CHAPTER I

INTRODUCTION

1.1. Background

Agriculture plays a crucial role in the country of Myanmar with about 75 percent of its total population residing in rural areas. It is a mainstay of Myanmar's economy. Over 65 percent of foreign exchange earnings come from agriculture. As such, future economic development will also be based upon agricultural production. The total cultivated area under various crops cultivation is about 11.33 million hectares **(**i.e.16.9 percent of the total area) (MOAI, 2008). Due to variations in agro-ecological conditions, there are seven major crops grown in Myanmar. Rice is the major crop and 57 percent of the total cultivated area was under rice production in 2006-07. Other important crops are oilseed crops, legumes, beans and sugarcane.

Among these crops, oilseed is the second most important crop after paddy rice in the diet of the people of Myanmar. Oilseed crops comprise around 16 percent (8.4 million hectares) of total sown area of 21.98 million hectare, for agriculture in 2004-2005 (CSO, 2006). The most important oil crops, based upon a three year average (1999/2000-2002/03), are sesame (53 percent of the total area), groundnut (22.2 percent of the total area) and sunflower (18.8 percent of the total area) (Aye Aye Mon, 2004). The edible oils traditionally consumed are groundnut and sesame oil. Sesame oil is estimated to account for between 5 percent and 10 percent of total edible oil consumption, while groundnut oil accounts for the remaining 90-95 percent. Hence, groundnut is one of the most important oilseed crops in Myanmar.

The mean groundnut productivity in Myanmar is approximately 1145 kg per hectare in the rainy season and 1573 kilogram per hectare in the post rainy season. In 2004-05, the average groundnut yield in Magway division (1478.08) kg per ha) was about 36 percent higher than the average yield in Mandalay (1161.84) kg per ha) (CSO, 2006).

The largest groundnut crop production area was Mandalay Division and Magway Division, with 149,639 hectares and 120,648 hectares in cropping seasons.

Groundnut area in this region is predominantly grown under rain fed conditions with different levels of production across divisions (CSO, 2006).

Table.1.1 Sown area and yield of groundnut production in Myanmar.

Year	Sown area(000,ha)	Yield (kg/ha)
2000-01	569	1261.28
2001-02	581	1284.00
2002-03	655	1350.62
2003-04	685	1394.66

Source: Central Statistics Organization, 2006

Oilseeds play a vital role in the edible oil consumption for the Myanmar population. People in Myanmar are suffering from a serious edible oil shortage. Myanmar's annual average production of edible oils, mainly groundnut and sesame oils is estimated at about 500,000 tones. The demand for edible oil in the country is on the increase and palm oil is imported from neighboring countries to bridge the gap between the supply and demand. Based on the existing population, this average around 160,000 tons per year of oil palm is imported by neighboring countries (Aye Aye Mon, 2004).

In Myanmar, technology transfers mechanisms are generally slow and limited resources available for research and development are mostly utilized for food crops. Thus, research and development programs for continuous improvement in technology generation and its adoption are obviously important to be balance in demand-supply equation. Myanmar’s edible oil crop is set to expand in order to increase productivity and quality. This will be supported by technical assistance from research fields and will improve oil crop production by expanding the availability of improved seeds and genetic material to oil crop farmers.

1.2. Rational of study

Myanmar is suffering from a serious edible oil shortage and the government is unwilling to allocate scarce and valuable foreign exchange to import such oils. To respond to this issue, the Ministry of Agriculture and Irrigation (MOAI) has laid down the three main objectives to improve the agricultural sector. These are: **1)** increase of crop production, **2)** meet the needs of local consumption and **3)** assist rural development through agricultural development (MOAI. 2006). To fulfill the state's objective, oilseed crop production, as the second important food of the country, needs to be increased.

Even though oilseed production in Myanmar has been increasing, it is still insufficient for domestic consumption. 16 million tons of edible palm oil (equivalent to 24 percent of total oilseed production) has been imported annually, mainly from Malaysia, to fulfill the domestic requirement (MOAI, 2005). However, the country implemented the plan for autonomy in oil crops production as one of national goals for the increase in production area and yield per hectare of oil crops to substitute imported palm oil since 1989.

Among the oilseed crops, groundnut is the highest oil-yielding crop per hectare. At the current level of production, production costs of groundnut are gradually getting higher due to the high seed cost. The profitability and quality of groundnut seeds are an important consideration for farmers in growing groundnut. Consequently, the important elements (production technologies and operational constraints) need to be considered when aiming to increase productivity of groundnut, which will finally raise the farm income for growers. Thus, technical efficiency becomes a major issue in groundnut cultivation in Myanmar.

A few studies on technical efficiency towards the improved production efficiency of agricultural systems in Myanmar are available**.** Therefore**,** this study will examine the groundnut production system and measure the level of technical efficiency of groundnut production and factors affecting technical inefficiency. It will help to find a way to improve groundnut production at the farm level and finally the oil production at the national level. Therefore, this study is expected to enhance rural

incomes in Myanmar, where 75% of the population lives and depends on agriculture for its livelihood, as well as improve national food security.

1.3. Objectives of the study

This study focuses on technical efficiency of groundnut production across sections of farmers and among farmers categorized by social characteristics and other relevant characteristics in main groundnut production areas of Myanmar. The specific objectives of this study are as follows:

1. To characterize the groundnut production systems in central region of Myanmar.
2. To estimate stochastic frontier production for technical efficiency of groundnut production in central region of Myanmar.
3. To identify factors affecting technical inefficiency in groundnut production for growers in central region of Myanmar.

1.4. Usefulness of the study

This study contributes to the productivity level of efficiency in groundnut production of farmers from the central region of Myanmar. This study is expected to benefit both policy makers and researchers in improving farm production compared to other areas. Researchers will be provided systematic documents and methods for estimating efficiency. The result estimated by quantitative method to answer the question and identified factors affecting on groundnut production would have policy implication.

This study will first focus on individual farmers and secondly on the national effort to improve production. This is likely to help extension officers predict crop management needs, objectives and communicate new production technologies to farmers to have a high adoption rate in a resource efficient manner of crop productivity.

This study aims to enhance farmers' efficient use of land and other resources through innovative production systems in the central region of Myanmar and enhance

understanding of factors affecting groundnut production. It will be appropriate good basic information new technologies for groundnut production systems. Poor farmers will have their yield and income increased by using new production techniques developed from the results of this study. Thus, it could be improve the accuracy, viability, reliability and feasibility of groundnut production systems in Myanmar. This will increase groundnut production and also boost Myanmar's edible oil sector.

Moreover, from this study, expected outcomes will describe gaps between the potential outputs and actual output from groundnut production system and technical efficiency gains that can be made to reduce the size of this gap. This study will have important ramifications to the economy of the country in general and living standards for all farmers in the particular study area. In brief, the results from this study are expected to identify factors influencing technical efficiency, characterize the factors associated with changes in productivity and outline the possible influence of these factors on the management of groundnut production systems. Therefore, this will serve as a basis for the future studies of groundnut production systems in Myanmar. In addition to, it may help agricultural policy makers formulate strategies to increase agricultural productivity.