

Agricultural Transformation and Highlander Choice: A Case Study of a Pwo Karen Community in Northwestern Thailand

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Abstract: During the past several decades, the ethnic highlanders in Northern Thailand have been in general tackling the issue of agricultural transformation in the sense that they have had to continuously search for the optimum trade-off point for each of their villages *between* the modern competitive market-economy agriculture *and* traditional local self-efficiency agriculture. With this understanding, the present study focuses on (1) the impacts of national and regional development policies upon local agricultural shifts and (2) the highlander choice under their limited available resources and alternatives in agricultural activities. For this purpose, a Pwo Karen community consisting of two administratively different villages in Mae Sariang district of Mae Hong Son province is selected as the research site. In this framework, the present study investigates the highland villagers' adaptation characteristics in their agricultural transformation as a complex and continuous process which carries the internal dynamism of the community development as well as the external factors for the development promotion of their agricultural production system.

Keywords:

Mae Hong Son, Mae Sariang, Pwo Karen, Thailand, agricultural decision-making, agricultural transformation, cash-cropping, environmental concerns, market economy, population growth, risk and uncertainty.

1 Introduction

1.1 Rationale and Objective

In the mountain district of Mae Sariang in Mae Hong Son province, there have existed one Skaw Karen and six Pwo Karen villages as administrative divisions under the Mae Ho sub-district (*tambon*) government office since the early 1970s (MAP 1).

The village settlement of Ban Mae Chang (MAP 2 and MAP 3) took place more than 200 years ago, perhaps tracing back to approximately 250 years ago (from interview). The total population of Ban Mae Chang is 298 persons from 73 households;

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245 persons from 54 households in the major part, and 53 persons from 19 households in its satellite part, Ban Mae Chang Bon (surveyed in February through March, 2002). Ban Mae Chang is situated on the mountain region about 880 meters above sea level, in which the villagers have traditionally practiced “rotational swidden cultivation (Yos 2003:26)” (shifting cultivation) to use their own farming fields of four or five plots by rotation. The typical conditions of this sort of cultivation can be described as the following. Basically, each household practices dry rice farming every year to secure enough rice for the life of family members. At the same dry rice field, they often simultaneously grow together with the dry rice such crops as corn, potatoes, pumpkins, beans, sesame, chilli, cucumbers and other green vegetables. A plot of dry rice field is used for one year and left fallow in the following four to five years.

The settlement of Ban Dong Luang (MAP 4) emerged about one-hundred years ago when the first settlers outmigrated there from Ban Mae Chang (Hinton 1975:36, and interview with the official village headman in January 2003). Nowadays, the so-called Ban Dong which consists of Ban Dong Luang and its satellite part Ban Dong Noi, has become a larger village than Ban Mae Chang. The population of Ban Dong Luang is totalled by 505 people in approximately 125 households; 248 persons from over 60 households in the major part of Ban Dong Luang, and 257 persons from over 60 households in its satellite part Ban Dong Noi (surveyed in January 2003). The altitude of Ban Dong Luang is around 1,050 meters above sea level. Since several decades ago, the scarcity of the arable land has been an increasingly serious problem for the villagers. Accordingly, the villagers of Ban Dong presently cultivate almost all of available area suitable for farming around the village. They have already changed their traditional shifting cultivation with a fallow rotation scheme into a new cycling method in which they grow cabbage and dry rice in turn in alternate years over the same two or three plots. As a result, nearly every household in this village is now involved in the cabbage cropping.

Based on the above-mentioned background, this study conducts a case study of a Pwo Karen community in order to investigate the highlanders’ decision-making attitude for farming activities and their adaptation to the changing agricultural scheme by concentrating its attention to the major part of Ban Mae Chang, and parallelly examining the major part of Ban Dong Luang for reference of comparison.

1.2 Statement of the Problem

The increasing concerns for the conservation of the natural environments, under the present national and regional policies in the enlarging global economy, have demanded the highlanders to change their traditional ways in various aspects. As the

environmental concerns have increased more, the shifting cultivation by the highlanders has become more seriously regarded as destructive to scarce natural resources. It is not only such external factors to enforce the highlanders' life to change, but also internal dynamism of inevitable population growth in the swidden society. In this context, it is noteworthy that the cultivation of cabbage as a cash crop has been introduced and promoted by several development projects to the ethnic group villages in the northern highland region since the 1970s. This tendency was noticeable especially in the 1980s during which the global environmental concerns became to grow wider and denser.

It has been over a decade since the cabbage cultivation was introduced to bring economic growth to the highland communities in Mae Sariang district. It is said that, in the latter half of the 1980s, some villagers of Pwo Karen in this region (Mae Ho sub-district) were engaged in cabbage cultivation as daily labourers for the *Hmong* people (one of the ethnic groups in the northern Thailand) who were borrowing the Karen's land to grow the cabbage. It was through this situation that the Karen people learned how to grow cabbage (Kwanchewan 1988:103, and interview). After the policy for the promotion of economic development had been implemented by the government, the mountain road from the above-mentioned seven villages to the nearby Route 108 junction and to the cabbage trading point at Mae Ho has been partially paved (three 100m segments) to assist shipping agricultural products from them. In consequence of this, some of the Karen villagers in those villages could gain relatively large amounts of profits through this new type of cabbage agriculture.

During the period from the late 1960s to the middle of the 1970s, the Pwo Karen's subsistence conditions in Ban Dong Luang as well as its nearby Karen villages including Ban Mae Chang, were studied in detail by Hinton (1975). For the past three to four decades since then, the agricultural situation in Ban Dong Luang has dramatically changed from the self-sufficient subsistence farming to the commercial-product based agriculture with mixed cultivation of cabbage and dry rice. Nonetheless, the agricultural development process in the village followed a somewhat unstable path due to the drastically fluctuating cabbage prices and decreasing productivity of dry rice as compared with before.

Along with this trend in the region, the villagers of Ban Mae Chang still maintain the swidden cultivation as their highest priority, with the introduction of new agricultural technology to some extent. Concurrent with this, the village is at present provided with new agricultural options. That is the cultivation of cabbage and other crops (*e.g.* coffee) recommended by the agricultural agents and experts from outside the village.

In general, as the cabbage cultivation by the highlanders has progressed, this cultivation has been blamed for soil erosion and water pollution from such chemicals as inorganic fertilizer used to increase agricultural productivity to enable the life of some

highland farmers to become economically stable (Kanok and Benjavan 1994:32, 59, 64). Because of the use of large amounts of chemical pesticides for cash crops over the past decades, some highland villagers have started to experience dangerous negative effects in their health and surrounding natures. In addition, the soil, which the chemical substances have been intensely put into, cannot unfortunately avoid getting sterile.

With the aforementioned understandings, this study sets up the following questions for the investigation of the highland farmers' actual adaptive manner towards agricultural transformation and the search for the desirable ways to promote the sustainable development of the Pwo Karen community.

- (1) What are the villagers' adaptive strategies, along their own perceptions and values, towards the agricultural transformation and community development in future?
- (2) Why, how and under what conditions, do they make their decisions about the agricultural transformation?

2 Local Contexts: Main Findings of the Fieldwork Study

2.1 Risk of Agricultural Technology and Economy in Highland Society

Each of Ban Mae Chang and Ban Dong Luang has adopted the technological innovation of irrigated terrace farming and cabbage cultivation in different ways and to the different extent depending on the magnitude of the increasing population density and decreasing arable land. On the one hand, the villagers in Ban Mae Chang can even now still rotate their farming land in around four to five-year cycle, to maintain relatively traditional approaches to manage natural resources though it is not so easy as it used to be. On the other hand, the villagers in Ban Dong Luang have fairly changed their agricultural method from the traditional manner which can be often observed in the current farming in Ban Mae Chang, to a new manner by mixing cash cropping of cabbage with dry rice farming.

In my research site, the Pwo Karen farmers have been struggling with a number of *risk* on the agricultural technology and economy in cabbage cultivation. The technological innovation has been a significant factor to develop and change human life. Because it is a double-edged sword, the technology adopted in the development process has certainly allowed the people to enjoy better life, but has also forced them to face new complicatedly difficult problems or to suffer from the adverse effects stemming from the introduction of new agricultural technology. These phenomena can be empirically observed without so much difficulty through the comparative case-study over the two villages in the contemporary Pwo Karen community based on the investigation of current

trend described by the socio-economic data with the sociological and anthropological analytical perspectives.

Declining Soil Fertility

It has passed more than fifteen years since the Pwo Karen in Mae Sariang district started to grow cabbage in the middle of the 1980s with their respective adaptive manners to follow the Hmong groups' practical experience. Applying additional chemical fertilizers in the soil for cabbage, some farmers have enjoyed more rice output¹ and accordingly more cash income than before. Actually, this type of agriculture is only beneficial for the richer farmers in the village who can afford to possess larger terraced fields and can continuously use chemicals in their swiddens, but not for the poorer who can afford neither larger terraces nor chemical fertilizer. In these situations, the villagers in the research site have been aware that the soil in their arable swidden land has been deteriorated. The data on the rice sufficiency of Ban Dong Luang show that the rice output of poorer farmers has turned out to be so low that they have to compensate it by their labour work for the cabbage cultivation conducted by the richer farmers inside and outside the village. It is due to not only that the poorer farmers possess the smaller arable land, but also due to that they are forced to use their land so intensively to grow dry rice every year and cabbage from time to time which would result in the rapid decline in the soil fertility.

Debts Accruing from Fluctuating Market Price

The Pwo Karen's traditional agricultural production system has been gradually absorbed into the system of modern market economy. Being integrated into the market economy system, the first successful farmers though limited in number, have been materially enjoying more comfortable life to gain more cash, rice, and such properties as terraced fields, cars, motorcycles, and cattle. Out of those richer villagers, some have become middlemen and investors to disseminate cabbage cultivation over the region. Meanwhile, the late-started unsuccessful farmers, who form the majority in Ban Dong Luang, have been suffering from the heavy debt of the loan to purchase chemicals and lower rice productivity caused by the reduction of soil fertility. Thus, they must earn their living by labour work and through other means including possible illegal trading. Although their cabbage cultivation is less intensive in scale than that in Ban Dong Luang, the Pwo Karen in Ban Mae Chang have embarked on the cabbage cultivation by tracing

¹ The leftovers of the chemical fertilizer from the previous use of the land for the cabbage cultivation generally contribute to the increase in the productivity of the land for the rice production following the cabbage cultivation.

the similar path to that the Ban Dong Luang people have followed. For this situation, the Village Fund 2002² can be considered as a significant assisting tool for the poorer farmers who have not regularly been engaged in cash cropping in their swidden to grow cabbage by themselves. Nevertheless, what the Village Fund so far provided to the villages has not in general yet been evaluated as successful in the research site. Moreover, there is a possibility that the Village Fund would behave as another type of trap for the poorer which causes them to suffer from new debts unless carefully operated though this Fund carries potentially promising aspects.

Losing Land Security

The cabbage cultivation in the Pwo Karen community has actually generated new conflicts with respect to natural resources between the two villages of Ban Mae Chang and Ban Dong Luang. In the year 2001 in my research site, there was an fraud incident in which some of the richer Pwo Karen farmers in Ban Dong Luang lost their large area of terrace fields to a Buddhism agent deceived by speculating motivation offered by the agent in the name of donation. So far, for the Pwo Karen in the research site, it has been intensely restricted to transfer their swidden land in monetary exchanges. However, it cannot be assured that they will never be selling their swidden to industrial agents or tempted to receive money by mortgaging the swidden as some of them are now doing for their terraced fields. By giving a way their swidden farming to cash cropping for those who come from outside the village, the marginalized status of the highland Pwo Karen might become more serious. It is possibly just the inception of trading swidden land in the Pwo Karen of Mae Sariang like the case of Pwo Karen of Wa Ga Gla in Uthaitхани province (Gravers 2001:67).

2.2 Limited Choices to Changes under Development Scheme

Another situation with which the Pwo Karen villagers have been struggling is that the available choices for them are limited in the process of agricultural transformation. Practically, there are only four major feasible choices for the Pwo Karen farmers to utilize as alternatives to traditional fallow cultivation; (1) irrigated farming, (2) cabbage cultivation, (3) coffee-tree planting and (4) labour work. Concretely speaking, these alternatives are actually far from the literal meaning of “choices” to be selected at their discretion, and available options are quite limited to them in their local context. In fact,

² This financing policy of the Village Fund 2002 is distinctive from the previous funding-loan policies in the sense that the maximum level of the loan amounts up to 1,000,000 Baht per applicant village.

among these choices, only the labour work has been generally feasible for the majority of the Pwo Karen in the research site, although the supply of the working labour is not always oriented to an agricultural means. The chances of the coffee-tree planting have been intermittently provided by the government's development projects since the 1980s as alternative crop to shifting cultivation. However, it has not yet come to help their living in the Pwo Karen region. Irrigated farming is the primary option to cope with rice scarcity for some Pwo Karen villagers after the 1960s, though it has not brought about solutions for the majority of the farmers due to the constrained condition of the geographical configurations in the vicinity of their community. Compared to that, the cabbage cultivation has widely spread among the Pwo Karen, especially in Ban Dong Luang. Although it is still restricted for the majority of the Pwo Karen in terms of capital and risk of debt, cabbage is the most viable crop from the viewpoint of (1) easiness to grow in their swidden, (2) quickness to grow within only three months, (3) availability of transportation access to the regional cabbage trading market in Mae Ho, and (4) practicability to grow without individual initial budget.

Yet, in such severe conditions for the highlanders, the adaptive manners and motivations among the Pwo Karen are varied between the economic classes of the richer and poorer, and among the farmers with the same status in each income class. In the highland swidden area, the decision-making sequence to agricultural choices are never homogeneously based on the economic incentive towards the gross returns, but rather literally "survival strategy" as a result of deliberate consideration and evaluation in accordance with their own criteria. To maximize their benefit and utility for each households, they are not only struggling with agricultural changes for survival inside and outside the village, but also actively exerting and utilizing the opportunities provided by the market economy system. In the swidden society, the issue of the local subsistence cannot be appropriately viewed simply within the framework of neither "risk preference" vis-à-vis "risk aversion" nor "traditional farming" vis-à-vis "modernized agriculture" since the highlanders have been adjusting themselves to the process of agricultural transformation in various dynamic and viable ways.

Regarding to the variation of agricultural choices, among the cases showing how the Pwo Karen have adopted new options at their discretion since the 1980s, there are two suitable examples. One is the adoption of "cabbage cultivation" and the other is that of "coffee-tree planting." As aforementioned, the cabbage cultivation in the region was introduced by the Hmong people in the 1980s for the first time in the Mae Ho sub-district region. Through the Hmong people's experience in this development, the Pwo Karen have learned how to embark on the market economy system, and empirically realized the cash crop's feasibility for them. The coffee-tree planting, on the other hand, started as one of the substitute cash-crop options for the cabbage cultivation. In the case of the

Pwo Karen in Ban Mae Chang, they started last year (2002) to grow coffee trees in an organic manner as an alternative to cabbage. This project has been introduced to the village by a local NGO, and carried out under the collaborative operation between the Ban Mae Chang villagers and that local NGO. This introduction of the coffee-tree planting has been made in light of their severe experience of the failure in cabbage cultivation and of the degradation of natural environmental conditions resulting from the soil degradation caused by cabbage cultivation. It has driven the Pwo Karen to search for the new better and safer approaches in their agriculture with the help of local NGO.

It is reported that the coffee-tree planting programme which was promoted before by the local governmental office (Hill Tribe Welfare and Development Centre at Mae Ho) could not attract enough attentions from the Pwo Karen in my research site (Kwanchewan 1988). Since this second trial of the coffee-tree planting programme in Ban Mae Chang has just started, it is too early to assess the adequacy of its outcomes. However, it can be perhaps pointed out that the rather positive attitude of the current Pwo Karen toward such cash crops as cabbage and coffee has been created because they have not been forced this time to adopt them by coercive powers. The decision of the Pwo Karen is usually based on the criteria of whether the new approach is workable, effective, and helpful for their life. Why did they adopt the introduction of cabbage by the Hmong people, not by the officials? Some village informant says that it is surely beneficial for them to follow the Hmong in agricultural activities, and that they are often sceptical of the success prospects of the authority's suggestion since they know from experiences that the risk to lose is high if they follow it (interview in Ban Dong Luang).

3 Analysis of the Findings

3.1 Population and Economic Development Theories in Local Context

The causes and effects of population growth have been intensively discussed in the history of modernization since Malthus' argument at the end of the eighteenth century. In the recent decades several researches have discussed, during the 1960s to the 1970s, on the issue of increasing population density and declining productivity in the highland region of Thailand (*e.g.*, Kunstadter 1978 and Hinton 1975, 1978 *et. al.*). Since the 1990s, a different perspective with its ground on the discourse theories has come out to argue that the 'population growth' has been frequently regarded as a main culprit to cause the deteriorating or undeveloped status by the World Bank and other internationally influential development planners (Williams 1995, *et.al.*). In my research site, the Pwo Karen villagers perceive that the reason of shortened-fallow period in their swidden farming is attributed to overpopulation in their community. That is why, as the villagers

state, they have been neither able to fallow their arable land long enough nor due to produce sufficient rice so that they have to supplement their daily rice by such other means as wet rice farming, cabbage cultivation and labour work. In this subsection, I try to analyse this point about my research site by briefly referring the perspectives of typical population theory and development discourse theory.

According to the views of some economists, the population growth is regarded as an important requisite for the development forwards more productive economic systems (Boserup 1965, cited from Kunstadter and Chapman 1978:16-23). For example, Shultz (1964) explains that the “traditional” farmers efficiently utilise their limited resources, by which they can eliminate inefficiencies and attain “a particular type of equilibrium (cited from Mitchell 1995:140-141).” Conversely, there are counter arguments against such a harmonious relationship between population growth and economic development. One of those standpoints is the neo-Malthusian theory. It regards the population growth as a result of economic development. However, the increasing population promoted by the economic development and technological innovation may hamper the further possible economic growth, since the increment in productivity are continually offset by the demands of the expanding population for the larger product-share of dependents. It is because the age distribution contains a much higher proportion of younger people for the case of growing population than the case of non-growing population (Kunstadter and Chapman 1978:16). These perspectives of population theories tend to be discussed mainly in the relationship of population changes with the economic growth, and therefore tend to fail to look at the social and institutional context as well as the consequence of social impacts caused by the development dynamism.

As one of induction, it is said that the heavy population density in Ban Mae Chang and Ban Dong Luang has made some villagers to adopt or convert to the irrigated wet rice farming and cabbage cultivation in order to cope with the reduction of the per capita productivity of the arable land for the dry rice. Due to the gradual development of the village irrigation system, some farmers who could afford to utilize the terraced field to grow the wet rice have been able to enjoy more rice productivity than before since the 1960s. It implies that the technological innovation, as to the irrigation scheme and the economic affluence to afford the terraced field, have enabled to support the larger highland population in the community’s macroscopic level. However, at the microscopic household level, this irrigation technology has not been widely diffused for the benefit of the majority due to the various types of social, economic, geographical and division of labour constraints. In the case of cabbage introduction into my research site, among the primary conditions to allow the highland Pwo Karen farmers to increase economic benefit and social stability are; (1) mobilization of the local available capital to augment the terraced land, (2) hold of enough male adult labour which attract the

investment of the investors outside the village, and (3) improvement of the transport disadvantage to have the better spatial access to the regional cabbage market and to the chance to contact outside investors. On the other hand, those farmers who are unable to hold terraces and disadvantageous to joining the market due to several restricted conditions, such as smaller arable land without terrace, no available male adult labour, and consequently no access to the investors, cannot improve livelihood nor solve rice scarcity. However, the poorer farmers can also enjoy benefit to get cash from labour work in the cabbage field of the richer farmers.

This indebtedness between the richer and poorer farmers to exchange cash and labour in cabbage cultivation has been already established as an important element of the production system in Ban Dong Luang since they changed their farming manner. In this sense, it might enable to be considered, by following Shultz's view, that this newly emerged relationship inside "traditional" farming community has occurred as the result of "new type of equilibrium," of which a small-scale of redistribution system between the rich and the poor is composed. However, this theoretical scenario does not take into account the deteriorating status of marginalized poor and emerging conflicts on the natural resources allocation among the community members. Hill (1986) critiques the perspective of Schultz' that the most "efficient" allocation of resources would be never reached to the poorest farmers. This argument is applicable to the situation of Ban Dong Luang in this study, in which the poor have less access to arable land of both swidden and terrace in the process of commercialization of farming in the communities.

The standpoint of discourse analysis criticizes that the optimistic view of population growth tends to ignore the aspect of the socio-economic inequality. What have made the Pwo Karen farmers to suffer is not the "population growth" but the "violence of development" in their terminology which has been caused by the present development scheme for the sake of short-term economic development to increase transient cash income.

3.2 Local Technical Knowledge in Development Scheme

The Pwo Karen farmers in the research site said to me that they could generally produce enough rice and *catch* crops³ in swidden when they could secure enough fallow period as the old time. On the other hand, their traditional farming carries the risky and uncertain characteristics of being frequently damaged by the weather conditions and

³ A catch crop is a crop grown between two crops in ordinary sequence in time, between the rows of a main crop, or as a substitute for a chief crop which has failed in production. Among the catch crops grown in the swiddens by the Pwo Karen in my research site are maize, taro, a kind of yam, pumpkin, bean, sesame, chilli, and cucumber as well as other green vegetables.

other unpredictable factors. Be that as it may, even under harsh circumstances, the rotational fallow system conducted by the Pwo Karen has been maintained with their deep knowledge and technical skills of the environmental management. The manner of natural resource management of the Pwo Karen can be regarded as the “local technical knowledge (LTK)” (Bodley 1976, Warner 1991) and it explains the practical knowledge system accumulated enrich experience by generations.

Warner (1991) points out that the “decision making sequence” of the shifting cultivators depends on their LTK to create a dynamic way of viable food production system under physical and customary constraints. In this regard, Yos (2003:26) states that the Karen people are generally well known for their ecological production systems to secure the sustainable natural resource management in the research sites. Through my fieldwork, it is observed that the Pwo Karen in Ban Mae Chang are carefully applying their LTK when utilising their natural resources and managing the soil for farming. For example, even some of richer farmers of Ban Mae Chang who grow cabbage in a relatively intensive manner in the village, try to avoid the reduction of soil quality through the rotation of their land by mixing cabbage cultivation with dry rice farming in sequence. This is a way of their traditional soil management, and this aspect is relevant in Ban Mae Chang to the definition of shifting cultivation as dynamic complex which is continually responding to the changes (McGrath 1987, Warner 1991).

However, the explanation of the LTK by Warner and *et.al.* (1991) cannot foresee the effect and impact of the socio-economic changes upon the shifting cultivation societies under the growing global market economy. In other words, the LTK has manifested its limit to be unable to relieve the reducing conditions in the production of the highland farmers in my research site. In Ban Dong Luang, where more intensive cabbage cultivation is conducted than in Ban Mae Chang, they have changed their swidden farming to meet the changing circumstances. Their LTK as traditional knowledge has been fairly absorbed into the stronger force of the modern scientific methods for the cabbage cultivation which is a new type of commercial cropping. Meanwhile, the new technological knowledge of the cash cropping has not been able to distribute its effects widely to the villagers yet. In fact, the Pwo Karen farmers in Ban Dong Luang are presently coping with the problem of the intensification of crop rotation by growing dry rice and cabbage on the sloping hill. This approach will be helpful for reducing the land degradation, but will not be able to overcome soil erosion unless farmers exercise the soil conservation practices since the intensive chemical inputs on cabbages would destroy the soil-structures.⁴ Therefore, the system in which highland farmers growing cabbage without enough fallow period and appropriate treatments for

⁴ The “soil-structure” refers to the chemical organization of the soil.

soil management will not be expected to sustain the productivity in the long run.⁵

There are debates on the “environmental catastrophe” regarding the population growth in the highland area. Grandstaff (1980) analyses that the perspectives such debates are myths of twofold facets of “deductiveness” involving the carrying-capacity argument and “inductiveness” leading the historical catastrophe to foresee the future scenario in highland. Moreover, those mythical arguments have been imposed on cabbage cultivation to accuse it as a polluting factor to the natural environment since the commercial cash cropping as the opium-replacement had been introduced in the highland areas of Thailand. It results in that the environmental degradation and agricultural runoff caused by the cabbage cultivation tend to be blamed as the fault of highland farmers.

Such arguments totally ignore the existence of a number of development projects which have disseminated the commercialized cropping together with the numerous amount of chemicals for marketing efficiency. It should be noted that the whole regional and national economic system in agriculture has been sustained through a promotion of a number of cash cropping to the highland farmers.

3.3 Local Decision-making under Constraints

About economic development in swidden society, Grandstaff (1980:10-12) pointed out the existence of the ecological and socio-cultural constraints within the system for which the highlanders have been in general refrained from the agricultural dynamic innovation. In this context, the dichotomous notions of the “risk taking” and “risk aversion” are not a relevant means to apply for understanding the attitude of the local people. The usage of those terms are obfuscate and misleading. On one hand, it tries to explain the fundamental rules too simply. On the other hand, this dichotomy is used as indicator of social-psychological moods of the farmers and investors (Boussard 1979:65, cited from Ortiz 1980:197). Beside this, the normative economic approach is also not appropriate because it fails to take into account the distinction between *risk* and *uncertainty* for the peasants (Cancian 1980:161-165) who are sensitive to the difference between them in the decision on their agricultural activities. Through the investigation of Ban Mae Chan villagers on cabbage cultivation, it is found that there are a number of their attitudes towards cabbage cultivation and various numerous conditions restraining the villagers from the dynamic adjustment in agriculture. This would indicate that the dichotomy of “risk taking” and “risk aversion” cannot provide a suitable analytical framework for the investigation of the Pwo Karen community.

⁵ About the soil management in agricultural practice in this section is based on the personal lecture to me by Prof. Phrek Gypmantasiri, Faculty of Agriculture at Chiang Mai University on June 7th 2003.

For the cases of Pwo Karen farmers in this local context, it is possibly adequate to apply the “real-life choice” theory proposed by Gladwin (1980:68-71) to explain the decision-making sequence of the highland farmers who are in general still living far from even rice security. By applying the Gladwin’s theory to the agricultural adaptation of the Pwo Karen observed in my field-study, their actual status and nature can be considered as “highly selective” in the evaluation attitude towards the new things when they assess the expected benefit for them based on their own preference criteria. This understanding is different from the narrative on the image of the Pwo Karen previously described by outsiders as “primitive stubborn” in development space. In the case of the Pwo Karen, the decision-making for the adoption of options in the adaptation is always changing according to their experiences and surrounding conditions.

Among the derivative notions from the concept of “sustainable development” are “decentralization,” “quality of life,” and “people’s participation” all of which are aimed at in any current development planning in Thailand. In terms of decentralization in agricultural sphere, the local trading market in Mae Ho has performed substantial roles to spread cabbage cultivation over highland swiddeners in its hinterland. The whole procedure to grow cabbage requires the several requisitions such as enough water, chemical input, labour work to replant and harvest, and transportation of the products to Mae Ho. There also exist serious constraints against highland farmers in this cash-cropping activities in conjunction with the fluctuation of the cabbage price. As a matter of fact, the more cabbage they produce, the worse the cabbage market price tends to change. In addition, while they can easily borrow money from external agencies for their investment in cabbage and such a community budget as the Village Fund 2002 offered by the government is available for cash cropping, it is often difficult for them to return the debt because of a frequent rapid drop in price. At the same time, the more the popularity of the cabbage cultivation in their swidden increases among the villagers, the more intensively their limited arable lands are used to deteriorate the soil quality. Furthermore, the introduction of the new agricultural technology has not so far contributed to solve the land scarcity issue yet.

Hence, the cabbage cultivation in my research site cannot be generally considered as a sustainable means for the improvement of the agricultural activities in the village though, in light of the limited available alternatives, it is rather inevitable for the highlanders to be connected with the cabbage cultivation.

3.4 For the Local Sustainable Development

What I have learned through the investigation of my research site, can resolve itself into the state of “dilemma” of highlanders in their agricultural transformation. In

other words, the highlanders in the research site are living in the dilemma of the choice between equally unsatisfactory alternatives of the development schemes. Specifically, their dilemma is *whether* to conduct the cabbage cultivation with a possible result of standing in heavy debt and with an unavoidable result of land degradation caused by the use of agricultural chemicals and chemical fertilizer *or* to continue the traditional agricultural farming based on the LTK with an inevitable consequence that the land will be further farmed out due to the shortening of the fallow period. As to the latter alternative, the dry rice whose productivity per unit of land has been continuously decreasing, can no longer function as a subsistence crop for the majority of the poorer villagers. Accordingly, in order to get necessary daily rice, they have to sell their labour to the richer farmers inside and outside the village for cabbage cultivation or at the towns for, say, construction works.

The mainstream views of economic development have been repeatedly criticized by the discourse theorists that those views tend to ignore the local manners including strategies and knowledge system which have sustained the local livelihood for long time (Williams 1995). In Thailand, there are some cases of other highlanders in which they have proclaimed their counter-discourse to bargain with the authority. Contrary to this, it is the situation of the Pwo Karen that they are at present under the new development scheme suffering from the hard conditions that are in many cases beyond their control, and that they are marginalized to live in quiet.

The above-mentioned discourse theory has been, in turn, reviewed that it frequently fails to look at the conventional institution in which a number of essential relationships of social reciprocal protections and the redistribution of economic benefit are maintained. In fact, in my research site, the farming of the new commercial cropping of cabbage has been so far working favourably also for the poorer farmers since it has increased their labour-job opportunities to work at the cabbage fields for the richer farmers.

4 Conclusion

Several relevant and important questions come out of what have been discussed so far in this study on the community's sustainable development for the Pwo Karen people in the research site. One of them is a question of how the public policies as well as the roles of private external agents both of which are closely associated with the community's development course, can effectively mobilize the potential basic ability and limited available resources that the highlanders possess, for the reasonable agricultural transformation. For answering this, it is required to enhance the profound recognition

that “the highland farmer as a decision maker” utilizes their LTK in the “agroecosystem” which means an agricultural production system as a component of the larger natural ecosystem (Benneh 1972, Warner 1991). This approach intends to construct a comprehensive agro-space model and underscores that the swidden and fallow system is a part of an overall subsistence strategy which should frequently respond to the social, economic and natural environment changes (Gliessman 1985, Altieri *et.al* 1973, Warner 1991).

By utilizing these potentiality and ingenuity in both local society and technological innovation, it is still possible to lead modernization and development to better and more benefit for the majority of the village people.⁶ Consequently, I prefer the connotations of “sustaining” development, and agree with the idea that the “economic problem is not to discover *the* ‘sustainable path’ and stick to it, but rather to keep working on the institutional arrangements of the economy so that human action is guided in propitious directions (Bromley 1999:3).” With regards to the issue of risk and uncertainty in agriculture, Binswanger (1979, cited from Ortiz 1980:197) emphasises the institutional structure (formal evaluation) or personality constraints (farmers’ perceptions) that may account for attitudes towards the risk by overcoming gross simplification.

In order to make situations better in the swidden societies, institutional arrangement is a significant approach to sustain the local life. For more fruitful investigation and implication, “institutional approach” will facilitate to widen and deepen

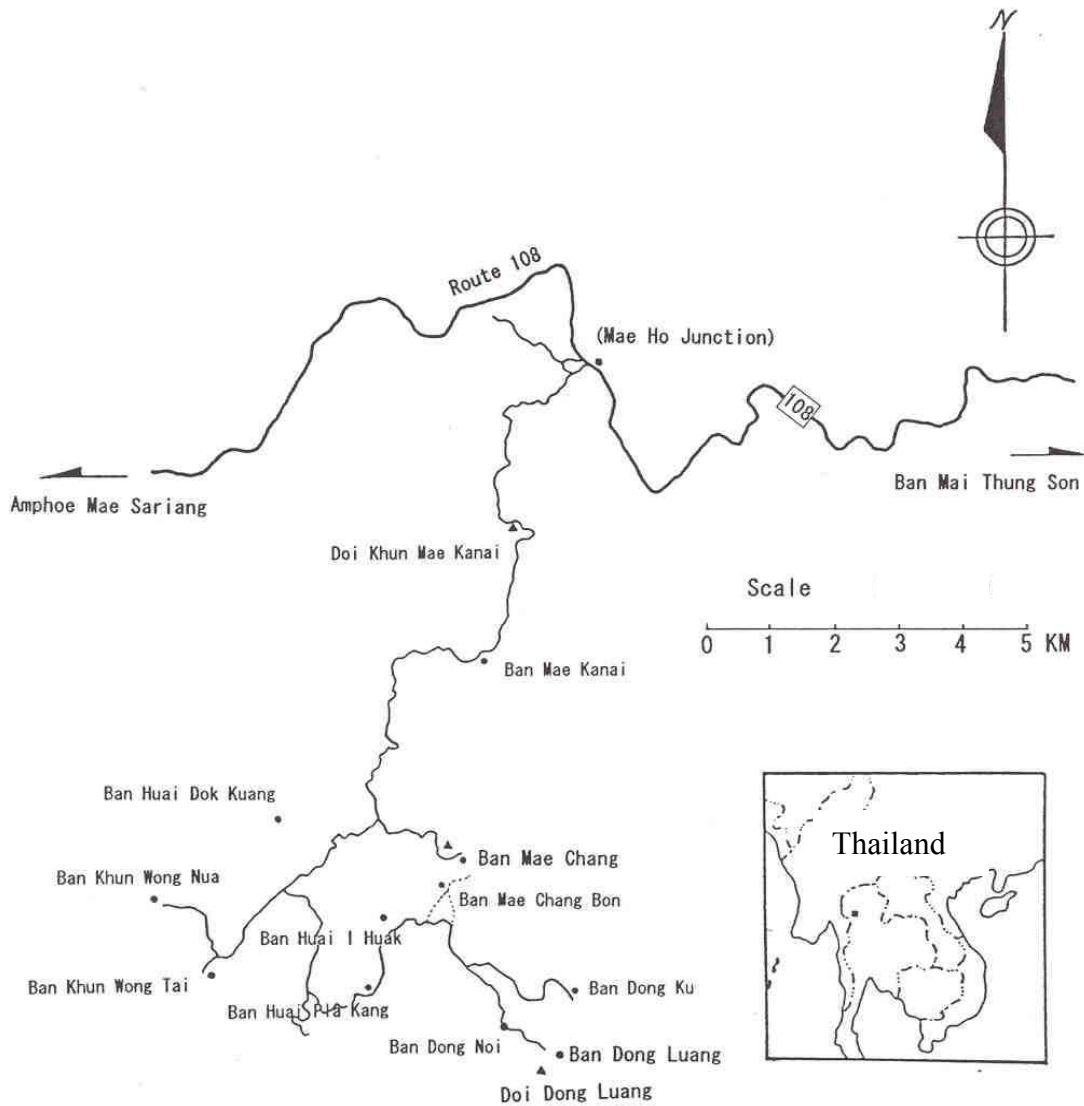
⁶ For the environmental deterioration such as declining soil fertility caused by agricultural activities, the environmental economists view that the agricultural runoff is a “nonpoint externality” which provides us with significant implications for both research and policy (Griffin and Bromley 2001). Meanwhile, for increasing efficiency in highland agriculture, Grandstaff (1980:30-34) emphasizes that the ‘monitoring of “trends”’ in distributions of resource and income in swidden areas which would be essential part of the enterprise and agricultural development. The accomplishment of the transfer of technical knowledge to the swiddeners is also another necessary point in order to protect the highlanders from the desperate agricultural failure. He called the society of highlanders who have maintained rotational swidden cultivation as ‘essentially dual society’ in which the swiddeners hold both subsistence and cash-earning sectors. Phrek (1993) explains that it is food security for the dual system society to be the first priority though few development projects have made fair attempts to put the problems of rice insufficiency as the basic issue for the highlanders. Sustainable agriculture for the highlanders under the market economy system should gain another principle to be less dependent on external inputs which is different former manner of cash cropping. It is to be emphasised that the performance of the sustainable agro-system includes not only the increase in productivity and stability in agriculture, but also the fulfilment of social equity and political autonomy of the local community.

the insights towards the development issue. Anan (2002) explains “institutional approach” for natural resource management in Thailand as one of the breakthrough grounded on an idea of multiple systems of knowledge. This approach regards each unit of community a part of an organic whole in which it functionally interplays to other parts of society but not as an independent entity. In the light of the perspective that “community is an integral part of larger political and economic relationships particularly the nation state and the global capitalist market (*ibid.*), ” it regards the community as a form of “capital.” As to this point, Suthawan (1992) appropriately argues: “For example, if the state prohibits villagers from using their economic capital of the community forest, the social capital especially local organization will weaken because the community is denied its rights to manage the forest. On the contrary if the state strengthens the security of economic capital by giving villagers’ legitimate rights to use of the forest such policy will act as an incentive for their participation in protecting the community forest (Suthawan 1992, cited from Anan 2002).”






This viewpoint is required to be taken into consideration when we investigate a means how to enhance the steady growth of the Pwo Karen community in my research site in the northwestern Thailand. Concerning the community development, Staudt (1991) argues that the goal of development is to enlarge choice, however, which is as much a precondition for development as its result (cited from Cowen and Shenton 1995:28). It is a key factor, I would think, for the future sustainable development of the Pwo Karen community, that the choice towards the agricultural transformation should be enlarged and that the possible programmes for the community development would result in the future enlargement of the choice. For this purpose, appropriate governmental policies are urged to be implemented to strengthen the locally institutionalised social capital.⁷ Equally important is that the considerable intellectual works should be conducted by the Pwo Karen people to enable themselves to increase the ability of decision-making in their own discretion to choose the suitable form of agricultural transformation practice for their community, which the outside public and private experts may perhaps be able to assist at least in part.

⁷ It is needless to say that, in case the traditional local rights would influence the external diseconomies (or over-all social costs) to a considerably huge extent to the neighbouring regions or the whole society, then that such local social capital ought to be reasonably constrained.

MAP 1. Location of the Villages for the Study



Legend:

-  Arterial Road
(Hard Surface Paved Road)
-  Local Road (Loose Surface
Unpaved One-lane Road)
-  Footpath, Trail
-  Village
-  Mountain

Sources:

- (1) Map surveyed by satellite imagery in March 1992
(Sheet No. 4645III, Series L7017S, Edition 1-RTSD,
BAN BO SALI; published by Royal Thai Survey
Department, Bangkok 10200)
- (2) Direct observation through the field-study work
by the author

MAP 2. Residential Area of the Village: Ban Mae Chang (The Major Part)



Cartography Project for Ban Mae Chang, Mae Sariang, Mae Hong Son, Thailand

Director: Runako Samata (also serving as supervisor)

Assistant Engineer: Yuji Ito

Research Assistants: Students of Gakushuin University (GONGOVA2002 participants)

Research Advisors: Hirohisa Samata and Tatsuhiko Kawashima

First Survey : March 2002

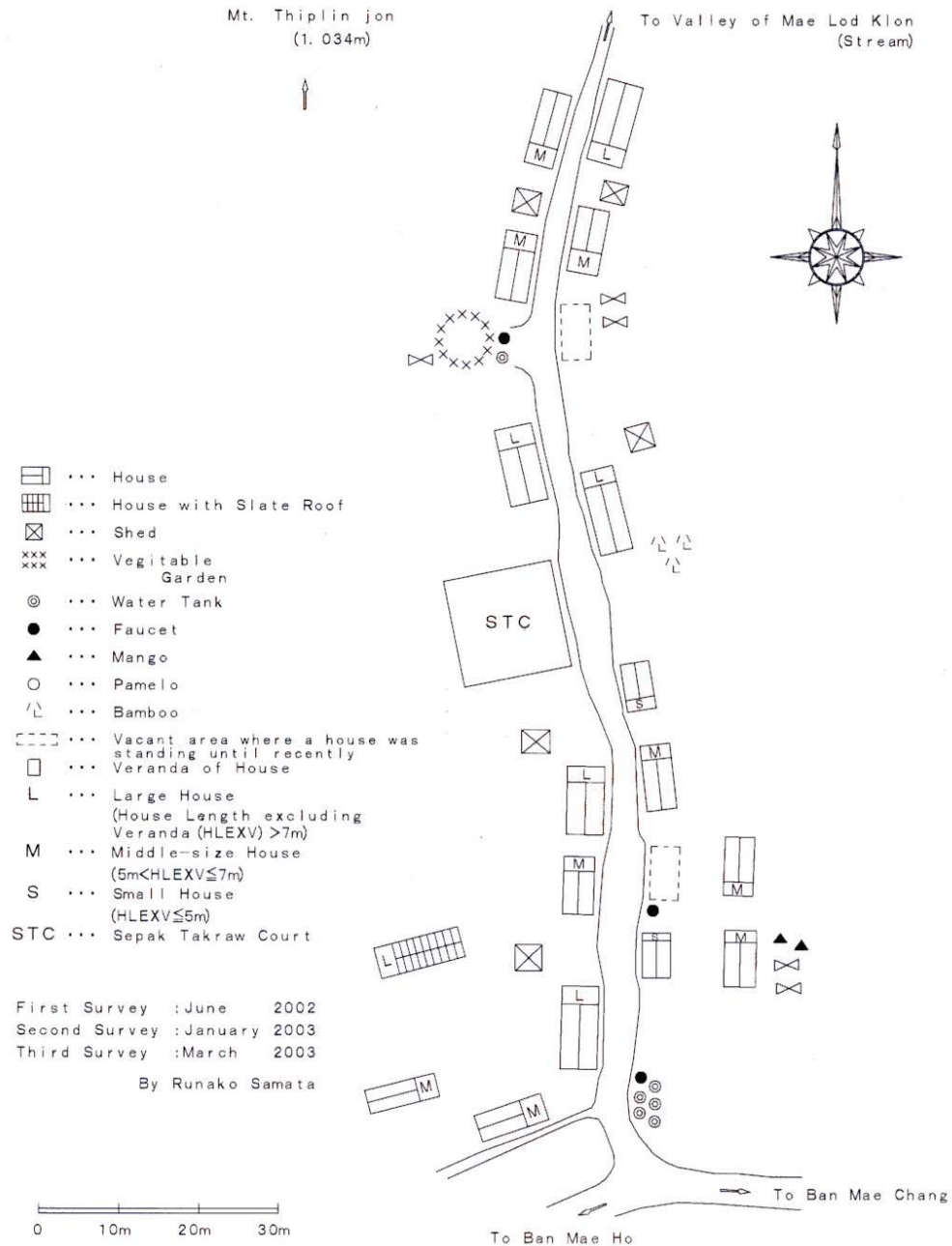
Second Survey: June 2002

Third Survey : August 2002

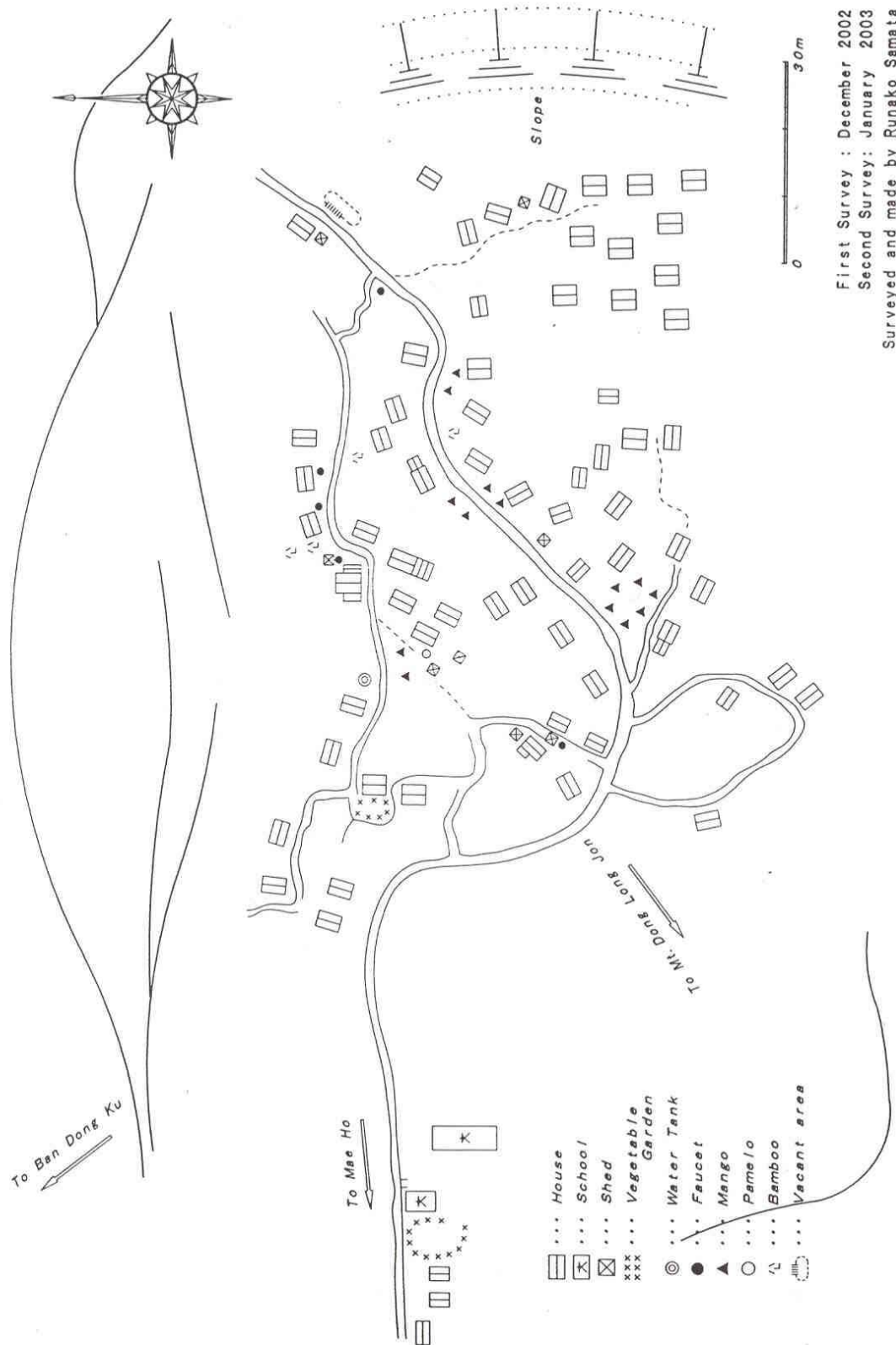
Fourth Survey : December 2002

Fifth Survey : January 2003

MAP 3. Residential Area of the Village: Ban Mae Chang Bon (The Satellite Part)



MAP 4. Residential Area of the Village: Ban Dong Luang (The Major Part)



First Survey : December 2002
 Second Survey: January 2003
 Surveyed and made by Runako Samata

- ... House
- ... School
- ... Shed
- xxx... Vegetable Garden
- ... Water Tank
- ... Faucet
- ... Mango
- ... Pameiro
- ... Bamboo
- ... Vacant area

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