Chapter 1

Introduction

When people no longer live in hunger or fear of starvation, they have achieved food security. To succeed with food security four important pillars should be established: food stability, access, utilization, and availability. In this sense, favorable and nourishing food should be available at all times and it should be easy to obtain, distribute, and exchange. By cultivating homegardens, many pieces of evidence suggest that food security in households would be sustainably improved (Midmore et al. 1991).

Homegardens provide many kinds of products that fulfill the needs of their owners. The food produced in homegardens are selected by their owners. These products are actively favored by their gardeners. The diversity of plants in homegardens also reflects various preferences and needs. It could be said that diversity is a key to homegardens success in household food security. The diversity of plants in homegardens ensures the supply of nutritious and sufficient food to the household members all year round (Abdoellah and Marten 1986; Trinh et al. 2003). Therefore food produced in homegardens means stability and availability. Because food production in homegardens require low inputs of labor, capital, pesticides, and chemical fertilizers, having a homegarden is easier than having other agro-systems.

High diversity of plants is considered one of the most common characteristics of homegardens. Homegardeners always strive to keep the diversity in homegardens high in order to satisfy all needs in their daily subsistence: supplementary nutrients, income, cultural materials, fuel, etc. Homegardens are also considered as one of the most important sources of *in situ* biodiversity conservation for both species and genetic variation.

Diversity is not only important within homegardens but also between homegardens (β-diversity). People from different ethnicities have different requirements

for their subsistences. There are important differences in ethnobotanical knowledge between different ethnic groups. In any settled ethnicity knowledge would also be connected to the plants around their dwellings or homegardens. Homegardens are one of the oldest methods of humankind for cultivating plants. In Southeast Asia, this method has been practiced for more than ten thousand years and it still plays an important role in the sustainable management of resources for many households in many countries. Because of their long history and the importance for their owners' daily livelihood, homegarden represent the uniqueness of geniuses and their owners' knowledge about using, maintaining, and managing the resource in the homegardens.

The knowledge of plant uses and management in homegardens — which differs from place to place — represent the ethnobotanical knowledge of the owners. Homegardens are always referred to in ethnobotanical studies as one of the important habitats. Nevertheless, most studies are more concerned with nearby forest or other agricultural areas despite the fact that plants in homegardens include many species from many sources. Plants in homegardens are examples of the uniqueness of ethnobotanical knowledge in term of plant uses and managements.

Northern Thailand is the home to more than 20 ethnicities (Young 1962), all of which possess unique ethnobotanical knowledge although some ethnicities have lived near to each other as shown in many ethnobotanical studies. Additional comparative ethnobotanical studies will increase our understanding of how these ethnic groups manage and conserve the nature around them. There are only limited numbers of ethnobotanical comparative studies and very few which focus on homegardens.

In this study, I aim to fill the ethnobotanical knowledge gap relating to homegardens of ethnic groups in northern Thailand. Chiang Mai province was selected because it is the home of many ethnic groups and it is convenient to collected deep data of homegardens. I compare the structure and composition of homegardens from each ethnic group to evaluate how much ethnicity affects their diversity and function, compared with other factors including ecological ones. Moreover, I compare their functions and identify their uniqueness among different ethnic groups.