

Understanding Sufficiency Economy

Socio-economic and natural resources sustainability of a land reform programme in Ban Klong Bong Phattana, Thailand



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Executive Summary

The province of Nakhon Ratchasima situated North of Bangkok, more precisely the Bang Khlon Bong Phatana village, is characterized as an arid area for which the implementation of a Sufficiency Economy as different aspects and influences to take in consideration. In this region farming is the main activity transforming this concept in a bigger challenge.

In our study we have taken in consideration a small community named the “Self Sufficiency Estate” that it is just starting to grow within the perspectives of the King’s idea of self-sufficiency, a locally coined term for sustainability. The study was carried out with the objective of studying economic, natural resources and social issues of participating farmers. We gathered information related with household and community resource uses and revenues, analysing and discussing the effect or consequence inherent to the fact of participating in such a project.

By the difficulty and broad range of the definitions of sustainability, we cannot give any precise or definitive conclusion of what will happen in a long term perspective. This is due to the flexibility of the concept of sustainability, making it hard to draw a line for an individual characterization of this definition. But broadly speaking, we found that farmers are working towards sustainability, more effectively at the household level but relatively little at the community level.

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CHAPTER .1 INTRODUCTION

A “Sufficiency Economy” Drive To Eradicate Poverty

The Asian financial crisis of 1997 made Thailand aware of the vulnerability of its economic foundation and problems it was facing because of the heavy reliance on foreign investment, technology and markets. After this, a lot of attention was given to the study and analysis of the King of Thailand address on Sufficient Economy.

*“Sufficiency Economy” is a philosophy that stresses **the middle path** as an overriding principle for appropriate conduct by the populace at all levels...“Sufficiency” means moderation, reasonableness, and the need of self-immunity mechanism for sufficient protection from impact arising from internal and external changes...”¹*

The permission of His Majesty King Bhumidol Adulyadej of Thailand was sought for further assistance as his philosophy of Sufficiency Economy has been part of many addresses to the nation over the last few decades. The National Economic and Social Development Board thought it would be appropriate to use the royal philosophy of Sufficient Economy as a guideline to determine policy, planning and formulating the implementation plan at all levels.² The philosophy of Sufficiency Economy basically provides a guideline on appropriate conduct covering many different aspects of life and is not just limited to the country. It goes to the grass-root level where communities, families and each individual have to apply a certain conduct in life and it further advocates balanced development strategy for Thailand so that the country modernizes while still protecting itself from the shocks and jolts it would receive in the process. To achieve this level its necessary the presence of knowledge and prudence in the utilization of theories and methodologies while implementing and planning their strategies of life. This will help in sustainable development to meet challenges arising from globalization.³

The Ministry of Interior is staging a major move to achieve the goal of the “Sufficiency Economy” campaign in an effort to eradicate poverty. The Ministry of Interior report says that

¹ Unofficial translation of the Thai working definition approved by His Majesty and sent by His Majesty’s Principal Private Secretary to the NESDB on November 29, 1999.

² <http://www.thailandbuddy.com/investment/Thailand-Sufficiency-Economy.html>, March 2008

³ <http://thailand.prd.go.th>, March 2008

Sufficiency Economy must start with people living within their means, as a step towards self-reliance, and then this conduct will be applied at the family, community, district, and provincial levels. The report stresses the need to strengthen all levels, it says that several projects carried out by this administration will help people earn enough to live on, reduce the income gap in society, and empower communities. *“A Sufficiency Economy model must be able to reduce expenses and increase income and savings. It must also help in natural resource and environmental conservation and care for others.”*⁴

The projects include the Village Fund, the “One Tambon, One Product” program, the Community Savings Group, and the “SML” – “small, medium, and large” - village project. The Ministry of Interior has set a target to strengthen one tambon, or sub-district, in each district in accordance with the Sufficiency Economy concept. In 2006, the target was covering 876 sub-districts involving 5,000 villages. At that moment the officials estimated that by 2008, all villages in the country will be strengthened under this concept. In contrast, statistics compiled by the Office of Agricultural Economics show that the number of Thai people working in the agriculture sector has dropped significantly. About 25.2 million Thais are now engaged in farming, accounting for 40 percent of the country’s population. Because of a feeling of insecurity in the farming occupation, many farmers have turned to employment in the industrial and service sectors. If this situation continues, the number of Thai farmers is likely to drop to 37 percent by 2013.⁵

⁴ A “Sufficiency Economy” Drive To Eradicate Poverty, March 2008

⁵ Management of Farmers Groups in Accordance with the Sufficiency Economy Approach , http://thailand.prd.go.th/view_inside.php?id=3226, March 2008

1.1 INTRODUCTION TO SUFFICIENCY ECONOMY ESTATE

The province of Nakhon Ratchasima is situated a few hours north of Bangkok. The province is located on the western end of the Khorat plateau, separated from the Chao Phraya river valley by the Phetchabun and Dong Phaya Yen mountain ranges. Two national parks are in the province - the Khao Yai in the west and the Thab Lan in the south. The province is consisting of 32 districts, and within it lays our district named Wan Nam Khieo. Our particularly district is situated in the south part of the province and consists of 5 villages. In this district we find our study area, the “Sufficiency Economy Village”.

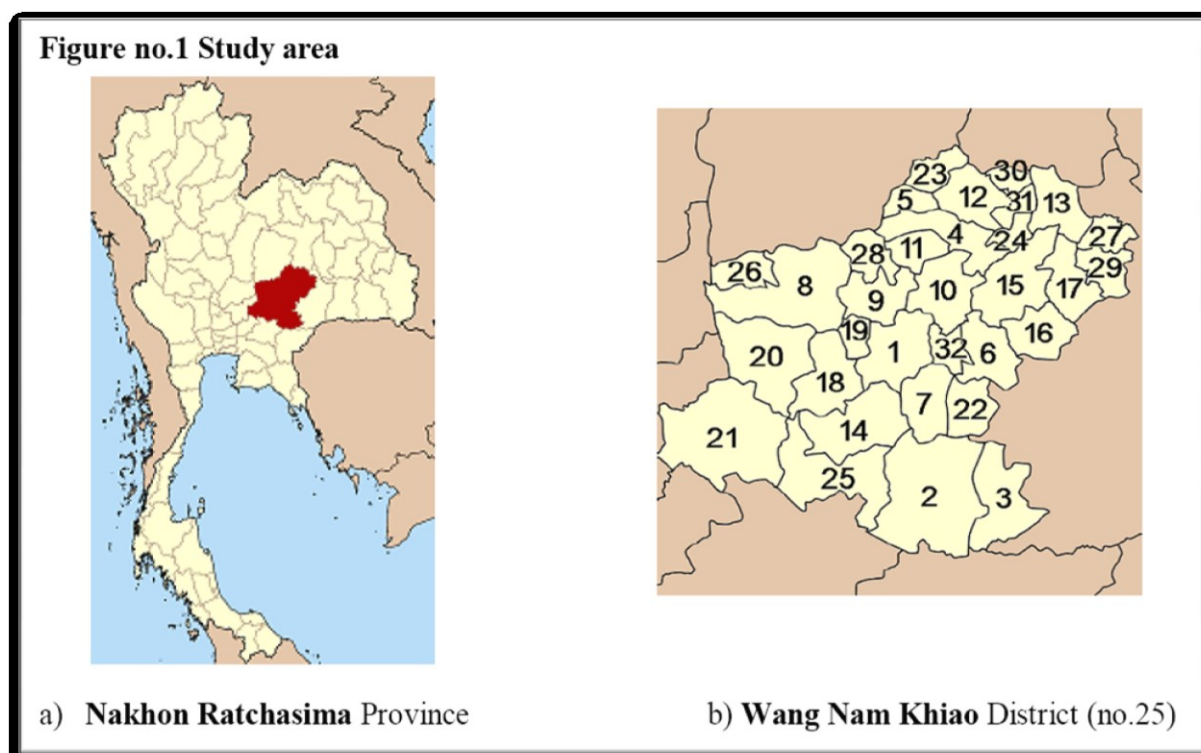


Figure 1 Nakhon Ratchasima province, study area

The land is in a little wavy and slope condition. There are streams and canals in some area. Most of the lands are cultivated with corn, cassava and raising cattle activity is also present in the area⁶. The exact area covered by the project can be observed in Fig no.2.

⁶ According to ALRO Operating Guidelines Report from 22.02.2008

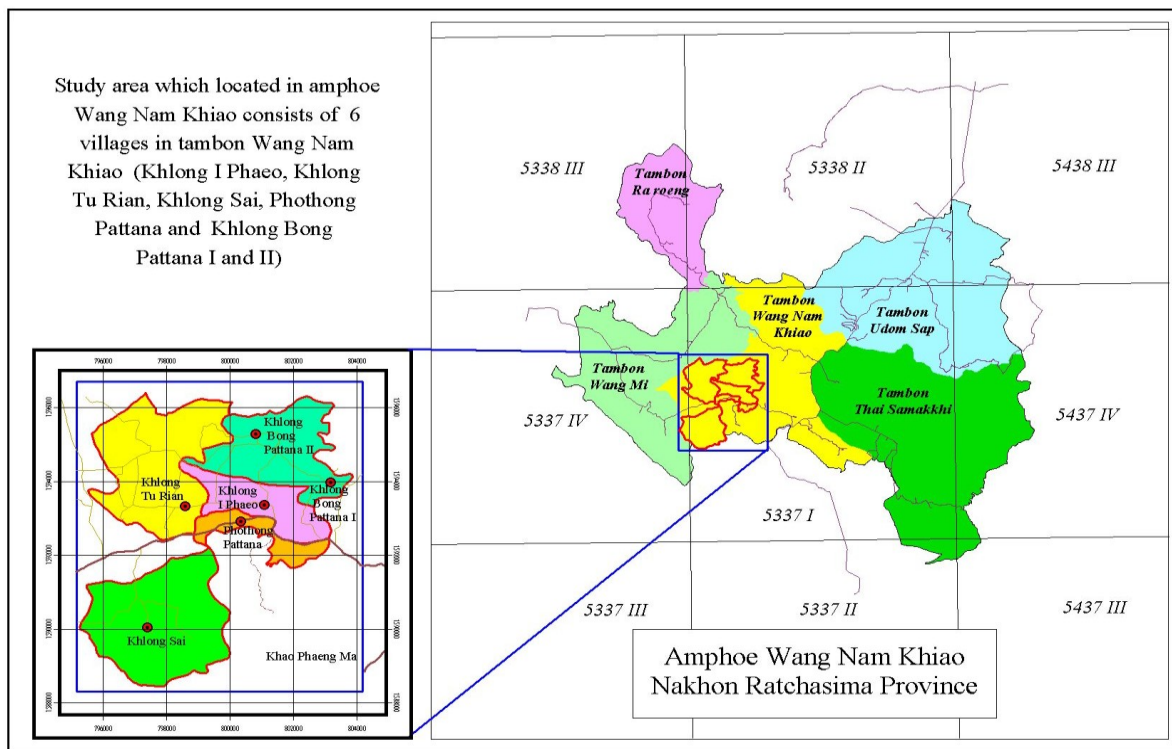


Figure 2 Wan Nam Khiao tambon and Village location, study area

The community of “Sufficiency Economy Estate” was first established in December 2005. Prior to field study, due to various reasons we located the community with the “Sufficiency Economy Estate” as part of village Ban Khlong Bong Phattana, but in process to become an independent village⁷; therefore we used in our synopsis the name of “Ban Khlong Bong Phattana II”. The reality⁸ proved that the community is located in between two tambons, overlapping with other villages, but under the subordination of Ban Khlong Bong Phattana. The probable cause of this could be an unclear definition of villages’ boundary. Although the Tambon Administration Office (TAO), didn’t recognized the area of our project as a village or in process of becoming one.

The entire area of the project is situated on forested area, as it was in December 2005; afterwards ALRO started the deforestation process in order to establish the agricultural land. As we are able to see from the map, only deciduous and secondary forest was present in the area in 2003.

⁷ Jongkroy and Gausset, KU- SLUSE & DUCED SLUSE, Basic Information for the Joint Field Course, 2007

⁸ This was proved by taking GPS points within the community; the points were transferred into the GIS and were overlapped with the original maps offered by ALRO.

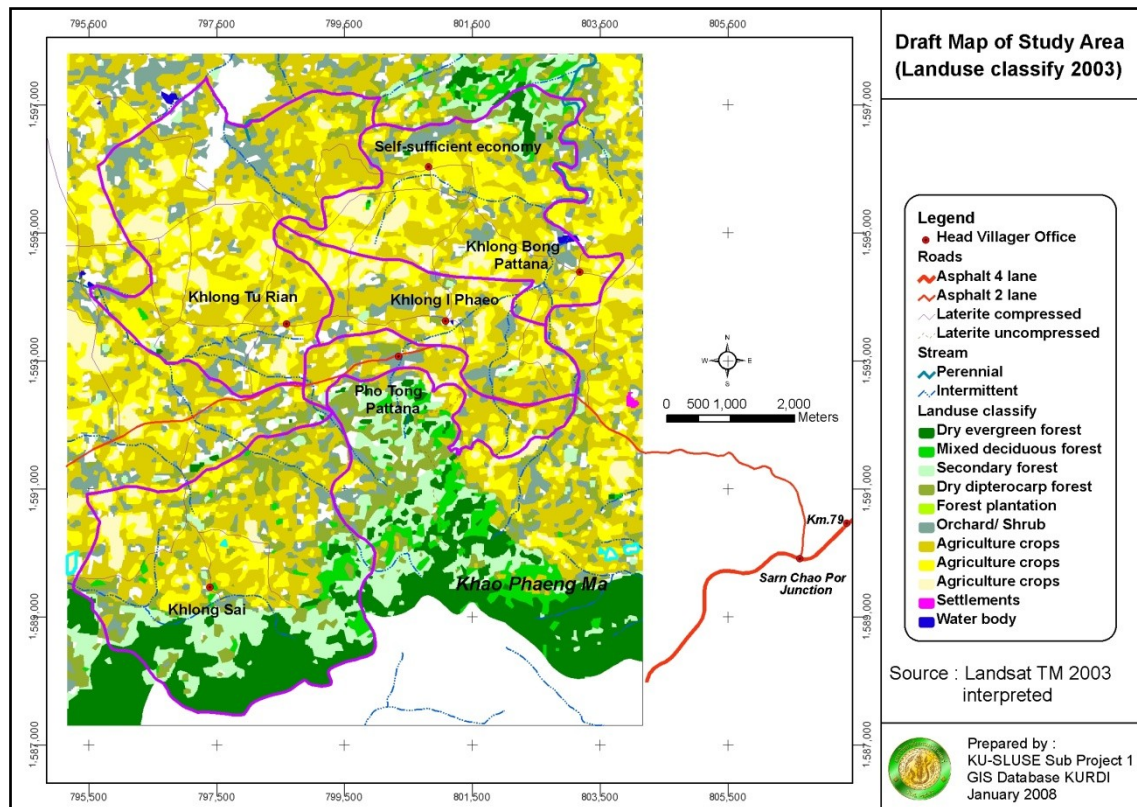


Figure 3 Land use map

We brought this issue into discussion not because it is in our main research objective to discuss whether deforestation was at that time a good decision or not, but because forest is a natural resource. But it is in our objective to discuss whether the villagers from the project area are able or not to reach the level of Natural Resource Sustainability (N.R.S) through Sufficiency Economy Project; N.R.S as a part of Sustainable Development will be discussed in relation with Economic and Social Sustainability. As many can argue sustainability is a strong topic, therefore we will talk about this in a following chapter from our specific study research frame. First we will introduce you to the context of our research.

1.2 CONTEXT OF OUR RESEARCH

In order to be able to understand the changes which have occurred in the rural livelihoods⁹ of the members of the Sufficiency Economy Estate, it is necessary to look into the movements that took place within the household resources and major issues of relevance for the existence of the same. Prior to arriving in the study area, through literature research, we become aware of the major tendencies of (migration, deforestation, changes in agricultural practices, land tenure, sufficiency economy concept) what we thought it might play an important role in North-Eastern Thailand; furthermore we had selected from those issues our main areas of research and sub-research questions (see Appendix 1 for the Synopsis).

As mentioned, the participant community into the project is a relatively new one, and the project is trying to attract as many farmers as possible. Furthermore, the majority of the villagers are farmers hence the income generated from off-farm activities are seasonally and relatively low.

ALRO is the key government agency to implement sufficiency economic programs in the sufficiency economy estate, Ban Klong Bog Phattana and it planned to allocate land for utilization: 267 plots, supplied with water, road and electricity facilities, at the average of 2.5 rais per plot, totaling 645 rais to landless farmers. Since the main thrust of the project is to distribute land to landless farmers and allow them to work in principles of sufficiency economy. So, Majority being landless, from the farmers perspectives, land is always first priority. Existing facilities over the different plots vary drastically; because plots close to the ALRO office have access to pipe water and electricity, but remote plots in northern part do not have access to these facilities, which are crucial for agricultural production. This makes the southern area of community very highly populated compared to other areas.

The first road in the community was built in January 2006, after the deforestation process was finished. Prior to that, the water resources in the community were preparing to be available with the help of water pumps, extracting groundwater. By that time, they started also to implement the community water pipeline; as the community started to take shape, the first generation of farmers finished the training - 43 persons – being the first who were trained to do organic manure and agriculture.

⁹ “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

As a next process, the electricity was implemented in the community, mostly for the use of water pumps. In a short period of time the first generation of farmers started to plant, and practice what they have learned in the training; but in an even shorter period of time they moved out from the project due to insufficient water resources for agriculture. In the following months the farmers started to excavate the fish ponds, and by the end of November 2006 they had one solar panel in the community, and they made a request for another three which they got until the end of the year.

According to our research, about 83% of the villagers are farmers and the each HH, has 2, 5 rais of land and funds both for agriculture and cattle rising. The rest of the percentage is represented as follows, 12% of the villagers are being hired and 5% are engaged in other activities.

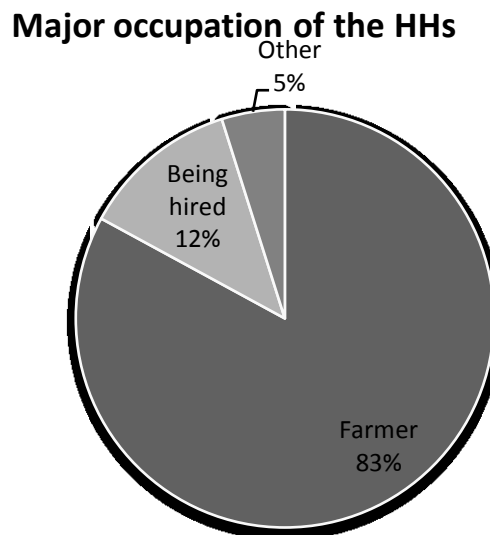


Figure 4 Major HH's occupation

In our study area all the households interviewed were having at least one loan. Therefore a complete involvement of the farming community will ensure the recommendations that arise are acceptable for the end users.¹⁰ To establish an adequate understanding of sustainable development in this particular setting it will be necessary to break it down into the parts that attracted our attention: economic sustainability, natural resource sustainability and social sustainability. For each part we made a separate chapter

¹⁰ Rod D.B. Lefroy et al, Indicators for sustainable land management based on farmer surveys in Vietnam, Indonesia, and Thailand, 2000

and discuss the issue in relation with Sufficiency Economy philosophy and if either this concept is an appropriate tool, for the presented research framework, to reach to sustainable development.

CHAPTER 2 METHODOLOGY

Sustainability is not easy to define and so as the methods to study it, are also not straight forward. Therefore, in order to fulfil stated objective and address research questions, every possible type of social science and natural science methods were applied. The social science methods included a questionnaire survey, semi-structured interviews, informal conversations, focused group discussion, case-studies and different participatory techniques (PRAs). The natural science method was soil analysis. The following section will describe briefly about the applied methods, targeted information and their source of information followed their use in relation to analyse three separate components, i.e. economic, natural resources and social finally followed by reflections on these methods.

Table 1 Brief description of methods

Applied method	Information	Participants
Questionnaire survey	General social and economic information at household level	Household
PRAs	-Well-being ranking -Expenditure and income -Crop preference ranking -Venn diagram -Historical diagram -Problem ranking	Farmers, key informants, head of different village co-operatives, government officials, related experts
Semi-structured interview, informal conversation	In depth information in specific issues like organic farming, natural resources management	Farmers, key informants, head of different village co-operatives, government officials, related experts
Focused group discussion	Information on formally established co-operatives	Organic vegetable, and cattle co-operatives
Observation	Verification and triangulation	Field observation
Soil-analysis	Soil nutrient content	Soil sampling
Case studies	Basic livelihood conditions and strategies	Representative households
Community meeting	Summary of information presentation, and verification	All concerned farmers and officials

2.2 METHODS APPLIED FOR ECONOMIC SUSTAINABILITY

To measure economic sustainability we took into consideration two points of view, from which we applied only one. The first point of view it demands that the total capital should not decrease – which is the one we applied. The second one is requiring that the natural capital should be maintained without decrement; the second point of view which can also be used to measure economic sustainability is mentioned only to emphasise the relation between those two basic approaches – economic and natural resource. We used both quantitative and qualitative methods in order to gather information necessary to judge and measure economic sustainability. As quantitative methods we used questionnaires, with a number of 41 respondents out of 53, to obtain information about income, financing capital sources. No specific formula was used to measure economic sustainability; instead we used those data to show in a roughly manner to show if the community is able to observe the level of income and the debts. About the qualitative methods, we decided to use income and expenditure matrix, well being ranking, and focus group discussion (see annex PRA). As many can argue this may not be the best way to measure economic sustainability, but having a general trend about the income and expenditures of a HH, at community level, we are able to argue their ability to balance those two variables. Whereas from the well being ranking we wanted to obtain information of how the community is divided, from the well being aspect.

2.3 METHODS APPLIED FOR NATURAL RESOURCE SUSTAINABILITY

To gather information on the existing natural resources in reference to sustainability, we collected information on land, agriculture, livestock and water and other important natural resources from questionnaire survey. The responses from questionnaires suggested agriculture land, agriculture crops, water, livestock, grazing land and forest are important natural resources for the community. To get additional in depth information about these resources, semi structured questionnaire surveys were carried out with four key informants in different planned locations of the community. Respondents in semi-structured questionnaire asked to provide detail information about different issues related to the important natural resources like the products derived, management practices, access right, and concerned institutions. Additionally, questions specially focusing into issues related to natural resources were also dealt with while interviewing key respondents including TAO (Tambon Administrative Organization), Village headman and ALRO (Agriculture and Land Reform Officer). Finally, relevant literatures were analysed to have more knowledge in the natural resource management aspects of the study area. So, the methods carried out for information collection for the purpose of natural resource management were qualitative and documentary analysis. Following are

our findings in relation to these important natural resources in the sufficiency economy estate, Ban Klong Bong Phattana.

Three composite soil samples were taken from three types of field viz. unmanaged, one year managed and two year managed for agriculture. Composite samples were made from three different individual samples. Soil nutrient content analysis for ammonium nitrate, potassium and calcium was done following a standard methods developed by Kasetsart University, Thailand.

2.4 METHODS APPLIED FOR SOCIAL SUSTAINABILITY

To gather information on the socio-political matters for this study of sustainability in the self-sufficient is both challenging and entertaining. Challenging because we went to the field with a focus on the self-sufficiency a concept, which did not help us much, to change to focus to sustainability is giving us a better basis for investigations. On the other hand it was entertaining to do interviews, different informal conversations, observations and participant observations. Participant observation¹¹ was for example applied joining the community meeting, but also discovering the hardness of the soil doing soil samples. To have this interdisciplinary approach is absolutely a benefit for the sake of studying sustainability.

2.5 REFLECTION ON METHODOLOGY

Conducting questionnaire survey at the beginning of study made it less effective because it allowed no time for testing it before applying to the real respondents, therefore some bias is expected due to inappropriate structure and translations. It was learn that final questionnaire design should be done after having some knowledge of respondents and context. Not all informants joined the project from the beginning, which favored dominance of old inhabitant during participatory exercises. Case studies with three identified categories of households made easier to know in-depth about an example of livelihood of each category.

Villagers and local project officials were found enthusiastic about the final community meeting and presentation. It made possible to get overview of their conditions. The meeting was also helpful for final cross-checking and validations of collected information. The final community meeting should be organized more systematically because it is a means for smooth closing of study and possible future co-operations.

¹¹ Participant observation is a methodical concept discussed by Hastrup (2004 "Ind i verden")

CHAPTER .3 SUSTAINABILITY AND SUFFICIENCY ECONOMY PROJECT

3.1 ECONOMIC SUSTAINABILITY AND SUFFICIENCY ECONOMY PROJECT

Talking about the overlap of sufficiency economy philosophy with sustainability will bring us back to the information presented at the beginning of this report.

Some can argue that Sufficiency Economy Philosophy will help Thailand to oversee the economic problems of the country and also that “will help in sustainable development to meet challenges arising from globalization”¹². Therefore the conclusion that we are trying to grade is if either the villagers are able to have Economic Sustainability through the Sufficiency Economy Project.

As many can argue, economic capital should be maintained. The widely accepted definition of economic sustainability is maintenance of capital, or keeping capital intact. Thus Hicks’s definition of income – the amount one can consume during a period and still be as well off at the end of the period – can define economic sustainability, as it devolves on consuming value-added (interest), rather than capital.

The highest income generating month is showing to be October, with a score of 10, but with a compensating expenditure score of 7. The months in the year where the income level is equal with expenditure are marked with red; that is showing no possibility for the HH to save or to have any extra income.

The purpose of this PRA exercise was not to collect detail information about the income and expenditure sources, but to get an overview of the financial fluctuations in one calendar year at HH level.

¹² A “Sufficiency Economy” Drive To Eradicate Poverty, <http://www.professorthailand.com/news/99/>, accessed in March 2008

Table 2 Income and Expenditure Matrix

	Jan	Feb	Mar	April	May	June	July	Aug.	Sept	Oct	Nov	Dec
Income	8	2	1	4	1	1	2	2	2	10	2	2
Expenditure	3	2	1	1	10	2	2	3	3	7	2	2

The scale of the matrix ranges from 1 to 10, where 10 is the highest score for the highest income and expenditure and 1 the lowest. This indicates that the first month in which a HH can have the highest income is October (10 points); because in October there is vegetarian festival, so vegetable are sold in a good price. The second is January (8 points) in which New Year Festival is hold. The third is April (4 points) in which Songkran Festival is hold. At the beginning of drought season (February to March), vegetable are not sold so well, because low production due to lack of water and in the rainy season (May to September), vegetable get too much water, so they get rotten and are sold at low price.

The period when there is highest expenditure is the periods when school starts which is May (10 points) and October (7 points). This causes debt to people because the expenditure is higher than income. In short, according to the summary of this diagram, we found that expenditure is higher than income which means every year the villagers will not be able to cover their expenditures. Only according to these key figures, income and expenditures, only knowing the broad generating source of the income and expenditure, we can say that in the community, at HH level, the economic sustainability wasn't reached until the present moment. At some point of the year, the HH is highly dependent on the income from farm activities - agricultural production.

The main source of income in the village is agriculture as it can be seen in Fig 4. The average annual income from the farming activities, according to our research, is around 59.000,00 Baht. Whereas the next income generating activity in the village, "Others" e.g. massage, gives an average annual income of 36.000,00 Baht. The third major off-farm activity who is generating a considerable annual income is "Being Hired"; as we can see, the results show an average annual income of approximately 25.000,00 Baht.

Table 3 Average of Annual income (Baht) per type of activities

Average of Annual income (Baht) per type of activities	
Occupation	Total
Farmer	58571.43
Others	36000.00
Being hired	25125.00

As they are not able to balance their income and expenditure, they have to look for external financial sources. The external sources are represented by loans offered by ALRO, One Million One Village, Commercial Banks in the area and some of them are managing to cover this need with informal loans. (Annex 2 Questionnaires)

Table 4 Average loans per household (Baht)

Average loans per household (Baht)		
Sources	Amount	Annual Interest
ALRO	58939	1,00
Commercial bank	43333	8,00
1 mil. 1 village	19428	10,00
Other	16250	2,50
Average	34487	5,38

With the incapability to cover the expenses and with an average contracted loan of approximately 34.500 Baht per HH it is hardly to believe that any of the HH are economically sustainable. But giving access to credit is a way to build financial capital for the community.

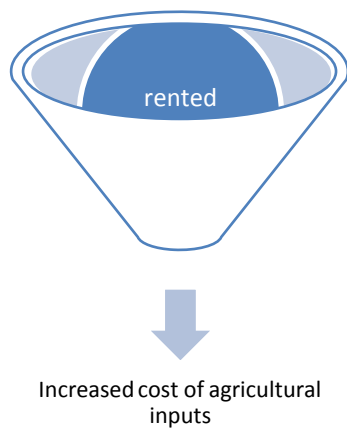


Figure 5 Importance of agricultural inputs
rented tractor is approximately 900 Baht/rais.¹³.

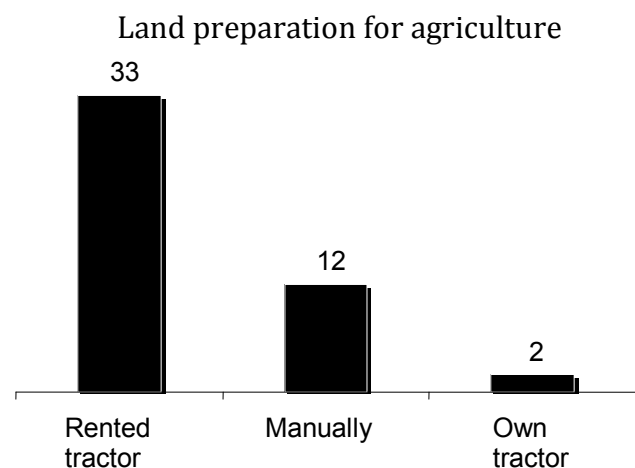
Our total number of respondents, within the project area, is 41, meaning that some of the farmers are using two of the options mentioned in the graph. The figures in the graph are absolute numbers; 33 of the farmers are using a rented tractor, 12 are working their land using human labor and only two of them own a tractor.

Economic sustainability is a component of the Sustainable Development, and is highly dependent on the Natural Capital (NC) exploited. Economics values things in money terms, and has major problems valuing NC, intangible, intergenerational, and especially common access resources. This will be discussed in a further chapter. From our introduction we bring the following statement: *“A Sufficiency Economy model must be able to reduce expenses and increase income and savings. It must also help in natural resource and environmental conservation and care for others.”* Therefore, the situation is contradictory with both economic sustainability and with the anticipated effect of the Sufficiency Economy Philosophy.

Our findings also show that Sufficiency Economy can have different forms in different HH's, see box 1. We bring this into discussion to emphasize the fact that the philosophy of

Most of the farmers involved in the project are working their own land with a rented tractor. This fact shows that besides other problems (lack of water, experience etc.) they have to face also farming system problems. This is considered to be physical capital, and it is one of the causes of distortion of the economic sustainability by increasing the cost of agricultural input. An estimated cost of

Figure 6 Land preparation for agriculture



¹³ Informal talking with the farmers

Sufficiency Economy can create confusion. The working definition of ‘*Sufficiency*’ entails three components: *moderation, reasonableness, and requirement for a self-immunity system*, i.e. able to cope with shocks from internal and external changes¹⁴.

Box 1 Important differences among community HH’s (Annex 5 Well Being Matrix)

Very poor, approx. 10: they didn’t have their own lands. They take bus for traveling and transporting products. Most of them are hired and have no savings deposit. Their monthly incomes are less than 4,000 baht and the highest education of people in this status is lower than secondary school.

Poor, approx. 30: they have 2.5-rai land with 2 heads of cattle and also have mobile phone. Their monthly incomes are less than 7,000 baht and highest education of the people in this status is lower than high school. Cash Flow is not enough.

Moderate, approx. 20: they have 5-rai land with, from which land outside the community and at least 4 heads of cattle. Monthly income is less than 10,000 baht and they have savings deposit 500 baht per month. They can hire a tractor to plough their lands. The highest education of the people in this status is Bachelor degree.

Rich, approx. 3: they have land more than 10 rais, from which lands outside the community. They own tractor and have more than 10 heads of cattle. The highest education of the people in this status is Bachelor degree. They have savings money, around 1,500 baht per month and their income is around 20,000 per month.

Empirically, economic sustainability seems to be reached by a part of the community only, especially by those categorized in the “Moderate” status. At the present moment we believe it would be wrong if we will not take in consideration the economic status of the villagers before joining the project. All the actual villagers from the project area were recruited from the “Poor People List”¹⁵. In conclusion, we can say that the villagers are better off at the present moment in comparison with two years back. They are moving towards the level of “survival economic sustainability”. By “Survival Economic Sustainability” we mean the most basic level of economic sustainability.

¹⁴ SUTHAWAN SATHIRATHAI and PRIYANUT PIBOOLSRAVUT (2004), SUFFICIENCY ECONOMY AND A HEALTHY COMMUNITY, 3rd IUCN World Conservation Congress Bangkok, Thailand

¹⁵ The list was made by ALRO, and its destination was to find poor people in the area, who can join the project

3.2 NATURAL RESOURCES SUSTAINABILITY AND SUFFICIENCY ECONOMY PROJECT

The philosophy of the sufficiency economy is a holistic concept of moderation in consumption and production, while acknowledging interdependency among people as well as between humanity and nature (Suthawan and Priyanut, 2004).¹⁶ But, lack of appropriate knowledge and know-how to manage the environment during the process of economic activities contribute to natural resource and environmental degradation. The impacts include both economic hardship and poor physical health.

The sufficiency economy idea has been highly influenced by painful experiences including drought, and floods. So, the King of Thailand has recommended a secure balance in country's natural resources to be used efficiently and carefully to create sustainable benefits and to develop the nation's stability progressively. People learn to see the importance of and necessity for the conservation of natural resources and the environment.

Box 2 Sufficiency Economy and Natural Resources (PRD, 2008)¹⁷

In a programme on June 5, 2007 to mark World Environment Day, organized by the Ministry of Natural Resources and Environment, with slogan *"Stop Global Warming with the Sufficiency Economy Philosophy"*, Prime Minister Surayud Chulanont pointed out that global warming was a result of the development approach that exploits natural resources and destroys the environment. The ignorance of environmental impacts today would bring difficulties to future generations. He said that Sufficiency Economy is based on moderation, the Middle Path, and less greed, thus contributing to the happiness of the people and natural resource and environmental preservation. He called on people not to overexploit natural resources but to replant forests and conserve soil and water resources to make the world a better place to live in.

Therefore, in our understanding, from the natural resource management perspective self-sufficiency is nothing but sustainability. For the purpose of this study, we define sustainability of natural resources in general as "the capacity of the resources to fulfil requirement of people without compromising its productivity". For people living in rural areas, natural capital, including assets, such as land, agricultural crops, livestock, water, grazing land and forest resources are obviously of key importance for the production of food and income, especially

¹⁶SUTHAWAN SATHIRATHAI and PRIYANUT PIBOOLSRVUT (2004), SUFFICIENCY ECONOMY AND A HEALTHY COMMUNITY, 3rd IUCN World Conservation Congress Bangkok, Thailand.

¹⁷ PRD (The Government Public Relations Department), 2008, (http://thailand.prd.go.th/view_inside.php?id=2000) 07/04/08

in agriculture based economy. The ways in which people have access to these resources - ownership, rental, common pool, etc. - need to be considered as well as the condition of the resources themselves, their productivity, and how they may be changing over time (Messer and Townsley, 2003).¹⁸ It was important to understand the linkages between community's livelihood and sustainability of natural resources. Therefore, from sufficiency philosophy perspectives, sustainable management of natural resources is an important asset for long-term livelihood improvement of rural farmers.

Box 3 Natural resource sustainability from FAO point of view

Food and Agricultural Organization (FAO, 1996)* “the key word in sustainable natural resource management is management. Management is not about the provision of a ready-made, top-down list of solutions. Rather, it is about the creation of a framework or environment which facilitates the assessment of issues and problems, in close consultation with the local population, and the development (and continual refinement of) effective strategies and action plans to maintain the balance between resource capabilities and their utilization. In order to achieve this within the framework, there must be a management system and structure which can:

- Define in quantitative terms the potential and limitation of each resource and set a level for its sustainable use within these parameters;
- Ensure that each resource is deployed for the most effective of alternative uses in terms of output;
- Endeavour to maximize the benefit from exploitation of natural resources accruing to the resource owners, both at local community and national levels;
- Recognize the risks and costs associated with under-utilization (and not just over-utilization) of resources.”

The diversity of uses of natural resources in the community is also very high, which could be divided into direct use value (e.g. of land and water used for agricultural production) and indirect use value (e.g. erosion protection from forest) (DFID, 1999)¹⁹.

¹⁸ Messer, N., and P. Townsley. 2003. Local institutions and livelihoods: guidelines for analysis. Rome: FAO

¹⁹ DFID, 1999. Sustainable Livelihood Guidance Sheet

*FAO (1996), Sustainable Management of Natural Resources in the South Pacific (<http://www.fao.org/sd/DOdirect/DOEngC06.htm>) 03/04/08

ALRO has been managing natural resources through land allocation and development activities. In so doing, the landless and small farmers are able to have land for cultivation, loan for starting production and provided with some supporting services like water, electricity and basic infrastructures (MOAC, 2006).²⁰ Farmers involved in the programme have also access to common natural resources like forest, grazing land and community ponds, but the rights to access are not well defined. Following chart shows an overview of major natural resources and land uses in the sufficiency economy estate.

Major natural resources and landuses in the project area

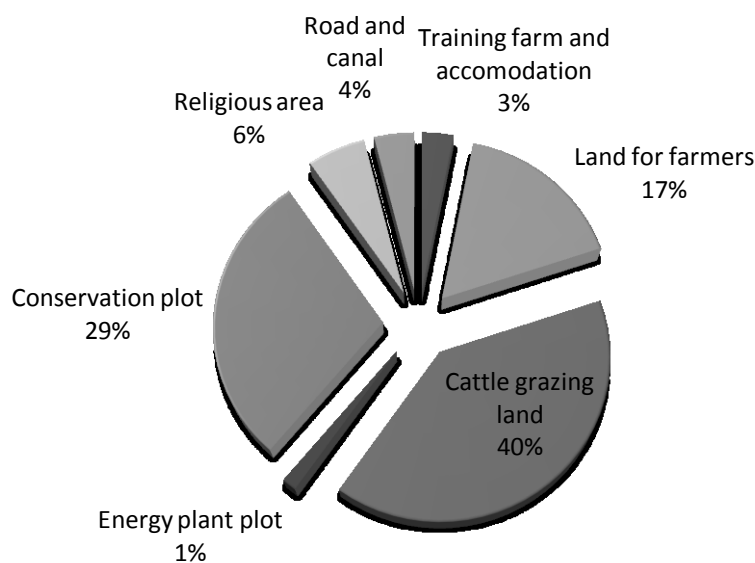


Figure 7 Different land uses within the project area (Source: ALRO)

CATEGORIES OF NATURAL RESOURCES IN THE COMMUNITY

To study management perspective of natural resources in the project area, we categorised them into household and community levels. Farming plots, agriculture and livestock are the resources managed by each household, while community forest and grazing land belong to the community managed resources.

²⁰ MOAC (Ministry of Agriculture and Cooperative), 2006. National Report On Agrarian Reform and Rural Development in Thailand, Agricultural Land Reform Office (ALRO).

Natural Resources sustainability at household level

At household level sustainability should be reached if a management of the assets is well done and basic requirement of household is fulfilled. Land, agriculture and soil are important factors for this point, in order to give an overview of its importance and management we will discuss these aspects in the following paragraphs.

Land

Land is the primary source of production, and income generation of rural people. In Thailand as a whole, ALRO issued ALRO 4-01 land certificates to 405,869 families over 1.25 million hectares from the start of the land reform project in 1975 to 1993 (with over 50% of this output being in 1993) (LTP, 1995).²¹ Farmers have following rights in ALRO lands.

Box 4 Rights that farmers can have on ALRO land (ALRO, 2008)²²

1. To be allocated lands for living to be adequately for living.
2. To have rights to build house, excavate ponds or build other constructions for agricultural uses.
3. To have rights to obtain credits from Land Reform Fund.
4. To be able to take the deed rights document to participate in the Government's project on transforming assets into capital.
5. To be able to obtain the academic services from ALRO in forms of knowledge center for communities sufficient economics.
6. To have right to receive information from ALRO.
7. To be supported from ALRO so that farmers can consolidate in form of sufficient economic settlement.
8. Farmers will have rights on development of land for living and source of water so they can use them for agricultural purposes.
9. In case of decease, farmer can transfer rights to use benefits in land to the relatives.

²¹ LTP (Land Titling Project), 1995, Land Policy, Management and Administration Study, Thailand Environmental Institute, Final Report, September

²² ALRO, 2008 (Agricultural Land Reform Office home page) http://www.alro.go.th/alro/eng_web/index.html, 02/04-/08

Following are our findings in relation to these important natural resources in the sufficiency economy estate, Ban Klong Bong Phattana.

Impacts on health arising from the overuse of chemicals for cultivation are obvious. Thailand's annual consumption of pesticides and fertilizers per hectare of cultivated land increased respectively from 7 kg and 0.3 kg in 1961 to 183 kg and 2.6 kg in 1999 respectively.



Figure 8 One of the organic farming in the self sufficiency economy estate

Each year, two to four thousand patients have been both fatally and non-fatally injured from chemical exposure in the agricultural sector. The figures are likely to be under-reported, as they do not include those unattended by soil experts. High use of fertilizers have deteriorated soil quality and precipitated soil erosion ²³(MOAC, 2006). To cope with these problems, organic farming forms one of the major components of sufficiency economy philosophy.

Organic Farming and its principles:

A definition of Organic Farming can be given as a production system which avoids or largely excludes the use of synthetically compounds, such as, fertilizers, pesticides, herbicides, growth regulators and livestock feed additives (Lampkin 1992)²⁴. Or in a more complex way, “...As far as possible, organic farmers rely on crop rotation, green manure, compost, biological pest control, and mechanical cultivation to maintain soil productivity and control pests. Organic farming is often contrasted with conventional chemical farming” (Wikipedia)²⁵.

²³ MOAC (Ministry of Agriculture and Cooperative), 2006. National Report On Agrarian Reform and Rural Development in Thailand, Agricultural Land Reform Office (ALRO)

²⁴ Lampkin N 1992. Organic Farming. Farming Press

²⁵ <http://www.wikipedia.com>, March 2008

This type of farming follows some basic principles in order to maintain itself in a line of ideals. In terms of self-sufficiency these principles have some relevance, this because if accomplished there is a possibility to become self-sufficient.

The main principles are:

- Production of high quality food in sufficient quantity;
- Maintain as much as possible a closed system;
- To maintain and increase a long term soil fertility;
- Avoid all kinds of pollution;
- Give livestock conditions of life as possible that allows them to behave naturally;
- And finally to maintain the genetic diversity of the agricultural system and its surroundings.

Of course that to get started or to have some stability it is necessary some types of inputs (mostly economic). After some time of following this concept of farming you should reach a level of independence or a “sustainable farming system”.

If we take in consideration the King’s philosophy it is possible to see a match or some similarities with organic farming, but in a more deep view it is possible to find more points in common with a sustainable system. So what is a sustainable farming system?

Several definition are currently being used but one of the most accurate is the one given in Wikipedia, where it states that “Sustainable agriculture refers to the ability of a farm to produce food indefinitely, without causing irreversible damage to ecosystem health.” There are four properties connected with this concept, FAO²⁶ describes them as “...an agro-ecosystem’s performance can be realized with respect to the goal it has to fulfil. These properties are productivity, stability, equitability and sustainability. *Productivity* is defined as the output of valued product per unit of resource input (yield, income per hectare, total production per household or region, etc.). *Stability* is defined as the constancy of productivity in the face of disturbing forces that arise from normal fluctuations and cycles in the environment. Stability can be measured, for example, by the coefficient of variation in productivity, which is determined from a time series of productivity measurements. The third property, *equitability*, is defined as the evenness of distribution of the productivity of the agro-ecosystem among the human beneficiaries. The fourth of these properties, *sustainability*, is

²⁶ http://www.fao.org/regional/seur/Review/Sust_far.htm, consulted on April 2008

defined as the ability of an agro-ecosystem to maintain productivity when subject to stress or shock. In this case, stress is defined as a frequent (sometimes continuous), relatively small and predictable disturbing force that has a large cumulative effect. Examples of stress are salinity, toxicity, erosion, indebtedness and declining market demand. Alternatively, the disturbance can be caused by a shock, which is defined as an infrequent, relatively large and unpredictable force that has an immediate effect. Examples of a shock are a rare drought or flood, a new pest or a sudden rise in input price. Following stress or shock, the agro-ecosystem may be (a) unaffected, (b) may fall and then return to the previous level, (c) settle on a lower level or sometimes (d) may disappear altogether. Various measures of sustainability are available: inertia (resistance), elasticity, amplitude and malleability.”

After understanding these two concepts of farming systems it is possible to correlate the type of farming done in our research community with one of the previous ones.

With the observation done and all the interviews and informal conversation, an attempt of sustainable system is beginning to grow between farmers. Due to several factors (lack of information, communication, etc) there is still not a true guideline for these farmers, some alternate between the “organic” and conventional production and the ones trying to be organic don’t follow all the basic rules/principles to become one.

For sustainable productivity, land should be rich in nutrient content. So, we thought it would be interesting to look effects of farming in the project area. For this purpose, we took soil samples from three composite samples from three kinds of farming history, namely, one year of farming, two years of farming and no farming at all. Table in Annex 11 shows detail of farming history of the plots and Annex 10 shows result of soil sample analysis.

The analysis, as shown in the figure below, suggests that there was some improvement in nutrient content of soil between unfarmed and farmed fields but there were no visible differences between one year and two year farmed fields.

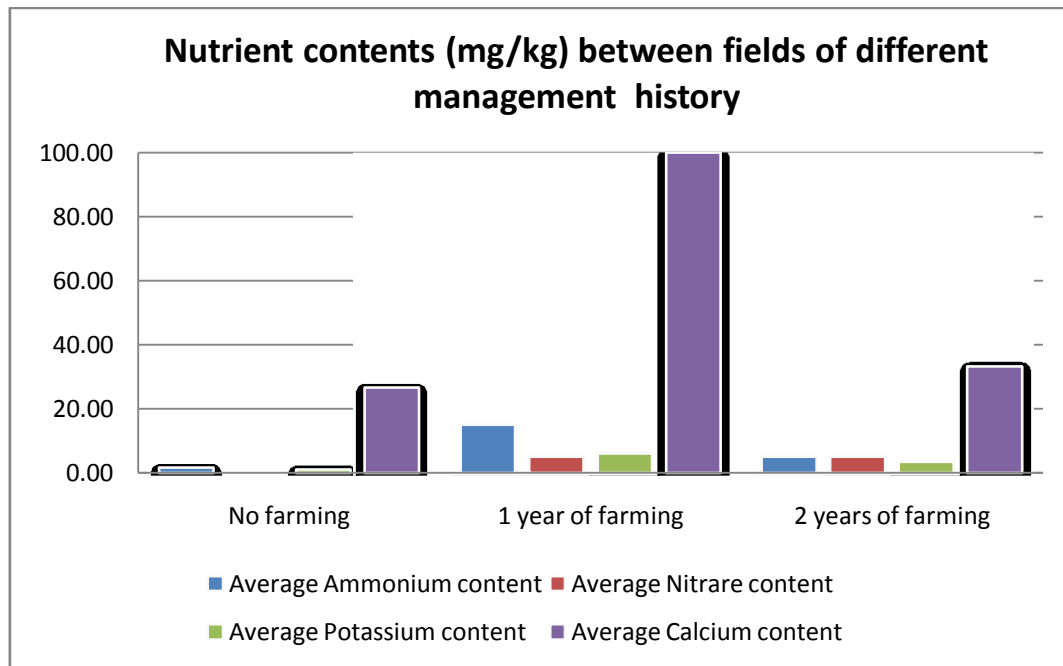


Figure 9 Nutrient contents (mg/kg) among fields of different management history

Water

Natural resources management include water usage as an important criterion in a sustainable management practice, for this reason a brief overview of its utilization is presented below.

Water resources are all sources that can potentially be useful for humans, ranging from own consumption to agricultural, industrial or even recreational (FAO) uses.

As a resource, water in our community is used for different purposes as irrigation, household consumption, fishpond and livestock uses. Although a water supply system was established in all the plots, water was not supplied to most of them and this was the most important factor for farmers not to occupy or to leave the plots even after registering to the project. For drinking purposes, rain water was collected and stored in big vessels and to be consumed all year around.



Figure 10 Collection of rain-water

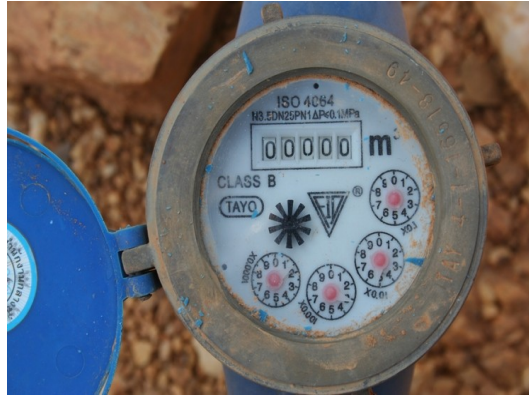


Figure 11 Water system is installed but water does not exist in many of the plots

An adequate sustainable utilization of water implies a proper irrigation system, taking in account losses and irrigation period.

In the study site, water was pumped from an underground stream and then distributed to users. It was also possible to find at least two types of water usage, rain water and piped underground water. Some households were using rain water to their own consumption and at the same time their crops were rain fed. On the other hand it was possible to find farmers using irrigation systems; sprinkler irrigation was the choice for all of them. This kind of system has some disadvantages regarding its management. It is a cheap and easy system to maintain but has important water losses due to evaporation and run offs. With the price of water being quite high (5 bahts²⁷/unit), for the community standards, all the water losses have a big impact on the household, also the irrigation period is not so well programmed, on the daily temperature pick it was possible to find some irrigation systems working.



Figure 12 Different irrigation systems in the community

²⁷ 1 Baht = 0.15 DKK, 2008-04-08

In relation with water, fish ponds are another source of water usage. Community members are authorized to build their own fish-ponds with consent from ALRO, they are allowed to build it any size they want and choose the type of fish they prefer. The ponds are filled with rain water and in some rare cases with piped water. These ponds are used mainly for household consumption but when necessary the fish is sold or exchanged for other goods with some neighbour. Fishes are mostly fed with leftovers and in some households sometimes with fish tablets but because of its price it is not so common.



Figure 13 Fish pond in one of the farmer's household

Cattle

Raising cattle was one of the major livelihood strategies for most of the household. 95% of respondents were member of cattle co-operative groups and more than 65% of household were found to be engaged in cattle rising. Final analysis of questionnaire data shows there were average more than 3 heads of cattle per household.

Natural Resources sustainability at community level

Management of communal natural resources like water, forests, pastures, communal lands is equally important from sustainability point of view, because these are the sources for important products for sustainable livelihood and help stabilize the whole physical environment. For the sustainable management of common resources; on one hand, access, participation, technical know-how and decision making rights at community level are crucial but on the other hand, extend and productive capacity of these resources are also important. Looking at the extend of natural resources at the self-sufficiency estate, allocated land was covered with natural forest before the beginning of the programme, when the forest degradation started to take place; government decided to distribute the land among farmers

through ALRO, primarily for agricultural purpose. ALRO later additionally deforested agriculturally suitable area for the purpose of land reform. So, the forest has always been under pressure. Currently, even focus of the programme is to allocate land for agriculture; environmental aspects have also been considered. According to ALRO data, 52 rais has been allocated for Energy plantation (for firewood production) and 1116 rais has been allocated as environmental conservation zone. These areas include community forest (316 rais), food bank plantation (200 rais) and energy plantation (52 rais). The detail of food bank plantation carried out in 2006 is presented below. Purpose of the plantation is to grow tree that give fruit and large trees in order to make the land look green and to enrich soil and water resource, furthermore it will be food resource for the community and expected to be looked after for sustainable consumption.

Table 5 Trees planted in food bank Plantation carried out in 2006 (Source: ALRO)

Common name	Scientific name	Family	Number of plant	Area planted (rais)
Tamarind	<i>Tamarindus indica</i>	Leguminosae	14100	70
Cassod Tree	<i>Cassia siamea</i>	Caesalpiniaceae	12000	60
Colan	<i>Nephelium melliferum</i>	Sapindaceae	7600	40
Siamese Neem	<i>Azadirachta indica</i>	Meliaceae	3500	15
Parkia	<i>Parkia Speciosa</i>	Minosaceae	1800	10
Sweet bamboo	<i>Dendrocalamus asper</i>	Gramineae	1000	5



Figure 14 Local, natural forest with sparse young trees and limited regeneration

Remaining natural forest patches in the community are sparse and young and primarily conserved. Villagers don't have legal right to manage forest, but they have informal arrangement for different forest improvement activities like plantation and fire break preparation. People collect minor products like mushroom, grass, bamboo and firewood from dead trees. After careful consideration of the information gathered, we can only confidently classify the local community as authorized users (Schlager and Ostrom, 1992)²⁸, since the local village body and ALRO currently have more power and control over the forest and other community resources than the community itself. ALRO has been implementing programmes like seedling distribution for plantation and awareness creation in the project area.

Cattle were predominant managed by letting to graze in the adjacent open access grazing land, forests and fallows. The forest was already in a clearly affected state with a visible high grazing pressure with trees and bushes browsed up to 1.5 meters and little regeneration of saplings was found.



Figure 15 Freely grassing cattle

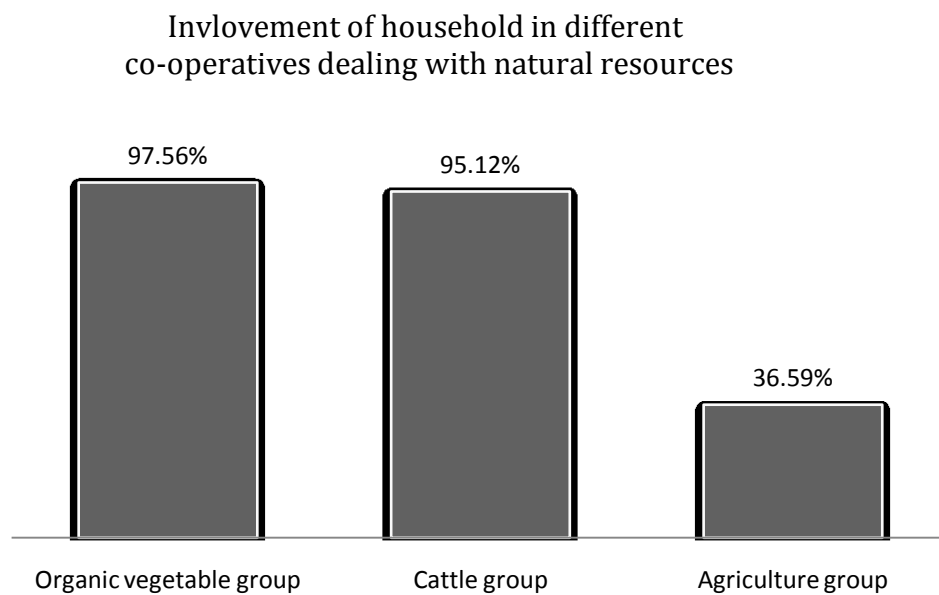
As the Ban Klong Bong Phattana village body is responsible for law enforcement, the community natural resources including forest is not exclusively used by the project community only, people from the outside the project area within the village have equal access and right to the common resources. The way of involving local communities was a type of co-management. Community's involvement in activities such as plantation, fire control is quite

²⁸ [Schlager and Ostrom, 1992](#). Schlager and E. Ostrom, Property right regime and natural resources: a conceptual analysis, *Land Economics* 68 (1992).

bottom up while the decision making process and formation of laws governing use of the common resources was top down. However harvesting of minor products like firewood, fodder, cattle grazing were openly accessible.

Therefore, de facto management of forest and grazing land systems exist because many activities were found based on an informal arrangement between local government officials and the villagers.

Natural resource management cooperatives



(Questionnaire survey of 41)

Figure 16 Different co-operatives related to natural resources

Farmers have three major co-operative in the community concerning to natural resources, namely, organic vegetable, cattle and agro-tourism. These co-operatives help farmers with same interest in sharing information and get external support. ALRO has been helping these groups through trainings, information sharing and making external linkages. Farmers have been involved in grassland improvement through cattle co-operative group. They are basically supported by ALRO to improve the condition of grassland.

505 Company Limited	<ul style="list-style-type: none"> •Supporting activity to Cattle •Corporation according to the project •Product price assurance •Practicing and occupation training
Organic agriculture in reforming land cooperative	<ul style="list-style-type: none"> •Supporting activity to organic agriculture •Corporation according to the project •Seed provision, seeding, technology and marketing •Product price assurance •Mixed practicing farm •Occupation training
Green Fresh International Limited Company	<ul style="list-style-type: none"> •Supporting activity Jujube Zizyphus •Corporation according to the project •Occupation support •Production Plan • Market place •2.5 rais 150 trees <p>(Source ALRO)</p>

Figure 17 Companies linking with farmers to support management of natural resource

ALRO has been playing important role in bridging relation between farmers and different companies for the purpose of better market access, training and other supports to the farmers. This may encourage farmers to get involved in the organic production, make higher and assured incomes. Therefore, this is also important from economic sufficiency point of view.

Conclusion

Farmers at the household level are actively managing resources, but sufficiency at this level depends on provided services like water and electricity supply and capacity and knowledge of farmers to invest. But at community level, farmers have limited access to resources and due to lower productivity, and are able to derive only limited productions and they are still in need of conserved management. Involvement of formal cooperative groups in some of the natural resource management are encouraging and highlights possibilities of farmers involvement in communal natural resources, which is important from sustainability point of view.

Specifically, current practices in the community shows people have freedom to decide how to manage resources at the household level but they have restrictions to make decisions at the

community level. Therefore, Participation in natural resource management was highly context specific and its effects range from coercion to full control (Hobley, 1996)²⁹.

Local ALRO seems to be aware of sufficiency issues in natural resources as they have programmes like training on organic farming, grazing land improvement, plantation and conservation of existing forest. Programmes such as agro-forestry, community forestry, mixed cropping with trees, food bank plantation or even straightforward tree plantation should be designed and implemented more effectively. They potentially are environmentally oriented in nature. Such venture, however, encounters a number of challenges to the ALRO proper project designs, selection and restriction of project activities, especially institutional innovation needed in the community forestry (how to make the resources exclusively under the control of community farmers). This complexity must be dealt with, if land reform can, as it should, be directed toward the restoration of natural resource bases (SEAMO, 2008).³⁰

Therefore, looking beyond the problems facing sustainable agricultural development, there are more serious development issues whether land reform can contribute to natural resources sufficiency, since forest land has been transferred to the landless families under the land reform programme. Such environment degradation may be averted, if the ALRO and the Department of Forestry cooperate in protecting existing natural resources as well as allowing people to utilize products in a sustainable basis.

From the above discussion, it could be concluded that there are few farmers with sufficient knowledge of organic farming, sources of input and easy accessibility to irrigation and electricity. These farmers have been using natural resources sufficiently to some extent at the household level. Whereas due to limited access and less productivity of natural resources at the community level, they are not sustainably managed but activities are targeted towards making those resources sustainable in future.

²⁹ Hobley, M. (ed.) (1996). Participatory forestry: the process of change in India and Nepal. Rural Development Forestry Study Guide 3, Oxford: ODI.

³⁰SEAMO (Southeast Asian Ministers of Education Organization), 2008.

(<http://seameo.org/vl/landreform/ir6.htm#The%20implementation%20problems>), 1/4/2008

3.3 SOCIAL SUSTAINABILITY AND SUFFICIENCY ECONOMY PROJECT

In present report is the concept of sustainability examined in relation to Economics and Natural Resource management and it is discovered that sustainability is difficult to reach, in the following will we turn the analytical focus to social sustainability.

Box 5 Discussion on Social sustainability

Social sustainability, can be seen as a both the highest and lowest importance while talking about sustainability. Furze et. al (1996) are awkwardly arguing that social perception is the key element in natural resource conservation and is therefore the most important element while speaking about sustainability. On the other hand can Preman (2007) present a definition on sustainability where humans are almost out of the picture: "A sustainable state is one which satisfies minimum conditions for ecosystem resilience through time." (Perman 2007:86). At the very basis must social sustainability include human survival: "meets the needs of the present without compromising the ability of future generations to meet their own needs."³¹

In this analysis is social sustainability in the self-sufficiency economy estate defined and discussed on household and community level. These levels of social sustainability are defined for the sake of this analysis and are overlapping empirically.

The household is defined as: "...a group of people who eat from a common pot, and share a common stake in perpetuating and improving their socioeconomic status from one generation to the next³²." In this definition of the household is the aspect of improvement over time included. In relation to the self-sufficiency estate is the ability to support and maintain the household inside the self-sufficiency estate.

Concerning sustainability on community level is how the self-sufficiency estate is creating and sustaining a community. In relation to *community sustainability* will it be examined to what extend the people in the Self-sufficiency estate believe ideology of the project, while the understanding and the individual's motivation to live sustainable is

³¹ United Nations. 1987. "[Report of the World Commission on Environment and Development.](#)" General Assembly Resolution 42/187, 11 December 1987. Retrieved: 2007-04-12

³² (FAO, I Messer&Townslly 1992)

assumed to be a necessary condition for the self-sufficiency estate to become a success. We will start on community level.

2.3.1 Imagination and Recognition of a Community

Creating a community is a complex task. The self-sufficiency estate is a perfect example of this. As said in the introduction is the community history not more than 2 years long. The people in the estate are coming from different places (Wangnamkhiaw, Udomsab, Wang Mee, Thai Samakke and Rehreung districts³³). They have different motivations to join the project. The differences are many, but it is not the same as a community cannot exist, while communities with differences are found.

One thing that is equal for all participants is the criteria for selection. These criteria are interesting as they give an indication of the composition of participants and the project. The project manager Mr. Gisuna said in an interview, that the selection of participants is based on following criteria:

“1. People have to be poor, 2. People may not have land and 3. People have to be registered in the register for poor people.³⁴”

These criteria helping to classify a special unfortunate group of people and it indicate that the project is for people with humble possibilities. In the selection of the people that can join the project are families preferred rather than singles, but it is not a requirement³⁵.

In addition to ARLO's selection criteria is it relevant to understand what people in the self-sufficiency estate recognize as their reasons to join the project. In the questioner survey all respondents (41) were asked about their motivation to join the project. The (multiple choice) answers for this question were given within 10 different categories, some of them overlapping (see questioner Annex 2). Following figure shows the most interesting answers in relation to the community.

³³ Data from questioner survey

³⁴ Appendix 12 Interview Mr. G

³⁵ From according to questioner survey is there six singles in the self-sufficiency estate.



Figure 18 Reasons to join the project

Not surprisingly is *no land* the most common reason to join the project, but one out of tow respondents are also joining the project because they want to get *stability in life*. From these data is there a clear indication of a variety of reasons, but we cannot identify the major if any. Anyways, this still gives an indication on some general aspects. For example, dos the reason *stability in life*, indicate that these respondents have lack of or were missing stability in their life before the decided to join the project. The same about “*a new society*” also indicates number of respondents have experience from a society that they were not satisfied with. Our data do not cover every individual’s life story, but from qualitative interviews in relation to the case studies do we have support for the assumption that many people in the project is not only going for better livelihood conditions they are equally escaping unstable, stressful or troubled life forms.

Taking case 1 is it understandable that for Rian is the idea about having a more balanced and relaxed life obvious from his time in the Army and from having the responsibility for a family with three children, does he enjoy to take it easy. “I’m older now, as young was I working all the time I did so much, now I want to relax, I want to live with less ambition.³⁶” In this case is it clear that the main reason to join to project is not to produce as much as possible, it is important to have a place to live in peace, the fact that Rian has started

³⁶ Annex ? Interview Rian

the common funeral fund can also indicate that his interest in living in the self-sufficiency estate is related to retirement.

For Khampong, case 2, is the motivation more a matter of need for recourses, in her case is the self-sufficiency project an opportunity to *own*. Before the project was the family renting land to grow organic food in Ban Khlong Bong Phattana (village 3), in this way is the project a positive change, “Now we own this land and this house, before we did not own anything³⁷”.

By this is the project a positive change for Khampong, this is the case for most people in the project. Even though they don’t have much, they still have more than before and they are able to survive and live more stable.

It is clear that the precipitants in the project have different motivations to join the project; this can be one of the reasons why it is challenging to create a sense of community. Despite the common selection criteria is there still space for a variety of interest in the project. The lack of community autonomy might be related to whether or not the people in the project believe the ideology of it. This issue is discussed in following box:

Box 6 Ideology versus Practise for Individuals in the Self-Sufficiency Estate

It can be argued that a strong inner believe can be an important tool in order to make things a success: *“Draw on Buddhism with its stress on moderation and spiritual well-being as an antidote to the emphasis on maximizing growth and consumption.”³⁸*

In an interview with the Monck who is helping whit thatching in self-sufficiency estate did was it questioned if the Philosophy of the king were related to Bhuddism. The Monck answered positively to this question. Wondering how people in the project did relate to these ideologies the Monck explained that, they have much to learn. He explained that he had to start his moral teaching from the very basic of moral learning: to give. To give can cover both material and nonmaterial matters, for example knowledge, self-insight, but also food and other gifts. The Monck said that is it very important to give and not expect to get anything in return. According to the Monck is it only very few people in the estate that know how to give and is giving, he mentioned one woman.

An interesting contradiction to the Moncks perceived lack of spiritual understanding in the community is that the people in the estate placed the temple in the hard of the estate

³⁷ Interview Kampong

³⁸ UNDP: Thailand Human Development Report 2007:16

and commented about the temple that: “It helps stabilizing the community under the moral; meanwhile the community must respect and trust in Buddhism and temple so that these two things can stay together³⁹.”

This indicates that some people in the self-sufficiency estate are recognizing the temple as important for stabilizing the community. However, is the Monck still having a fair point, in general is the philosophy of Buddhism hidden or non-existent, is seems like most people finds it more straightforward to relate to the king as spiritual inspiration than Buddha’s teaching. Visiting people’s houses is a typical sight a little spirit house outside and pictures of the king and the royal family inside the house. This is indicating that most people in the project is arbitrary in their ideological convince.

The ideological discussion is one interesting aspect, but we can not validate if there is any clear correlation from the individuals ideological convince to community autonomy. In this purpose is the fact that there are many empty plots more obvious. The fact that some plots have been abandon is directly indicating that some potential participants have left the community. That some plots is “fake-used” meaning that the owner have build the minimum regiments too keep the land⁴⁰, but don’t actually live there. And yet is there many plots there the “participants” is not moved out.

Already in the pre-field stage of this research was the issue of community autonomy present, while our Thai-counterparts had done some preliminary research in the estate. This research included semi-structured interviews and a PRA-problem-ranking exercise (Annex 8). From this work was it told that there is “lack of community” this was identified as the major problem for the estate. People tell that the community don’t solve common problems⁴¹.

The importance of a functioning community is not just recognised by the people in the project; also the king’s philosophy includes this as an explicit goal: “*Rebuild a sense of community, real or imagined, in order to have greater strength to face up to global forces*”⁴². From a socio-physiological point of view is the *imagination* of community a matter of

³⁹ (PRA-Venn-diagram Appendix: 3).

⁴⁰ It is required that the plots have to be used in order to keep the land-right, ARLO is controlling and responsible for this (Annex 12 Interview MR.G)

⁴¹ Interview Rian for example

⁴² (UNPD: 8).

importance. Benedict Anderson (2001) is explaining this matter, by analysing raise of nations-states. The point in Anderson's argument is that, the imagination that one is a part of a community that is essential and is having immense consequences, not the community itself. In relation to the self-sufficiency estate, this argument can be used inverse, while there actually is a concrete estate, the people there have been selected and chose to join, but still the majority of them are not "picturing" themselves as a part of the community. Using Anderson's argument the lack of imagined community will also lead to lack of action on behalf of the community.

It is not only from the insiders point of view that the estate is not recognized as a community, while interviewing the TAO manager is it clear that the self-sufficiency estate is not recognized as an in depended village, and this is not likely to happen in the nearest future.⁴³

All in all, is there form this background still a need for recognition of the community, in this way is the community not sustainable while it hardly exist in the way that is necessary. If the community should become sustainable does is need to be recognized⁴⁴ by the people in the community as well as the outsiders, this might happen with time, but for the time being it is still not sustainable, while is does not meet the needs from present generation.

2.3.2 Networking and Vulnerability for Households in the Self-Sufficiency Estate

Maintaining and supporting a household can be challenging. It is interesting in what way self-sufficiency project can help to improve household conditions over time, but before this discussion, will this synchronic analyze help to discuss the capability to sustain the *family household* inside the self-sufficiency estate.

Households of families are preferred inhabitants in the self-sufficiency estate⁴⁵. Therefore it is relevant to have this kind of household composition as the objet in this discussion. First of all is it in relation to natural resources is it problematic that they have difficulties to sustain themselves from the outcome or their recourses, this counts especially

⁴³ (Interview TAO).

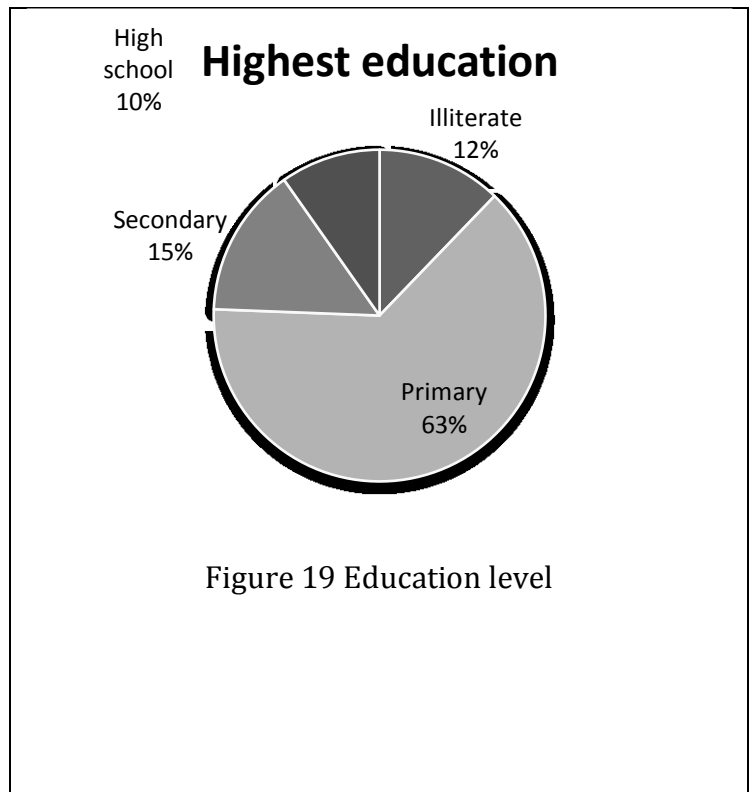
⁴⁴ I'm using this term from Axel Honneths ("Kamp for anerkendelse")

⁴⁵ According to Mr. G interview Annex12

in relation to families with 1 or more child. Secondly is it also shown that there is a lack of know-how which makes this issue insoluble at the time being.

To sustain a family household is education also relevant; of cause can education be given in many ways: learning by doing, the Monck's teaching on morality, ARLO's Organic Vegetable production training, and the like. Besides this is academic education generally considered as a matter of importance⁴⁶. From Khampang's case (2) is it a clear that is can be very difficult to afford to get children in school, the school is 15 km away and as Khampang tell that it can be hard to find the money for bus tickets to the school. A possibility is that at least parents can teach their children that they know from school. In this manner is it relevant to mention that the Self-sufficiency estate is the least educated in this SLUSE research program.

Comparing the self-sufficiency estate with the other villagers in the SLUSE-program is it from the common questioner survey clear that people in the estate is having the lowest education level in average primary school education, while the other villagers is having secondary school⁴⁷. Inside the estate is only one out of four household having education on secondary school level. Only four household is having high-school education, most tow out of three is having primary school education.



All in all does it appear challenge to support children with a basis academic education for the family households that live in the self-sufficiency estate.

Difficulties with school accessibility is not the only institutional facility the people in the self-sufficiency estate is missing a health center is also far away⁴⁸, the participants in this

⁴⁶ UNDP: Thailand 2007:30

⁴⁷ Results from commun questioner survey

⁴⁸ Results from PRA Venn-diagram Annex??

Venn-diagram PRA-exercise were agreeing that these two institutions was of high importance for them, though they are far away from the estate.

Social network is a means to handle vulnerability⁴⁹ especially in relation to households. In the estate are explicit social network found. The three cooperatives: cattle, organic vegetable and the agro-tourism group. The properties of these groups are presented in relation to natural recourses management. The outlines for theses cooperatives is hanging on a pillar in Rian's house so everybody can come by and see them if they like. To what extent they are reducing the vulnerability contexts⁵⁰ for household in the Self-sufficiency estate. The vulnerability context of the self-sufficiency is for example the problems with water supply and distance to marked, school, health center and job possibilities.

There are hardly any job possibilities in the self-sufficiency estate except farming⁵¹. This also makes very difficult to sustain them self economically inside the estate. From interviewing Rian (case 1) asking about whether he thinks other people in the estate live self-sufficient, do we get this answer: "No, the families are not self-sufficient, because they cannot support themselves inside the community. They have to work outside." Of cause can Rian's words not be taken as the conclusion, but from the different aspects disused here are they supporting the same thing. Family household in the self-sufficiency estate is at the time being not living sustainable. If job possibilities comes, if people finds out to do optimal and sustainable farming and have enough resources, if they will get effective access to basic institutions and facilities and if their intern cooperation becomes a powerful enough to deal with the vulnerability context of the community then will the sustainability perhaps be seen.

4. CASE STUDIES AND DISCUSSION ON THE CONCEPT OF SUSTAINABILITY

Firstly will the three cases be given and then will they be used to discuss the concept of sustainability. Following cases are chosen to show the diversity in sustainability found among the household in the self-sufficiency estate.

⁴⁹ Messer & Towerly 199?:??

⁵⁰ Concept defined by Messer and Towerly 1998:9

⁵¹ There is tow small shops and on "Resturent"-open kitchen

Box 7 Case 1 Sustainable

Rian Chaisoongoen is 62 years old and lives alone in the self-sufficiency estate; his wife is living in the nearby village (5 km away). He has lived in the estate for two years.

The plot, 83 Moo 13 Bang Khlong Bong Phattana, is placed in the southern part of the village and is placed in a T-cross. This causes relatively much traffic in and out the village to pass by this place.

The house is little, approximately 15 m², but with roof and concrete floor. There is water collection from the roof, electricity from solar panel and a toilet building.

The plot is used for farming activities, but is not very organized. At the time being there is a lot of weed, but also some utility plants. Rian grows Chinese kale, coriander, banana and cabbage. Besides the organic farming Rian does also have access to a fishpond and owns eight cattle. Now and then the neighbours are helping him sell some of his production and he is able to exchange his fish for all kinds of goods.

Rian has a pick-up truck, a scooter and a little shop. From the shop is he selling sodas, beers and snacks. He is managing the shop in cooperation with his wife, who has a similar shop in the village where she lives.

Besides the income from fish and farming plus the little shop Rian does also earn income from the state in form of a pension because he used to serve the army. All in all he has an annual income of approximately 36000 Bath and he, as everybody in the self-sufficiency estate, is in debt to ALRO by owing the loan of 65000 Bath.

Because many people pass by Rians shop, he knows everybody in the estate. He is also the stakeholder of some local initiatives such as collecting money for PVC pipes for the water system and for a funeral fond. In this way Rian is one of the central persons in the estate, though he is not officially in charge of any cooperation.

Rian has one of the highest levels of education in the estate: High school. He has done his military time experience from foreign countries and does speak limited English.

Box 8 Not yet Self-Sufficient Case

Khampang Hankhan is 37 years old and lives in the Self-sufficiency estate with her family, which consist of two children and her husband who is 42 years old.

This family has lived in the Self-sufficiency estate for four months and has moved from Bang Khlong Bong Phattana. The plot, 80/10 Moo 16 Bang Khlong Bong Phattana II, is in the southern part of the estate, but still kind of remote, as it is placed in the most distant corner and has empty plots as neighbours.

The house is bigger than Rians, approximately 25 m². The house has concrete floor, gas for cooking, electricity and television. The family owns a scooter and a tractor. There is a water system and a toilet building.

The plot is fully used, some parts are just harvested, and some parts are still with products. Khampang has experience and knowledge about organic farming. The household produces salad and other organic vegetables; they have access to a market through a middleman. The family owns 5 cattle, 33 chickens and a pond with catfish. They have applied for more land to be used as grassing areal for the cattle.

The household's annual income is 144000 Bath from agriculture where they both work, from cattle, own capital source and the 65000 Bath loan from ALRO.

In general this family is an example of the way moving into the Self-sufficiency estate marks a positive change in people's life, as it does with most people in the project. It is better to own a little land plot, than not to own land at all, and if things continue to develop it will be possible for the family to live self-sufficient, though at the moment is it not possible. One of the major challenges for this family is access to school. The school is far away (15 km) and there is not enough money to pay for the bus.

As Khampang says, this family is lucky to have a strong health and to live joyfully together. "To be a family is a pleasure in itself."

Box 9 Never Self-Sufficient Case

Chotika Lakboon is 35 years old and lives with her 8-year-old daughter in the Self-sufficiency estate, and she is married with the 40-year-old man who owns the plot.

The plot is in the middle of the southern part of the Self-sufficiency estate and is therefore centrally placed. Chotika used to live in the Ban Non Dang Srisaket province. This household has lived in the Self-sufficiency estate for 2 years.

The house consists of two shelters; there is no floor and a lot of holes and gaps in the walls. There is a toilet building, but it is not complete and the upper stones and the roof are missing. There are problems with the water system and there is no electricity.

The plot is only half used; there is weed everywhere and some rotten maize. 150 kg of fertilizers and 100 kg of manure is used on the plot. Chotika earns her income from the cattle and from agriculture. A middleman occasionally comes to her house and buys the maize. The annual income is 28800 Bath.

The household owns six cattle which are taken care of by other people, who she has to pay to do the job. Two cows are just sold for 20,000 Bath, Chotika tells, that she wants to save the money. She has just bought a table. Chotika complains that there is no electricity; she has not applied for this. Her neighbours have a television and she wants to have one as well, so the daughter can learn something, Chotika says. Before Chotika joined the self-sufficiency project she didn't have a stable income, but was hired for different jobs. She has primary school as highest level of education, and she was not able to read everything in the questionnaires.

Chotika explains, that she did not have debt before she decided to join the self-sufficiency project, and she is sad to have the debt to ALRO now. Due to the debt Chotika doesn't feeling self-sufficient. Chotika says she likes the king, and has pictures of him in her hut, but she does not know about the king's philosophy.

4.1 HOUSEHOLD ANALYSIS AND DEVELOPMENT

The presented cases show very different examples of household in the self-sufficiency estate. Household condition can be understood in relation to these five asserts: Social, Economic, Natural, Physical and Human⁵².

To examine the complexity of a household is the livelihood analysis relevant because. It is interesting how some household manage to make the most out of the project, while other household have major troubles. Following figures are comparing the households in the case studies.

Box 10 Household capitals:

Human capital: skills, aptitudes, knowledge, experience, ability to labour, and good health

Natural capital: land, water, wildlife, and biodiversity as well as the services derived from these

Financial capital: savings, credit, remittances, and pensions

Physical capital: transport, shelter, water, energy, and communications

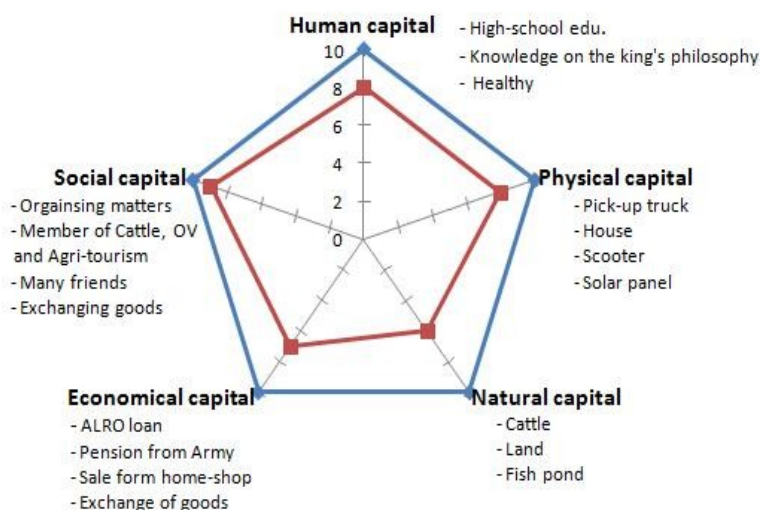
Social capital: networks, groups, trust, mutual understanding, shared values, and access to institutions

(Lecture by: Olivier Serrat)

In this comparison is the different livelihood capitals given in a scale from 0 to 10, where less than 4 can be translated as survival sustainability, sustainability is on this scale to have more than 6. The measure for these capitals is our judgment the components of capitals in relation to the household composition.

Figure 20 Self-sufficient household

Case 1 : Self-sufficient household



Casa 1: This household consists of one person and sustainable needs in all capitals are covered.

⁵² Messer and Townly 1998:2

Figure 21 House hold never self sufficient

Case 2: Household not yet self-sufficient

Case 2: This household consists of a family of four persons and sustainability is present in relation to some capitals.

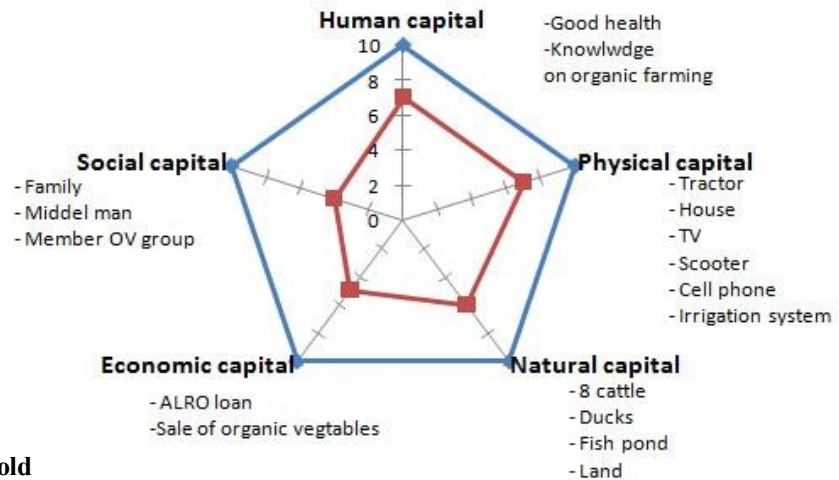
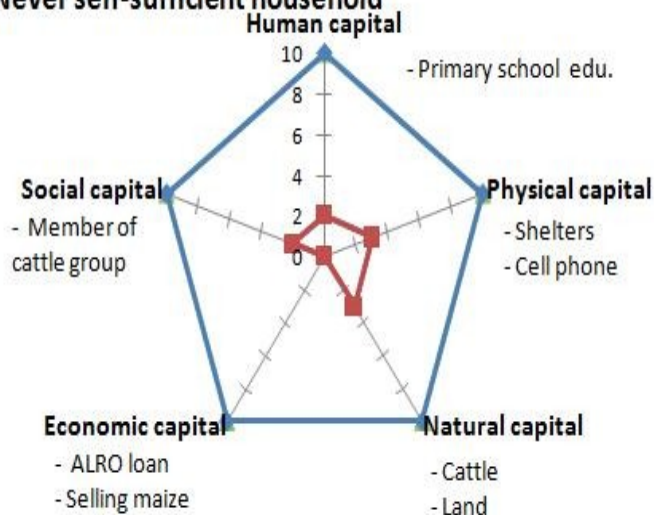


Figure 22 Never self-sufficient household

Case 3: Never self-sufficient household



Case 3: This household consists are the sustainability to survival sustainability.

This comparison shows us that the capital a household is having is playing a big role for the ability for the household to reach sustainability. The composition of capitals for a household is related to what strategy⁵³ a household follow, for example can this be discussed in relation to why some people stay in the project and other leave it.

The focus on specific household supports the conclusion that what creates success of a development project is depending or influenced by the capabilities of the precipitants. Therefore is the project design alone not to determine the success of this development project. On the other hand can this focus on household not pay enough attention to inequalities of power relations; however this issue is beyond the scope of this analysis.

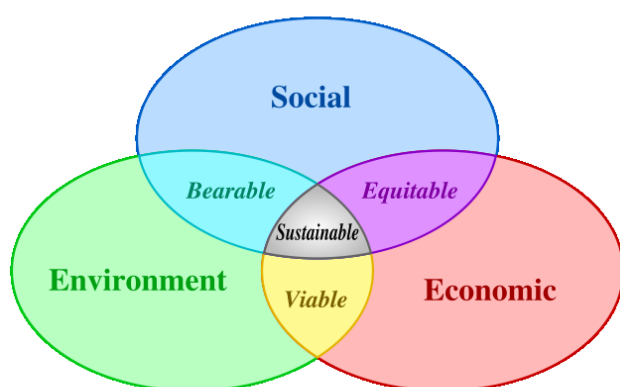
⁵³ Strategy: Messer and Towerly

4.2 DISCUSSION ON THE CONCEPT OF SUSTAINABILITY

As mentioned about the methodological approach for this research is a clear conceptualisation of sustainability necessary for any analysis. Through out this report have the concept of sustainability been defined and discussed. From the definitions and criteria that been identified in relation to the self-sufficiency economy project is sustainability all in all not meet.

This work is just one out of many studies dealing with the concept sustainability. Within this field the concept includes notions of weak sustainability⁵⁴ and strong sustainability.⁵⁵ Eco-centrism and anthro-centrism. The outlines for the concepts are many as said in relation to social sustainability.

Box 11 Sustainability concept



In this study in the concept of sustainability value best stated as 'parallel care and respect for the ecosystem and for the people within⁵⁶'. From this value set emerges the goal of sustainability: to achieve human and ecosystem longevity and [well-being](#) together.

In the end ssustainability is a highly political concept. For what purpose are we conserving natural capital? Is the society supported by this capital just and decent, worthy of preservation? The work of sustaining a society raises the question of the moral worth of that society.

⁵⁴ advocated by the [Hartwick's Rule](#), which states that as long as TOTAL [capital](#) stays constant, sustainable development can be achieved. (Perman 2003)

⁵⁵ strong sustainability, as supported by [Herman Daly](#), holds the view that natural capital and man-made capital are only complementary at best (Perman 2003)

⁵⁶ This Approach is from Tim Ingold: 1991

The perception on what should be sustained and what should not varies between academic disciplines, policy makers ect. Depending on whom that defined these settings will the definition as well as the goal for satiability become different.

CHAPTER 5 CONCLUSION & PERSPECTIVES

The self-sufficiency estate is according to present research not self-sufficient yet. Self-sufficiency is itself is broad concept. Each household has their own standard. The Self-sufficiency estate did not prove yet to be a good way towards sustainable development. Despite all it is still a good way to escaping poverty. In this research the king's idea on self-sufficiency been related to the concept of sustainability and investigated in relation to economic, natural resources and social sustainability.

- ✓ Therefore is it hardly to believe that Economic sustainability is reached both on household and on community level. But it would be wrong to judge the situation of people in the self-sufficiency economy estate from this perspective, without taking in consideration their prior situation. We can easily conclude that they are better off, and they are moving towards a survival sustainable phase.
- ✓ In Individual terms not yet sustainable, but walking towards it. HH close to the objective, but still with some poor management of natural resources and land uses. In community terms is the sufficiency economy estate far from goal (forest, common land, water management). For sustainable use of common resources those resources should be exclusively managed by well defined principles.
- ✓ Social sustainability is not yet reached in the self-sufficiency estate because: the estate is not yet imagined and recognized as a community by most people in the estate and by outsiders. Secondly household of families cannot yet manage a sustainable livelihood and thirdly most people in the estate do not yet follow the ideology of the self-sufficiency estate. If the estate should be socially sustainable all participants should have the wish and the possibilities to live after the sufficiency idea. And finally is it necessary that the estate will be imagined and recognized as a community.

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Annexes

Annex 1- Synopsis

**University of Copenhagen
Faculty of Life Sciences**

SLUSE course – Interdisciplinary Land Use and Natural Resource Management

**Understanding the Royal Project in Bang Khlong Bong Phattana II,
Nakhon Ratchasima Province, Northern Thailand**

FINAL SYNOPSIS

GROUP 4

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1. Introduction

His Majesty King Bhumibol Adulyadej (1946-) of Thailand is also called “the developer king”; this is due to the efforts of his Majesty on the formulation and implementation of the concept of self-sufficiency economy with the aim of leading people to live a balanced life and to maintain a sustainable development for the country. Especially due to the financial crisis in 1997, caused by external and internal shocks, soaring fuel prices, natural disasters, ill health in families and bad harvests, the self-sufficiency economy thinking has increased its importance over the years (UNDP, 2007: iii). The self-sufficiency concept has three key principles: 1) moderation, 2) wisdom and insight and 3) self-immunity (UNDP, 2007: XV). The self-sufficiency ideology implies a respond to the crisis in 1997 and as well as to the increasing globalisation that states the world today.

One of his ideas following self-sufficiency economy related with agricultural development resulted in the establishment of the Royal Project. This project was initiated in 1992 with the aim of helping people to engage in agriculture following a model of sustainable management of land and water resources together with organic crop production.

To become part of the project, farmers should follow a 3 month course. Once completed, they are eligible to receive 2 rais of land with a loan of 10,000⁵⁷ Bahts to make a fishpond and produce organic vegetables, and 50,000 Bahts loan to raise cattle (Jongkroy and Gausset, 2007:20).

Ban Khlong Bong Phattana II is a designed model project following the ideas of his Majesty, this village should host model farmers, with model behaviour. Ban Khlong Bong Pattana Phattana I is a relatively poor village, and villagers are moving from it into the Royal Project village. So far, only 30 households, mainly landless people, participated in the project out of 150 possible households (Jongkroy and Gausset, 2007:20).

⁵⁷ The loan has an interest rate at 0, 5 % per year.

Based on the idea of self sufficiency, mentioned above, our study intends to understand whether the presented theory applies in the real world. Therefore we are interested in which properties make the Royal Project attractive for farmers in the Nakhon Ratchasima province and we question what impact the Royal Project has on the livelihood strategies of the involved farmers.

Out of this interest we have formulated the main research question:

1. How is the Royal Project affecting the livelihood strategies of people in Ban Khlong Bong Phattana II, Nakhon Ratchasima Province, Thailand?

In order to answer our overall research question we will examine the following three aspects:

1.1 How is the Royal Project affecting farmers economically?

1.2 How is the Royal Project affecting Natural Resource Management in the village area?

1.3 What is the social impact of the Royal Project for people in the village?

We will stay 9 days in village where we will conduct our surveys and analysis in order to answer our research question. During this period we will engaged with farmers in their activities, allowing a better understanding of their livelihood strategies.

In order to understand this complex development process in Bang Khlong Bong Phattana II, a holistic scientific approach is relevant. Therefore are we going to work jointly, but still from disciplinary-specific basis, to address this common challenge (Hill and Birch-Thomsen 1999: 20). The scientific backgrounds represented are: agronomy (organic farming), anthropology, natural resource, and economics (see Annex 3).

The methods that we use belong to social sciences such as questionnaires, interviews, PRA techniques, observation and literature review. To validate our research we have ambition to do triangulation in our methodological approach, which is described in following table.

Table no.1 Methodological Framework

Data needed			
Working Questions/issues	Data needed	Source of information	Methodology
1.1 Economic aspects: a) Income b) Off-farm activities c) Market access and price fluctuation d) Loan and credit <i>Purpose: to achieve and understand the economic attributes of the Royal Project in relation to the farmers' alternatives/livelihood strategies.</i>	a) Type of income: Pensions, agricultural, livestock and forestry yields, etc. b) Types of activities and their proportion on HH income. c) 1) Distance to market, 2) who can go there 3) what can be sold and to what price. d) Credit and loan possibilities, The Royal Project fund, other possibilities.	Farmers, project manager and literature. Farmers. 1) Observation, 2) farmers 3) framers and observations. Literature, project manager, farmers.	Questionnaires among farmers, interview with project leader, PRA (income-expenditure matrix, well-being ranking), findings in similar studies. Questionnaires among farmers and PRA - seasonal calendar. 1) Visit to the market 2) Interview, 3) Interview and observations, etc. Literature review on organic product and market possibilities. Literature research, Interview with the project manager, farmers and key informant.

<p>1.2 Natural resources:</p> <p>a) Agriculture b) Livestock c) Other natural resources</p> <p><i>Purpose: to achieve an understanding of the natural resource uses and properties in the area, in relation to farmers' daily livelihood.</i></p>	<p>a.1) What is grown, when, how much and why? (Is it organic? What are the criteria?)</p> <p>a.2) Principles vs. practices in organic farming.</p> <p>a.3) Irrigation system</p> <p>b.1) Quantity (no. of heads per HH), economic benefit</p> <p>b.2) Livestock interaction with natural resources</p> <p>c) Importance of other natural resources and management issues</p>	<p>1) Farmers + project manager</p> <p>2) Farmers + project manager</p> <p>3) Farmers + observation + literature research.</p> <p>Farmers + observation</p> <p>Observations + Farmers</p> <p>Key informants, farmers</p>	<p>1) PRA (seasonal calendar, transect walk), interview and ranking of the crops and interview on the crop use.</p> <p>2) Interview with project manager, farmers + observation</p> <p>3) Interview, PRA seasonal calendar of water availability</p> <p>Questionnaires, Interview</p> <p>Semi-structure interview, observation</p> <p>PRA, Interview and questionnaires</p>
<p>1.3 Social aspects:</p> <p>a) Institutions b) Network (farmers social interaction)</p>	<p>a) Which institutions is effecting farmers in the R.P.? How are farmers relating to them? (Corporation, control and/or command).</p> <p>b) What kinds of social network exist (food, goods, and services) and what is the importance?</p> <p>c) Crop failures how do they</p>	<p>Literature + project manager(s) + farmers.</p> <p>Farmers</p> <p>Literature and farmers</p>	<p>Literature review – expert interview. Structured and semi-structured interview with the project manager and farmers</p> <p>PRA – Venn diagram (social-mapping) and interview</p> <p>Interview, PRA- ranking and scoring,</p>

<p>c) Vulnerability/risks (cooperation among farmers) (Well-being)</p> <p>d) Education and knowledge</p> <p>e) (Power)</p> <p>f) Cultural/spiritual issues</p> <p><i>Purpose: to achieve an understanding of the social aspects of farmers as a consequence of participating in the Royal Project.</i></p>	<p>manage (What are there counter actions Food security), Seasonality and climacteric extremes.</p> <p>d) Who is educated (men/women/old/young), why or why not? Importance of education (special training in everyday life).</p> <p>e) Economical, knowledge and leadership power</p> <p>f) Main religious philosophy and the relation to the R.P (does personal conviction fit project ideology?) What traditions/rituals are practiced in relation to the R.P. and what is the importance/influence of them.</p>	<p>Farmers + literature review, Survey</p> <p>Farmers</p> <p>Literature</p> <p>and farmers</p>	<p>problems, crop production. Historical-diagram (PRA)</p> <p>Manager-interview, in depth interview and/or PRA labor ranking.</p> <p>PRA- Venn diagram (power-diagram), interview.</p> <p>Interview/semi-structure interview</p>
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2. Methodology

2.1 General comments on the research design

In short, this study is based on distinct methods, triangulation and interdisciplinarity. Both primary and secondary data will be gathered. Primary data will be collected in an empirical manner using quantitative and qualitative approaches. The quantitative data collection will be conducted through questionnaires survey and GPS measurements. Qualitative data will be gathered through semi and structured interviews and through PRA techniques. Secondary data will be collected reviewing literature, consulting related institutions and personal. The detail time schedule for all activities is presented in Annex 1.

2.2 Questionnaire survey – why and how it will be applied?

By using questionnaires we seek factual information related to behavior, attitudes, opinion, beliefs and knowledge of the farmers, key informants, and Royal Project staff. We will use this tool at three different levels namely, village level, key informant and HH level. HH level questionnaires include questions related to income (agriculture and livestock) and off-farm activities. Key informant questionnaires will include general information about the village; the village level questionnaire will include common information applicable for all the HH in the community. In addition to the general questions, we adopt questions from CIFOR (2008) (annex 2).

2.3 What is an interview- why and how it will be applied?

Because of the nature of informal and casual enquiry, we will perform the interviews to collect relevant information and understanding of issues related to the general aims and specific questions related to the study. We will use this tool with Royal Project staff, farmers and key informants. The interviews will be semi-structured and structured (annex 2).

2.4 Participatory Rural Appraisal (PRA)

We decided to use PRA tools because they are emphasizing processes which empower local people, and by that we will be able to extract a wide range of information useful in our study.

“PRA can be described as a family of approaches, methods and behaviors that enable people to express and analyze the realities of their lives and conditions, to plan themselves to take action, and to monitor and evaluate the results” (Chambers,1997).

Transect walk

It is a traverse walk of the community in which various technical and production related aspects can be identified, described and analyzed (Selener et al, 1999).

We will use it in order to get an overview of the village, as land use; also will be used as a cross check with answers collected with other methods. Hopefully it will work as an ice-breaking due to its early execution. We will use a community map in order to select an appropriate route. The items that we would like to include, as aspects to be analyzed, soil, land use, water, crops, livestock, infrastructure, problems, opportunities and potential solutions. If it will be necessary, more than one transect walk will be executed in order to get detail information.

Historical Diagram

We would like to do this type of PRA to get overviews of the community past and present, with all the major events or changes that took place. From this type of exercise we expect to get data about community foundation and founders, when roads were constructed and communication installed, when the Royal Project started to be implemented in the village, what kind of natural catastrophes occurred, such as droughts, flood, epidemics etc. The impact of those events in the community level will also be described, briefly.

In this exercise we would like to have maximum 8 persons, not less than 4, from the community, both young and elder, women and men. We would prefer to have persons with different backgrounds and perspectives. When it comes to the question: Which people from which HH we will invite for this PRA? We will be able to answer that after we will make a rough analysis of the questionnaires in the previous day.

Check list for the PRA, in order to make it more effective for our purpose:

- Approximation of the year or period in which the event took place
- Brief description of the event

- Impact on the community
- Community response

Seasonal calendar of farming activities

It is a list which includes production cycles along the year, including also characteristics, activities and production needs during each cycle.

The relevance of the method for our project is to gather a characterization of the agricultural and major activities throughout a year, which can be used to form an idea about the level of the food security – which type of crops are available along a year, labor availability, which activities are they doing in any specific part of a year period etc. We intend to find this in an open dialogue between the facilitators (our group members) and members of the community. We will use the vertical type of diagram. The people invited to participate in this session will most probably have agricultural activities present in their daily lives.

Income and expenditures matrix

It will show us the principal productive activities at community level, and which of these generate the greatest income, and also identifies the most common expenditures. The matrix will include a list of the most common types of activities, such as agriculture, craft production, fishing, services etc. We would also like to identify the relative amounts of income generated and time spent in each of those. The information it will be organized in an annual calendar in order to receive an indication of which are the most common forms of livelihood, and how family incomes and expenditures varies from month to month.

We will try to ensure that people from all the possible types of livelihood categories will be represented – farmers, workers etc. and both of man and women will also be present in the selected group. For this type of exercise we will use only two variables – income and expenditures. Depending on the field situation we will decide to make separate matrix for income and expenditures.

Well being ranking

It is method to identify levels of well-being in the families of the community using local criteria defined by the community members themselves.

The purpose of this exercise is to identify different socio-economic groups in our village according to how they perceive their different levels of well-being. We also believe that it will help us to identify how are prioritized certain development actions which fits the needs to each specific group.

The exercise will start with a table that will include columns with well-being ranks. The levels of the well-being will be established by the community members. In every of the above mentioned columns will be included the well-being criteria, which will be mentioned by the community members. Indicator expected to be mentioned: income, amount of land, livestock holding, access to Royal Project, family structure, level of food security etc. After all the criteria for each category will be listed, a community map will be drawn with all the houses in the village; further more they will attribute a certain status to every HH in the village.

Venn diagram

It is a tool to understand the interaction between different social groups and their interdependency.

Due to this reason we intend to apply this tool to know how the Royal Project is interacting with different institutions, such as, NGOs, governmental organizations and the community itself.

By asking the farmers to define the different institutions and their interaction with the Royal Project, being this at the center of the interaction. As an expected outcome of this exercise we will be able to portrait the community perception of the different existing relations between institutions and their overlapping interests.

Direct observation

It is one of the sources of data collection that we can use while walking with the villagers. It will help us to discover the field reality from an outsider point of view. The presented tool will be used at every interaction with the villagers, in order to observe their attitudes and mark down every detail that might be use.

In order to keep an exploratory approach for our work, a last comment on methods is that, if we need to apply other methods, for example: case study, participant observation or sampling, we are open to do relevant changes.

Annex 1: Time Schedule

[illegible]

Annex 2: Questionnaires and Interview Guidelines

PRA/RRA methods:

- Transect walk
- Participatory mapping (Social mapping)
- Focus group discussion
- Seasonal (Annual) calendar
 - Main on and off farm activities
 - Variation of work load
 - Price variation of chosen crops
 - Income variation
 - Expenditures variation
 - Variation of water availability
 - Water availability for irrigation
- Historical Timeline
 - Major events
 - Management of major resources in the village
- Preference and problem ranking
- Semi-structured interviews
 - Key informant
 - Village headman
 - Royal Project staff
- Participant observation
- Secondary data

Structured questionnaire survey:

- Village level
- Household level

Field observation:

- GPS positioning of important features and distances

Semi structured interview with Royal Project staff

- the objectives of Royal Project
- criteria for selecting sites and farmers
- the advantages farmers get
- constraints to participate
- Provisions to enter and leave the RP
- Decision between marketing and fix price systems
- Marketing (or fix price) system while in contract
- Contract price system
- Ways to improve RP?
- Problems
- Free seed/ Fertilizer/ pesticide

- Organic production

Semi structured interview with key informant and village headman (related to Royal Project)

- Link with RP, Story
- Expectations from RP
- Support system
- RP's effect on livelihood
 - Production
 - Income
 - Labour
 - Institutions
 - Market etc...
- Popularity of RP within certain groups of villagers (young, rich, living a certain place)
- Disadvantages of joining RP
- RP's effects to farming system
- the biggest problem you have (quality, quantity, price, fertilizer, pest, skills)
- Off-farm income
- Advice to improve RP
- Select 2 main crops that you grow: details about fertiliser (chemical, organic), yield
- Marketing or fix price system
- Product transport (yourself or with a middleman)
- Differences with the non-RP village
- Provisions to leave RP
- Suggestions for improvement

Questionnaires

To be collected by ourselves:

Geographic information

1. What is the name of the village?	
2. What are the GPS coordinates of the centre of the village? (UTM format)	
3. What is the latitude of the village?	<i>degrees</i>
4. What is the longitude of the village?	<i>degrees</i>
5. What is the altitude (masl) of the village?	<i>masl</i>

To be collected with project/ village official

Climate variables

1. What has been the average annual rainfall (mm/year) in the district during the past 20 years (or less)?	<i>mm/year</i>
2. What is the coefficient of variation in rainfall for the past 20 years? (Note: To be filled in if data are readily available.)	

Village Headman/Key informant

A. Demographics

1. In what year was the village established?	
2. What is the current population of the village?	<i>persons</i>
3. How many households live currently in this village?	<i>households</i>
4. What was the total population of the village 10 years ago?	<i>persons</i>
5. How many households lived in the village 10 years ago?	<i>households</i>
6. How many persons (approx.) living here now have moved to the village in the past 10 years (in-migration)?	<i>persons</i>
7. How many persons (approx.) have left the village over the past 10 years (out-migration)?	<i>persons</i>
8. How many different groups (ethnic groups, tribes or castes) are living in the village?	

B. Infrastructure

1. How many households (approx.) in the village have access to electricity (from public or private suppliers)?		<i>households</i>		
2. How many households (approx.) in the village have access to (= use) piped tap water?		<i>households</i>		
3. How many households (approx.) have access to formal credit (government or private bank operating in the village)?		<i>households</i>		
4. Are <i>informal</i> credit institutions such as savings clubs and money lenders present in the village?		<i>(1-0)</i>		
5. Is there any health centre in the village?		<i>(1-0)</i>		
6. Does the village have at least one road useable by cars during all seasons? <i>If 'yes', go to 8.</i>		<i>(1-0)</i>		
7. If 'no' : what is the distance in kilometers to the nearest road usable during all seasons?		<i>km</i>		
8. Is there a river within the village boundaries that is navigable during all seasons? <i>If 'yes', go to 10.</i>		<i>(1-0)</i>		
9. If 'no' : what is the distance to the nearest river that is navigable during all seasons?		<i>km</i>		
10. What is the distance from the village centre to the nearest ... (in <i>km</i> and in <i>minutes</i> by most common means of transport)		1. km	2. min	Mode of transport
	1. district market			
	2. market for major consumption goods			
	3. market where agric. products are sold			
	4. market where forest products are sold			

C. Land cover/use

1. Land categories in the village (approx. area in hectares).

1. Land category	2. Total area (ha)	Ownership (ha)			
		3. State	4. Community	5. Private	6. Open access (<i>de facto</i>)

<i>Agricultural land:</i>					
1. Cropland					
2. Pasture (natural or planted)					
3. Agroforestry					
4. Silviculture					
5. Fallow					
<i>Forest:</i>					
6. Natural forest					
7. Managed forests					
8. Plantations					
<i>Other land categories:</i>					
9. Shrubs					
10. Grassland					
11. Residential areas, infrastructure					
12. Wetland					
13. Other, specify:					
14. Total land					

2. What are the main land use types, users and products in the village?

1.Type of land category	Main users (max. 3)			Main products (max. 3)		
	4.Rank 1	5.Rank2	6.Rank3	7.Rank1	8.Rank2	9.Rank3

D. Risk

1. Has the village faced any of the following crises over the past 12 months? <i>Codes: 0=no; 1=yes, moderate crisis; 2=yes, severe crisis</i>	1. Flood and/or excess rain	
	2. Drought	
	3. Wild fire (in crops/ forest/grasslands etc)	
	4. Widespread crop pest/disease and/or animal disease	
	5. Human epidemics (disease)	
	6. Political/civil unrest	
	7. Macro-economic crisis	
	8. Refugee or migration infusion	
	9. Other, specify:	

E. Wages and prices

1. What was the typical daily wage rate for unskilled agricultural/casual adult male/female labour during the peak/slack season in this village over the past 12 months? <i>(Lc\$/day)</i>		Male	Female
	Peak	1.	2.
	Slack	3.	4.
2. What is the main staple food in the village?			
3. What was the price of a kg of the main staple food during the past 12 months before and after the main agricultural harvest? <i>(Lc\$/kg)</i>		1. Before harvest	2. After harvest
4. What is the sales value of one hectare of good agricultural land in the village (i.e., not degraded, not too steep, and suitable for common crops, and within 1km of the main road or settlement) <i>(Lc\$/hectare)</i>			

F. Natural resource bases

1. What is the most important product (MIP) for the livelihood of the people in the village (in this category)? ¹⁾ <i>(name)</i>							
2. How has availability of the MIP changed over the past 5 years? <i>Codes: 1=declined; 2=about the same; 3=increased</i>							
3. If the availability of the MIP in this category has declined , what are the reasons? <i>Please</i>	Reason	Rank 1-3	Rank 1-3	Rank 1-3	Rank 1-3	Rank 1-3	Rank 1-3
	1. Decrease in production						
	2. Reduced production area						
	3. Increased use of MIP due to intensive use by local (village) people						

<i>rank the most important reasons, max. 3 (leave rest blank).</i>	4. Increased use of MIP due to intensive use by people from other villages						
	5. Restrictions on use by central or state government (e.g., for forest conservation)						
	6. Local restrictions on use (e.g., community rules)						
	7. Climatic changes, e.g., drought and less rainfall						
	9. Other, specify:						
4. If the availability of the MIP in this category has increased , what are the reasons? <i>Please rank the most important reasons, max. 3.</i>	Reason	Rank 1-3	Rank 1-3	Rank 1-3	Rank 1-3	Rank 1-3	Rank 1-3
	1. Increase in production						
	2. Increased production area						
	3. Fewer local (village) people collecting less						
	4. Fewer people from other villages collecting less						
	5. Intensive management						
	6. Improved technology						
	7. Climatic changes, e.g., more rainfall						
	9. Other, specify:						
	Action	Rank 1-3	Rank 1-3	Rank 1-3	Rank 1-3	Rank 1-3	Rank 1-3
	1. Better access to the MIP, i.e., more use rights to village						

	2. Better protection of MIP (avoid overuse)						
	3. Better skills and knowledge on how to collect/use it						
	4. Better access to credit/capital and equipment/technology						
	5. Better access to markets and reduced price risk						
	9. Other, specify:						

1) "Most important" is defined as the most important for the wellbeing of the village, whether it be through direct use in the home, or through sale for cash, or both.

G. Institutions

Note: The MIP in each category should be identical to those in the table above.

MIP						
1. In what type of land use do you get the MIP?						
2. What is the ownership status of this land use						
3. Are there customary rules regulating the use of the MIP in the village? <i>Codes: 0=none/very few; 1=yes, but vague/unclear; 2=yes, clear rules exist If code '0', go to 7.</i>						
4. If 'yes': are the <i>customary</i> rules regarding use enforced /respected by the population of the village? ¹⁾						
5. Are there <i>government</i> rules that regulate these uses? <i>Codes: 0=none/very few; 1=yes, but vague/unclear; 2=yes, clear rules exist If code '0', go to 9.</i>						
6. If 'yes' (code '1' or '2' above): are the <i>government</i>						

rules enforced/respected by the members in the village? ¹⁾						
7. Do the villagers require any permission to harvest the MIP? <i>Codes: 0=no; 1=yes, users have to inform the authorities; 2=yes, written permission needed</i> <i>If code '0', go to next section.</i>						
8. If 'yes' (code '1' or '2' above): does the user have to pay for the permission?	(1-0)	(1-0)	(1-0)	(1-0)	(1-0)	(1-0)
9. If 'yes': who issues this permit? <i>Codes: 1=village head; 2=users' group; 3=government officer; 9=other, specify:</i>						

1) Codes: 0=no/very little; 1=to a certain extent by some groups of villagers; 2=to a certain extent by everyone; 3=yes, but only by some groups of villagers; 4=yes, by everyone; 9=no particular rules exist.

H. Natural Resource User Groups (NRUG)

1. Existence of NRUG.

1. How many NRUG are there in the village?	
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2. Information about each NRUG (use one column per NRUG).

	1. NRUG1	2. NRUG2	3. NRUG3
1. Which natural resource does the group concerned with?			
2. When was the group formed? (yyyy)			
3. How was the group formed? <i>Codes: 1=local initiative; 2=initiative from NGO; 3=initiative from government, 4=other, specify:</i>			
4. Is the NRUG's main purpose related to the management of a particular natural resource or of particular product(s)? <i>Codes: 1=area; 2=product(s); 3=both</i>			
5. If for a product (code 2 or 3 above), what is the (main) product?			
6. How many members are there in the group?			

7. How many times per year does the NRUG have meetings?			
8. Does the group have a written management plan?	(1-0)	(1-0)	(1-0)
9. What are the main tasks of the NRUG? <i>Select as many as appropriate: 1-0 code</i>	1. Setting rules for use (1-0)	(1-0)	(1-0)
	2. Monitoring and policing (1-0)	(1-0)	(1-0)
	3. Management (1-0)	(1-0)	(1-0)
	4. Harvesting products (1-0)	(1-0)	(1-0)
	5. Selling products (1-0)	(1-0)	(1-0)
	9. Other, specify: (1-0)	(1-0)	(1-0)
10. Has any development project been implemented in the village over the past 5 years using proceeds from the NRUG?	(1-0)	(1-0)	(1-0)
11. Has anyone in the village been violating the rules of the NRUG over the past 12 months? <i>If 'no', go to 14.</i>	(1-0)	(1-0)	(1-0)
12. If 'yes' : did the NRUG impose any penalties on those violating the rules? <i>If 'no', go to 14</i>	(1-0)	(1-0)	(1-0)
13. If 'yes' : what type of penalties? <i>Codes: 1=fee (cash payment); 2=returning collected products; 3=labour (extra work); 4=exclusion from group; 9=other, specify:</i>			
14. Which group of users have most commonly violating the rules over the past 5 years? <i>Codes: 1=members of NRUG; 2=non-NRUG members in the village; 3=people from other villages; 9=other, specify:</i>			
15. Overall, on a scale from 1-5 (1 is highest, 5 is lowest) how effective would you say that the NRUG is in ensuring sustainable and equitable resource use?			

Household Level Survey

A. General Information

Village:

Number of questionnaire:

Name of informant:

B. Household information

Gender of head of household	
Age of head of household	
Education of head of household	
Ethnicity/Language?	
How many adults in the household?	
How many children/minors in the household?	
Year of establishment in the village?	

C. Salaried work

How many members of the household have salaried employment?	
Type of salaried work	a. off-farm b. on-farm c. mix of both types

D. Credit, loans

	Amount of money	Interest rate
Did you borrow money from a middleman last year (for contract farming)?		
Did you borrow money from a village association last year?		

E. Land rights (number of rais owned, rented, sold)

Amount of land owned with a PBT5 title?	
Amount of land owned with a SPK4-01	
Amount of land rented last year?	
Amount of land "sold" in the past 5 years?	

F. Income from agriculture – crops

1. What are the quantities and values of crops that household has harvested last year?

1. Crops	2. Area of production (m ²)	3. Area of Organic Production	4. Unit (for production)	5. Own use (incl. gifts)	6. Directly sold (incl. barter)	7. Sold to Royal Project	8. Price per unit	9. Production from OF	Special assistance from Royal Project (if any)

2. What are the quantities and values of inputs used in crop production over last year (this refers to agricultural cash expenditures)?

Note: Take into account all the crops in the previous table.

1. Inputs	2. Quantity	3. Unit	4. Price per unit	5. Total costs (2*4)	Special concern with Royal Project (if any)
1. Seeds (o/c)					
2. Fertilizers (o/c)					
3. Pesticides/herbicides (o/c)					
4. Manure (o/c)					
5. Draught power					
6. Hired labour					
7. Hired machinery					
8. Transport/marketing					
19. Other, specify:					
20. Payment for land rental					

G. Livestock production

How many heads of cattle do you own?	
How many pigs?	
How many chicken?	

How many sheep?	
How many goats?	
Do you have a fish pond?	

H. Income from own business

Do you have any business?

What is the net income?

I. Fishing and aquaculture

1. How much fish did your household catch **from ponds (aquaculture)** in last year?

1. Type of fish (list local names)*	2. From where? ¹⁾	3. Total catch (kg) (4+5)	4. Own use (incl. gifts)	5. Sold (incl. barter)	6. Price per kg	7. Gross value (3*6)	8. Costs (inputs, hired labour, marketing, etc.)	9. Net income (7-8)

2. Input to aquaculture

J. Other income sources

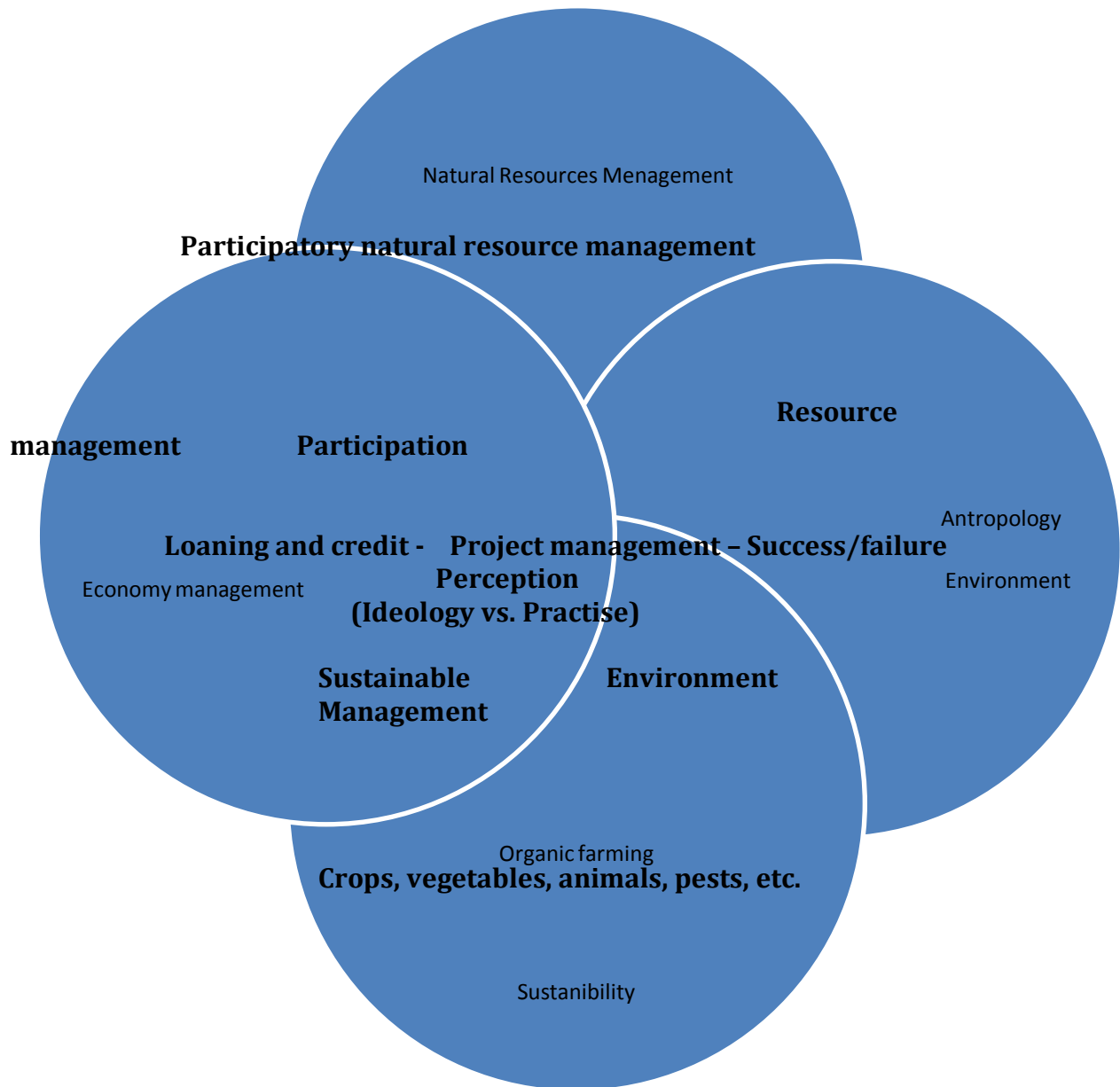
Please list any other income that the household has received during last year.

Type of income	Total amount received last year
1. Salary	
2. Remittances	
3. Support from government, NGO, organization or similar	
4. Gifts/support from friends and relatives	
5. Pension	
6. Payment for services	
7. Payment for renting out land (if in kind, state the equivalent in cash)	
8. Compensation from logging or mining company (or similar)	
9. Payments from FUG (forest user group)	
9. Other, specify:	

K. Saving

How much can you save per month deducting expenditure?

Annex 3: Interdisciplinary background diagram of Group 4 (The Royal Project)



This diagram illustrates the interdisciplinary context of this project, the base for our academic interest, and is thereby the outline for defining the research questions. Most important is it for us to underline that our group will grow with four more members when we get to Thailand and by this contribution our field of interest will be even broader.

However, this overview helped us to identify some key words for literature search and to get an idea of where we can benefit from the overlapping and complimenting from our different academic backgrounds.

Annex 4

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Annex 2 - Questionnaires

แบบสัมภาษณ์ (USER1,2)

Questionnaire no _____

ชื่อ/Name..... อายุ/Age.....ปี

เพศ/Gender ☐ ชาย / ☐ Male ☐ หญิง /Female

ที่อยู่/Address.....

.....

เบอร์โทรศัพท์/Phone.....

อาชีพ/Occupation.....

Age of household head:.....

Highest level of education of any member of the household

☐ Illiterate ☐ Primary school ☐ Secondary school ☐ High school

☐ University

How many adults in the household (above 16 years)?.....

How many children in the household (below 16 years)?.....

What generations live in the household?

☐ Grand parents ☐ Parent ☐ Children ☐

1. ระยะเวลาที่อาศัยอยู่ในนิคม.....ปี

(How long have you been living in this village?)

2. กลุ่มวิสาหกิจที่สังกัด (Cooperative member)

วิสาหกิจชุมชน ☐ ผู้ปลูกผักไร้สารพิษ (Organic Vegetable Group)

วิสาหกิจชุมชน ☐ ผู้เลี้ยงสัตว์ (Cattle Group)

วิสาหกิจชุมชน ☐ ท่องเที่ยวเชิงเกษตร (Agro-tourism Group)

3. ท่านเคยผ่านการอบรมกับทาง สปก. มาก่อนหรือไม่

(Have you ever been trained to ALRO before?)

เคย ☐ /Yes (ทำแบบทดสอบ) ☐ เคย ☐ /No (ข้ามไปข้อ 5.)

4. รุ่นที่ผ่านการอบรม (Cohort of training)

รุ่น 1 ☐ รุ่น 2 ☐ รุ่น 3 ☐ ☐

5. ความสัมพันธ์กับผู้ผ่านการอบรม/What is the relationship between you and the person who was trained by ALRO?

.....

ด้านเศรษฐกิจ (Economic aspects)

1. รายได้เฉลี่ยต่อปี.....บาท (Annual Income)

2. ที่มาของรายได้ (Sources of Income/members involved)

2.1 ภายในนิคม (In the community)

ทำการเกษตร ☐ /Agriculture ☐

เลี้ยงสัตว์ /Cattle.....

☐ ทำการเกษตรและเลี้ยงสัตว์/Agriculture & Cattle

อื่นๆ /Others.....

2.2 ภายนอกนิคม (Outside the community/members)

ทำการเกษตร ☐ /Agriculture ☐ เลี้ยงสัตว์ /Cattle

☐ ทำการเกษตรและเลี้ยงสัตว์/Agriculture & Cattle รับจ้าง/Being

hired

☐ ธุรกิจส่วนตัว/Own Business ☐

อื่นๆ /Others.....

☐ Tourism ☐ Factory.....

3. แหล่งเงินทุน/Capital sources (Amount/rates)

ส่วนตัว ☐ /Your own..... ยืมจากญาติพี่น้อง /Borrow
from relatives... ☐

สปก. /ALRO..... ธกส. ☐ /Agriculture Bank.....

ธนาคารพาณิชย์ /Commercial Bank... เงินกู้ยืมในระบบ /Informal
loan... ☐

☐ สินเชื่อส่วนบุคคล/Personal Loan... ☐ อื่นๆ /Others (Agriculture
cooperative).....

4. ผลผลิตที่ได้จากการเกษตรนำไปขายที่ใดและไกลเพียงใด/Where is the market &
how far is it?

.....

.....

5. ราคาขายคงที่หรือไม่/Does the product's price stay constant?

☐ ใช่/Yes ☐ ไม่ใช่/No

6. มีที่ดินทำกินภายนอกนิคมหรือไม่

(Do you have any other lands outside this community?)

ไม่มี ☐ /No มี ☐ /Yes.....

ด้านทรัพยากร (Natural resource)

1. ในการทำการเกษตรมีการปลูกพืชอะไรบ้าง/What kind of plant do you grow?

.....
.....

2. พืชที่ปลูกเป็นการปลูกแบบอินทรีย์หรือไม่/Is it organic?

☐ ใช่/Yes

☐ ไม่ใช่/No

2.1 Details about the crops mentioned in question 1

1. พืช Crops	2. พื้นที่เพาะปลูก Area of production (Rai)	3. พื้นที่เพาะปลูก เกษตรอินทรีย์ Area of Organic Production	4. จำนวนการผลิต Unit for production	5. การบริโภค ในครัวเรือน Own use incl. gifts	6. ปริมาณที่ขาย/ Directly sold incl. barter	7. ผลผลิตนอก การเกษตร Production from Organic Farming	8. ความช่วยเหลือ จากโครงการ Special assistance from Royal Project if any

2.2 How many rais did you irrigate for vegetable production last year.....rais

2.3 How much fertilizer did you apply in your fields last year.....kg

2.4 How much manure did you apply in your fields last year?.....kg

2.5 How did you prepare your field (ploughing) last year?

☐ Own tractor ☐ Rented tractor ☐ Animal traction

3. มีการเลี้ยงสัตว์อะไรบ้าง/What kind and how many of livestock do you have?

If you own cattle, is your own land sufficient to graze cattle

Yes No

Pigs () Chickens () Sheep/goat ()

Note: If fish, go to next table.

.....
.....

1. ชนิดพันธุ์ปลาType of fish (list local names)*	2. แหล่งที่มาFr om where? ¹⁾	3. ปริมาณที่ขายได้/t otal catch (kg) (4+5)	4. บริโภคในครัวเรือน Own use (incl. gifts)	5. ปริมาณที่ขาย/ Sold (incl. barter)	8. ค่าใช้จ่ายทั้งหมด/ Costs (inputs, hired labour, marketi ng, etc.)	9. รายได้สุทธิ/Ne t income (7-8)

4. ในชุมชนมีแหล่งทรัพยากรด้านอื่นที่สามารถพึ่งพิงได้หรือไม่

(Other source of natural resource in the community)

.....

.....

ด้านสังคม(Social aspects)

1. ท่านมีข้อเสนอในการจัดการชุมชนอย่างไรให้ชุมชนมีความมั่นคงและสามัคคี

(What is your advice to stabilize the community?)

.....

ปัจจัยการเข้าร่วมโครงการ(Factors that the villagers use in decide to join the project)

1. ทราบว่ามีโครงการหมู่บ้านนิคมเศรษฐกิจพอเพียงได้อย่างไร

(How did you get the information about Royal Project?)

.....

2. สาเหตุที่ตัดสินใจเข้าร่วมโครงการฯ

(The reason of your decision to participate in this project)

ไม่มีที่ดินทำ ☐ /No land ต้องการ ☐ ดินทำกินเพิ่ม /For more la ☐

ต้องการราย ☐ เพิ่ม /For more in ☐ me ต้องการอาชีพ /Need for job ☐

ต้องการหมดภาระหนี้สิน /To get rid of debt

ต้องการระบบสาธารณูปโภค/The facilities system e.g.

Electricity, water, etc

☐ ต้องการแหล่งเงินทุน/Capital resource need

☐ ต้องการความมั่นคงในชีวิต/Stability in life

☐ ต้องการสังคมใหม่/For new society

อื่นๆ ☐ /Others.....

3. ท่านทราบรายละเอียดของโครงการฯ ก่อนเข้าร่วมหรือไม่

(Do you know the detail of the project before you join?)

ทราบ ☐ /Yes ไม่ทราบ ☐ /No

4. ระบบสาธารณูปโภคที่ท่านทราบก่อนเข้าร่วมโครงการฯ

(Do you know if there is the facility system provided in this project?)

4.1 ระบบไฟฟ้า/Electricity

☐ ทราบ/Yes ไม่ทราบ ☐ No

4.2 ระบบน้ำ/Water system

- น้ำประปา /Tap water ☐ /Have ไม่มี /Do not have

- น้ำบาดาล /Ground water มี ☐ /Have ไม่มี /Do

not have

- ชลประทาน /Irrigation ☐ มี /Have ไม่มี /Do

not have

- อื่นๆ /Others.....

4.3 ถนนในโครงการ/The road

- ลูกกรัง /Gravel ☐ ทราบ ☐ Yes ไม่ทราบ /No

- คอนกรีต /Concrete ☐ ทราบ ☐ Yes ไม่ทราบ /No

- ลาดยาง /Asphalt ทราบ ☐ /Yes ☐ ไม่ทราบ /No

- อื่นๆ /Others.....

4.4 โทรศัพท์สาธารณะ/Public telephone

☐ ทราบ/Yes ไม่ทราบ ☐ /No

5. รายละเอียดของลักษณะพื้นที่ในโครงการฯ

(Do you know the detail of the project's area?)

- | | | | |
|---------------------|-----------------------|-------------------------------|--|
| - สภาพดิน | /Soil condition | ทราบ <input type="checkbox"/> | <input type="checkbox"/> Yes ไม่ทราบ /No |
| - ความเพียงพอของน้ำ | /Sufficiency of water | ทราบ <input type="checkbox"/> | <input type="checkbox"/> Yes ไม่ทราบ /No |
| - ทักษะภาพ | /Landscape | ทราบ <input type="checkbox"/> | <input type="checkbox"/> Yes ไม่ทราบ /No |
| - ภูมิประเทศ | /Geographic | ทราบ <input type="checkbox"/> | <input type="checkbox"/> Yes ไม่ทราบ /No |
| - อื่นๆ | /Others..... | | |

Annex 3 – PRA Historical Diagram

PRA Result

According to PRA result, we can divide the result by these following tools we use to make PRA

1. Historical Diagram (5 participants of the progress and 4 progress leaders)

What we got from this Historical diagram is the history of Sufficiency Economy Estate since the beginning up to now. The history can be summarized to the following description.

- 1.1 ALRO started the project by turning deteriorated forest area and agriculture area deteriorated chemically into organic agriculture area for future
- 1.2 On January 25th, 2006, the first training, consists of 43 people, began. The training took 3 months. On 28th January 2006, there was land provision for people who passed the three-month training. And there were big changes such as opening a road and dividing people into Organic Vegetable Group and Cattle Group.
- 1.3 On March 16th, 2006, 46 people in the second cohort were trained for 3 months and on July 12th, 2006, they were provided land. There were Food Bank, the Community Forest and community shop. Also, water tank was installed and there was electricity in the area where the water tank was located.
- 1.4 On July 24th, 2006, 64 people in the third cohort were trained for 3 months and on November 9th, 2006, they were provided land. There was a request for solar cell system.

1.5 In October 2006, ALRO officer came to stay permanently and started to take care of the project seriously and there was resource person provided to give villagers knowledge about raising catfish.

1.6 In September 2007, there were students coming to participate in Future Farmer Incubation in Land Reform Area Project.

Annex 4 - PRA Venn Diagram

2. Venn Diagram (8 participants of the progress and 3 progress leaders)

According to Venn diagram in the following picture, we know about the relationship between the community and other organizations both in and outside the community, including an effect on the community.



The effect ranking can be divided in to 5 sizes. The biggest one shows the most powerful one and down to the smallest one.

1. The biggest is Land Reform for Agriculture Office.
2. The first smaller is Department of Community Development, School and Health Center
3. The second smaller is three community groups, TAO (Tambon Administrative Organization), village fund and 79 market.
4. The third smaller is temple and village saving group.
5. The smallest one is Bank of Agriculture and Cooperative, 505 company and village cooperative.

The relation with organizations is ranked by intimation with community

2.1 Temple is the heart of the community. It helps stabilizing community under the moral; meanwhile the community must respect and trust in Buddhism and temple so that these two things can stay together.

2.2 ALRO is an organization, less intimate with the community than the temple, and most of all it is the organization which has effects on the community, because ALRO is the owner of all the lands provided to people. It gave people occupation and fund; meanwhile the number of people who join the project indicate how successful ALRO has made

2.3 Three community group

- 1.) Organic Vegetable Group
- 2.) Cattle Group
- 3.) Agro-Tourism Group

All three community groups are less close to the community than temple and ALRO. The groups provide the villagers occupation and fund, while villagers give products to the groups.

2.4 TAO provide facility system to the community

2.5 Village fund gives villagers loan and villagers give interest to the fund

2.6 Village saving group gives interest, dividend and loan to villagers, while villagers have their money saved by the saving group.

2.7 The Department of Community Development gives budget to the community and the community shows achievement to the Department.

2.8 79 Market is the place where everybody can make merchandise.

- 2.9 Bank of Agriculture and Cooperative provided loan for villagers and villagers give interest to the bank.
- 2.10 505 Limited Company is the market that assures cattle price for the community (Contract Farming)
- 2.11 Village cooperative is the place where villagers can go to buy things used in everyday life.
- 2.12 Health centre and school are important official places in the community.

Annex 5 – PRA Well Being ranking

3. Well-Being ranking (8 participants of the progress and 3 progress leaders)

According to well-being ranking in the following picture, we know lives of people in the community, including attitude, what people think, life status they want and the way they struggle themselves to the status where they want to be.

100,500	Well-Being Ranking	500 1000,00	
<div>บ้านดี rich</div> <ul style="list-style-type: none"> - มีที่ดิน 10 ไร่ (Ownland 10 rais) - มีโทรศัพท์ใช้ (Have telephone) - มีรถยนต์ใช้ (Have car, reliable) - มีรถแทรกเตอร์ (Own tractor) - มีวัว 10 ตัว (Have 10 cattles) - มีที่ดินนอกหมู่บ้าน (Own the outside of village land) - รายได้เฉลี่ยต่อปี 30,000 บาท (Income 30,000 baht/month) - การศึกษาสูงกว่าปริญญาตรี (Education higher than Bachelor degree) - มีเงินเก็บเฉลี่ย 1,500 บาท (Have saving 1,500 baht/month) - เป็นนายทุนรายใหญ่ มีฐานะดี (They are big trader and have strait role) - มีอำนาจ (Have power and authority) - มีเครือข่ายช่วยเหลือ/ควบคุม/จัดการ (Having for help and control from village) 	<div>ปานกลาง moderate</div> <ul style="list-style-type: none"> - มีที่ดิน 5 ไร่ (Ownland 5 rais) - มีโทรศัพท์ใช้ (Have telephone) - มีมอเตอร์ไซด์ใช้ (Have motor bike) - มีรถแทรกเตอร์ในการไถกลบ (rented tractor for crops) - มีวัว 4 ตัว (Have 4 cattles) - รายได้เฉลี่ยต่อปีประมาณ 10,000 บาท (Income about 10,000 baht/month) - พอมมีเงินเหลือเก็บ 500 บาท/เดือน (Have saving 500 baht/month) - การศึกษาระดับปริญญาตรี (Highest education: Bachelor degree) - มีเงินทุนพอ (Have enough capital for managing) - เป็นนายทุนระดับปานกลาง (They are moderate trader) - การติดต่อขอความช่วยเหลือจากตัวบ้าน → ระดับอำเภอ (Asking for help from head of village and head of sub-district) 	<div>ยากจน poor</div> <ul style="list-style-type: none"> - มีที่ดิน 3-5 ไร่ (Ownland 3-5 rais) - มีโทรศัพท์ใช้ (Have telephone) - ใช้รถประจำทาง, มีจักรยาน (Use public transportation and bicycle) - ปลูกอินโดจีน (Prepared crops by public mode) - มีวัว 2 ตัว (Have 2 cattles) - รายได้เฉลี่ยต่อปีประมาณ 3,000 บาท (Income about 3,000 baht/month) - มีเงินทุนน้อย (Less capital for managing) - การศึกษาสูงสุดระดับ ม.6/ปวช. (Education level not more than high school) - มีเครดิตในการกู้เงินเล็กน้อย (Have a loss of credit) - การติดต่อขอความช่วยเหลือจากตัวบ้าน → อยู่หมู่บ้าน, ครัวเรือน (Asking for help from head of village and head of sub-district) 	<div>ยากจนมาก very poor</div> <ul style="list-style-type: none"> - ไม่มีที่ดินทำกิน (No Land) - ไม่มีโทรศัพท์ (No telephone) - ใช้รถประจำทางในการขนส่งสินค้า (Use public transportation for delivering product) - ปลูกอินโดจีน (Prepared crops by public mode) - ไม่มีวัว (No cattles) - ส่วนใหญ่ประกอบอาชีพรับจ้าง (Most of them being hired) - ไม่มีเงินเก็บ (No saving) - รายได้เฉลี่ยต่อปีไม่เกิน 4,000 บาท (Income not more than 4,000 baht/month) - การศึกษาสูงสุดไม่เกิน ม.3 (Education level not more than secondary school) - ไม่มีเครดิตในการกู้เงิน (No credit for loan) - การติดต่อขอความช่วยเหลือจากตัวบ้าน → หัวหน้าหมู่บ้าน (Asking for help only from Head of village)
<div>~ 3 persons</div> <div>(4.7%)</div>	<div>~ 30 persons</div> <div>(31.7%)</div>	<div>~ 30 person</div> <div>(47.6%)</div>	<div>~ 10 persons</div> <div>(15.8%)</div>

Important difference of each kind of life of people in the community

3.1 Very poor: people in this group don't have their own lands. They take bus for traveling and transporting products. Most of them are hired labour and have no savings deposit. Their monthly incomes are less than 4,000 baht and the highest education of people in this status is lower than secondary school. After interview villagers, we know that there are about 10 people in this status.

3.2 Poor: people in this status have 2.5-rai land with 2 heads of cattle and also have mobile phone. Their monthly incomes are less than 7,000 baht and highest education of the people in this status is lower than high school. Circulating fund is not enough. After interview villagers, we know that there are about 30 people in this status which are most of people in the community.

3.3 Moderate: people in this status have 5-rai land with, at least, 4 heads of cattle. Monthly income is less than 10,000 baht and they have savings deposit 500 baht per month. They can hire a tractor to plough their lands. The highest education of the people in this status is Bachelor degree. They are moderate trader. After interview villagers, we know that there are about 20 people in this status.

3.4 Rich: people in this status have land more than 10 rais, have their own tractor, have more than 10 heads of cattle and also have lands outside the community. The highest education of the people in this status is Bachelor degree. They have savings money about 1,500 baht per month and income 20,000 per month. After interview villagers, we know that there are about 3 people in this status.

4. Income and Expenditure Matrix (5 participants of the progress and 4 progress leaders)

Income and Expenditure Annual Calendar

	1 ม.ค.	2 ก.พ.	3 มี.ค.	4 เม.ย.	5 พ.ค.	6 มิ.ย.	7 ก.ค.	8 ส.ค.	9 ก.ย.	10 ต.ค.	11 พ.ย.	12 ธ.ค.
รายได้ (income)	8 - รายได้ = 8,000 บาท	2 - รายได้ = 2,000 บาท	1 - รายได้ = 1,000 บาท	4 - รายได้ = 4,000 บาท	1 - รายได้ = 1,000 บาท	1 - รายได้ = 1,000 บาท	2 - รายได้ = 2,000 บาท	2 - รายได้ = 2,000 บาท	2 - รายได้ = 2,000 บาท	10 - รายได้ = 10,000 บาท	2 - รายได้ = 2,000 บาท	2 - รายได้ = 2,000 บาท
รายจ่าย (expenditure)	3 - รายจ่าย = 3,000 บาท	2 - รายจ่าย = 2,000 บาท	1 - รายจ่าย = 1,000 บาท	1 - รายจ่าย = 1,000 บาท	10 - รายจ่าย = 10,000 บาท	2 - รายจ่าย = 2,000 บาท	2 - รายจ่าย = 2,000 บาท	3 - รายจ่าย = 3,000 บาท	3 - รายจ่าย = 3,000 บาท	7 - รายจ่าย = 7,000 บาท	2 - รายจ่าย = 2,000 บาท	2 - รายจ่าย = 2,000 บาท

Participants: Mrs. Poo Bussri
 Mr. Jirunrat Sripai
 Mrs. Korakot Tuenmingchan
 Mr. Chan Prangnok
 Mr. Somboon Dusadee

Facilitators:
 - Gabriel Radulescu
 - Sergio Batista
 - Nantanon Sunansatit
 - Parichat Nakares
 - Emma Suzuki (translator)

Income: 37 points

This indicates that the first month in which people have the highest income is October (10 points). That is because in October, there is vegetarian festival, so vegetable are sold in a good price. The second is January (8 points) in which New Year Festival is hold. The third is April (4 points) in which Songkran Festival is hold. At the beginning of drought season (February to March), vegetable are sold very few because of water lack and in rainy season (May to September), vegetable get too much water, so they are rotten and are sold in a low price.

Expenditure: 28 points

This indicates that the period when there is highest expenditure is the periods when school starts which is May (10 points) and October (7 points). This causes dept to people because the expenditure is higher than income.

In short, according to the summary of this diagram, we found that expenditure is 1 point higher than income which means every year the villagers will have more dept.

Annex 7 – PRA Preference matrix

5. Preference Matrix / Finding Cropping (6 participants of the progress and 4 progress leaders)

According to this matrix in the following picture, we know about the crop that is the most grown by people in the community, the cause and criteria that has an effect on the reason they choose the crop and the crop that costs highest expenditure to grow or the crop that earn highest income for the villagers.

Preference Matrix / Crops								
พืช (crops)	ผลผลิต (Product)	น้ำ (Water)	ราคา (Price)	ปุ๋ยคอก (Manure)	ต้นทุน (Expenditure)	แรงงาน (Labour)	เวลา (Time)	รวม Total
ถั่ว (Beans)	16	13	11	7	11	7	17	82 24 55
ข้าวโพด (Maize)	13	23	19	20	25	22	15	137 32 105
ผัก (Cucumbers)	15	8	18	14	13	26	11	105 33 71
กระเทียม (Chinese Veggies)	10	7	15	15	17	9	12	85 25 60
แตงกวา (Cucumbers)	19	18	20	19	23	22	11	132 39 93
รวม Total	73	69	83	75	89	86	66	

From the table, we can see the crops that people grow are maize, coriander, Chinese kale and cucumber. And the criteria which are used in information analysis are amount of products, market price, water need, manure need, expenditure (seeds, pesticide), labour and time.

According to the research, we found that the first three criteria which farmers take into their decision for crops to grow are expenditure (89 points), market price (83 points) and labour (86 points). The crop that is the most grown in the community is maize (137 points), cucumber (132), coriander (105 points), Chinese kale (85 points) and banana (82 points) in a row.

The crop that earns the highest income (highest amount and highest market price) is cucumber and the crop that costs highest expenditure (water and manure need, expenditure, labour and time) is maize.

Annex 8 – PRA Preference matrix/ SLUSE and King Philosophy

6. Preference matrix / SLUSE and Philosophy of the King

(8 participants of the progress and 3 progress leaders)

Preference Matrix				
Topic	Occupation	วิถีพอเพียง	วิถีพอเพียงระดับ	วิถีพอเพียงที่ดี
SLUSE	ความยั่งยืน, สังคม Social	14	17	23
	การพึ่งพาพึ่งพา NB&Envi	30	21	26
	รายได้ Economic	18	10	18
Total		62	48	67
Philosophy	ความพอเพียง Land suitable	32	13	21
	พออยู่พอกิน Sufficiency	30	12	24
	อยู่ร่วมกัน Safety-net	41	20	31
Total		103	45	75

6.1 Preference Matrix / SLUSE

The result we got from doing this matrix is learning about sustainable land use and natural resource management by using all three community groups (organic vegetable group, cattle group and agro-tourism group) to be criteria to analyze and use land consumption theory to be factor for the study (Social factor is building up good relationship in society. Natural factor is quality and quantity of nature dependence and economic factor is income from occupation) of how it is related.

From the study, we found that the most important factor is natural resource aspect because every occupation needs natural resource to rely on and it affects continuously to income and when a household have enough income then it leads to good relationship among people in the community.

6.2 Preference matrix / Philosophy of the King (Philosophy of Sufficiency Economy)

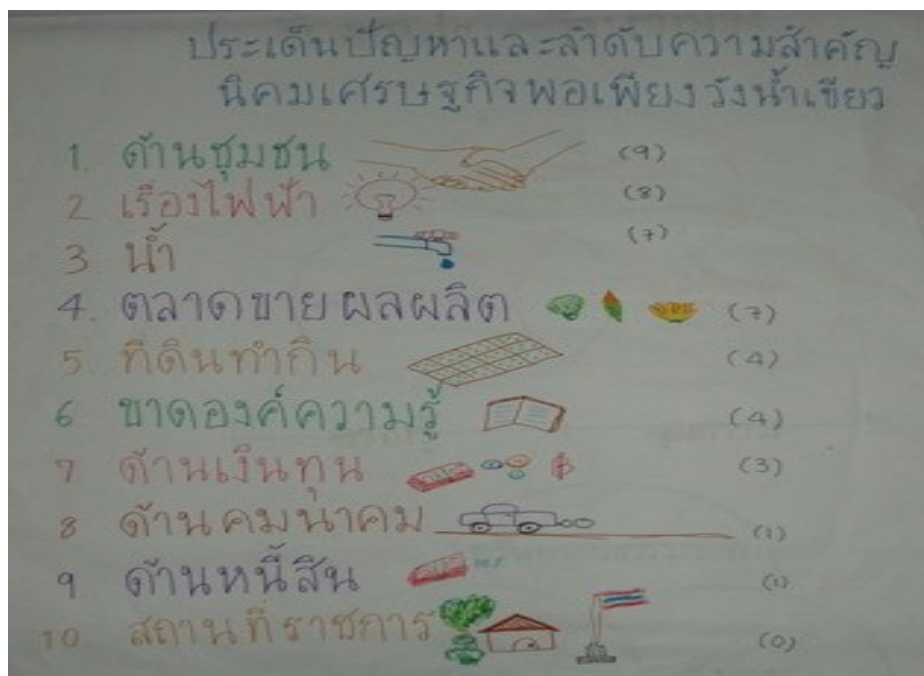
What we got from this matrix is learning about how people live their lives in the community by using three community groups to be criteria to analyze if the way they live is relevant to the philosophy or not (according to villagers' attitudes) by using these following factors: in rationality aspect by looking at appropriateness of land consumption. In sufficiency aspect, we look at occupation which doesn't need supplement job. In safety-net aspect, we look at the happiness in the family and not running after the trend in society. And we learn how these three aspects are related.

From the result, we found that the occupation which earns highest income (according to villagers' attitudes) is farmer because of the highest points in rationality aspect for the area of the community suits this occupation and the factor of sustainable life. The occupation that earns less money is tourism and cattle raising in a row.

The most important factor according to the philosophy of sufficiency economy is (in villagers' opinions) having happy family.

Annex 9 – PRA Problem ranking

7. Problem ranking (14 participants of the progress and 4 progress leaders)



What we got from doing this ranking is that the villagers found education the most important thing for the community which should be now improved as fast as possible. And we can have the problem ranked as follows.

7.1 Community problems such as unity of the community, requirement of splitting up the village and leader of the community who is outside the community.

7.2 Electricity; because there is no electricity in the village.

7.3 Insufficiency of water

7.4 Market problems; there are not many markets and they are far from the community.

7.5 Insufficiency of the land; villagers need more land.

7.6 Requirement of more knowledge for occupation.

7.7 Fund requirement

7.8 Requirement for transportation; road and bus

7.9 Dept decreasing

7.10 Official place namely health centre and school.

Annex 10 - Results from soil analysis

Plot	Ammonium test Mg/kg NH_4^+ -N	Nitrate test Mg/kg NO_3^- -N	Potassium test Mg/kg P	Calcium test Mg/Kg K
1 (2 years) Sample 1(1)	VL-L (0-10)	0-VL (0-10)	VL (0-1)	L (0-40)
2 (1 year) Sample 2(1)	VL-L (0-10)	VL (1-10)	L-M (1-6)	H-VH (80-120)
3 (2 years) Sample 3 (1)	L (0-10)	0-VL (0-10)	H-VH (9-10)	M (40-80)
4 (1 year) Sample 1(2)	M (11-20)	VL (1-10)	L (1-30)	H-VH (80-120)
5 (Non-use) Sample 1(3)	VL-L (0-10)	0	VL (0-1)	L-M (0-80)

6 (1 year) Sample 3 (2)	H (21-30)	VL (0-10)	VL (0-1)	H-VH (80-120)
7 (2 years) Sample 2 (1)	L (0-10)	0-VL (0-10)	VL (0-1)	L (0-40)
8 (Non-use) Sample 2(3)	VL	0	VL-L (0-3)	VL (0)
9 (Non-use) Sample 3(3)	VL	0	VL-L (0-3)	L-M (0-80)

Annex 11 - Management history of different plots from where soil samples were collected

	Non-users	1 year	2 years
Sample Name/address Irrigation Fertilizer use Crop Other remarks	Plot 5 Alkhee 80/80	Plot 2 Jyang pangnok 80/61 Irrigation Only manure Mixed veg. Cucumber, onions	Plot 1 Thaom 80/58 Irrigation Mixed veg.

Sample Name/address Irrigation Fertilizer use Crop Other remarks	Plot 8 Man, lives in village 3	Plot 4 87 mool 6 (76) No irrigation Fertilizer + manure Beans, cucumber, pumkin	Plot 3 80/14 28 Mixed veg. Irrigation Manure kg minus chemicals Mixed veg. cucumber
Sample Name/address Irrigation Fertilizer use Crop Other remarks	Plot 9	Plot 6 (Quest no: 25) Khampang 80/10 Moo No irrigation No chem.. + manure Salad + mix veg.	Plot 7 Pin Sompun 80/6 Irrigation No chem. + Manure Banana, salad, pumkin

Annex 12 - Interview Mr. Gisuna (Head man) 11.03.08

Budget for village: 1.000.000 (fund from Tambon Office)

Mr. Gisuna told us much about all the ideas he had concerning development in the village. Of these ideas is for example: Income generation and diversifying for women, this is suggested by: massage, production of shampoo and other smaller products, also mushrooms.

Another topic that also had great importance for Mr. G is how farming and forest restoration should go hand in hand. Equally important is it to secure spreading knowledge among villagers.

A third issue of importance is tourism, which Mr. G hopes will be a success, for the time being not much tourism is happening according to head of Agro-tourism corporation. Our group was properly some of the first tourists, at the time being there is no guides.

Facility systems are not working yet, because of lack of money, besides it is not ARLO who has the final power to decide it is the electricity and water company that decides the details of the project.

Mr. G says that the villagers have to learn to live a good life them self. He will explain them more about the kings idea, but it is the villagers them self that have to live and do it. Find the problems and solve them. This is especially in relation to the young generation. He also hope that the young generation will stay, it is possible. He sees that the population will grow and the village develop.

Another aspect of development is that project manager wants external consulates to help.

Some people do move away from the village do to lack of facilities.

Farming generation gap, young people wants to live in the city.

Before this project started was this area government area. The farmers have lack of knowledge, therefore they stays in debt, while they don't develop their products. It is like that farmer and having debt is synonyms...

The selection of farmers that can participate in the project is based on the register of poor people. So the first criterion is that the farmers have to be poor, after that they may not have land, thirdly they have to be in the register. In the selection are families preferred to singles, though our survey shows that that lives 6 single persons in the village. Some persons cheat and tell that they are older than they actually are.

To loos the land again is depended on use, if a farmer don't use the land he or she will loos the right, therefore do many farmers build a house on their plots, so it at least looks like they live there. A house, consist sometimes just of a roof. However the framer will first get a warning, before he will have to give up the land. This is decided by the district officer and managed by Mr. G.

Organic,

Application of the kings idea, Mr. G. likes the kings idea very much and he thinks that it can be used by everybody, it a good philosophy in life. The idea is good because it includes: knowledge, moderation, risk. It can be explained as a form for back to basics. Concerning the relevance to the farmer depends on how they do it.

Self-realisation for the farmer is important, they have to care.

Future learning centre for organic agriculture learn from farmers, all in all is the kings idea a little part of life in the village. Some farmer

Annex 13 - Semi-structured interview with Rian (case 1)

1) Organic/ non-organic

Definition of organic production is defined by lower grow rate then non organic, it is easy to grow, bur slow.

The benefits relating to organic production, is that the price is higher, 10 Bath more than non-organic, from 20 to 30 Bath/kg. There is security in this system, other

from the community will be by my production, because Lian is a member of organic veg. group. Lian does not sell organic products outside the community.

The price is fixed by Ban Khlong Saw Village

Organic vegetables are good for health, because they have no side effects. It also has a mental effect while Lian is feeling more confident while eating organic.

For the environment organic production is also better because the soil and water quality gets higher. Besides this the flowers, grass and plants look more beautiful.

Before the organic production there was no grass in Lian's garden (he says) now there is grass all over, he has been living in this place in 2 years).

I think it is due to the fact that Lian doesn't remove (ukrut).

As a final remark Lian tells us that even though many people think it is hard to live like this, it is not, it is just a matter of thinking positive.

2) Relation to the King's Sufficiency theory.

The King's idea is about not to have too much ambition, Lian says that he feels this is enough. If he should need food he will ask his Neighbors. It is possible to exchange with them, so if he will like some meat, he can catch a fish and exchange it for meat, or wherever he needs. If there is no money we can exchange banana for cabbage for example.

Also another example, if I had a big house I would just spend more. (me so the more you have the more you use)

Lian says that he is experiencing the philosophy of the King in his daily life and he lives in happiness.

No, not all in the community is living after this philosophy some have to work in other ways, because they have to supply their children.

Lian says that the community is a success, because of team-work, (I ask so why is there so many empty plots?) The reason is in relation to every single family, they have different reasons, for example problems with money or water and electricity on the plot. There is difference between the plots, and some of them is not so good (missing facilities) (My question: does this (unequal plots properties) create social difference? This is not a problem because ALRO will help.

Lian is in debt to ALRO, but he does not see this as a problem, he gets money from a pension (from army time).

3) Change

Economic (in relation to food security he is safe here) Lian did also have a shop before he joined the project. And he has the pension, before he also worked as a driver. All in all he has less income now, but he also doesn't need as much money as before, since he is not paying school fees for his children any more.

According to infrastructure there is a need for electricity, irrigation for the whole village, the solar cell I have is an old one from my neighbour, rainwater is for drinking, and that is enough. Ground water is for other purposes.

Limitations for the project: we are not allowed to grow rat-tree, but with the small organic vegetables production. No freedom for planting he has to follow the

guidelines. Concerning the chickens they are in a fence so they are not raised naturally.

The change in relation to forest or other natural resource is that he has less access now, he is not taking forest products, not even fire wood, because the forest around is still young and it needs to grow stronger.

The main reason to join this project is that Lian wanted to have peace, for relaxing, he does not have too much ambition.

Further questions:

- Knowledge about king (military time?)
- Relation to children and wife?
- Other important things?
- King/Bhudda...Reincarnation...

Rian has a car, a scooter and a shop.

2. nd interview 15.03.08

Rian was born in Saraburi. Rian describes how his life has changed over time, he was young and strong and worked a lot, now he can not work so much anymore, he was driving and having a shop. Rian's income was therefore higher before he moved in to the project.

He has a big hole in his shirt, I ask why, he says that he don't have money for a new one, I ask if his wife or other can rapier it for him, his mom is too old and his wife live in a another village.

Rian only have himself to support, except from his old mum as 90 years who lives close to (3-4 km) he visits her once a month. He has 3 adult children all girls, one as 32, 30 and 28, all of them have jobs and family and can support them self, one of them is working for TAO.

Rian's wife live 5 km away she is also having a shop and they cooperate in getting goods for their shops. The wife lives at her parents place, because she has to support them.

Rian was in the Army in the years 1969-1982, in these years was there a lot of communism in Thailand. He became a sergeant and was offered to go to Vietnam and Laos, but his mother prevented him, and he got to Saudi Arabia, he was working as a equipment personal, taking care of cars, and other kinds of equipment. Later he was working at the borders.

Concerning the community, does Rian tell that many people come from different places, and they are very different, they need to cooperate.

Rian is explaining about some kind of water conflict, where one tap was closed by somebody else, and how he has arranged to by PVC pipes for the village. The people in the community have now independent water systems.

Rian underlies that he wants to live peacefully and he is hoping that everyone in the community would do the same.

Rian has very strong social capital in the community, any people comes to his shop. He has also started a funeral fund and other kinds of common expenditures collection.

Annex 14 – Interview with Khompang (case 2)

???????

Annex 15 - Interview Chotika Lakboon (Case 3) 09.03.08

Background information: Chotika Lakboon, 35 years old and live with her 8-year-old, and her husband (40 years) how isn't the father of the child. They are married and it is the husband that has contact to ALRO. Chotika has lived in the self-sufficiency estate for 2 years.

The interview is outside the hut, in the shade of a broken roof. Rit is interviewing in Thai and translates to me so I can note down in English. The husband is not at home, but he comes and leaves again. The daughter is there, she looks bored. The mother and her daughter both look very dirty and there are some holes in their clothes. Chotika has very oblique teeth and some of them are missing.

The house consists of two shelters; there is no floor and a lot of holes and gaps in the walls. There is a toilet building, but it is not complete the upper stones and the roof is missing. There are problems with the water system and there is no electricity.

The plot is only half used, there is weed all over and some failed maize. There is used 150 kg of fertilizers and 100 kg of manure. Chotika gets income from the cattle and from agriculture, because she sometimes is selling the maize to a middleman that comes to her house and buys the maize. The annual income is 28800 Bath.

The household owns six cattle which are taken care of by other people, which she has to pay to do the job. Two cows are just sold for 20,000 Bath, Chotika is telling that she wants to save the money, she has just bought a table. Chotika is complaining that there is no electricity, she has not applied for it. Her neighbor is having a television and she wants to have one as well so the daughter can learn something Chotika says. Before Chotika joined the self-sufficiency project did she not have a stable income, but she was hired for different jobs. She is having

primary school as highest education level, and she was not able to read everything in the questionnaire.

Chotika is expanding that she did not have debt before she decided to join the self-sufficiency project, but she is sad to have it now, she has debt to ALRO. Do to the debt does Chotika not feel that she is self-sufficient. Chotika likes the king she has pictures of him in her hut, but she do not know about the king's philosophy.

Annex 16 - Interview with Head of Tambon Administration Office (TAO) – Mr. Sutana

1. What TAO is doing in the area?

TAO was establish by the government 14 years ago in 2537 (Thai calendar) and represents the district administration office. They have rights to manage the district with the budget offered by the government. Under their administration are 19 villages, an area of 202 km² with a population of approximately 72.000 people. TAO deals directly with the development of the villages; they are also the ones' who allocate budget for different project in the area.

2. How the TAO can solve the problems with water supply?

TAO has provided budget to set up the ground water supply. The budget is not enough to solve this problem. The province administration office also allocated some funds for this problem.

- a. Any solution for this problem?

Dam construction could be a possible solution, because ground water is not enough. The soil has lost his properties to retain water after the deforestation process. They have also some studies with regard to soil properties, and ground water resources.

3. How is self-sufficiency community different from others?

The objective of this project is to suggest to the villagers/community how to maintain sustainability.

4. How are the natural resources, like forest, water, managed in the self-sufficiency community area?

Tao is trying to provide budget to promote reforestation for the entire village.

5. Is there any plan to transform the community in an independent village?

There is a very low probability that this will happen, due to the conflicts inside the village, community which cannot be solved by TAO.

In regard to the invasion of tourist resorts, the TAO chief said that may be a problem in the sense of migration. The villagers in the area will not be anymore the owners of these lands and therefore they will be forced to leave.

The representant of the TAO in every village are elected by the villagers at every 4 years.

SPK land title has the purpose to categorize ownership, especially for the farmers, for those people who want to use the land for agriculture. In the case of illegal transfer of the land, the authority will take the land back. The SPK land title can be transferred only to the successors.

Annex 17 - PRA – Focus group discussion with students involved in the Sufficiency economy estate

1. The reason that you joined the project. And why do you choose this area?
2. What are your methods to exchange knowledge with farmers?
3. What do you learn during the 3 months training?
4. The selection criteria for joining the project.
5. What are the problems found in this project?
6. What do you mean/consider by organic agriculture?
7.

Participants: 2 males, 1 female

1. One of the students is graduate. He found out about this project from his teacher at school; he is doing also a project for school. He wants to be the leader of the village. One of the participants, the girl, she join this project because she loves nature and because is also her home town.
2. ALRO is organizing meetings were also present the students to be given as an example to the farmers. Some of the farmers are not interested to attend the meetings organized by ALRO; because either they are too busy, either are not interested. The meetings are organized weekly, for every group of farmers formed in the community: organic farming group, cattle group, agro-tourism group. In example in the organic farming group one of the important topic discussed is organic agriculture-how to do it, how to prepare the land etc. They also propose ideas at these meetings. One of the proposals to ALRO is: "Agriculture Learning Land" – which was already accepted and it will start in 2008. Most of the farmers are doing "wrong" agriculture in the sense that they are practicing mono-cropping, instead of crop rotation or even inter-cropping in order to have higher yields. The idea of His Majesty the King helps the farmers to do their activities in and harmonious way and to live happy.
3. At the 3 months training course they learn how to grow Thai apple and other Chinese vegetables and they learn also how to do all the activities that should be done in a farm. The 3 months training course is focusing on organic agriculture. All of our respondents were born in a farm.

4. A request is to be a graduate from the Faculty of Agriculture, next step being the 3 months training course. The list of the poorest people of the village is going to ALRO and then only those without land will be selected from that list.

5. – irrigation problems

- Budget from ALRO for them is very low

- The Organic and Cattle group have also budget problems

A major problem is that people are not willing to stay for long time in the project, and implicit in the community. And then ALRO next option is to decrease the budget. ALRO makes also field check in order to see if the farmers are doing what they suppose to do – which is agriculture and/or cattle. After 2 years of following the project, doing only organic agriculture they can receive the SPK4-01 land title.

6. They use only organic inputs. From time to time also are using chemical inputs, this is due to the low level of nutrients in the soil, and by this method they want to improve it. Farmers don't understand how to do organic farming; therefore they use chemical inputs in order to have a reasonable yield at the end of the season.

7. Living in happiness is the same idea as His Majesty the King; there will be no competition among them according to this principle. The farmers who are joining this project care only about the money and the land, not about the philosophy of the king or about self-sufficiency.

8. ALRO should be more close to the farmers to see what the farmers want, what problems they are facing in reality.

9. The officer from ALRO seems not to be enough for the society; more people are needed. ALRO should also talk with the farmers who don't belong to any of the three groups present in the community (organic, cattle, agro-tourism).

- a. Farmers are acknowledged by ALRO for any support that they need, and also they make research to find out people problems.

10. Sustainable for farming; if the soil is not suitable they will try to find the appropriate crop. The agro-forestry system is most suitable for the area, according to the students.

11. One of the male participants wants to show directly to the farmers' in order to improve their life. The respondent girl is following the king idea and she also other ways to live better.

12. New planting techniques, without chemicals. The girl wants' to teach/show also to the people that chemicals are not the only way in agriculture.

Annex 18 – Sérgio daily field diary

Dear diary,

On the 5th of March I started with a meeting with Thai-counterparts: Dew, Kroy, Manoon and Rit and our translators Erina and Ploy) at the Forest Department Kansarstat University. Some games played and work.

Bangkok by night

The next day we had a lecture on land tenure to which me and others arrived late because the professors were in a hurry and our group together with the Thai counterpart had a discussion of our synopsis.

Bangkok by night

On the 7th we continue discussing and presented the joint synopsis.

Bangkok by night

8th -This day we had to wake up really early to departure to the field. Lecture on forest management and arrival at the field, and finishing questionnaire of course going around checking out the views.

Planning activities

9th we all went for our first dust ride in the pick-up... made some shopping tried fried rat while photocopying questionnaires on market km 79

Trying to conduct questionnaire survey in the estate four working groups (1 Thai+1 Dane + 1 translator)

Football

10th Questioner survey user 1 and 2 (South) Group work identifying key-informants and focus areas for qualitative interview and PRA

Questioner survey user 1...long day this one

But still time for football

11th Preparing and conducting focus group interview with students.

Football

12th Mid-term evaluation and reflection on the research objectives, small get together with some members of all groups.

Football

13th Prepare PRA tools, resting because it was too hot we also played football.

14th PRA-crop-ranking

Football

15th Focus group discussion with Cooperative leaders and ALRO

Data analysis and football

Hardcore transect bicycling in a really dangerous area around the Moncks lake, gladly me and Gabriel made it without any major injuries.

Interview Monck

16th During this day I had data analysis, looking at soil analysis, sun baths, football and walk with some members of other groups.

17th Community meeting, group-trip to national park and goodbye party

18th Departure to Phi Phi Islands.

All days we had group discussion about different topics concerning or not our field work, this happened after working hours and in our porch. Just some overview of each one toughs, sometimes with a small participation of a professor.

Annex 19 - Gabriel daily field diary

5th of March

- Meeting with Thai-counterparts: Dew, Gluay, Manoon and Rit and translators Erina and Ploy at the Forest Department, Kansarstat University
- Group work on making a composite synopsis out from synopsises of Denmark and Thailand group

6th of March

- Lecture on land tenure
- Further discussion with Thai counterpart on synopsis and questionnaire

7th of March

- Finalised and presented the joint synopsis.

8th of March

- Departure to the field
- Lecture on local forest management at the JICA camp on the way to the field
- Finalising questionnaire and its translations
- Planning activities

9th of March

- Questionnaire survey (U1 & U2)

10th March

- Questionnaire survey (U1 & U2) and Group work
- Identifying focus areas and informants for interviews and PRA

11th March

- Questionnaire survey (U3)
- Group work – preparing mid-term presentation
- Focus group discussion with students in the project area

12th March

- Mid- term evaluation

13th March

- PRA – income and expenditure matrix
- PRA – historical diagram

14th March

- TAO interview
- Questionnaires (U4)
- Data analysis

15th March

- PRA – crop ranking
- Questionnaires (Non-user)

16th March

- Data analysis
- Semi-structured interview

17th March

- Community meeting
- Interview with the vice counselor of village Bong Phattana I
- And enjoying the last day in the field

Annex 20 - Sanjeeb daily field diary

5th of March

Meeting with Thai-counterparts: Dew, Gluay, Manoon and Rit and translators Erina and Ploy at the Forest Department Kanserstat University.

Group work on making a composite synopsis out from synopsises of Denmark and Thailand group

6th March

Lecture on land tenure

Further discussion with Thai counterpart on synopsis and questionnaire.

7th March

Finalised and presented the joint synopsis.

8th March

Departure to the field

Lecture on local forest management at the JICA camp on the way to the field

Arrival at the field

Finalising questionnaire and its translations

Planning activities

9th March

Questionnaire survey

10th March

Questionnaire survey

11th March

Data entry

Preliminary analysis

PRA

12th March

Mid-term evaluation and reflection on the research objectives

13th March

Semi-structured interviews with farmers

Semi-structured interviews with ALRO

14th March

PRA

Key informant interview

15th March

Soil sampling

Semi-structured interviews with farmers

16th March

Semi-structured interviews with farmers

Soil analysis

17th March

Community meeting and departure from the field

Annex 21 – Mette daily field diary

5th of March

Meeting with Thai-counterparts: Dew, Gluay, Manoon and Rit and translators Erina and Ploy at the Forest Department Kanserstat University.

Group work on making a composite synopsis out from synopses of Denmark and Thailand group

6th March

Lecture on land tenure

Further discussion with Thai counterpart on synopsis and questionnaire.

7th March

Finalised and presented the joint synopsis.

8th March

Departure to the field

Lecture on local forest management at the JICA camp on the way to the field

Arrival at the field

First sight of the field

Planning activities

9th March

Questionnaire survey

10th March

Data analysis

Group discussions

11th March

Data entry

Preliminary analysis

PRA

12th March

Mid-term evaluation and reflection on the research objectives

13th March

Semi-structured interviews with farmers Case 3

Semi-structured interviews with ALRO

14th March

Soil sampling

Key informant interview (Monck)

15th March

Semi-structured interviews with farmers cases 1 and 2

16th March

Soil analysis

17th March

Community meeting and departure from the field