

CHAPTER 1

General Introduction

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1 Current situation of livestock production in Thailand

A major structural change in livestock production has occurred in the past 20-25 years in Thailand. Although private sector innovations such as improved breeds, feed technology, housing, farm management, and contractual arrangement have been the prime sustainers of growth, export opportunities and rapid domestic and regional economic growth during the period from 1985-1995 were the essential catalyst (FAO 2002). The livestock industry has grown in close proximity to Bangkok, and the heavy concentrations of animals are causing environmental stress. Farm sizes have become significantly larger over the past ten years. This expansion is made possible by imported technology and increased domestic demand as a result of rapid economic growth. Swine and cattle development have been driven by domestic market demand, and have been significantly affected by policy factors-regulation of slaughterhouses and subsidies (FAO 2002). In this section, the general information about Thailand, Thai agricultural economics and livestock husbandry system focusing on swine and cattle production will be discussed.

1.1 General facts about Thailand

Thailand lies at 6° N and 20° latitude in Southeast Asia and covers an area of 513,120 square kilometers. It is bordered to the north by Myanmar and Laos, to the east by Laos and Cambodia, to the south by the Gulf of Thailand and Malaysia, and to the west by the Andaman Sea and the southern extremity of Myanmar. The country is geologically divided into four ecological region parts: the Northern part (mountainous region), the Northeastern part (Khorat Plateau area, bordered to the east by the Mekong river), the Central part (predominately the flat Chao Phraya river valley) and the Southern part (the narrow Kra Isthmus). Eighty percent of the country lies below an altitude of 500 m with only 5% above 1,000 m. The general weather conditions throughout the country are those of a monsoonal tropical climate and remain hot throughout the year. The average

temperature is about 29 °C, reaching 35 °C in April to 17 °C in December in Bangkok (capital city) from. There are three seasons in Thailand: the winter season (November to February), the summer season (March to May) and the rainy season (June to October) (Na-Chiangmai 2002; MFA 2010).

According to the National Statistical Office (NSO), the population of Thailand is currently 67,070,000 inhabitants. The Gross Domestic Product (GDP) was US\$ 3,939 per capita in 2009 (NSO 2010a). Thailand is an agricultural country, around 34% of the households throughout the country working in agriculture and 93% of them living in rural areas. A major activity in the agriculture area is the cultivation of crops (54%) and integrated crop-livestock farming (35%). Fifty-three percent of the cultivated area has been used for rice cultivation (NSO 2010b). The major livestock in Thailand are pigs, chicken and cattle.

1.2 Economic values of agriculture and livestock production

Thailand is a major export nation of agricultural products to countries all over the world. Agriculture's share of GDP in 2009 was around 9.2%. Within the agricultural sector plants provided approximately 68% while the livestock sector is only a relatively small part of the overall agricultural sector and contributed only for 17% in year. The agricultural sector in Thailand has been undergoing a substantial transformation to non-traditional crops away from rice and cassava. It has been shifting towards high valued products. Para rubber, frozen chicken and shrimp products have become important, particularly for export markets. According to the Office of Agricultural Economics (OAE), the major export products in 2009 are rice (US\$ 4,784 million), Para rubber (US\$ 3,595 million), shrimp products (US\$ 2,588 million), frozen chicken (US\$ 1,304 million) and cassava products (US\$ 1,296 million) (OAE 2010).

In 2010 the Office of Agricultural Economics (OAE 2010) has estimated that Thailand's share of agricultural in the economy will decrease by 0.9%. The two major contributing causes are a serious drought and the infestation of crop pests since the early months of the year 2010 which was accentuated with heavy floods which came later. Consequently, the impact upon most of the major crops is a decline in production, as yearly crop production index falls by 2.1% from the year before. However, the overall

prices of the crops are favorably high especially for Para rubber, cassava and palm oil. For rice alone, even though farmer prices received are lower than in 2009, they have still been favorably maintained at high levels, contributing to a 22.8% increase of the farmers' received price index. Livestock sector, due to favorable price incentives coupled with no serious livestock epidemic outbreak followed by a bright export trend, livestock production is expected to be on the rise by 1.5%. Livestock production such as the dairy and the beef production are almost insignificant components of the Thai economy in terms of aggregate output (FAO 2002). Furthermore, growth of the fishery sector is expected to be 1.2% due to its production expansion in the first half of 2010 as a result of growing demand for raw material supplies used in processing for export purposes. Therefore the fishery prices and the entries sector will continue to grow (OAE 2010).

1.3 Pigs and beef cattle husbandry in Thailand

At present, livestock production in Thailand is growing very quickly and plays an important role in food production. It has been shifting from backyard animals and integrated crop-livestock farming systems to industrial livestock farming enterprises. But this development differs between livestock species. Rapid growth has occurred in pig and poultry production. Broilers, layers and pigs are mainly produced for export market and raised by large agribusiness companies (FAO 2002; Na-Chiangmai 2002; OAE 2010). The challenges for pig production in Thailand are increasing to close the big gap between demand and production and are reached by intensification of production system towards high-input, high-output systems. Contrary to the pig production, the importance of beef cattle and buffaloes is still low, in spite of the fact that they are mostly raised by smallholders in rural areas and not by companies.

1.3.1 Pig production

The development of pig production started in the 1960's when the first group of exotic pig breeds were imported by the Department of Livestock Development (DLD) from the United Kingdom. These were Large Whites, Tamworth and Berkshire breeds. Later,

Landrace and Duroc Jersey pigs were imported from the United States (DLD 2010). Before these exotic breeds were introduced, farmers relied on the relatively slow growing native pigs that had the desirable quality of not needing much in the way of traded inputs (FAO 2002). Since 1981 pork breeding began to be industrialized in Thailand. Thus, indigenous native pigs have been increasingly mated with imported breeds to improve their performance for economically important traits. Native pigs have gradually become crossbreds and have been finally replaced by European commercial breeds as the meat delivering end product in the pork industry (Rattanaronchart 1994).

Nowadays, like in other major swine-producing areas of the world, there has been a change from small farms to large farming enterprises. This trend will continue and is expected to lead to improved quality pork and to raise the interest of overseas' importers. Ten large operators control most of the increase in current production and the outlook for development is significant. Groups of agribusiness companies such as Charoen Pokphand (CP), Betagro, Laem thong and Mittraparp are integrated and account for more than 20% of the swine production in Thailand. These operations are fully automated and have increased efficiency of production, which that will make them competitive on the world import market.

Concerning production amounts of pigs, the total commercial breeding swine population in 2009 was 2,542,069 animals (Table 1.1). The sow population is estimated at 906,099 animals. These sows wean an average of 17 pigs/sow/year (DLD 2010). The primary swine-producing area is the central region with approximately 57% (4,669,535 heads) of the country's pig population (8,537,703 heads). The Southern part has the least number of pigs, possibly reflecting the higher costs of pig fattening because of a shortage of feed in this region. An alternate explanation could be that the Southern part of Thailand has a relatively high Muslim population for whom consuming pork is prohibited. Most of the pork produced in Thailand is consumed domestically because of the presence of foot and mouth disease (FMD) in some of the producing areas in Thailand. Export markets are limited to Hong Kong, Vietnam and Singapore. Finished (processed) pig meat based products are more widely exported (FAO 2002; DLD 2010).