

Chapter 1

INTRODUCTION

Vietnam is an agricultural country with 85% population involving in farm work and the proportion of households for which agriculture is the primary source of income ranges between 75% and 95% of households in communes (Michael Epprech *et al.*, 2007). In the mountainous regions of North-West Vietnam, the cash income source of farmers is mainly from maize and cassava on the slope land area, and a little paddy rice in the valleys.

Before 1986 the agricultural system of Vietnam was common-cooperative land use form that brought many disadvantages to socioeconomics such as low yield, inefficient labours, and poor technological standard, etc. During this period, hybrid plants were not available. As a result, Vietnam fell into groups of agricultural backward countries with super-imported rice. In 1986, the Vietnam government applied new land reform policy (Doi Moi, 1986), which was made to improve many effects on land use in the agricultural system and socioeconomics.

Since 1990, the Ministry of Agriculture and Rural Development has introduced some hybrid crops such as high yield maize, cassava, paddy rice, coffee and rubber. Besides that, there have been several subsidy programs to encourage the application of hybrid plants. From our observation and interviews with local farmers and authorities, we found that in Yen Chau – a district in the mountainous province of Son La, North – West Vietnam, over the last decades, hybrid maize crops have replaced traditional crops drastically and encroached in upland areas. Until the early

1990s, the farmers in Yen Chau district applied five – to – ten year fallow cultivation period to their upland fields. The fallow period was then reduced considerably and at present, this system no longer exists. Besides, maize price has risen steadily and maize is now an important cash crop for Yen Chau farmers. As a result of intensive maize cultivation, upland fields in Yen Chau are getting more pressure. An increasing maize-production on uplands on steep slopes causes soil erosion and deteriorates the physical and chemical properties of the soil (Sakurai *et al.*, 2004). In addition, it is a mono-cultural system that takes consequence of biodiversity loss and farmers become dependent on one plant for their income.

1.1 Rationale

Recently, crop production has been intensified due to population growth, improved road infrastructure and marketing systems, overall economic globalization, and enforcement of government policies on land use (Kono, 2004). Cultivating on the land without methods to reclaim its fertility makes land – the farmer’s most valuable property – gradually exhausted; therefore, crop productivity decreases. There has also been biodiversity decline, erosion, land slides on upland fields in the mountainous areas of North - West Vietnam.

Besides ecological consequences, socio – economical issues have emerged as a result of unsustainable land use. Challenges such as the gap between the rich and the poor and among regions, price and income fluctuation, inefficient investment in seed, fertilizer and technology, upland farmers’ unstable livelihood, immigration into big cities, etc. are obstacles to success of the renewal process in Vietnam.

The Provincial and State Governments in Vietnam always give first priority to rural development, especially hunger elimination and poverty reduction programmes in mountainous areas by introducing technology, hybrid plants, subsidy programs, new farming systems, etc. Despite achievements, there remain a lot of difficulties and obstacles to the development of the mountainous areas such as inefficient methods and investment, backward technology, lack of scientific work and staff, etc.

There are few studies on the relation soil fertility and household income of upland farmers in Yen Chau district, Son La province. On the scope of a master thesis, we intend to understand the relations and correlations between economic condition and soil fertility of smallholders in Yen Chau, Son La Province, Vietnam.

We would also like to assess the seed and fertilizer application to upland fields in Yen Chau.

This Master Thesis was conducted within the framework of the two subprojects B4 and F2 of the Collaborative Research Program SFB 564 - Uplands Program in Vietnam. On the first stage, the subproject F2 selected 20 villages randomly using the PPS (Probability Proportionate to Size) method, and on the second stage, F2 chose randomly 15 households in each of these villages (Carletto,1999, Camille Saint-Macary; Alwin Keil, 2008). Our study was conducted on three villages and in each village, we randomly selected one rich household from the rich group and one poor household from the poor group (totally, six households: three rich and three poor) were selected.

1.2 Research Questions

1. What are the relationship between soil fertility and household income of farmer households in Yen Chau district, Son La province, Vietnam? Do rich farmers have good soil fertility and poor farmers have poor soil fertility?
2. Do high income farmer have bigger farm, have more labor works, and invest more in seed and more in fertilizer than low income farmer?