 64% of our respondents are today involved in cassava cultivation to greater or lesser extent. Comparing these figures back to agricultural activities in 2000 in the Figure 10 below, only 2 respondents were involved in cassava cultivation in 2000 compared to 15 today.



Furthermore, it is clear to see from Table 5 that cassava is clearly becoming the major crop cultivated in Nong Mai Daeng with a total of 451 rai in comparison to 306 rai of maize.

	Cassava	Maize	Sugar Cane	Organic farming
Total in rai	451	306	54	20

Table 5 Crops cultivated in rai

We are aware that there may be several reasons for this diversification, but looking at the situation from a local perspective we have, in collaboration with the villagers, been able to identify a number of rationales behind the change.

First of all, many of the villagers stated that soil in their fields were better suited for cassava[13]. Their fields are characterized by red, clayey soil, which according to the villagers is very suitable for cassava, but not for maize[14]. Cassava can produce an economic crop on soils so depleted by repeated cultivation that they have become unsuitable for other crops (Foodmarketexchange.com).
Furthermore, the higher profitability of cassava was also given as a reason for the shift from maize to cassava. Not only is the production cost of cassava lower compared to the cost of maize, the market price of cassava has also increased[15]. The reason as to why cassava has a lower production cost is partly carried by the fact that cassava is less labour intensive than maize (see Apprendix E for Cropping Calendar). The hiring of labour is also an import issue in the village and most farmers are forced to hire additional labour force during harvest time. The fact that cassava is less labour intensive than maize, also gives the farmers opportunity to be involved in other activities, such as cattle feeding and thereby generate further income sources.

The yield for maize is about 700-800 kilograms per rai, and the average selling price is 4.5 baht per kilogram. In comparison, the rate of yield for cassava is about 5 tons and the average selling price is 1.80 baht per kilogram (IFS 2006). Below is a table comparing the net profit[16] per rai of 3 households we interviewed, which had stopped cultivating maize and were now growing cassava[17]. Both households 8 and 34 are increasing their income by 52% and 55% respectively, while household 13 is increasing their income by 25%. A possible reason for this is that household 13 were generating the highest yield of 1,5 ton per rai, whereas household 8 and 34 were making 1 ton and 1,2 ton per rai respectively (see Appendix G for Net Profit Calculations). The reasons as to why the farmers continue to grow maize was not

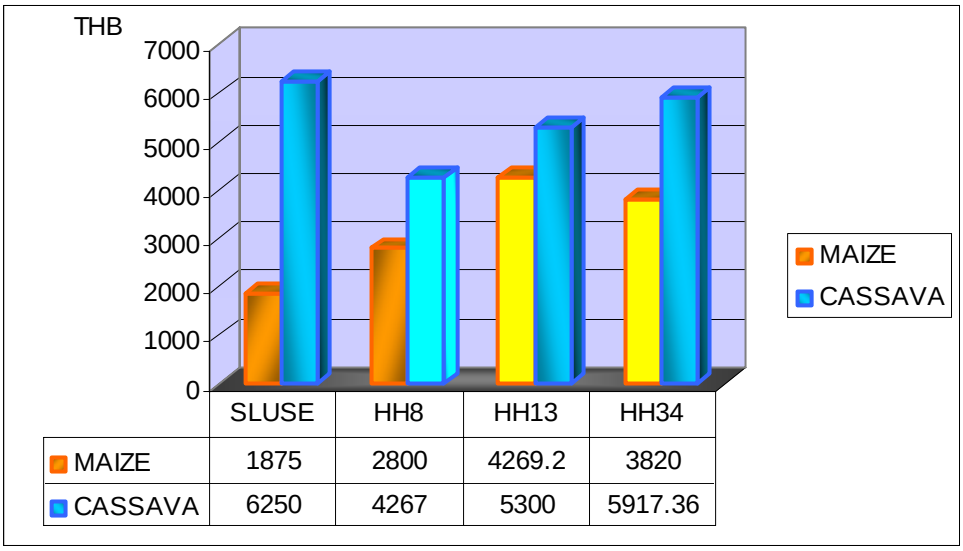
[13] Cassava does well on soils ranging in texture from sands to clays and on soils of relatively low fertility. It tolerates drought and low soil fertility, and is primarily grown by small-scale farmers in areas with poor soil or unfavourable climates. It requires minimal fertilizer, pesticides and water. (Foodmarketexchange.com)

[14] Maize is best adapted to well drained sandy loam to silty loam soils. Water stagnation is extremely harmful to the crop; therefore, proper drainage is a must for the success of the crop especially during rainy season. Maize will not thrive on heavy clays, especially low lands. (Agribusiness Info)

[15] Cassava is grown mostly as a sole crop, and the farmer may grow it on the same land for ten years or more. If the price of cassava roots drops, the farmer may shift to another crop (e.g., sugarcane, maize or sorghum) until cassava becomes more profitable again. (Foodmarketexchange.com)

[16] Net profit per rai = (yield/rai * selling price/kg) – ((fertilizer/rai * cost/kg) + (herbicide/rai * cost/kg)) NB. the cost of labour has not been included in the calculations as information was not consistent enough to do so.
[17] The SLUSE figures have been included as a baseline but do not include the additional production costs of herbicide and seeds/twigs.

identified, but a possible guess could be due to tradition, that there still is an existing market for it, and that the risk involved in diversifying the type of crop grown is considered too high.



	SLUSE	HH8	HH13	HH34
MAIZE	1875	2800	4269.2	3820
CASSAVA	6250	4267	5300	5917.36

Figure 11 Profitability comparison

The profitability of cassava is similarly pointed out by FAO:

> *The production of cassava has been expanded continuously since planting cassava is very simple, requires a minimal tending and grows well even on the soils with poor fertility. It is also drought resistant, having little pest and diseases.* (FAO(a))

Finally, through a ranking of farm costs carried out in our questionnaires (see Table 6 below), it became apparent that the cost for chemical fertilizers, was ranked as the highest farm cost. Through the interviews, we also learnt that in the production of maize the villagers had to use chemical fertilizers to ensure a good product, whereas in the production of cassava it was more feasible to use organic fertilizers[18]. For the maize production an average of 70-80 kilograms of chemical fertilizer per rai was applied, while for cassava the average amount of fertilizer was 50 kilograms per rai (Tokrisna 2002). This implied that not only could money be saved on fertilizers, the quality of the soil could also be improved.

Farm Cost	Ranking (1-5)
Fertilzer	1
Labour	2
Seeds	3
Pesticide / Herbicide	4
Fodder	5

Table 6 Ranking of farm costs

[18] Most farmers use different kinds of organic manures, such as cattle or chicken manure or garbage. (Foodmarketexchange.com)

In comparison with this, a survey carried out in 1999-2000, farmers observed that input prices have increased in recent years, while output prices have remained more or less at the same level or even declined. Ekasingh et al. reported that profit from maize farming has been minimal. The highest profit from maize farming in the study area was 5,110.90 baht/ha[19] (818 THB/rai) and the lowest profit was 762.80 baht/ha (122 THB/rai) (Ekasingh et al. 2004:18).

> *"Farmers lamented that prices of maize production inputs (seed, fertilizer, tractor hire, harvest labour) have been increasing through the years, while output prices have either remained the same or decreased, resulting in lower farm profits, especially for farmers in remote areas. Because of distance from markets, these farmers pay more for their inputs and receive less for their product. Poor and marginal, they are the first to quit maize cultivation when profits diminish or disappear. Of all inputs, harvest labour is the top expenditure, followed by fertilizers, tractor hire and seed"*. (Ekasingh et al. 2004:32)

In summary, soil suitability and the profitability of cassava imply that a higher income can be generated though a decrease in maize production in favour of an increase of cassava production. Furthermore, this livelihood diversification, involving a disintensification of labour, may result in an increase in income which may in turn lead to other improvements such as education and health, and thereby result in an improved livelihood altogether. The increased income is a crucial issue to the villagers of Nong Mai Daeng, and 37% of the villagers state that a lack of finances for investment is one of their biggest problems (see Figure 13 below over problems faced). The second biggest problem was high production costs with 21% which was discussed above and the third problem faced was lack of water.

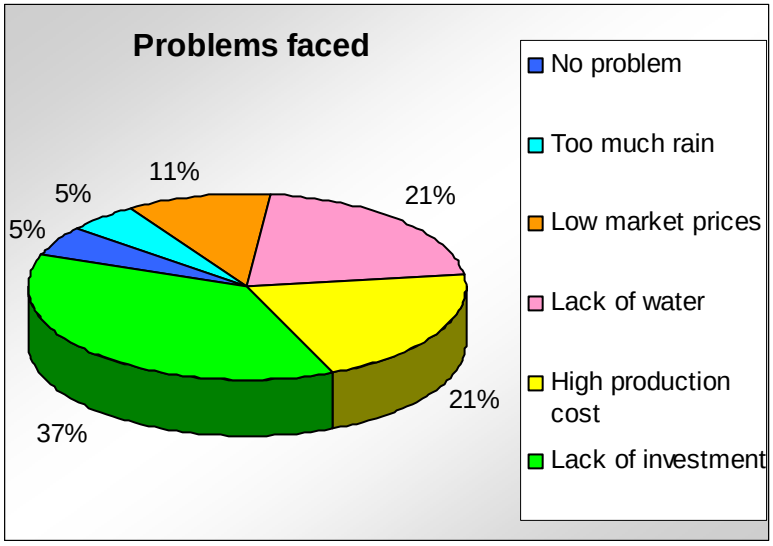


Figure 12 Major problems faced

[19] 1 hectare = 6.25 rai. Source: http://www.soho-properties.com/landmeasurement.php

We found it interesting that none of the villagers mentioned soil degradation as a concern and that the majority of them stated that they considered the soil quality to be good although they were aware that it had decreased over the past 5 years. We had during our observations found evidence of gulley erosion and topsoil erosion in the fields in Nong Mai Daeng and wished to investigate this further. However, much to our dismay our soil expert decided not to investigate this matter further, and we felt that it was best not the push this matter further.

Figure 13 Gulley erosion

Topsoil erosion

3.4 Cattle Feeding

Cattle are the most abundant ruminant livestock in Thailand. In the year 2002, the numbers of farm households involved in cattle and buffalo raising were accounted to 1.43 million. Most farmers raise beef cattle, native cattle and buffalo cattle through herding and extensive grazing is a major feeding management system for these animals, while backyard pasture, crop waste and rice straw were main sources of fiber for dairy cattle. As the human population increases, demands for cropping areas have increased and grazing areas have become a limited resource. As can be noted in Table 6 the number of beef cattle increased by 20% from 4.64 million heads to 5.55 million heads between 1999-2002. The Northeastern area is the most important in terms of beef cattle production, however the average number of cattle per household is only 5.7 heads, which indicates that most beef cattle are own by small holders (DLD Thailand 2003).

Region / in millions	**1999**	**2000**	**2001**	**2002**
Central	0.9	0.8	1.0	0.9
Northeastern	*2.2*	*2.5*	*2.6*	*2.9*
North	0.9	0.9	1.0	1.1
South	0.7	0.6	0.6	0.6
Total	**4.64**	**4.90**	**5.23**	**5.55**

Table 7 Cattle numbers per region Source: DLD Thailand 2003

In the Northeastern region (where Nong Mai Daeng village is situated) an increase of 31% occurred during this time period. This pattern withholds in Nong Mai Daeng. The cattle breed raised here is, according to our observation, beef cattle. Of the households interviewed, 93% of them own cattle, however 77% had aquired them within the last 5 years. As the histogram in Table 7 below depicts, 6 households had between 1-5 cows, 4 had between 6-10 cows while the highest number of households had over 10 cows.

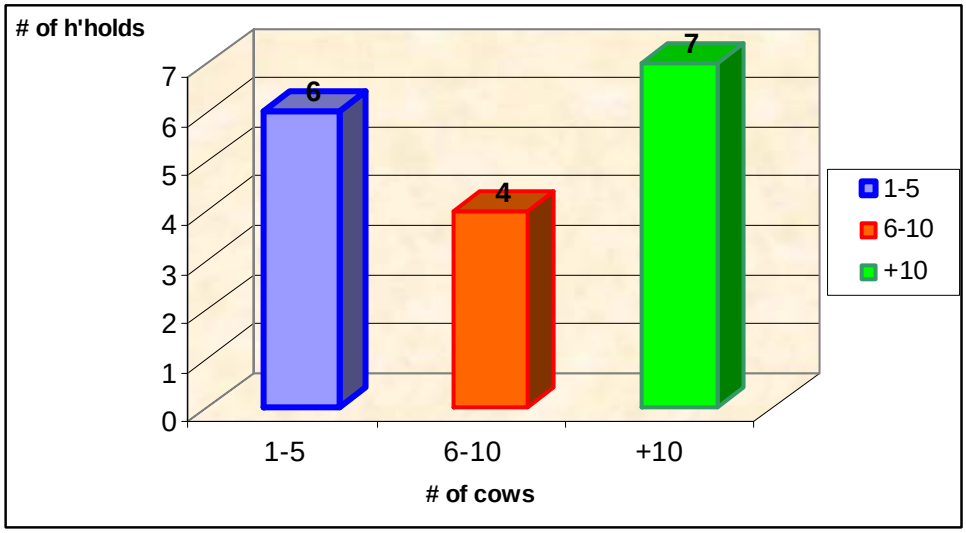


Table 8 Number of cows per household

Before discussing the different rationales for the increase in cattle keeping, it is important to mention, that to the villagers of Nong Mai Daeng cattle feeding is mainly a supplementary source of income.

One of the main reasons for the villagers to keep or increase their amount of cattle is that it is considered a safe investment and is, in most cases, quite profitable. This is due to the low labour intensity (on average one person can look after 30-50 heads of cattle) and it is therefore not necessary for the villagers to hire labour for cattle feeding. Second, the cost of fodder is very low because the cattle graze on empty fields most of the year. Some fields which are not suited for crop production due to low soil fertility or are lying fallow, are used for this. The economic output of keeping cattle is generally higher than the economic input due to the farmer breeding his herd and gaining surplus heads and also due to the generally low investment cost. Besides the fodder cost which is already substantially low, there are limited other expenses. One additional expense is the medical care (vaccines), but this is to some extent covered by the governmental support. Finally, the cow manure can be used as organic fertilizers and thereby reduce the cost of chemical fertilizers purchased for their land or alternatively create some additional income. Several villagers pointed out, that having cattle is good because it has a high liquidity. This gives the villagers a feeling of security that if in need of money, they can sell one of their cattle within a limited amount of time, whereas with crops, it is a more long-term investment.

Farmers will generally invest in a number of cows which cost between 10-30,000 THB each. They will keep these for up to a period of 7 years. The maintenance costs for fodder range between 0-10,000 THB per cow per year and medical costs are on average 2,500 THB per year. They will then invest in a bull and each cow will have one calf per year which will be resold from between 12-18,000THB. Farmers estimate that they make on average 30% profit on each cow (own research data).

In conclusion, cattle feeding is a livelihood strategy of diversification which can lead to an alternative income source, providing additional means for further investment, which can in turn reduce dependency on the harvest of crops and hereby vulnerability and increase food security.

On a final note, some of the cattle owners mentioned that they were interested in creating a cattle group. They believed they could benefit from the creation of such a group as it could strengthen their position when bargaining the buying or selling price of their cattle. Furthermore, the group could administer the sale of cow manure to other farmers which would further increase the interest for organic farming, which in turn may improve the livelihoods in terms of better health and improved soil quality.

3.5 Organic Farming

In recent years, organic farming is gaining more and more momentum. Many organic production projects have been initiated by producer organizations, private companies, exporters and even NGOs. Also, a national private certification body, the Organic Agriculture Certification Thailand or ACT (founded in 1995) was also set up to provide professional organic certification services for all farm production and handling operations (Green Net & Earth Net Foundation).

An estimate of 55,987.5 rai of farmlands are now under organic management. This represented around 0.04% of the total farmlands. Thai organic agriculture is at early stage and productions are dominated by primary food products, e.g. rice and fresh vegetables. Several initiatives, either by private sector or by NGOs, have focused on diversification to new organic products like medicinal herb, tropical fruits, shrimp and even palm oils (Green Net & Earth Net Foundation).
The government policies towards organic farming are generally favourable. Though no direct subsidy for organic farming is offered, the Thai government has focused its attention mainly on developing national standards, certification and accreditation. This has made little helps towards the organic production where the main constraints are.

Through our general questionnaires, we noted that there has been an important shift in villagers practicing organic farming. The Organic Agriculture/Chemical-Free Farming Group started operation in 2000, having obtained support from the Chemical-Free Farming Center, under the Patronage of His Majesty the King. Originally there had been five members in the Organic Farming Group but now there were only three left and one of the three was considering stopping. We were intrigued by this shift as we felt that it contradicted the interest in organic farming and this therefore became one of our three research areas during our in-depth interviews.

During our interviews we discovered that the villagers practicing organic farming were growing horticultural crops such as lettuce, carrots, tomatoes, eggplants, mint and other spices. They were very interested and positive towards organic farming and through our interviews we discovered some of the reasons for their interest. We learnt that the average cost of organic fertilizer for vegetables per rai is cheaper than the chemical fertilizer cost for maize but not cheaper than the cost chemical fertilizer for cassava. However, when working out the return of investment[20] the case is clear. The ROI (return of investment) for organic fertilizer is 22THB whether it is 3THB and 12THB for chemical fertilizer for maize and cassava respectively.

Average per rai / THB	***Maize - chemical***	***Cassava - chemical***	***Vegetables – organic***
Fertilizer cost	1,351.88	445.31	880
Benefit	3,827.35	5,161.57	19,033.33
ROI	3	12	22

Table 9 Average cost, benefit and ROI of chemical and organic fertilizers

The cost is reduced even further when the household keeps cattle, which many of the villagers did. Furthermore, some of them would use fermented Margosa for pesticide.

In addition, some people have had health and allergy problems due to chemical fertilizers and pesticides and were therefore forced to change to organic inputs which had also improved their health.

Additionally, the use of organic fertilizers and pesticides improves the quality of the soil. Low soil fertility is one of the major constraints of the agricultural production in Northeastern Thailand (Paisancharoen and Matsumoto 2001) due to the shallow sandy loams which covers most of this region (Country Data). In contrary to what Paisancharoen and Matsumoto conclude, there does seem to be good knowledge on the organic practices among the farmers in Nong Mai Daeng. Furthermore, the high

[20] Return on Investment (ROI) measures how effectively capital invested generates profit; the higher the ROI, the better. It has been calculated by Benefit/fertilizer cost = ROI – in the case of maize-chemical, that is to say for every 1THB invested in fertilizer, 3 THB are generated in profit (http://searchcio.techtarget.com).

propensity of land ownership in the village may promote an interest in keeping the soil as good/healthy as possible, seeing that the field will belong to the villagers indefinitely, whereas as renters of land, people may attempt to get as much out of the land as possible, regardless of long term consequences.

Despite all these positive and motivational factors to use organic farming inputs we were still observing some villagers moving away from this and we were curious as to the reasons why. Many of the villagers were interested in organic farming but reluctant to initiate due to the low productivity in the initial stages of production. Furthermore, they are more familiar with their traditional farming methods which make use of chemical fertilizers and pesticides. For many years they have been using these methods and this also ensures a higher yield in a shorter period of time.

However, when interviewing a particular household, which had stopped practicing organic farming, we found additional reasons which were different to the abovementioned. First it should be mentioned that the Organic Agriculture/Chemical-Free Farming Group have organised a pick-up truck from the Chemical-Free Centre which comes to Ban Nong Mai Daeng every Monday, Wednesday and Friday to buy the organic produce and drive it to the market. They explained that the reason as to why they had stopped organic farming was due to the infrastructure being so poor from their house to where the organic trucks came, so that it made it very difficult to transport the vegetables on the back of their motorbike. Additionally, they complained about the commission that the traders were charging to sell their products. The farm gate price for lettuce was only 20THB/kilo of lettuce and the traders were charging 3 percent on sale price which the farmer considered too high. They were however, still interested in continuing organic farming as they now had cattle and commented that the Cattle Group could provide manure for farmers possibly generating more incentive to do organic farming.

When asked about the possible improvements of the Organic Group various households commented that the management could be improved and that there should be better distribution of information regarding organic farming and its benefits regarding health, soil fertility etc.

For organic farming to thrive in Nong Mai Daeng it would be necessary for the Organic Farming Group to take further action to encourage all the interested farmers in pursuing this enriched way of farming and for the Thai Government to direct more focus on the organic production in rural communities.

3.6 Change of credit source

Through our reseach we realised another characteristic of the study area which is that 92% of households interviewed are indebted. The average debt of a household in Nong Mai Daeng is of 60,000THB (1,560 USD)21, and the major sources of loans are the Village Fund and the Bank for Agriculture (own research data). As you can see from Figure 15 all 92% of the indepted households had loaned with the Village Fund. However, 52% of households would acquire a second loan with the Bank of Agriculture.

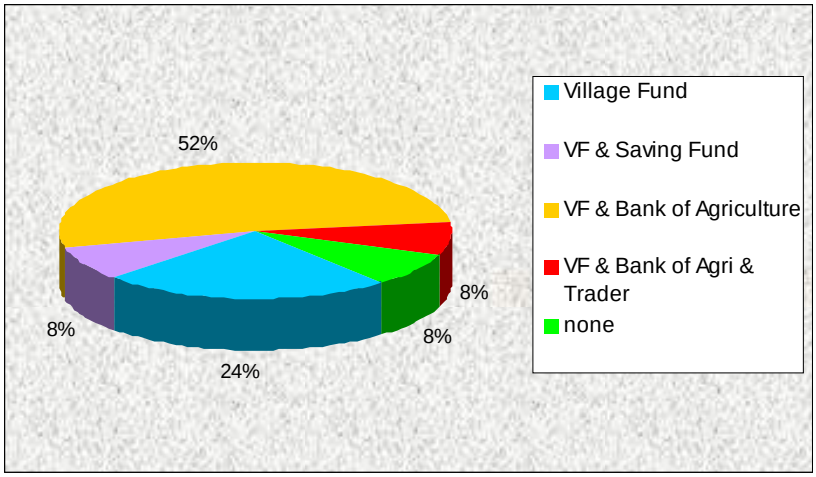


Figure 14 Source of credit

The reasons for obtaining a loan can be seen in the following Figure 16 where 46% of respondents had acquired a loan for the purpose of investing in agriculture. The second most important reason for acquiring a loan was to purchase cattle. Hence, this leads us to believe that the Village Fund, which was made available to the villagers in Nong Mai Daeng in 2002 have assisted them in changing and improving their livelihoods strategies. We will now go into more detail as to why we believe this to be the case in the individual research areas.

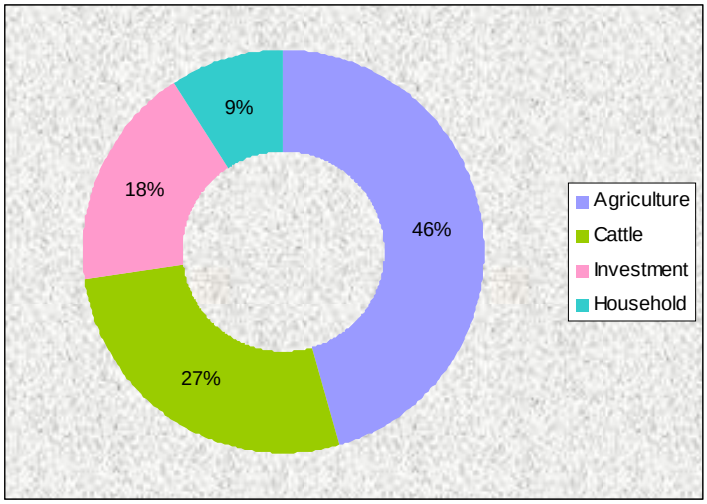


Figure 15 Reasons for obtaining a loan

[21] Debt amounts range from 20,000 – 160,000THB amongst households

3.6.1 Maize to Cassava

Previously, most farmers had credits with traders, but after the Village Fund was created, most of them have ended their credits with the traders and instead obtained loans from Fund and the Bank of Agriculture.

Furthermore, when involved with the traders, the farmers had to pay an interest rate of 3% per month, (which is approximately 43% p.a.)[22] whereas with the Village Fund and Bank of Agriculture and Agricultural Cooperatives (BAAC) they pay 10% and 6,5-10% respectively (see Appendix H and I for BAAC loans interest rates and services).

The high interest rate would often create a vicious cycle for the villagers as they would be forced to take other loans/credits in order to repay the first ones, and the high expense for debt repayment would prevent them from making further investments. Security was also an issue, seeing that there was a risk that the traders would take their land in case they could not repay the credit, and several villagers mentioned the fact that is was quite easy to apply for a loan with the Village Fund as an advantage compared to being involved with the traders.

In relation to the source of credit, in the report concerning Klong Sathorn Village, which lies in the same area as Nong Mai Daeng, it stated that the villagers were forced to take out loans in terms of corn seeds, agrochemicals and fertilizers, and that corn production was governed by the traders. According to the report no support, such as credit was given to the farmer if they shifted from maize to other field crops (IFS 2006). The villagers of Nong Mai Daeng did not mention this matter, but as we presented it for them in a participatory meeting, it was acknowledged that the previous relationship with traders included a requirement for maize production and thereby played an important constraint to the production of other crops.

In comparison with this, the survey carried out in 1999-2000 show that, maize farmers in Thailand depend heavily on borrowed capital. An overwhelming majority (87%) of the farmer-respondent depended somewhat on borrowed farm capital. Of the total amount borrowed, at least 70% was obtained from BAAC and 20-70% was obtained from local merchants. Maize farmers in Tak and Ciang Mai (Upper North) also borrowed farming capital from their village funds. When farmers borrowed from local merchants, some had to pay 3-5% interest a month on top of the higher price of required inputs they bought through credit. In contrast, the loan interest rate from BAAC, agricultural cooperatives, or farmer groups was only 9-12% per year (Ekasingh et al. 2004:17).

[22] To convert monthly to yearly interest rate following formula has been applied: Interest rate p.a.=(1+0.03)^12-1

This survey supports our finding that all the farmers in Nong Mai Daeng rely on borrowed capital for their crop production, it also reflects that the interest rates are higher with local merchants. Furthermore, the Village Fund and Bank of Agriculture and Agricultural Cooperative have given the villagers an opportunity to improve their livelihoods, not only allowing them to hold on to their land, but also helping them make further investments and diversify their livelihood portfolios altogether. Had they not been able to obtain financial support from the Village Fund, they may possibly have been forced to sell of their land in order to repay their loans with the traders.

3.6.2 Cattle Feeding

In relation to cattle feeding, it appears that the forming of the Village Fund may also have contributed to the increase noted earlier. Most of the villagers do not have any savings to rely on, hence they are dependent on loans to make any investments. As mentioned in Figure 16, 27% of loans were taken to purchase cattle. With the constraints and high rates of the credits with the traders, they have been restrained from making investment in cattle production, but with the new loans available, cattle feeding is now a profitable opportunity not only to increase but also to diversify their source of income. Furthermore, cattle also represent a type of savings in case of crop failures which gives the farmer additional financial security.

3.7 Future Hopes and Plans

As aforementioned, we were very interested in doing something more than just problem identification in Nong Mai Daeng and to create some sort of platform for information sharing and problem solving. In order to do this we had devoted a section in our in-depth interviews to suggestions and thoughts of the villagers. We mainly asked how the existing social groups and the Village Fund could be improved, but also paid attention to the foundation of other possible social groups and other future projects for the village in general.

A new policy ‘reducing state authority and empowering the local people to solve their own problems’ had been announced in 2004 by Prime Minister Thaksin Shinawatra (Thailand’s Public Relation Department, 2004). The policy is referred to as “SML” - “small, medium, large” where 20 billion THB will be allocated for 8000 villages nationwide. The budget allocation will depend on the size of each village. A small village with 200 families will receive 200,000 THB a medium-sized village with 200 to 400 families will get 250,000 THB and a large village with more than 400 families will receive 300,000 THB. The SML Fund should be spent to solve the common problems faced by local villagers. As Nong Mai

Daeng has 317 villagers hence they fall under the medium category. This obviously led to a lot of speculation amongst the villagers as to what this amount of 250,000 THB could be used for and various projects were proposed. Among the proposal were the rearing of silk worms and mulberry plantations. These projects were discussed avidly by the Headman, however various other farmers showed great interest in a manure granulator. This machine facilitates the dispersal of animal manure over the fields and could spur the interest in organic farming in the village. Many of the villagers were not aware of this machine and had not heard of plans to purchase it. We therefore felt that our PRA session was very constructive in bringing this possible project to light.

Other proposals which would improve the livelihoods of the people living at the far end of the village would be to improve the remaining dirt roads to enable them to commute with their products into the village and sell them at the nearest market. The road here is still in very poor conditions particularly in the rainy season. Furthermore, as many of the villagers' crops in this area are rainfed, they would like to see more wells constructed to safeguard them through the draught-plagued months.

We also learnt that the hills at the east of the village had recently been purchased for 70 million THB by a businessman from Bangkok. The plan is to build a tourist resort for tourists visiting Khao Yai National Park. The exact date as to when this will take is unknown, but it will have a huge impact on the villagers on Nong Mai Daeng. The infrastructure of the village will improve, labour demands will increase short-term for construction and long-term for the personnel of the resort, endless job opportunities such as homestays, trekking tours, sightseeing, handicrafts will take place and simultaneously the demand for clean water will increase, the need for waste disposal will increase and it would be very interesting to return to see whether the impact of this tourist resort would be a sustainable one on the community.

4. CONCLUSION

This report is based on the research carried out in Nong Mai Daeng Village, Nakhon Rataschima Province, Northeastern Thailand. In close collaboration with our Thai counterparts we have investigated three major changes in the village during the last few years and the impact of these on the livelihood strategies of the villagers.

Guided by our objectives, we have through careful analysis and further literary research been able to reveal a number of rationales behind the changes in land use and to some extent evaluate the impact of the changes of their livelihood strategies in general. Furthermore, we have paid special attention to the Village Fund, as we found that it played a major role in enabling these changes to take place.

Nong Mai Daeng Village is today characterized by the majority of the villagers as being involved in agriculture and a number of small-scale cattle herders. Furthermore, there has been a shifting interest in organic agriculture during the last few years. However, the use of the land in relation to the three mentioned issues has changed considerably in less than a decade.

First of all, there has been a diversification strategy, involving a disintensification of labour, has taken place in the crop cultivation. The production of maize has decreased, simultaneously as the production of cassava has increased. This has occurred not only in Nong Mai Daeng Village, but reflects a general trend in Thailand. This change is mainly due to the fact that cassava has a higher profitability. Not only is the production cost of cassava lower than the one of maize, the market price of cassava has also increased. Less fertilizer is needed for cassava and the yield per rai is many times higher than the yield for maize. Furthermore, cassava is less labour intensive, and thereby the cost for hiring labour is reduced. In addition, the soil is generally better suited for cassava and the crop is more resistant to drought and disease. All of these facts have encouraged the villagers to become involved in or increase their cassava production. However, it may not have been possible to increase the cassava production, had it not been for a new credit source been made available. Previously, most of the villagers were involved with traders and were thereby restricted not only by which crops to grow, (as many traders would enforce maize production), but they were also lacking further financial resources to make additional agricultural investments due to the high rate of interest they were imposed.

The Village Fund has therefore played a very important role for their livelihoods in general. Not only was the interest rate lower than with the traders, their security and vulnerability was also improved. With the

Village Fund they were not in danger of having their land taken away from them, which the traders may have claimed if they were unable to repay, and several villagers put emphasis on the importance of being able to draw a contract and having access to loans with great ease. They also enjoyed the possibility to obtain loans in a short matter of time and used the money mainly for agricultural investments and to a lesser extent for the household. By far the majority of the villagers had increased their debt since the Village Fund was established, but they would also state that they now lead a better life.

Secondly, there has been a diversification of livelihood into cattle feeding. In previous years only a few of the villagers kept cattle, but today there are a number of small-scale cattle herders emerging in the village. The rising trend to keep cattle has been generated primarily by the high profitability of cattle. Little cost is associated to feeding cattle as this is mainly done by free grazing and the labour intensity is very low, hence there is no expense for hiring labour. Another rationale behind the movement towards feeding cattle is the security of being able to provide instant cash through the sale of a cow. In addition, the shift of credit source has to some extent contributed to the possibility to cope with the initial investment of acquiring a herd.

Thirdly, there has in the recent past been an interest in organic farming however, this interest has already partly declined. The villagers involved in organic farming were motivated by the improvement of soil, a better health and increased income. In relation to the soil, we believe that due to the high land ownership, the villagers may be more inclined to take better care of their land in order to secure a long term profit. The market price of organic products has gone up during the last years and with the cost of organic fertilizer being, in many cases, less than that of chemical fertilizer, the profitability is good. The villagers mainly grow organic vegetables, although some use organic fertilizers for cassava production. Regarding the reasons as to why some people have abandoned organic farming, we found that the cause was not necessarily that the initial output might be lower in organic farming, nor the fact that they were accustomed to using chemical inputs, but more so the infrastructure of the village, accessibility to water during the dry season and the commission charged by the traders played major roles.

With respect to the analysis of the sustainability of their livelihoods, we will draw to a close by looking at each of the resources in turn. We believe that the mentioned changes have had a positive impact on the livelihoods of the villagers. Common to all changes, is that they have all generated a higher income for the villagers, which has a positive effect on their financial capital. The income is essential for their livelihoods as it may affect other matters such as health and education, and thereby improve the human capital. Most important for the villagers though was the ability to make further investments made possible by a higher generated income. Hence it appears that their financial and human capitals were improved

through their changed income strategy. However, it should be noted that even though the institutional setting of the Village Fund may have improved the social capital, by creating more security for the villagers, the majority of the villagers are more indebted than before the establishment of the Village Fund. Consequently, the effect of the Village Fund on the financial capital is double-sided, as it has increased the negative balance of loans/savings, but at the same time it has provided the villagers with better opportunity for investments, and improved their ability to cope with shocks and stresses through emergency loans.

In relation to the natural capital, it is relevant to mention that the soil quality has declined during the last years (IFS 2006) but through the interest in organic farming this trend may be turned around and it may encourage a more sustainable use of the natural resource base. Other aspects that have had a substantial impact on the livelihoods of the villagers, and thus their capitals, are the title deeds and the social groups. These may not have been generated by a changed income strategy, put they do affect the social capitals of the villagers creating better security, and provide a boost to the general well-being in the village. In addition, the water accessibility and the infrastructure of the village have been improved, affecting the physical capital positively, and even though there is still room for further improvement, which will further improve the everyday life of the villagers.

Finally, we found it very interesting and encouraging that the villagers had several ideas on how to improve their livelihoods in the village. The possibility of establishing a silkworm plantation and a mulberry farm had already been discussed and several people were interested in obtaining a manure granulator. The villagers likewise presented the need for an improved infrastructure and the construction of more wells. However, the prospect of a tourist resort may cause one of the major future impacts on the village. At the current stage we can only guess as to whether this impact will have positive or negative consequences for Nong Mai Daeng village.

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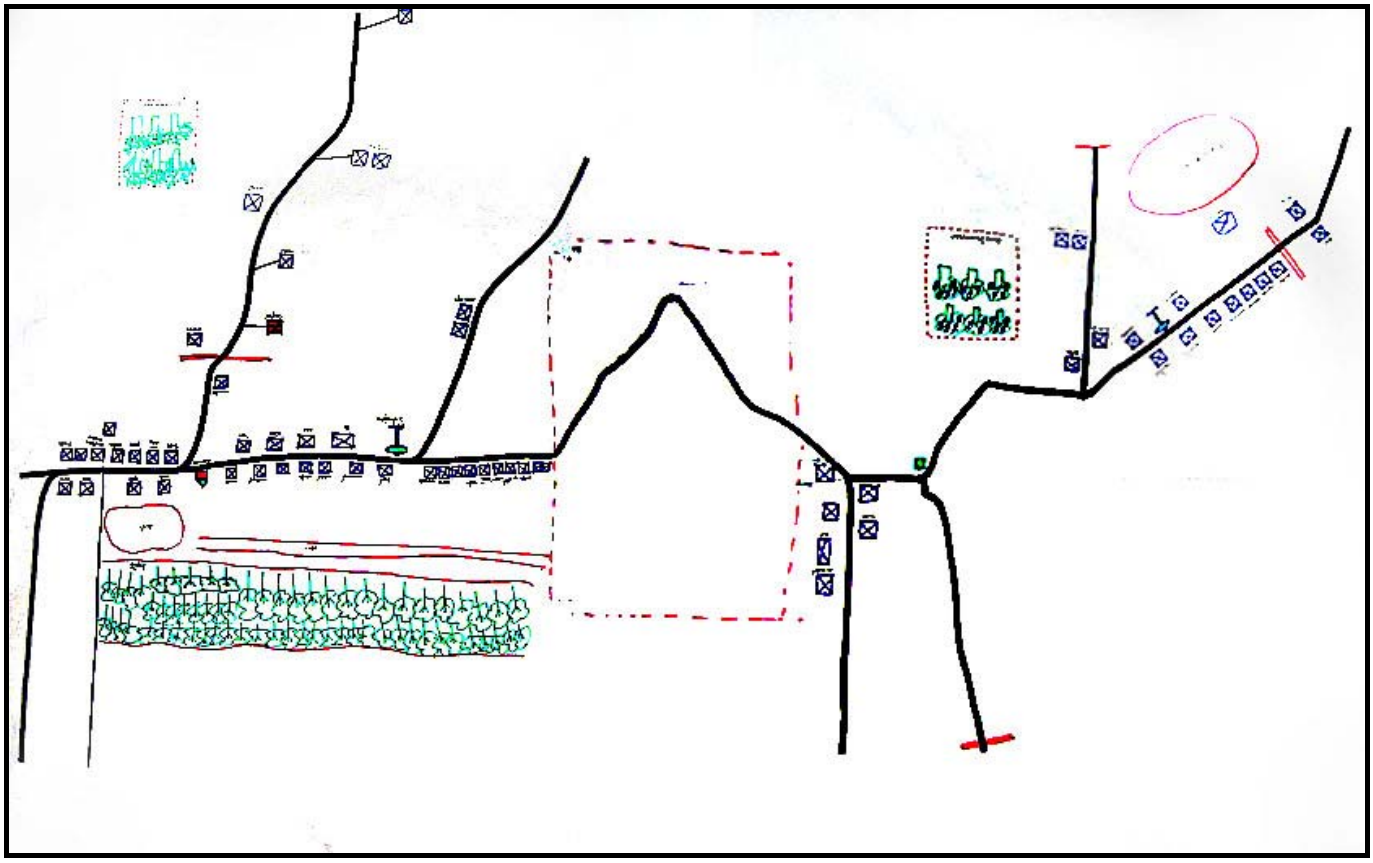
1. APPENDICES

APPENDIX A: Community map of Nong Mai Daeng



APPENDIX B: Time Schedule

Dates	Morning	Afternoon
Mon 6 Mar	Meeting with counterpart	
Tue 7 Mar	Meeting with counterpart	
Wed 8 Mar	Discussion and synchronisation of research area with counterpart	
Thu 9 Mar	Discussion and synchronisation of research area with counterpart	
Fri 10 Mar	Travel to study locations	Visit the local administration office Schedule meeting with Headman of following day
Sat 11 Mar	Interview with Headman	Observations + schedule for next day
Sun 12 Mar	PRA + community mapping	Questionnaires + schedule for next day + data analysis
Mon 13 Mar	Questionnaires	Schedule for in-depth interviews + preparation for mid-term evaluation
Tue 14 Mar	Mid-term evaluation	
Wed 15 Mar	In-depth interviews + schedule for next day + data analysis	
Thu 16 Mar	In-depth interviews + focus groups + school activity + data analysis	
Fri 17 Mar	Preparation for community meeting + presentation of drafted final report	
Sat 18 Mar	Community meeting + presentation of drafted final report	
Sun 19 Mar	Community meeting + presentation of drafted final report	Travel to Bangkok

APPENDIX C: Diaries of Nong Mai Daeng

Janne's Fieldwork Diary in Nong Mai Daeng, March 2006

Thursday 9th: We arrive at base camp and Mimi, Wanida and I prepare questions for interview with the Headman. We call and arrange a meeting with the Headman. Later we leave for the village and interview him. We mainly discuss social groups and migration. Num, Pee Sith and Chai walk around in the village making observations.
In the evening we all revise the pilot questionnaire.

Friday 10th: We all continue revising the pilot questionnaire in the morning and leave for the village where we have lunch and then divide ourselves in 2 groups and carry out 1 pilot questionnaire per group. Mimi and I go into separate groups accompanied by one interpreter and one Thai student. In the evening we all discuss how to change the questionnaires based on the experience with the pilot questionnaire.

Saturday 11th: We all continue working on questionnaires and leave for the village where we have lunch, and then divide us into 3 groups, Num and Pee Sith do a transect walk together with the owner of the rubber plantation.
Chai, Mimi and Lek form one team.
Wanida, Natt and I form one team.

Sunday 12th: The girls make minor adjustments to the questionnaires, while the guys work on the data from the transect walk. Wanida and Mimi prepare cropping/working calendar for PRA session, and I type in the adjustments made in the questionnaire.
We leave for the village at 13.30, divided into 3 teams:
Chai, Mimi and Lek
Wanida and Num.
Pee Sith, Natt and I

At 20.00 we all did a PRA session with about 6 villagers. First we made a history of the village then we made a trend analysis. Wanida was the facilitator of the PRA session.

Monday 13th: In the morning the whole group discussed a new focus of the fieldwork based on the information from the questionnaires and prepared for mid-term presentation. I only participate partly in this due to back pain and use the rest of the time typing the data from the questionnaires into the computer. At 14.00 the Thai students make presentations. At 17.30 Num, Pee Sith and Chai leave for the village to do the final questionnaires and the girls stay on base camp to type interviews and prepare in-depth interviews.

Tuesday 14th: We all stay at base camp and analyse the questionnaires and prepare in-depth interviews. Wanida, Mimi and I revise time schedule.

Wednesdays 15th: In the morning we continue to work on in-depth interviews and have them translated. The guys make new, improved copies of the Community Map & Transect Map. Lek and Natt translate the info from these onto A4 pages for Mimi and I.
In the afternoon we all go to village and make in-depth interviews in 3 teams:
Mimi, Chai and Lek,
Pee Sith, Natt and I
Wanida and Num.

Thursday 16th: In the morning Mimi is introduced to SPSS, while I work together with Lek and Natt in getting the interviews typed into the computer and translation of additional relevant info. Num, Pee Sith and Chai work on presentation maps for the village.
In the afternoon we all go to village, to make in-depth interviews in the former 3 teams.

Friday 17th: In the morning Mimi types and analyses in-depth interviews into the computer and I make a contribution to the presentation in the village, which the Lek translates and Wanida incorporates it into the presentation the Thai students have prepared.
In the evening we make the presentation in the village. Pee Sith and Wanida facilitate an open discussion with the villagers regarding our findings.

Saturday 18th: We leave base camp and go back to Bangkok.

Mimi's Fieldwork Diary in Nong Mai Daeng, March 2006

Thursday 9th: We arrive at base camp and Janne, Wanida and I prepare questions for interview with the Headman. We call and arrange a meeting with the Headman. Later we leave for the village and interview him. We mainly discuss social groups and migration. Num, Pee Sith and Chai walk around in the village making observations.
In the evening we all revise the pilot questionnaire.

Friday 10th: We all continue revising the pilot questionnaire in the morning and leave for the village where we have lunch and then divide ourselves in 2 groups and carry out 1 pilot questionnaire per group. Janne and I go into separate groups accompanied by one interpreter and one Thai student. In the evening we all discuss how to change the questionnaires based on the experience with the pilot questionnaire.

Saturday 11th: We all continue working on questionnaires and leave for the village where we have lunch, and then divide us into 3 groups, Num and Pee Sith do a transect walk together with the owner of the rubber plantation.
Wanida, Janne and Natt form one team.
Chai, Lek and I form one team.

Sunday 12th: The girls make minor adjustments to the questionnaires, while the guys work on the data from the transect walk. Wanida and I prepare cropping/working calendar for PRA session, and Janne type in the adjustments made in the questionnaire.
We leave for the village at 13.30, divided into 3 teams:
Wanida and Num.
Pee Sith, Janne and Natt
Chai, Lek and I

At 20.00 we all did a PRA session with about 6 villagers. First we made a history of the village then we made a trend analysis. Wanida was the facilitator of the PRA session.

Monday 13th: In the morning the whole group discussed a new focus of the fieldwork based on the information from the questionnaires and prepared for mid-term presentation. Janne only participates partly in this due to back pain and the rest of the time she types the data from the questionnaires into the computer. At 14.00 the Thai students make presentations. At 17.30 Num, Pee Sith and Chai leave for the village to do the final questionnaires and the girls stay on base camp to type interviews and prepare in-depth interviews.

Tuesday 14th: We all stay at base camp and analyse the questionnaires and prepare in-depth interviews. Wanida, Janne and I revise time schedule.

Wednesdays 15th: In the morning we continue to work on in-depth interviews and have them translated. The guys make new, improved copies of the Community Map & Transect Map. Lek and Natt translate the info from these onto A4 pages for Janne and I.
In the afternoon we all go to village and make in-depth interviews in 3 teams:
Pee Sith, Janne and Natt
Wanida and Num.
Chai. Lek and I

Thursday 16th: In the morning I am introduced to SPSS, while Janne works together with Lek and Natt in getting the interviews typed into the computer and translation of additional relevant info. Num, Pee Sith and Chai work on presentation maps for the village.
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In the evening we make the presentation in the village. Pee Sith and Wanida facilitate an open discussion with the villagers regarding our findings.

Saturday 18th: We leave base camp and go back to Bangkok.

APPENDIX D: Questionnaire

Questions for Households Survey

Date, time	Household number:	Family position:	Interviewer

Respondent Profile

1. Name:
2. [ ] Male [ ] Female
3. [ ] Single [ ] Married [ ] Other
4. Age:
5. Occupation:
6. Level of education:
7. Where do you come from?
8. How long have you been here?

Household Profile and Resources

9. Number of people in the household:
10. Who are the other members in your household:

No.	Relationship	Age*	# of yrs in school	1st occupation	2nd occupation	Reason for occupation
1						
2						
3						
4						

*1=children<15, 2=early working age 15-24, 3=working age 25-60, 4=senior citizens >60

Economies

11. Do you plan to be involved in any other alternative income sources in the nearest future

Activity	**Reasons –** know-how, cost, facilities
Silk worms	
Cattle feeding	
Organic farming	
NFTP	
Other	

Expenditure (on-farm, off-farm)

12. What types of expenditure does your household incur and which are the most important?

Type of expenditure	Ranking
Household costs	(1-6)
Food	
Education	
Health	
Consumer goods	
Productive investment	
Repayment of loans	
Farm costs	(1-5)

Fertilizers – organic/chemical	
Pesticides – organic/chemical	
Seeds	
Fodder	
Hire of labour	
Others	

Credit

13. Have you applied for credit, loan etc. during the last five years? Yes [ ] No [ ]
14. If yes, where did you apply to (bank, person, village fund, other)?

    _____

    (If social group which one?
15. For how long have you been member?_____

    _____
16. Why do you think it is good to be a member?_____

    _____
17. For what purpose did you apply for the loan?
18. Please describe the details of the loan:

    Amount:

    Interest Rate:
19. Do other persons in the household have loans and where?

Person	**Loan – how much**	**Where did they apply**	**# of years member**	**Benefits of being member**	**Why the loan**

20. Does the household have more debt than 5 years ago? Yes [ ] No [ ]
21. Is the household able to save more than 5 years ago? Yes [ ] No [ ]

Land Tenure

22. For how long have you lived in this area? _____
23. Do you own any land? Yes [ ] No [ ] If yes:

    How many rai? _____
24. How has the soil quality been over the last 5 years? _____

    How is it now?

    If it has changed: why and how? _____
25. What type of title deed do you have and when did you get it?

    _____

    _____
26. Why do you think owning land is important?

    Applying for credits/loans or subsidies ☐

    Security for future generation ☐

    Allows investing for inputs (fertilizer, machinery, irrigation, etc.) ☐

Prevents illegal possession ☐

Other, specify: _____

27. Do you rent out any land? Yes [ ] No [ ]
How many rai? _____
To whom?_____ Occupation:_____
_____

28. Do you rent any land? Yes [ ] No [ ]
How many rai? _____
From whom?_____ Occupation:_____
_____

29. Have you ever sold your land during the last 5 years? Yes [ ] No [ ]
If yes, how much land have you sold?_____

30. Have you bought a piece of farm land in the past 5 years? Yes [ ] No [ ]
If yes, size and location_____
What was the reason of buying?
Prices were low (high profit) ☐
To increase the production ☐
Long term investment ☐
Other, please explain_____

Agriculture / Livestock

31. How many members of the household are involved in agriculture today? _____
_____

32. Is there a shortage of labour within the household? Yes [ ] No [ ]
If so why? _____
_____
At what time of the year? _____
_____

33. Do you hire any labour? _____
_____
How many people?_____
_____
When and for how long?_____
_____

34. Which crops does the household grow:

Crop	Yes/No	Est. size rai	Productivity Last 5 years	For sale/ own use	# of yrs Growing	Ranking (profit)
Cassava						
Maize						
Ground beans						
Soya beans						
Sugar cane						

Organic veg.						
Herbal plants						
Other						

35. Do you use monocropping? Yes [ ] No [ ] – Which crops?

36. Do you use intercropping? Yes [ ] No [ ] – Which crops?

37. What is your main problem regarding agriculture?_____
_____
_____
_____

38. Which type of water resource do you depend upon? (ground water, rain water, etc)
_____
_____

39. Do you ever lack water for the fields ?_____
_____
If yes: when ? _____

40. Have you changed the way you use the land, during the past 5 years and why?_____
_____
_____
_____

41. You have any livestock? Yes [ ] No [ ]

Animal	How many?	Own use	For produce	# of yrs keeping
Cows				
Chicken				
Other				

Migration

42. Regarding the migration within the household

Person migrated	Where to	Why	How long	Occupation	Send remittance

*1=children<15, 2=early working age 15-24, 3=working age 15-24, 4=senior citizens >60

43. Has migration had a positive or negative impact on you? [ ] positive [ ] negative
In what way? _____

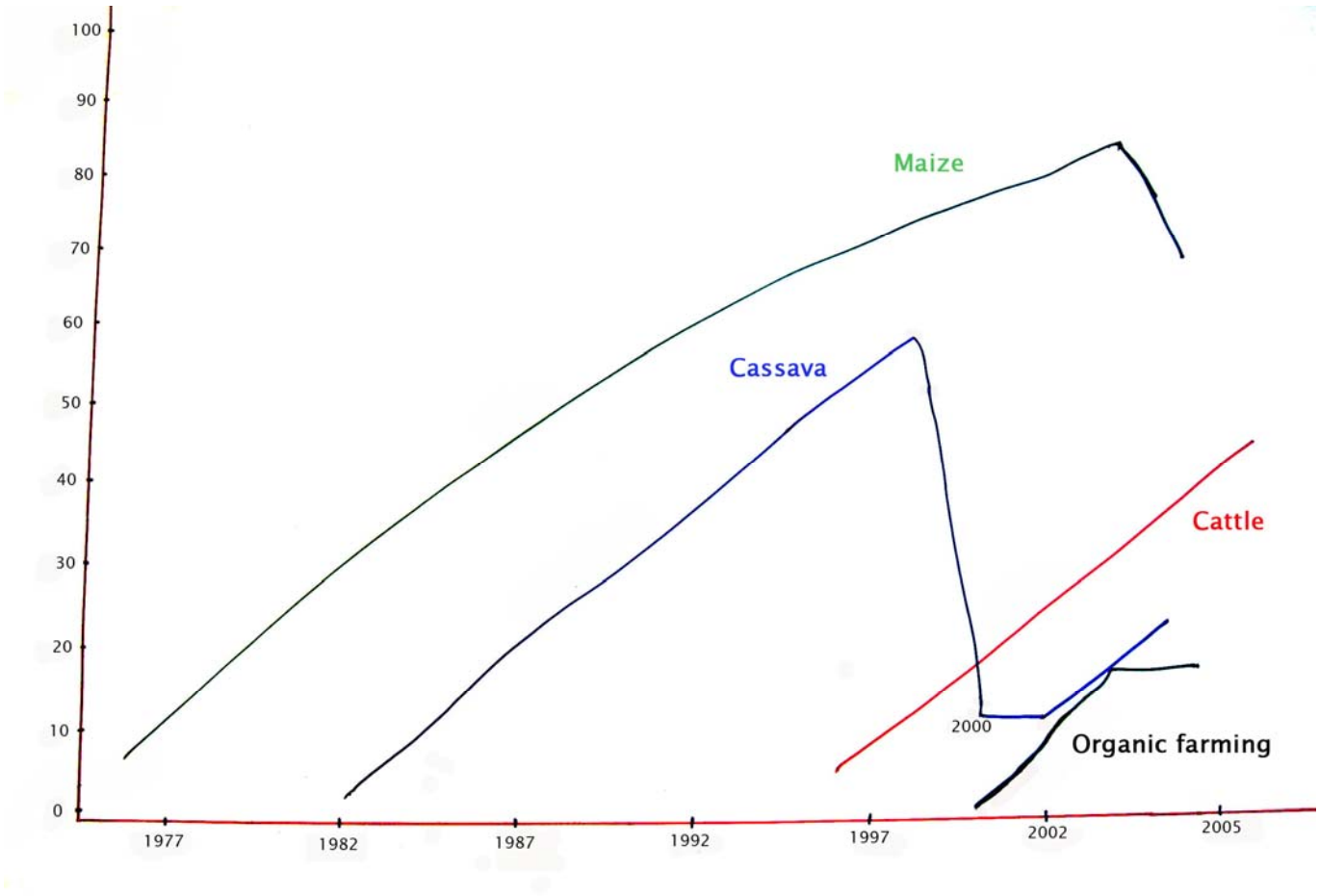
44. What will you do if your own if your children/younger generations migrate and do not return?
_____

45. What will you do with your land? _____

APPENDIX E: Cropping Calendar

Month / Activities	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Cassava	HARVEST →		PLANT →									
Maize	HARVEST →		PLANT →				GROW →				HARVEST →	
Organic farming	ALL YEAR →											
Cattle feeding	ALL YEAR →											
Off-farm work	ALL YEAR →											
Farm work	HARVEST / PLANT →										HARVEST →	
Seasonal condition			LACK OF WATER →						TOO MUCH RAIN →			

APPENDIX F: Crop Trend Analysis



APPENDIX G: Net profit calculations

THB	MAIZE					CASSAVA			
	SLUSE	***HH13***	***HH8***	***HH34***	***HH50***	***SLUSE***	***HH13***	***HH8***	***HH34***
Fertilizer kg/ rai	75	150	112	100	50	50	10	5	10
price / kg	20	11	13.5	10	18	20	10	50	15
Cost fertilizer / rai	1500	1650	1200	1000	900	1000	100	250	150
Herbicide kg/rai		1.8			1.8				
price / kg		156			156				
Cost herbicide / rai	0	280.8	150	140	280.8	0	100	300	200
Seed kg/rai		4	3.5	4	3.8			692	
price / kg		100	100	110	105			1.42	
Cost seed/rai	0	400	350	440	399	0	300	982.64	982.64
Total costs	1500	2330.8	1700	1580	1579.8	1000	500	1532.64	1332.64
yield / rai	750	1500	1000	1200	2000	5000	4000	4000	5000
price / kg	4.5	4.4	4.5	4.5	3	1.45	1.45	1.45	1.45
Profit / rai	3375	6600	4500	5400	6000	7250	5800	5800	7250
Benefit	**1875**	**4269.2**	**2800**	**3820**	**4420.2**	**6250**	**5300**	**4267**	**5917.36**

	SLUSE	***HH8***	***HH13***	***HH34***
MAIZE	1875	2800	4269.2	3820
CASSAVA	6250	4267	5300	5917.36
MARKUP	233%	52%	24%	55%

Appendix H: BAAC loans interests rates

Individual Farmers

Borrower Classification	Symbol	Borrowing Record	Interest Rates (Percent per Annum)
Excellent	AAA	Excellent record of debt repayment with no overdue debt of 3 consecutive years.	(8.00%)
Very good	AA	Very good record of debt repayment with no overdue debt of 2 consecutive years.	(9.00%)
Good	A	Good record of debt repayment with no overdue debt of 1 consecutive years.	(10.00%)
General	B	Newly registered borrower or originally indebted one but all overdue debts have been clear.	(11.00%)
Breach of contract, type 1	-	Borrower with overdue debt stemmed from unintentionally unavoidable cause but the postponement of debt repayment has been approved.	(12.00%)
Breach of contract, type 2	-	Borrower with overdue debt but having no reason based for postponement of the debt repayment.	(14.00%)

Appendix I: BAAC services

These services provide loans directly to individual farmers. The borrowing farmers have to be registered as BAAC clients. They submit their loan proposals to a BAAC credit officer at their local branch or field office. The credit officer helps and advises farmers on the client registration procedures.

People who apply to become BAAC clients must have the following qualifications

1. They must have Thai nationality
2. They must be at least twenty years of age
3. They must be genuine farmers as defined in BAAC regulations
4. They must have sufficient farm experience or training in the field of agriculture
5. They must be permanent residents and undertake major agricultural activities within the operating area of the BAAC branch where client registration will be made, for a period of not less than one year
6. They must produce a reasonable annual marketable surplus of farm produce or be able to improve their agricultural activities to increase their incomes enough to repay their loans
7. They must be honest, well known, industrious and thrifty
8. They must not be of unsound mind or mentally infirm
9. They must not be bankrupt or insolvent
10. They must not have been expelled by any BAAC branch, and must not currently have an outstanding loan with any agricultural cooperative, farmer association or other institution providing agricultural credit

Types of Loans

Credit services to individual farmers, classified by types of loans, are as follows :

1. Short Term Loans for Agricultural Production

The objective of this type of loan is to meet production costs during a given production season, such as costs of land preparation, seeds, fertilizers and labour hiring. This type of loan must be repaid within twelve months, except in extraordinary cases where the repayment may be made within a period of eighteen months.

2. Loans for the Postponement of the Sale of Farm Produce

The objective of this type of loan is to help farmers meet their household expenses while they postpone the sale of produce in order to avoid selling during periods of over-supply and low prices. This type of loan must normally be repaid within six months.

3. Medium Term Loans

Medium term loans are intended for investments in agricultural assets that can be used for more than one year, for example loans for investment in agricultural land reclamation or improvement or the purchase of agricultural machinery or livestock. The repayment of this type of loan is normally required within three years, except in extraordinary cases where the repayment may be extended to five years.

4. Cash Credit Loans

A cash credit line is a kind of short term loan for crop production, which provides great convenience for farmer clients. Once a farmer has entered into a cash credit agreement he or she can make several withdrawals up to the loan ceiling and within the period of the agreement which will not exceed five years.

5. Long Tern Loans for Refinancing Old Debts

This type of loan is for the redemption and repurchase of agricultural land that originally belonged to the farmers, their married partners, children or parents. These loans are intended to maintain the farmers' land ownership. They are also provided for agricultural expenses of the first planting season, investment in necessary farm assets and expenses involved with mortgage of immovable property.

6. Long Term Loans for Agricultural Investment

This type of loan is intended for investments in fixed agricultural assets to improve existing production enterprises or introduce new ones. These investments are relatively expensive and require a long period of time before the enterprises can be expected to break even. Repayments of this type of loan are normally required within fifteen years, or within twenty years in extraordinary cases. A grace period for the repayment of principal and/or the payment of interest may be allowed but normally not for more than the first five years. This type of loan can be available to individual borrowers and to farmers in special projects.

7. Loans for Farm-Related Activities

This type of loan is intended to meet expenses and/or investment costs for activities related to agriculture. These activities use agricultural produce, either from farmers themselves or provided from other sources, as raw materials for processing as finished of semi-finished goods for sale. Qualifying activities may be for either production or services related to agriculture. This type of loan may be classified into two types:

Short term loans for production which are intended to meet the production costs of farm-related activities. Repayment of these loans is normally required within twelve months.

Long term loans for investment in assets used in farm-related activities. Repayment of these loans is normally required within fifteen years, or in twenty years in extraordinary cases.

APPENDIX J: Synopsis

SYNOPSIS

01.03.06

Changes which have occurred in the household resources and how these changes have influenced (and are influenced by) migration and gender roles.

Submitted to:
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1. INTRODUCTION

1.1 BACKGROUND

The province of Nakhon Ratchasima is situated a few hours north of Bangkok and within that province lies Wan Nam Khieo District, close to the watershed area of Lam Mam Mun Bon.

The villagers in Wang Nam Khieo District migrated from other districts and provinces in the North, Northeast and Central Thailand (Tokrisna 2002:77). Within Wang Nam Khieo District lies Klong Sathron Village which is an agricultural community. 27 percent of farming households migrated there before 1972 (Tokrisna 2002:97). Klong Sathorn Village is further characterized by a low yield, lack of capital, lack of agricultural knowledge and shortage of labour in harvest time (Tokrisna 2002:75).

Sometimes the villagers work outside Klong Sathorn Village as construction workers. (Tokrisna 2002:79). According to the report 20 percent of the villagers work outside the village and on average 1 out of five family members does not live at home (Tokrisna 2002:90). In Klong Sathorn Village the annual average off-farm income was 57,100 Baht per household. The highest annual income of 31,500 Baht per was made by government employees, while the second highest income was earned by members working outside the community. Households with members working outside the community received an average annual income of 24,400 Baht from this source (Tokrisna 2002:93).

The villagers in our research area mainly grow maize, for production and consumption and it is also used as fodder for cattle. However, having cattle is a relatively new activity in the villages, but it proves fairly profitable and is supported by government programs. A family generally has 2-3 animals although richer families have up to 10 animals. Cassava is also an important crop in some areas and recently some oil palm plantations have been planted (Letter from Thai counterparts).

Due to a lack of funds, farmers have to get loans from traders in terms of corn seeds, agrochemicals and fertilizers. Thus, corn production is governed by traders. If farmers were to shift from corn to other field crops, no support, such as loans, are given to the farmers. (Tokrisna 2002:30).

1.2 MAIN AREAS OF INTEREST

In order to be able to understand the changes which have occurred in rural livelihoods it is necessary to look into the movements and tendencies there have been within households' resources and major issues of relevance for the existence of rural households such as de-agrarianisation, migration, agricultural practices and land tenure. Naturally, there can be many types of resources supporting a single household, and by no means do we believe that all the households have the same resource composition or have gone through the same changes regarding the mentioned issues. Nevertheless, according to the literature we have read, there are some general tendencies occurring both in Thailand, and more specifically in the province of Nakhon Ratchasima where we will be doing our research.

Some tendencies we have already mentioned in the section above, and in the following section we shall go more explicitly into our main areas of interest for this field course, showing how the situation is now and why we would like to investigate these issues. How we will try to obtain these answers for our research questions is outlined in "*Methodology*". We are well aware, that many issues regarding changing livelihoods could be of importance and interest to both our Thai counterparts and ourselves, however, we shall now focus on the ones that we, through literature research and discussions with our teachers, have estimated as issues of high relevance for the area, and which we consider to be strongly interrelated and which cover the different aspects (economic, agricultural, legislative and social/cultural) of livelihoods.

First of all, a de-agrarianisation process is and has been taking place for a long period of time. Not only do people tend to migrate away from the rural areas, but those that remain in the villages, sell their land to capitalists, becoming tenants of their 'former' land, or move away from agriculture altogether by finding off-farm jobs and alternative sources of income. "The only wealthy farmers …… are those who have sold their land" (Ritchie 1996 in Rigg 2001:53) and due to migration, the absence of successors is leading to the abandonment of agricultural land. (Rigg, 2001) Agriculture is generally perceived to be an occupation with little future and in order to meet rural families' rising needs, they are increasingly obliged to exploit non-farm opportunities (Rigg, 2001).

Occupation	**1974 (%)**	**1985 (%)**	**1991 (%)**
Farming	52.0	47.0	4.8
Farming & wage labour	2.2	17.8	18.3
Farming and other	5.3	2.6	12.5
Wage labour	32.0	26.7	51.0
Self-employed	5.7	4.4	9.6
Govt. employment	2.6	1.5	3.8

Occupational change in Ban Lek, Northern Thailand (1974-91) (Ritchie 1993 in Rigg 2003:216)

We would therefore like to investigate what are the villagers' main household resources, and whether their general pattern of income source has changed since the establishment of the village, including their tendencies to save or their necessities to become indebted. By household resources we refer to a broad meaning of the word including not only the financial assets, but also the physical capital (such as land and mechanised agricultural tools) and human capital (such as labour force and education).

As shown in this section, household resource and income source are very much interrelated with the process of de-agrarianisation and migration, and therefore we would like to investigate who migrates (young/old, female/male), whether the level of migration is increasing or decreasing, the reasons/causes for migration and the effect of migration (labour scarcity and remittances) on the rural community.

According to the information provided by our Thai counterparts, the villages in our research area are still mainly involved in agriculture and to some extent livestock keeping, however, we are interested in investigating whether any changes have occurred in the agricultural practices, not only in relation to a de-agrarianisation process, which has led to labour scarcity in many local communities, (Rigg, 2001) but also in relation to changes in the use of land and the different methods of agricultural practices such as intensification, extensification, mechanisation, (Rigg, 2001) choices of different crops and whether this is evident in the composition of the household resources. Being social science students we do not have much knowledge of farming systems ourselves, therefore we very much hope to gain some knowledge and information on this area through the collaboration with our Thai counterparts.

Another interesting research area would be to see whether 'tenancy' has had a significant impact on 'agricultural productivity' (SLUSE Field Course Report 2006) and whether land tenure security (or lack of) has encouraged or discouraged the de-agrarianisation process. Though lectures we have reached a brief understanding of different tenure relationships and we look forward to gaining more knowledge in discussing this with our Thai counterparts and reaching a common ground on the best way to investigate this issue and its possible effect on land use.

Throughout all the issues we are interested in touching up on gender differentials and whether there have been changes within the male/female working areas, income-earning patterns and tendencies to migrate. Rigg mentions studies which have shown that the technological change in agriculture has led to the marginalisation of women. Such a process either forces women to look beyond the village for employment or retreat to housework (De Koninck 1992 in Rigg 2003:285). According to Parnwell and Arghiros, this phenomenon is also occurring in Thailand:

> *" …mechanisation has seen a decline in the importance of female labour in agriculture as mechanical innovations have become the preserve of men. As a result, a process of*

> *'masculinisation' of agriculture is occurring with a concomitant decrease in women's knowledge about rice production and technology', a decline in their status in rural communities, and an increase in women's dependency on men"* (Parnwell and Arghiros 1996 in Rigg 2003:285).

In some of the research villages 90% of farming households are renting heavy machines to replace animal and man powers (SLUSE Field Course Report 2006) so it would be interesting to see if this marginalisation is also taking place here. Parnwell gives further support to this possibility when stating that most rural migrants to Bangkok prior to the early 1980s were male. But by the middle of the 1980s, surveys showed that as many as two/thirds were female (Parnwell 1993). Similarly we would be keen to touch upon gender issues not only in relation to a mechanisation of agriculture and migration, but also regarding general labour tasks and sources of income. Therefore we would like to make a Cropping and Working Calendar in cooperation with a group of female and male villagers.

Finally we will try to look into the future of the village and whether there is a general move away from agricultural practices and whether the urban life is becoming a preferred livelihood strategy.

1.3 RESEARCH QUESTION

The objective with this field study is to investigate the changes which have occurred in the household resources and how these changes have influenced (and are influenced by) migration and gender roles.

In order to fulfil our objective we have chosen the following research questions which will be investigated through the field work:

1. Have any changes occurred in the villagers' household resources during the last x years?
    a. Source of income (which are the most profitable)
    b. Savings versus debt
    c. Physical possessions (land, animals, mechanised agricultural tools)
    d. Human capital (labour force and education level)
    e. Why have the villagers chosen to make these changes

2. Have any changes occurred in the agricultural practices of the livelihoods during the last x years?
    a. What are the agricultural practices today?
    b. Are they different from before?
    c. If so how?
    d. What are the rationales behind changing the agricultural practices?
    e. What effect do the changes have on the livelihood?

3. How is the tenure situation of the village?
    a. How many of the villagers own their land?
    b. How many of the villagers rent their land?
    c. Is this pattern different from x years ago
    d. If so how and why?

4. How is the migration situation in the village in comparison to before?
    a. Who migrates (young/old, men/women, educated/non-educated, landowners/tenants)?
    b. Why do they migrate (education, off-farm activities which ones, contract farming, lack of funds) and how long? (seasonal, temporary, long-term, short-term)
    c. What are the effect on the livelihoods (labour scarcity, remittances)
    d. Where do they migrate to and where from?
    e. When do they migrate?
    f. Income from migration
    g. Is there a link between amount of household resources and migration?

5. Have their current livelihood strategies enforced changes on the roles of men and women in the household?
    a. How are the labour tasks divided between men and women and if the current situation differs, how does it differ, from previous times?
    b. What has caused these changes?

6. Are the social relations/structures disappearing from the local communities?
    a. Do people feel that they benefit from them?
    b. What is being done to maintain them?

7. How is the future perspective of the village?
    a. How do the children (future generations) foresee the future of the village?
    b. What livelihood strategies do they envision and aspire for?

2. DATA NEEDED

WORKING QUESTION	DATA NEEDED	SOURCE OF INFO	METHODOLOGY
Changes in h'hold resources	Past/present source of income Past/present savings/debt propensity Past/present physical possessions Past/present labour supply/demand Past/present education levels	Headman Villagers School	Interview with Headman Questionnaires with villagers In-depth interviews with selected villagers Collaboration with Thai Group Secondary data
Why the changes?	Indicators of change (milestones) Comparison of profitability	Villagers	Questionnaires with villagers In-depth interviews with selected villagers
Changes in agricultural practices	Past/present agricultural practices	Headman Villagers	Interview with Headman Questionnaires with villagers In-depth interviews with selected villagers Collaboration with Thai Group
Why the changes?	Indicators of change (profit, work/market conditions) Comparison of profitability	Headman Villagers	Interview with Headman Questionnaires with villagers In-depth interviews with selected villagers
Changes in land tenure	Past/present land tenure trends Reasons for keeping their land Reasons for selling Reasons for buying	Headman Villagers	Interview with Headman Questionnaires with villagers In-depth interviews with selected villagers Collaboration with Thai Group
Migration	Past/present levels of migration Reasons for migration Types of migration Effects on livelihood Migration destinations Migration calendars Income generated due to migration Correlations btw h'hold resources + migration	Headman Villagers Secondary data	Interview with Headman Participatory migration mapping Questionnaires with villagers In-depth interviews with selected villagers Cropping and working calendar
Gender issues	Past/present labour task division F/M Reasons for change	Villagers	Questionnaires with villagers In-depth interviews with selected villagers Cropping and working calendar Focus group on labour division
Social structures	Strength/reliance/disappearance of social structure	Headman Villagers	Interview with Headman Questionnaires with villagers In-depth interviews with selected villagers

Future perspective	Aspirations of future generations	Pupils	Future generations activity

3. METHODOLOGY

3.1 RESEARCH METHODS

Our main method of investigation in this field course will be questionnaires and interviews, even though we hope to gain insight into other methodologies through the collaboration with our Thai counterparts. Though a triangulation of methods and data obtained we hope to get a broader perspective on the changes of the livelihood in the villages, with emphasis on de-agrarianisation, migration, agricultural practices and land tenure. Through our investigations we hope to 'discover' which are of mayor importance in our research area, and thereby go deeper into these issues. The preliminary investigations should therefore serve as a baseline study from which we shall seek to obtain knowledge of the current situation of the livelihood, in order to compare it with how it was before, and thereby revealing how it has changed.

At present we have not had enough time to go deeply into the New report; SLUSE Field Course Report 2006, but we hope that it will serve as a valuable source of information on some issues, and we simultaneously hope to consult with other field groups on specific issues and possibly share the research data.

Some to the methods, we have discussed and deem of importance are the following:

1. ***Guided tour, own observations and informal talks with local villagers***

   Upon arrival we consider a guided tour and own observations as a natural way to integrate ourselves into the community. This will enable us to obtain a basic knowledge of the village, its people and ways of life. Furthermore, it may give us insight to further research areas which the data provided does not shed light upon.

2. ***Obtaining secondary data from local administration office***

   (reports, statistical data, aerial map, school registration)

   We have been advised by our supervisors not to rely too heavily on obtaining this data but we will however attempt to get secondary data from the local administration office which may provide us a solid ground from which to base ourselves on. It may also prove valuable to use for comparative purposes with the information we obtain through the questionnaires and in-depth interviews.

3. ***Interview with Headman + community mapping***

Another way to build up a baseline survey of the village is through talking with the Headman. With his assistance we will attempt to set up a timeline highlighting important events in the course of the village history. We hope to utilise some of these key events as mile stones during our questionnaires and interviews. We also plan to work out a community mapping together with the Headman. The rationale behind doing the mapping with the Headman is that we would not only like to know the location of the households, but also the 'wealthy status/social differentiation' of the households, and we consider it to be inappropriate to start such a discussion between the villagers. Also the mapping will help to give us a geographical overview of the village and what different areas are used for.

At the current stage we feel that we have included too many questions in the interview guide, but we have chosen to be broad for now, and then delete some later in negotiation with the Thai students, and in accordance to the most important issues in the village.

4. Questionnaires with households

The sampling strategy we have chosen is that of selective sampling in order to get an overall representation of the local community. Guided by the information obtained through the interview with the local Headman, we will know whether this will be the most appropriate sampling strategy however, we may need to chose an alternative strategy if we find this necessary. We also foresee the possibility of having to adjust our questionnaires, which will then be carried out with the villagers. They will possibly have to be carried out with an interpreter and we will write down the answers ourselves. As in the interview with the Headman, we feel that we may have included too many questions in the questionnaire, and this have been done due to the above considerations. The main objective of the questionnaires is to obtain a general knowledge of some of the individual households in the village. The questionnaires have therefore been directed at households, and not individuals as such. We are aware that the classification of households might be problematic, and therefore we hope to pay this issues further attention once we know a little more about the field area.

5. In-depth interviews

In-depth interviews will then be conducted to further our research concerning important issues or tendencies which have become apparent from the above methodologies. The in-depth interviews have not been elaborated yet, as we plan to do this after making an interview with the Headman and carrying out the questionnaires with the households. Based

on the information we get through these two methods, we hope to be able to prepare an in-depth interview, built on the actual issues of importance in the villages. Who and how many should be interviewed is an issue we will consider after evaluating on the first two methods.

6. ***Focus group session – migratory mapping and matrix scoring***

   With the same interviewees from our in-depth interview groups, we will carry out a focus group activity where we will get them to complete a cropping and working calendar depicting the preparation, cultivation and harvest of the land and climatic seasons hence possibly shedding light on demand and supply tendencies for work.. This we will hopefully be able to correlate with migratory patterns of off-farm/urban work.

   During the same focus group session we will carry out a matrix scoring of labour division to get an idea of what gender is seen responsible for what task and whether this has changed recently. This could also be correlated to an increased necessity to migrate. Furthermore, we believe that this will be a nice interaction with the locals and we wish to diversity our activities to avoid monotony.

7. ***Focus group activity with children – pair-wise ranking matrix and matrix scoring***

   Finally we would like to carry out a focus group activity with the children of the village to get insight to their future plans and aspirations and whether they wish to move away from their rural surroundings. This will be done with a small questionnaire and then a pair-wise ranking matrix focusing on desirable occupations and labour division amongst genders which we will relate to the results we obtained from the focus group with their older generations. We hope to carry out this activity at the local school.

3.2 PLAN B

Once we have met with our Thai counterparts and have had time to make initial observations, we will decide which areas are of interest and we will adapt our research focus and material accordingly. Second, the current order of research methods depends to a great extent on the time, willingness and actual knowledge of the Headman to answer our questions in the semi-structured interview. In case it is not possible to carry out the planned semi-structured interview with the Headman, we will try to obtain answers for our questions through interviewing other (key) persons

who have considerable knowledge of the village. Likewise we cannot be sure that the villagers are willing to participate actively in the more participatory methods such as the cropping and working calendar, should that be the case, we will try to obtain our answers though questionnaires and interviews.

4. COLLABORATION WITH THAI GROUP

The synopsis we have drafted here, will most likely be modified and adapted when we have arrived at our study area and once we have a more in-depth understanding of what the challenging issues in question are. Some of the issues we have considered of importance may be of little importance, and others which we chose to ignore may be of great significance. The research area will have to amended and research methods adapted accordingly.

Secondly, the outcome of our report also greatly depends on our Thai counterparts, both on their interests and their skills. As we have not been able to have any contact with them so far, the following should merely be considered as provisional (optimistic) plans.

We assume that we will be divided into subgroups once we are there.

We hope that the Thai group will collaborate with regards to the following:

- The research and investigations in general
- Contact official institutions for secondary information concerning: past and present use of land (agriculture, forestry, husbandry) if there are any data/info on the village/province, past and present level of education, past and present level of migration, geography maps, aerial photographs.
- Play a vital role in investigating if the use of land has changed and if so, how it has changed, and perhaps an estimation of the natural sustainability of the land and the livelihood strategies in practice.
- Contribute to an understanding of the prevailing tenure situation and its effect on the changes of livelihood.
- Conduct an investigation of changes in natural resources related to agricultural practices (soil erosion, water resources, etc.)

5. TIME SCHEDULE

Dates	Morning	Afternoon
Mon 6 Mar	Meeting with counterpart	
Tue 7 Mar	Meeting with counterpart	
Wed 8 Mar	Discussion and synchronisation of research area with counterpart	
Thu 9 Mar	Discussion and synchronisation of research area with counterpart	
Fri 10 Mar	Travel to study locations	Visit the local administration office Schedule meeting with Headman of following day
Sat 11 Mar	Interview with Headman	Observations + schedule for next day
Sun 12 Mar	PRA + community mapping	Questionnaires + schedule for next day + data analysis
Mon 13 Mar	Questionnaires	Schedule for in-depth interviews + preparation for mid-term evaluation
Tue 14 Mar	Mid-term evaluation	
Wed 15 Mar	In-depth interviews + schedule for next day + data analysis	
Thu 16 Mar	In-depth interviews + focus groups + school activity + data analysis	
Fri 17 Mar	Preparation for community meeting + presentation of drafted final report	
Sat 18 Mar	Community meeting + presentation of drafted final report	
Sun 19 Mar	Community meeting + presentation of drafted final report	Travel to Bangkok

6. REFERENCES

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7. Letter from Thai counterpart highlighting specifications of the area of research

8. Basic Information for the SLUSE Field course 2006 in Nakhon Ratchasima Province, Northeastern Thailand.

7. APPENDICES

Appendix A: Semi-structured Interview with Headman (key informant)

Research questions to be answered:

1. Have any changes occurred in the villagers' household resources during the last x years?
    a. Source of income (which are the most profitable)
    c. Savings versus debt
    d. Physical possessions (land, animals, mechanised agricultural tools)
    e. Human capital (labour force and education level)
    f. Why have the villagers chosen to make these changes

2. Have any changes occurred in the agricultural practices of the livelihoods during the last x years?
    a. What are the agricultural practices today?
    c. Are they different from before?
    d. If so how?
    e. What are the rationales behind changing the agricultural practices?
    f. What effect do the changes have on the livelihood?

3. How is the tenure situation of the village?
    a. How many of the villagers own their land?
    b. How many of the villagers rent their land?
    c. Is this pattern different from x years ago
    d. If so how and why?

4. How is the migration situation in the village in comparison to before?
    a. Who migrates (young/old, men/women, educated/non-educated, landowners/tenants)?
    b. Why do they migrate (education, off-farm activities which ones, contract farming, lack of funds) and how long? (seasonal, temporary, long-term, short-term)
    c. What are the effect on the livelihoods (labour scarcity, remittances)
    d. Where do they migrate to and where from?
    e. When do they migrate?
    f. Income from migration
    g. Is there a link between amount of household resources and migration?

6. Are the social relations/structures disappearing from the local communities?
    a. Do people feel that they benefit from them?
    b. What is being done to maintain them?

Materials needed:
A notepad and pencils. A large piece of paper to draw a timeline on. Gift for the Headman.

Limitation:
The Headman's ability to remember a detailed story of the village.

Approach:

1. Introduce ourselves and explain that we would like some general information about the village.
2. Tell the Headman how many questions we have and how much time we expect the interview to take. Make it clear that we are interested in talking with him because he has a

lot of knowledge of the village, and that he should please feel free to elaborate on the answers.

3. And lastly we will explain to him, that we will use the information we receive from him as a base line for making questionnaires and interviews with the villagers.

Questions: Semi-structured Interview with Headman

1. What are the main occupations in the village?
    a. Farming (farming, husbandry, forestry)
    b. Other types of jobs
    c. Which are the most profitable ones?

2. Is this way of making a living different from previous times?
    a. In relation to the economic crisis.
    b. Other striking indicators or events?
    c. Make a timeline of the village together with the headman

3. What has caused these shifts of income resources (if shifts have occurred)?

4. How is the average wealth today compared to previous times?
    a. Financial capital
    b. Land ownership
    c. Savings/debt

5. Why has it changed (if it has changed)?

6. Regarding the main agricultural practices:
    a. Has intensification taken place?
    b. Has extensification taken place?
    c. Are different crops cultivated?
    d. If so how is the choice of crop today, and how is it different from previously?
    e. What are the rationales behind changing the agricultural practices?
    f. Do the changes have any effects on labour tasks (the labour intensity, the division between men and women)
    g. How much soil is cultivated today compared to x years ago? (overall/household)
    h. How many people are involved in agriculture today compared to x years ago?

7. Regarding the tenure situation of the village:
    a. How many of the villagers own their land?
    b. How many of the villagers rent their land?
    c. Is this situation different from before and if so how and why?
        i. Regarding landowners: Why did they keep their land?
        ii. What crops are they crowing?
        iii. Regarding land renters: Why did they sell their land?
        iv. What has the money from the sale been used for?
    d. Is anyone buying land in the village?
        i. Who?
        ii. What crops do they grow?
    e. Do you believe that there is a link between land tenure and migration?
        i. If so how?
    f. Do you believe that there is a link between land tenure and de-agrarianisation?

8. Where do the people in the village originate from?
    a. If they have emigrated to the villages, where did they come from,
    b. When did they emigrate
    c. And why?

9. If there a tendency to migrate in the village?

10. If so, has this tendency changed during the last x years?
    a. Increase/decrease/stabile

11. Who migrates (young/old, men/women, educated/non-educated, landowners/non-owners)
    a. What are the main reasons for migration? (To get education in another city, to get a better paid job, to get away from farming)
    b. When do they migrate (main seasons)
    c. Do the households of the migrates generally have more or less resources than the people that stay in the village?
        i. Do you think that there is a link between amount of resources and migration?

12. Where do they migrate to?
    d. Do they migrate on a permanent basis, if not how long do they migrate for?

13. If there is a tendency for migration in the village, what consequences does it have on life in the village?
    a. E.g. Labour shortage, change in gender roles, remittances

14. Is there a social network in the village?
    a. If so has it changed through time?
    b. Do people feel that they benefit from them?
    c. What is being done to maintain them?

15. How many of the children go to school
    a. How long for?

16. How has this changed compared to x years ago?
    (the number of years depends on how old the certain village is, and to the milestones in timeline we will elaborate with the headman)

Appendix B: Community Mapping

Research questions to be answered:

2. Have any changes occurred in the agricultural practices of the livelihoods during the last x years?
    a. What are the agricultural practices today?
    b. Are they different from before?
    c. If so how?
    d. What are the rationales behind changing the agricultural practices?
    e. What effect do the changes have on the livelihood?

3. How is the tenure situation of the village?
    a. How many of the villagers own their land?
    b. How many of the villagers rent their land?
    c. Is this pattern different from x years ago
    d. If so how and why?

Limitation:

With participatory methods it is always difficult to know beforehand, how many villagers will be willing to attend, and there can be difficulties in reaching an agreement on how to draw the map. However, it will be a good way to get a feel for the locals and their village.

Materials needed:

Some large pieces of paper and pencils, or a board and some markers.

Approach:

1. Possibly a selection of the participants
2. Introduce ourselves and explain that we would like to know where the villagers live, what land they own, what they cultivate etc.
3. When making the mapping where will also try to note down: age, sex

Appendix C: Participatory Migration Mapping

Research questions to be answered:

4. How is the migration situation in the village in comparison to before?
    a. Who migrates (young/old, men/women, educated/non-educated, landowners/tenants)?
    b. Why do they migrate (education, off-farm activities which ones, contract farming, lack of funds) and how long? (seasonal, temporary, long-term, short-term)
    c. What are the effect on the livelihoods (labour scarcity, remittances)
    d. Where do they migrate to and where from?
    e. When do they migrate?
    f. Income from migration
    g. Is there a link between amount of household resources and migration?

Limitation:

With participatory methods it is always difficult to know beforehand, how many villagers will be willing to attend, and there can be difficulties in reaching an agreement on how to draw the map. We assume that not only have many of the villagers emigrated to the village, a large percentage have also migrated to other places, but due to different types and periods of migration the map might become a bit complicated.

Materials needed:

Some large pieces of paper and pencils, or a board and some markers.

Approach:

1. Possibly a selection of the participants
2. Introduce ourselves and explain that we would like to know where the villagers come from and if any of them have migrated, and if so why and to where.
3. When making the mapping where will also try to note down: age, sex, education and landownership, and ask questions as to whether these issues are relevant in relation to migration.
4. Likewise we will try to start some discussions about the pros and cons of migration.

Appendix D: Questionnaire for Households Survey

Research questions to be answered:

1. Have any changes occurred in the villagers' household resources during the last x years?
    a. Source of income (which are the most profitable)
    b. Savings versus debt
    c. Physical possessions (land, animals, mechanised agricultural tools)
    d. Human capital (labour force and education level)
    e. Why have the villagers chosen to make these changes

2. Have any changes occurred in the agricultural practices of the livelihoods during the last x years?
    a. What are the agricultural practices today?
    b. Are they different from before?
    c. If so how?
    d. What are the rationales behind changing the agricultural practices?
    e. What effect do the changes have on the livelihood?

3. How is the tenure situation of the village?
    a. How many of the villagers own their land?
    b. How many of the villagers rent their land?
    c. Is this pattern different from x years ago
    d. If so how and why?

4. How is the migration situation in the village in comparison to before?
    a. Who migrates (young/old, men/women, educated/non-educated, landowners/tenants)?
    b. Why do they migrate (education, off-farm activities which ones, contract farming, lack of funds) and how long? (seasonal, temporary, long-term, short-term)
    c. What are the effect on the livelihoods (labour scarcity, remittances)
    d. Where do they migrate to and where from?
    e. When do they migrate?
    f. Income from migration
    g. Is there a link between amount of household resources and migration?

Materials needed: A large number of printed questionnaires, with sufficient space to fill in with additional questions and remarks. Possibly small gifts for the respondents.

Limitation: We will try to adjust the questionnaire to the information we receive from the Headman, but there might still be issues that could be of interest in the village that we fail to look into.
It can be complicated to define a household, though discussions with our Thai counterparts and villagers, we will try to come up with a working definition.
Migration is also a complicated issue, and we will try to reach some common understandings of different form of migration with the villagers.

Approach:

1. We will introduce ourselves and explain why we are doing this research.
2. The survey is aimed at a large sample of households in order to get an idea of the village composition, and we will therefore use the questionnaire for all the households if possible,

and if not we will use a selective sampling in order to get a broad representation of the village.

3. The questionnaire forms will be filled in by us.

Questions: Questionnaire for Households Survey

Respondent Profile

1. Name:_____
2. Household No.: _____
3. [ ] Male [ ] Female
4. [ ] Single [ ] Married [ ] Other
5. Age: _____
6. Occupation: _____

Household Profile and Resources

7. Number of people in the household:_____

No.	Relationship	Gender	Age*	# of yrs in school	1st occupation	2nd occupation
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

*1=children<15, 2=early working age 15-24, 3=working age 15-24, 4=senior citizens >60

Agriculture / Livestock

8. How many rai belong to this household? _____
9. Does the household rent any land and if so how much? _____
10. Have you (the household) sold any land in the past few years? [ ] yes [ ] no
    a. How much land did you sell? _____
    b. Why did you sell it? _____
    c. When did you sell it? _____
    d. What did you use the money for?_____
11. Have you (the household) bought any land in the past few years? [ ]yes [ ] no
    a. How much land did you buy? _____
    b. Why did you buy it? _____
    c. When did you buy it? _____

d. Which crops are you growing on it? _____

12. Does the household cultivate any of the following crops:

Crop	Yes/No	Est. size	Own use	For sale	# of yrs Cultivating

13. Which crops were grown:

Before a certain event	After a certain event	Before economic crisis 1997	After economic crisis 1997

14. Do you have any livestock?

Animal	How many?	Own use	For produce	# of yrs keeping

15. Which livestock were kept:

Before a certain event	After a certain event	Before economic crisis 1997	After economic crisis 1997

16. Does the household dispose of any forest resources?_____
_____

a. If so what is this resource used for? _____
_____

17. Regarding the main agricultural practices of the household;

a. Has an intensification taken place during the past few years?
b. Has an extensification taken place during the past few years?
c. What are the rationales behind changing the agricultural practices?
d. Do the changes have any effects on labour tasks (the labour intensity, the division between men and women)
e. How much soil do you cultivate today compared to x years ago?
f. How many members of the household are involved in agriculture today

i. If this situation different from x years ago – if so how?

18. Does the household have any other sources of income? _____
_____

19. How many years has the household had this source?_____
_____

20. What is today your household's main source of money income? _____
_____

21. Do the men and women have separate economies? [ ] yes [ ]no

22. Is there a shortage of labour within the household? [ ] yes [ ]no
    a. if so why? _____
    b. when? _____

23. What was the main source of income:

Before a certain event	**After a certain event**	**Before economic crisis 1997**	**After economic crisis 1997**

Debt/Savings

24. Does the household have more debt than before the crisis in 1992? [ ] yes [ ]no

25. Are you able to save more than before the crisis in 1992? [ ] yes [ ] no

Migration

Emigration

26. How long have you lived in this area?_____
27. Where did you move from? _____
28. What was the reason for moving here? _____
_____

Immigration

Regarding the migration within the household

Person migrated	**Gender**	**Age ***	**Where to**	**Why**	**How long**	**Occupation**	**Send remittance**

*1=children<15, 2=early working age 15-24, 3=working age 15-24, 4=senior citizens >60

29. Did any family members (in your household) migrate due to the economic crisis in 1997?
[ ] yes [ ] no

30. Who migrated? _____
31. and why?_____

32. Has migration had a positive or negative impact on you? [ ] positive [ ] negative

33. In what way? _____
_____

34. Is your household involved in any of the social networks in the village? [ ] yes [ ]no
Why? _____
Why not? _____

Appendix D: Cropping and Working Calendar

Research questions:

4. How is the migration situation in the village in comparison to before?
    a. Who migrates (young/old, men/women, educated/non-educated, landowners/tenants)?
    b. Why do they migrate (education, off-farm activities which ones, contract farming, lack of funds) and how long? (seasonal, temporary, long-term, short-term)
    c. What are the effect on the livelihoods (labour scarcity, remittances)
    d. Where do they migrate to and where from?
    e. When do they migrate?
    f. Income from migration
    g. Is there a link between amount of household resources and migration?

5. Have their current livelihood strategies enforced changes on the roles of men and women in the household?
    a. How are the labour tasks divided between men and women and if the current situation differs, how does it differ, from previous times?
    b. What has caused these changes?

Materials needed: Big paper and crayons.

Limitation: Maybe the people of the village do not use a calendar based on our months. The method has to be adapted accordingly.

Approach:

1. Inform participants about the exercise.
2. Have the chart prepared on a big piece of paper. Fill in the first category (e.g. dry season / wet season). Let participants fill in. Then add next category. While filling it in, discuss if the current situation is different from previous times, and if so why?

Cropping and Working Calendar

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Dry season												
Wet Season												
Hill rice												
Wet rice												
Maize												
Soya												
Oil-palm												
Durian												
Other fruits												
Vegetables												
Other cash crops												
Hunting												
Fishing												
Handicraft prod.												
Off-farm work												
Wood												

** Questions which cannot be answered with P, C or H should just be marked with X

P= Preparation (clearing, etc.) C= Cultivation (weeding, planting, sowing)
H= Harvesting
WO=Women M=Man B=Both

Example: SP+W= Sowing/Planting by Women

Appendix E: Focus Group Interview on Labour Division

Research questions to be answered:

5. Have their current livelihood strategies enforced changes on the roles of men and women in the household?
    a. How are the labour tasks divided between men and women and if the current situation differs, how does it differ, from previous times?
    b. What has caused these changes?

Materials needed: Big piece of paper, 10 "beans" for each area of work.

Limitation: The villagers participating in the discussion might not be able to come to an agreement. Furthermore, the two genders may not be equally represented.

Approach:

1. We might choose the participants according to which household they belong to, or make a random selection.
2. Inform participants about the exercise. They will have at total of 10 beans for each area of work, and then through discussion they will divide these between the before/now and men/women.
3. Have the chart prepared on a big piece of paper.
4. If it is not clear through the discussion, then ask questions as to why certain things have changed.

Focus Group Interview on Labour Division (using matrix scoring)

Area of work	Men		Women	
	Before 1997	Now	Before 1997	Now
Agriculture				
Home-related				
Credit-related				
Cattle-related				
Education				
Purchases of assets				
Marriage of children				
Marketing/selling				

The areas of work are temporary, after further research we will decide which are relevant in our context. For the timeframe we will use the land reform and the economic crisis as indicators. Additionally, we will consider a second matrix scoring for gender related work comparing before 1975 and today.

Appendix F: Future Generations Activity

Research Questions to be answered:
8. How is the future perspective of the village?
    a. How do the children (future generations) foresee the future of the village?
    b. What livelihood strategies do they envision and aspire for?

Materials needed:
Some printed questionnaires and a big piece of paper or a board and some markers. We may choose to provide the children with fruit instead of gifts.

Limitation:
The children may be shy and find it difficult to understand why their opinion is important to us. If the engage in eager discussions, it might be challenging for the interpreter to translate to us.

Approach:
1. Possibly we will make arrangements with the school to come and "interview" the children there
2. Introduce ourselves and explain that we would like to know what goes on in the mind of the "future villagers".

Future Generations Activity

A. Respondent Profile

1. Name:_____
2. Household No.: _____
3. [ ] Male [ ] Female
4. Age: _____

B. Education

5. Do you go to school? [ ] yes [ ] no
6. What grade? _____
7. For how long have you gone to school?_____
8. Will you go to secondary school? [ ] yes [ ] no
9. Where? _____
10. Do you want to go to university? [ ] yes [ ] no
11. Where? _____

C. Work

12. What do you want to be?_____
13. Where do you want to work [ ] here, [ ] big city, [ ] Bangkok, [ ] abroad, [ ] other

Pair-wise Ranking Matrix

1 \ 2	Teacher	Govt. worker	Farmer (land)	Farmer (livestock)	Driver	Ranking
Teacher	@@@@@	@@@@@	@@@@@	@@@@@	@@@@@	
Govt. worker		@@@@@	@@@@@	@@@@@	@@@@@	
Farmer (land)			@@@@@	@@@@@	@@@@@	
Farmer (livestock)				@@@@@	@@@@@	
Driver					@@@@@	

The occupations are temporary, after further research we will decide which are relevant in our context.

D. Gender

Who do you think is responsible for:

	Men	Women
Agriculture		
Home-related		
Cattle-related		
Education		
Purchases of assets		

Marketing/selling		

Migration, head of household, earning the living??? The areas of responsibility are temporary, after further research we will decide which are relevant in our context.