

CHAPTER IV

GENERAL CHARACTERISTICS OF THE STUDY AREA

This chapter starts with an overview of general characteristics in the study area. It presents physical characteristics of study area, location, temperature, and soil. On the other hand, this chapter would present demographic, socio – economic characteristics, and beliefs of villagers.

4.1. Physical characteristic

Mae Chaem district is about 156 kilometers far from Chiangmai and there are 3.7 million square meters. Most of areas are mountainous area and Mae Chaem River is the main water resource for household consumption and agriculture activities.

Mae Na Chon subdistrict is located in the north of Mae Chaem and far from Mae Chaem about 29 kilometers. Most of area is mountainous area. There are 4 local people villages, 13 Karen villages and 1 Hmong village in the area (Figure 3).

The study includes one Hmong village “ Huay Hoi”. This village is in Mae Na Chon subdistrict, which is in Mae Chaem district, Chiang Mai province. The village situated around Mae Hae Highland Agricultural Development Centre. The village situated between 18° 46’ to 18 ° North latitude, and between 98° 31’ to 98° 34’ East longitude, with an elevation of 1,261 meter above sea level. Huay Hoi village is close to Mae Chaem district about 77 kilometers and 87 kilometers from Chiang Mai province. From Chiang Mai to Huay Hoi village, travel time in the car takes about 2 – 2.5 hours depending on road and weather conditions.

Village settlement

Hmong would live at the top of the mountain in altitudes about 1,200-1,500 meter (Hilltribe Research Institute, 1996). In the past, the Hmong in this village practiced an individualized system of slash and burn cultivation. They cultivated one patch of forestland until soil fertility was entirely exhausted. Then, they would move to clear new cultivation plots. Normally, they use the long fallow method in which the land was first cleared and burned and then cultivated for long periods of time. Formerly, they would work in two cultivation plots, the first plot for growing rice with various vegetables for household consumption, the second plot was the opium plot. The Hmong also usually grew vegetables in the opium plot. At present, they had been forced to settle due to land scarcity.

They held the belief that the best site for building their houses and establishing their village was the high hilltops where the air would be cool and far from other villages. If there was not enough flat land to establish their village, they selected a plane sloping down from the hilltop that was very steep and near water source.

Village settlement history extends back 67 years. The villagers migrated from “Pang Kia” village, which situated in Mae Suek subdistrict, Mae Chaem district, Chiang Mai province. Then, they moved to new land for crop cultivation at Mae sa Nga village that had 2 groups of hill tribes were Karen and Hmong. Because there were more people in the village, they needed to seek for new land. In the last 40 years, there was a mine that was located near Bor Kaew subdistrict in Sa Merng district. After the mine stopped its operation, this area became degraded forests. Thus, about 20 years later some villagers from Mae Sa Nga moved to abandon mine area and form a new village called “Huay Hoi village”.

Temperature and soil

The temperature is different in each season. The temperature all year range from 11.75 to 33 degree centigrade. The average rainfall in year 2000 is 1,597 mm. Recorded at Mae Hae Highland Agricultural Development Centre. The soil texture in this village area is sandy clay loam and organic matter is about 4.5 – 5.5.

4.2. Demographics characteristics

All of population in Huay Hoi village is Hmong ethnic group which Hmong is a large group of ethnic highlanders (22.5 %) in Thailand (Tribal Research Institute, 2003). Demographic data in the Huay Hoi village was available for population characteristics, age, sex, education level, occupation, religion and beliefs, and social organization in the village.

4.2.1. Population

All of population in the study areas was Hmong tribe. Total population in the study area was 392 persons with 197 males and 195 females. There are all together 52 households (Table 1). The livelihood of the villagers depends on agriculture especially with vegetables as the major crop. Farm activities need a large number of family labors such as vegetable planting, caring, and harvesting. Farm owners got help from their neighbors or sometime they got help from hired labor.

Table 1 Population of Huay Hoi village classified by age and sex

Age (Years)	Men (person)	Women (person)	Total (person)	Percent (%)
Upper 56	8	9	17	4.3
19 - 55	93	87	180	45.9
13 - 18	35	43	78	19.9
Under 1-12	61	56	117	29.9
Total	197	195	392	100.0

Source : Survey, 2002.

Most households had a large number of members between 10 – 13 peoples because they needed labor for household farming. According to this study, the family size was generally with an average of 7.6 persons per household (Table 2).

Table 2 Average of household size in Huay Hoi village

No. of household members(Persons)	No. of household (Households)	Percent (%)
2 - 5	18	34.7
6 - 9	21	40.3
10 - 13	10	19.2
More than 13	3	5.8
Total	53	100.0

Average of household members: 7.6 Persons

Source : Survey, 2002.

Family labor as agricultural labor was an important input for farming because villagers in Huay Hoi village were not allowed to extend forest area for crops planting. They needed to grow crops 3 – 4 times a year. In addition, increasing population affected household food production, as they needed to produce food crops for household consumption. Thus, agricultural labor was very important to household food production. The size of agricultural labor is an average of 4.7 persons per household (Table 3).

Table 3 Average of agricultural labor size in Huay Hoi village

Agricultural labor (Persons)	No. of household (households)	Percent (%)
2 - 4	30	57.7
5 - 7	16	30.7
8 -10	3	5.8
More than 10	3	5.8
Total	53	100.0

Average agricultural labor 4.7 persons

Source : Survey, 2002.

4.2.2. Education level

Fifty percent of villagers in this village were literate. For the younger generation, many were educated to grade 9 while middle – aged have finished grade 4 and old people have no education, they cannot read and write in Thai. Younger generation usually went to stay in Chiang Mai city for continued their study to finish grade 9 and grade 12. There is a primary school in Mae Hae village, which serves as a major education in this area. This school serves students to grade 9.

Table 4 Education level of villagers in Huay Hoi village

Education level	Men (Persons)	Women (Persons)	Total (Persons)	Percent (%)
No literacy	83	95	178	45.4
Primary school	43	41	84	21.4
Secondary school	24	17	41	10.5
Diploma	9	10	19	4.9
Under graduate	8	6	14	3.6
Graduate	1	1	2	0.5
Other	29	25	54	13.7
Total	197	195	392	100.0

Source : Survey, 2002.

This study found that 40.9 percent of people in Huay Hoi village were literate including 21.4, 10.5, 4.9, 3.6, and 0.5 percent having primary school, secondary school and diploma, under graduate (bachelor's degree), and graduate level of education respectively. Thirteen percent of people included those who were literate in other education level and children who were in age 1-5 years. Besides there were 45.4 percent of people with no literacy, mostly were old people (Table 4).

4.2.3. Occupation

Villagers in Huay Hoi village work on various occupations such as farmers, traders, teachers, and wage earners in the agricultural and business sector. Sixty three percent of villagers were farmers. This included 54 women and 50 men. In addition, they were wage laborers, traders, and teachers includes 25.4, 9.7, and 1.9 percent respectively (Table 5). Most villagers earned money from wage employment in farm

and off farm activities such as cabbage, lettuce, persimmon, peach harvesting, and wage in many companies at Chiang Mai city.

Most households were agricultural farmers. However, some households earned income from business, government and others jobs such as carpenters, craftsmen, and merchants. Among merchants would sell their agricultural products such as vegetables and fruits in the market. However, there were many middlemen in their village. They bought vegetables and fruits from their neighbors or people in their village and nearby village to sell at the market.

Table 5 Occupation of interviewed villagers in Huay Hoi village classified by sex,

Occupation	Men (Persons)	Women (Persons)	Total (Persons)	Percent (%)
Teachers	2	1	3	1.9
Traders	7	9	16	9.7
Farmers	50	54	104	63.0
Wage earners	16	20	36	25.4
Total	78	87	165	100.0

Source : Survey, 2002.

4.2.4. Religions and beliefs

People in Huay Hoi village were mainly buddhism but animism was also present in this village. Some peoples in this village believed in Christianity. There were 5.8, 40.4, 5.8, and 48.0 percent of villagers who believed in buddhism, animism, christianity, and both buddhism and animism respectively (Table 6).

Table 6 Religions and beliefs in Huay Hoi village

Religions / Beliefs	Number of villagers (Persons)	Percent (%)
Animism	21	40.4
Buddhism	3	5.8
Christianity	3	5.8
Both Animism and Buddhism	25	48.0

Source : Survey, 2002.

In Huay Hoi village, villagers would believe in buddhism as well as in spirits or ghosts. They believed the spirits would protect them from bad things and escape from dangers. There were many spirits of Hmong beliefs such as house spirits (Zue Ka), bedroom spirits (Dah Trong), door spirits (Chia Maeng), cooking stove spirits, ancestor spirits, medicinal spirits, and cow spirits.

4.2.5. Cultural custom and ceremony

In terms of cultural activities, there were two important cultural activities being New Year (in December until the end of January in next year) and animist worship (all year when they birth, death, and have a cold, fever and other symptoms). On the other hand, there were four main rituals in their life cycle includes birth ritual, marriage ritual, ritual in time of sickness, and funeral ritual.

Birth ritual

When women to be pregnant, they must not walk in eroding land because they believe that spirits in erosion land would harm baby in the womb. Pregnant women were not allowed to go to water source areas because in this land had spirits that could cause women abortion. They believed that pregnant women and their husbands should not go to a house that had a women just giving birth because the women would

not have milk for their baby. They would not repair everything in their bedroom because repairing would disturb baby in the womb. If pregnant women feel exhausted and the baby in the womb was not moving, they would be cured by using medicinal herbs. While they gave a birth, a midwife would take care them. If pregnant women had stroke symptom, the midwife would use or Kun Chong bark (*Cannabis sativa* L. subsp. *Indica* (Lam) E.Small & Cronquist) and wrap their head. After they gave birth, women must eat rice with chicken for 20 days because they believe that chicken could nourish women health.

Marriage ritual

In the Hmong communities, they had traditional pattern of marriage ceremony. Parents of men would ask for the hand of women that their son wanted to marry her. After the parents of women agreed, men would arrange the wedding ceremony. The wedding ceremony was arranged at the women's house, but after marriage, women would become a new member of her husband family.

In the wedding ceremony, the parents of the groom would prepare food for their son i.e at least two chicken, that their son would consume during the time he traveled to the women is house. After they ate food, they would keep chicken foots to confirm that they ate food already during the way. When they arrived to women house, parents of women would welcome them by corn whisky. They would have wedding cerebation here. After marriage, they would go back to the man's home and their parents also prepared corn whisky and food for welcome their son and daughter-in-law.

Funeral ritual

When there was a death in a household, all of members would stay at their house. There would be 3 shot guns to inform their kinships and other villagers in their village. Then, there would pray for the dead body that they called "Chee Zai praying" before the dead body would be buried. After thirteen days, relatives would

bring back one's spirits of the dead body to home and propitiate the spirits by using chicken. In the 14th day, their relatives would kill a cow or pig to releasing the soul of the dead man.

New year cerebation (Kin Wor)

New Year was a good time for the Hmong especially young people because they would cerebrate and drink after they work hard all year. New Year time was around every December. All of households would prepare food and new clothes for this cerebation. They would kill pigs and chicken for eating and apologizing the spirits in this time and there was a special dessert made from new rice yield from their field, sesame, and sugar.

One day before the New Year, villagers prepared food to apologize household spirits and ancestor spirits. In auspicious occasion, the spiritual man would drive out bad things from the household by using bamboo leaves. After that, the spiritual man would shoot one shot-gun before eating some food for driving away bad things and unluckiness.

4.2.6. Health situation

In Huay Hoi village, villagers would take care of their health by using medicinal herbs depending on their experiences and beliefs with some modern medicine from the village shop. If they were not getting well, they would go to health care centers and hospitals. Because in Huay Hoi village there were no have health care centers but there was only a childcare center. Thus, when they were sick, they would use medicinal herbs first and then go to the health care center at Mae Hae village if they were not getting well. The health care center at Mae Hae village was about 6 kilometers far from Huay Hoi village. The study of Prayong (2001) about health promotion among the hilltribe people in Mae Hae Royal Project center in Mae Chaem, found that, even after health promotion villagers still cured diseases by

traditional methods depending on their beliefs such as using of medicinal herbs or curing by traditional doctor in case they were not sure about illness symptoms.

In terms of food consumption, villagers still consumed food similar to the past but there consumed more canned food. They would consume food according to their tradition. There was no food market in this village, villagers planted food crops for household consumption and sold some food from village shop and food shop at Mae Hae village and town market. Because of the distance between Huay Hoi village and the market about 6 kilometers from Mae Hae village and 77 kilometers from Chiang Mai, they needed to planted food crop and collected some food from nearby forests. Most types of food that villagers consumed in each day consisted of vegetables in their fields and nearby forests.

4.2.7. Village organization

Village organizations, There are three groups in this village include housewife group, youth group, and fertilizer fund group. The members in each group are 28, 32, and 15 persons respectively. On the other hand, 14 villages in Mae Hae formed forest conservation group for the conservation of forest and water sources that supported by Mae Hae highland development center in which Huay Hoi villagers were members of this group.

4.3. Land use system and cropping pattern

The Hmong would do agricultural activities for their livelihood. In the past, Hmong would plant upland rice and some vegetables for consumption and sold some surplus of crops and vegetables for household income. They planted opium that was a main source of money earning. At present, opium was not allowed to be planted because of opium was considered a drug. They would plant rice and vegetables for

household consumption, at the same time, they planted vegetables and fruit trees for sale.

4.3.1. Land use system

In this village, all area in the village were in the forests. They were separated into four types of areas include community forest areas, forest conservation areas, cultivation areas, and habitation areas.

This study found that most of the land was used for agriculture as crop and orchard cultivation. There were three land use systems in the study area including upland rice – cash crop based system, paddy rice – cash crop based system, and cash crop based system in which farmers grow 2 times of cash crops per year. Most of cultivation areas were on the mountain and no land certificate. The major crops in the village includes orchards like peach, plum, and apricot, paddy rice and upland rice, vegetables as cash crops, respectively. Farmers grew upland rice and some grew paddy rice for household consumption. Most of the farmers grew vegetables and orchard for money.

4.3.2. Cropping pattern

In the past many of hilltribe peoples at Mae Hae had semi-nomadic traditions of shifting cultivation in which forest areas were cleared and cropped for several years before being left fallow to be generated. While many such systems were initially well adapted to their ecosystems, increasing population pressures had shortened fallow periods to the point where natural regeneration did not occur.

In the last twenty-five years, villagers planted opium as a main crop for sale and income earning. They planted upland rice, food crops, and local varieties of vegetables just enough for household consumption. The crop calendar in the past start in March, the Hmong would select land for cultivation and prepare equipments for cultivation such as digging tools, spades, harrows, and a big knife for chopping.

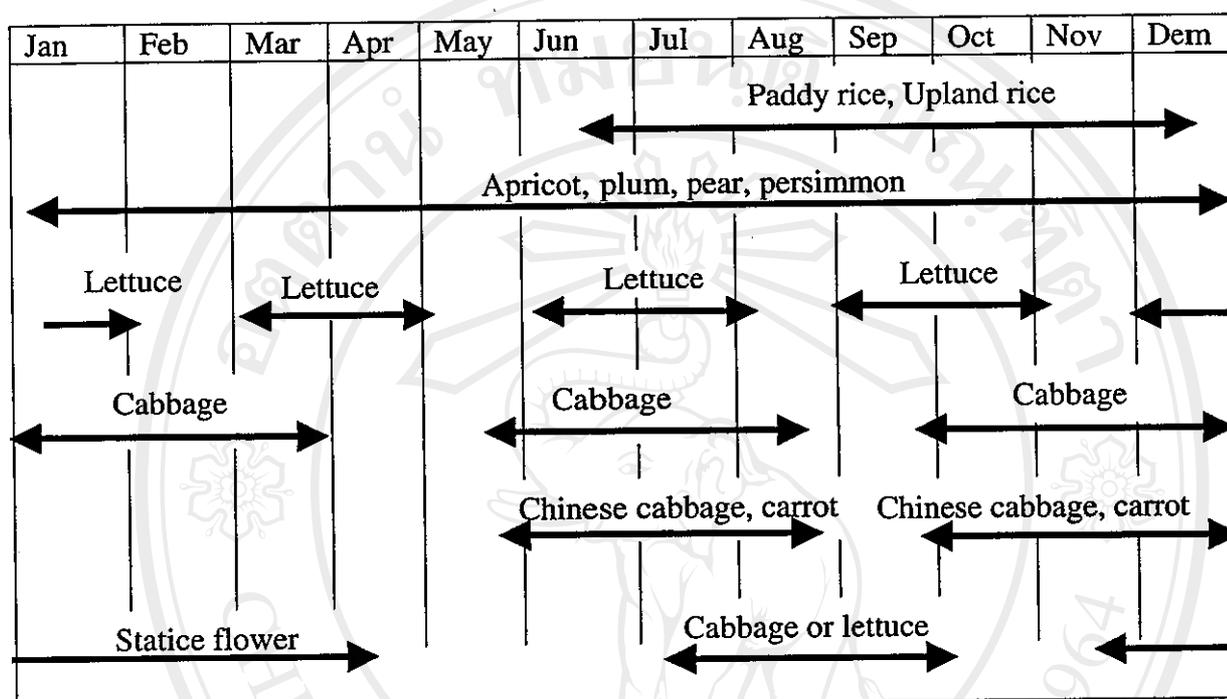
Then, they cleared and burned land in April. They started grow upland rice, maize, and other food crops in selected land in May. They would harvest maize and prepare land for opium planting in September. In October, they started planting opium and for upland rice, it was maturation period. Rice was harvested in November and they would do weeding in opium plots. In late November and early December, the villagers had ceremony about eating of new rice yields from their fields. Each household had a small party that was a ceremony between their kinships and friends. In December, this was a cerebation month because they would workless in the field less than in the last several months and they would prepare new clothes, food, and corn whisky for the New Year cerebation.

In Huay Hoi village, most villagers planted upland rice for household consumption and cash crops for household income. They grew all crops in the rainy season start in late May. Popular activities were vegetable cultivation and orchards. Cropping patterns in the study area were shown in the Figure 5.

The main cropping patterns in this study area were paddy rice or upland rice followed by cash crops or cash crops followed by 2 – 4 times cash crops a year. Cash crops planted in this area were cabbage, Chinese cabbage, lettuce, and static flower. Paddy rice and upland rice were planted in mid June and harvested in late November until early December. Other cash crops such as lettuce, cabbage, and chinese cabbage, which were planted twice to fourth times a year in the same period. They were planted around mid May until mid June but planting of these crops was dependent on rainfall in each year. Most of villagers would grow crop depending on water sources. If they did have land near water source, they would rent land from other people for vegetable cultivation.

On the other hand, villagers earned money from static flower. Static flowers were planted around mid November after villagers already harvested cabbage or lettuce. Crop duration of static flower was 60 days which villagers could harvest 4

– 6 times per one cultivation period. Crop duration of cash crops includes, 90 days of cabbage, Chinese cabbage, and carrot and about 60 days for lettuce (Figure 5).



Source: Survey, 2002

Figure 4: Cropping patterns in the study area

4.4. Economic characteristics

4.4.1. Household income

This study focused on cash income, which was earned from farm and off-farm activities (Table 7). Mainly their income came from farm activities. Mainly average cash income per household per year in Huay Hoi village earned from farm activities as planted crops and vegetables, fruit trees, and fed animals includes 12,446, 31,520, 1,866 baht/year respectively. In addition, they earned 2,636 baht/year from off-farm activities which villagers waged in fieldwork in their village or in strawberry plots at Bor Kaew village in Sa Merng district.

Table 7 Average household income per year

Source of income	Income (baht/household/year)	Percent (%)
Farming		
- crops and vegetables	12,446	25.7
- orchards	31,520	65.0
- animals	1,866	3.9
Off – farm		
- hire	2,636	5.4
Total	48,468	100.0

Source: Survey, 2002

4.4.2. Household expenditure

The household expenditure among interviewed household included many expenditure items such as food, cloths, machine, chemical substances (fertilizer, pesticides, and insecticides) for agriculture, education fees, social fees, fuel, and so on. Among the villagers interviewed, it was found that food expenditure was the main expenditure item. Average food expenditure was about 11,759 baht per household per year.

In addition, each household had expenditure concerning agriculture, clothing, education fee, social fee, fuel, and health care fee about 7,036 5,347 2,397 2,202 and 2,060 baht respectively (Table 8).

Table 8 Household expenditure of interviewed household

Source of expenditure	Average expenditure (Baht / Household/ Year)	Percent (%)
Food	11,759	31.0
Chemical substances	7,036	18.6
Cloths	5,347	14.1
Education fee	5,352	14.1
Health care fee	2,202	5.8
Social fee	2,397	6.3
Electricity and fuel	2,060	5.4
Other	1,735	4.6
Total	37,888	100.00

Source : Survey, 2002.

In term of household food consumption, more than 50 percent of household income was used to buy food. Most households bought rice from market because had not enough rice for household consumption each year from their harvesting and there were some households, which could grow enough rice / upland rice for their household consumption. Other food, which they usually bought for household consumption included pork, chicken, fish, eggs, canned fish, instant noodles, and salt (Table 9). Normally, they would cook from ingredients from their fields and home garden. There did not usually buy meat for each meal.

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Table 9 Food expenditure per household in Huay Hoi village

Food expenditure	Total expenditure (baht/year)	Percent (%)
Rice	8,400	46.3
Meats	4,107	22.6
Vegetables	540	3.0
Canned fish	1,920	10.6
Instant noodles	1,680	9.3
Eggs	774	4.3
Salts	240	1.3
Others (chili, sugar, and so on)	478	2.6
Total	18,139	100.00

Source : Survey, 2002

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