

Chapter I

INTRODUCTION

1.1 Background of the Study

Xishuangbanna Dai Autonomous Prefecture is located in the south of Yunnan province. It is famous in China for its comparatively intact tropical ecosystem and rich biological resources; 5% of the prefecture area is reserved as National Natural Reserve for tropical forest. The mountains takes 95% of the total area while Bazi areas (small basin among mountains) take only 5% in total land area of 19,700 km².

There are 14 indigenous ethnic groups living in Xishuangbanna. Among them, Dai is the dominant group comprising one third of the total population. All of them have been cultivating for more than century here in different traditional ways. The Dai mainly practices paddy cultivation while other tribes practice shifting or swidden cultivation. Since 1950, when Chinese Communist Party liberated Xishuangbanna, shifting cultivation has been treated as a backward way of production which causes environmental degradation, and the government has encouraged these groups to change to permanent cultivation on upland land and reclaim paddy land. Now, paddy land becomes the primary resource for livelihood in all groups.

In the last 45 years, general economic condition in Xishuangbanna has been greatly improved but probably at some social costs. With population increase and land pressure, the hill people may expand their cultivated area by encroaching the natural forest or reducing the fallow period in upland fields to meet subsistence need. Previous studies have been made to examine effects of population on environmental degradation in

Xishuangbanna; e.g. deforestation, soil erosion, soil fertility decline, climate change (Xu et al., 1987; Wang et al., 1990).

Xishuangbanna is a remote border area in the province and country, the impact of policy maybe is not so strong comparing with the central area in the province or in the country. However, changes of policy still had notable impact on farmers' life and agricultural production in Xishuangbanna. Especially, when the Chinese government applied land reform policy in the beginning of 1980s, the people in Xishuangbanna, just like other populations throughout China, have come to live in another condition. Under this policy, the agricultural production decision maker is no longer the government agency but the individual farmers. Hence the basic production unit changes from village to household. It is widely agreed that implementation of this policy has led to great increase in productivity. Application of this economic reform policy also provides incentive for rapid development of market and marketing activities as well as cash crop plantation. In Xishuangbanna, rapid change in land use has been occurring in the recent 15 years notably the decrease in forest cover and the increase in cash crops like rubber and Chinese cardamon¹. However, this study does not intend to discuss the detail of impact of policy.

Under the domination of Dai before 1950, each of 14 indigenous ethnic groups practiced the cultivation in their own traditional pattern. And this tradition may still have the influence on their land use decision.

For sustainable development purpose, the government has been trying to improve the economic situation while also protecting the environment and natural resources. It

¹ Percentage of forest cover decreased from 33.5% in 1985 to 29% in 1989; sown area of grain crops decreased from 107,221 ha in 1980 to 82,568 ha in 1993; rubber area increased from 48,653 ha in 1983 to 86,240 ha in 1989; area of Chinese cardamon increased from 2,000 ha in 1983 to 4,127 ha in 1989 (YBS, 1994; Wang, et al., 1990).

seems that identification of the changes in resource utilization and the driving forces of these changes is the prerequisite of achieving this purpose.

1.2 Rationale

Local government in Xishuangbanna recognized the problems relating to mismanagement of agricultural land as the results of shifting cultivation, population pressure and low level of technologies. These include rapid expansion of land into natural forests, severe soil erosion (Xishuangbanna Prefectural Office of Agricultural Division, 1990). From systematic view, changes of land use system are the results of local response (e.g. technology adoption, shortening fallow period, cultivation expansion, etc.) to the changes of components of its environment such as population pressure, implementation of land use policies, economic incentives, and so on. From Cooper's (1984) point of view, when application of techniques relevant to the determinate economic system to all units of potential resources fails to support the population practicing those techniques or supports to a lesser standard, resource scarcity occurs. Adoptive solution of resource scarcity is a change in methods of resource utilization to permit the exploitation of new resources and/or the more productive exploitation of the same resources. So the causes of land use problems should be investigated by studying the linkages among these variables. However, some study found that, due to the different cultural and spiritual context, and traditional land use pattern of different ethnic groups, ethnicity also had impact on technology adoption (Sam, 1995).

Although there have been many studies at county level and above, there has been less research on land use at village level in China. From Thomas's (1988) viewpoint, the

household is seen as the basic decision making unit in land use, allocating its land resource for different activities, so any change in land use should be occurred in household level first. Villages are aggregates of households, and thus may also undergo change as a result of shifts in the relative proportion of households exhibiting particular sets of attributes. The village land use pattern is a reflection of the cumulative resulting set of activities conducted on land influenced by the members of the village. So, it should be helpful to conduct a systematic study on land use at village level in Xishuangbanna.

The hypothesis of this study is that some socio-economic factors including endogenous factor (e.g. population pressure, ethnicity, etc.) and exogenous factors (e.g. government intervention; development of technology, infrastructure, marketing, etc.) are the determinants of farmers' decision making on solution of land scarcity. With similar socio-economic changes in the whole studying area, available resources and techniques are similar for all villages, so farmers' solution methods to land scarcity tend to be identical, and differences in land use among different socio-economic settings are disappearing gradually.

1.3 Objectives of the Study

The general objective of this study is to identify changes in land use and the driving forces of these changes in the study area. And the specific objectives are as follows:

1. To describe the changes in land use at village level;
2. To compare these changes among villages;
3. To identify driving forces in land use changes;
4. To analyze local response to these forces;

5. To compare these responses among villages.

1.4 Usefulness of the Study

This study will contain a detailed land use information in the study villages, the analysis of land use changes may readily incorporate to strengthen the process of policy formulation at local administrative levels, i.e., administrative village, county and prefecture. The expected result of the research would be further extended to be helpful for solution of problems faced by other similar agro-ecosystems.