



CHAPTER V

THE POPULATION

Introduction.

This chapter focuses on how to define the study population, how they has been selected and to what extent the results of this study may be generalized to a broader population.

1. The target population.

The target population is the population to which the investigators want to be able to apply the results of the study (Colton, 1974). The target population of this study is the Karen hill tribes who reside in the mountainous remote area.

2. The study population.

The study population is the population defined by the eligibility criteria. The group of subjects actually studied is a sample taken from the study population (Meinert, 1986). In this study, the study population is the Karen hill tribes in Chiangmai province.

The Karen is the majority group of hill tribes in Thailand. Chiangmai province not only has the largest population of the hill tribes but also has the largest population of Karen. Therefore, it is appropriate to select Karen in Chiangmai for study. If all Karen in Thailand are similar, the result from this study will be able to

applied to the other Karen communities which is about 50 percent of the total population of the hill tribes. On the other hand, if the Karen in Chiangmai is not the same as the Karen in the other provinces, at least the result can be applied in Chiangmai.

The study population should be described explicitly in order to know the extent of the generalizability of the results. Although this thesis is only the pilot study, the result is hoped to be applicable to the other Karen villages too. Therefore, the eligibility criteria for selecting the village should be defined carefully. The criteria for village selection is:

- a) The Karen village in the mountainous remote area.
- b) It can be reachable by motor vehicle.
- c) Opium is available in the village.
- d) The government health services is existing in the village.
- e) The village with immobile population.

Sample Selection.

In this study, the selected village is intended to be representative of the Karen hill tribes in the other villages in the remote area of Thailand. The step in sample selection are province selection, district selection, subdistrict selection and village selection.

Samoeng is one among 19 districts of Chiangmai province. The distance from Samoeng district to the city of Chiangmai is 54 kilometers. Samoeng composes of 5 subdistricts; Samoeng Tai, Samoeng Nuer, Young Moen, Mae Sab and Bo Kaew. Mae Kha Poo village

at Bo Kaew subdistrict is selected for study since it is eligible when inclusion and exclusion criteria are applied. Samoeng district is also in the area of the "Development of drug dependence treatment for hill tribal communities Project", which responds by the Northern Drug Dependence Treatment Center. Although, the village is rather far from the Center and the road is not in good conditions, it takes not more than 3 hours to visit the village by car. Therefore, it is feasible to study the village.

The map of Chiangmai province, Samoeng district, Bo Kaew subdistrict and the location of Mae Kha Poo village are shown in Figure 1, 2, 3.

The village consists of four Karen hamlets, namely Mae Kha Poo Nuer, Mae Kha Poo Piang, Mae Kha Poo Luang and Mae Kha Poo Nai. Nearby, there is a small hamlet, Huay Tong Sad which will also include in this study. These five hamlets are on the mountain range with the highest level of 1,100 meters above the sea level. The distance from the village to Chiangmai province is about 83 kilometers and to Samoeng district about 27 kilometers. The road from Samoeng district to the village is usually rough, especially in the rainy season, the road may be impassable. There is one community health worker responsible for providing health services to those five hamlets. Each hamlet has the village cooperative drug store which is taken over by the village health volunteer. The community health worker is in Mae Kha Poo Nuer. There are 129 households, 109 families and 781 persons. Among them, there are 22 opium dependents (Male=19, Female=3) in 19 households. Every household has been included in the study.

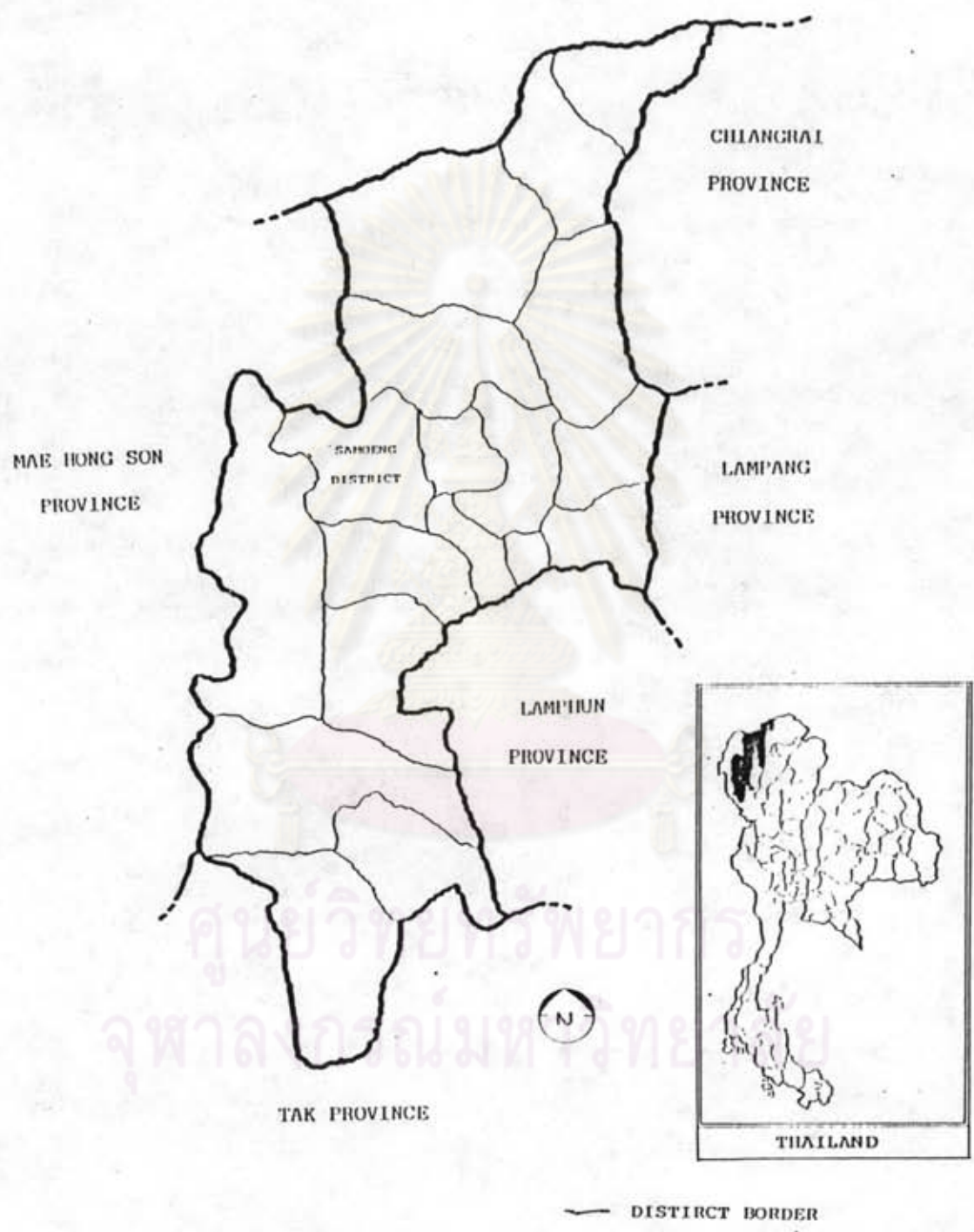
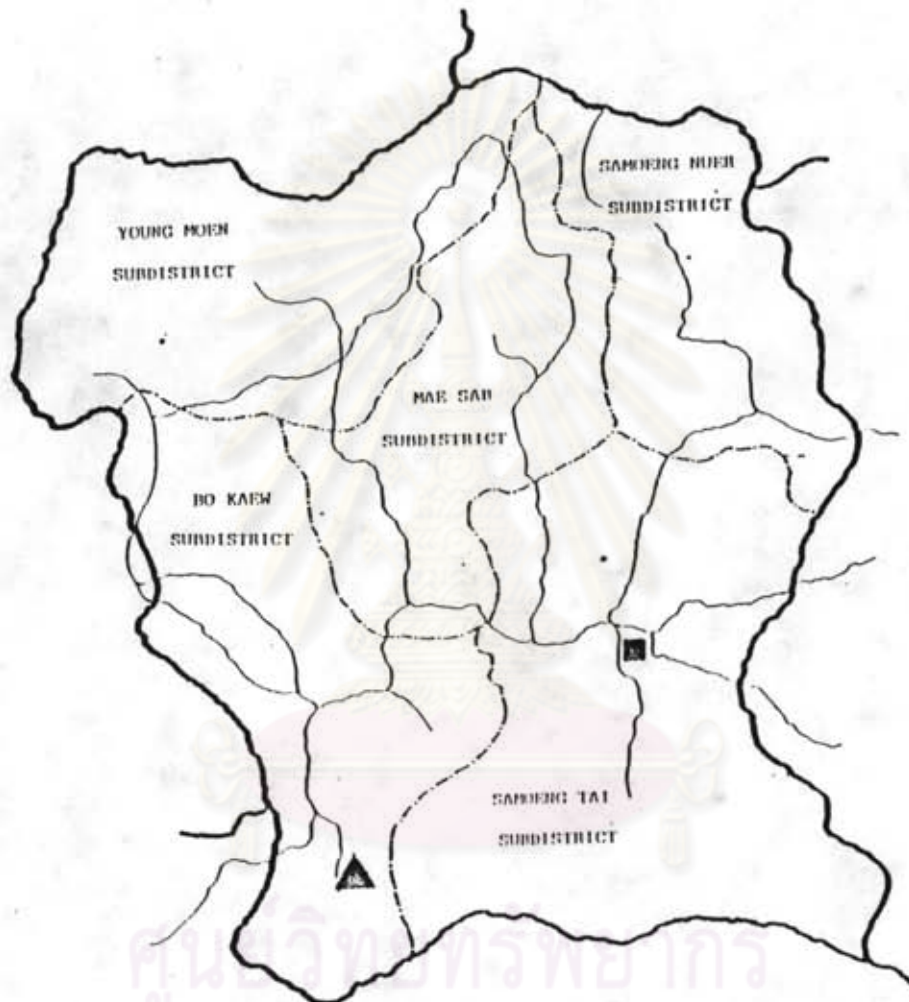


Figure 1 Chiangmai province.



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- Samoeng hospital.
- ▲ Mae Kha Poo village.
- - - Subdistrict border.
- Road.

Figure 2 Samoeng district.



- Bo Kaew subdistrict health station.
- ★ Mae Kha Poo community health station.
- ① Mae Kha Poo Nuer hamlet.
- ② Mae Kha Poo Piang hamlet.
- ③ Mae Kha Poo Luang hamlet.
- ④ Mae Kha Poo Nai hamlet.
- ⑤ Huai Tong Sad hamlet.
- ~ Road.

Figure 3 Bo Kaew subdistrict.

Justification of Sample Size.

This study is designed to answer the primary question which is the pattern of health services utilization. Since the number of household in the selected village is small (N =129), it is possible to study every households which will cover the whole population of the village. Therefore, this study is the total population survey.

The equation use in sample size calculation is :

$$N = \frac{Z_{\alpha}^2 pq}{E^2} \\ = \frac{Z_{\alpha}^2 p (1-p)}{E^2}$$

From the equation, the value of N is depend on the factors as follows.

1. The probability (p).

The rate of health services utilization is estimated at 50 %.

2. The type I error used in the calculation.

The Alpha error for type I error is set at 0.05.

($Z_{\alpha} = 1.96$ for $\alpha = 0.05$, two tailed)

In this study, it should be two tailed because we need to estimate the 95% confidence interval in the descriptive analysis.

3. The Acceptable error (E).

The acceptable error of this study is 10 % .

The value of N can be calculated by substitute in the equation :

$$N = \frac{Z_{\alpha}^2 p(1-p)}{E^2}$$
$$N = \frac{(1.96)^2 \times 0.5(1-0.5)}{(0.1)^2}$$
$$N = 96$$

Considering the population of reproductive age women who live with husband and have at least on child in the study village (113 women), it is adequate to study the utilization of either maternal and child health or family planning services.

For the utilization of curative service, the study also requires at least 96 cases. As the total population is 781 (129 households), the research will have enough cases to detect a significantly result.



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