

## **Animal production in Thailand: Challenges and potentials in global market**

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**ABSTRACT :** This article is an overview of animal production in Thailand based on statistics and reviews. These include agricultural economics, population of domestic animal, production, consumption and export value of important animal such as poultry, swine and cattle. Export to global market and challenges of livestock business has also discussed.

**Key words:** production, consumption, global market, export value, Thailand

### **INTRODUCTION**

The opportunities of international food trade are attractive and help create international food businesses that operate at various levels along the food chain. Global businesses are active in feed production and animal farming, for example of poultry and pigs. Experience has shown that the practical conduct of multi-country risk assessments is challenging because surveillance data are required along with detailed information on production systems, food handling practices and food consumption data, all of which can vary in availability and quality between countries. In addition to the challenges related to food safety in international markets, new problems keep emerging and new technologies are being developed. Also, the world population keeps growing, and there has been a steep increase in food prices as a result of higher demand for animal protein. At the same time, there is reduced land availability due to climate change and urbanization. Food security has become a focus of interest rather than food safety. However, the two issues are closely linked as food security considers not only the availability an access to affordable but also safe food. Food security also covers the resilience of food systems against disruption, and food safety scares can be a key reason for import bans. Global food systems are a reality and consumers expect the food originating from such systems to be as safe as locally produced food.

### ***Overview of Agricultural Economics***

Thailand with total land area of 513,155 km<sup>2</sup> is situated on the Indo-China Peninsula in the tropical region. The climate is classified into three seasons as followed: 1) hot and dry from February to May with average temperature 34 °C and 75% humidity, 2) rainy from June to October with average temperature 29 °C and 87% humidity, and 3) cool from November to January with temperatures range from below 20 °C to 32 °C with a drop in humidity. The annual rainfall averages 1,200 mm. With the human population of 63 million, 75% are farmers who live in the rural area where agriculture plays an important role in income and livelihood. Animal production is an integral part of Thai agriculture which main crops are rice, cassava, corn soybean including rubber trees and oil palm.

The OAE (2009) has estimated at agricultural economics contracted by 0.23% in 2009 primarily due to impacts of the global economic recession. As a consequence, demand for agricultural commodities dropped and their exports decline by 24.90%. This situation led to a drop in farm production. Nonetheless, farm prices of main products including rice and oil palm were favorable even though they were lower than those of 2008 which were extraordinary high. Hence, farm price index in 2009 fell by 11.19% and production index declined by 0.33%. However the government has launched several significant programs and measures to stabilize and maintain agricultural product prices. Livestock subsector is predicted to rise by 2.26% as a result of well management in controlling production of broilers, swine and laying hens. Prices of livestock product are satisfied. It is forecasted by OAE (2009) that agricultural economics will likely to show a positive growth rate due to the recovery of the world and Thai economy. Meanwhile the continuation of government's supporting programs will still be carried on to stimulate farm income. However, there might be some negative factors that can hamper agricultural growth such as oil price fluctuation and baht appreciation.

Therefore, agricultural sector is anticipated to expand in the range of 1.6-2.6% while livestock subsector is predicted to increase within the range of 2.2-2.3%. As the economics recovery and a better price will induce producers to expand their production whereas several government schemes implemented such as extending of export quota to EU and initiating of trace back system are expected to show positive results in 2010.

### ***Population of Domestic Animals in Thailand***

Domestic animals which play important role in Thailand are including cattle, buffalo, swine, goat, sheep, duck and chicken. During 1999-2009, animal populations had increased excluding buffalo population which had decreased by 22.8% as shown in Table 1. The highest increase in goat population is possibly that the policy of Thai government aims to promote goat production in the southern region especially 3 provinces closed to the Malaysian border. Swine population increased by 15.0% from 7.4 million in 1999 to 8.5 million in 2009.

According to the official statistics, beef cattle population in Thailand had an estimated 8.6 million heads in 2009 which had been reported that native cattle was the major breed of beef cattle which comprised 5.4 million heads or approximately 63% of the total population that were raised extensively by 1 million farmers (DLD, 2010). Buffalo population had declined due to high slaughter rates, scarcity of farm labour and grazing area, the increasing use of small tractors and low market prices (Na-Chiangmai, 2002).

Table 1 Livestock populations in Thailand during 1999-2009 (reported on 1<sup>st</sup> January each year) unit: head

| Year     | Cattle    | Buffalo   | Swine     | Goat    | Sheep  | Duck       | Chicken     |
|----------|-----------|-----------|-----------|---------|--------|------------|-------------|
| 1999     | 4,918,396 | 1,799,606 | 7,423,101 | 132,845 | 39,485 | 22,330,123 | 169,632,507 |
| 2000     | 5,208,541 | 1,702,223 | 7,761,056 | 144,227 | 37,312 | 27,884,041 | 189,341,110 |
| 2001     | 5,571,283 | 1,710,095 | 8,203,270 | 188,497 | 42,720 | 28,448,399 | 214,979,081 |
| 2002     | 5,908,625 | 1,617,358 | 6,989,152 | 177,944 | 39,326 | 25,034,011 | 228,760,326 |
| 2003     | 5,916,323 | 1,632,706 | 7,815,534 | 213,917 | 42,883 | 23,800,092 | 252,718,883 |
| 2004     | 6,668,332 | 1,494,238 | 6,285,603 | 250,076 | 47,811 | 15,648,538 | 179,738,810 |
| 2005     | 8,275,108 | 1,624,919 | 8,174,526 | 338,355 | 50,779 | 21,540,345 | 254,204,068 |
| 2006     | 8,036,057 | 1,351,851 | 7,153,784 | 324,150 | 51,151 | 20,843,553 | 184,326,752 |
| 2007     | 9,337,985 | 1,577,798 | 9,300,073 | 444,774 | 50,963 | 24,952,809 | 283,126,151 |
| 2008     | 9,582,030 | 1,359,807 | 7,740,575 | 374,029 | 43,738 | 22,722,647 | 235,599,566 |
| 2009     | 9,079,327 | 1,388,685 | 8,537,703 | 383,796 | 40,269 | 27,565,231 | 281,672,304 |
| % change | 84.60     | -22.83    | 15.02     | 188.91  | 1.99   | 23.44      | 66.05       |

Source: DLD (2010)

## ***Production and Consumption in Thailand***

In this article, it will be emphasis on main important animal production in Thailand which are poultry, swine and cattle.

### ***Poultry***

The industries' big step forward was taken in 1973 when the Charoen Pokphand Company (CP) exported the first lot of chickens to Japan. High chicken price was perhaps the strongest incentive for private firms to invest in this new and promising agro-based industry. The CP was the first to correctly foresee high profits and to establish the first modern chicken slaughterhouse in order to process frozen chicken for export market. Then in 1977, the Bangkok Livestock Trading Company, which is as a subsidiary firm of CP, initiated a contract farming system in Sri Racha. Since then, slaughterhouses were established by other five firms and contract farming has become very popular. Since 1973, the broiler farm size has been expanding rapidly, particularly in the major chicken-raising provinces of Nakhon Pathom, Chachoengsao, Chon Buri, and Thonburi. The role of the small middleman in marketing, hence, has been continuously declining. Finally, since the late 1970s' all major feed mill companies, which also operate under a complete vertical integration system, have established their own slaughterhouses. The structure of the industry, therefore, has now become highly concentrated in the hands of a few leading integrated firms. Thai broiler industry's farm facilities, breeding farms and broiler farms in particular, expanded substantially in early 2002-2003, shortly before Thailand was hit by High Pathogenic Avian Influenza (HPAI), H5N1 type, in January 2004. The disease incidence caused both export demand and domestic consumption to plunge in 2004. After demand recovered in 2005, independent chick producers and broiler integrators have monitored the market closely and cautiously adjusted their production to reflect the actual demand. As a result, broiler production has fluctuated in a lesser degree in recent years than in the past.

In addition to supply management, the Thai broiler industry has successfully improved farming systems to encounter animal health and food safety challenges. All integrated producers are currently strictly implementing biosecurity measures across the board, from the farm level to the processing level. Nearly all broiler houses of integrated producers are laid out in an evaporative cooling system which lead to higher productivity and reduced disease exposure and mortality rates. In addition, Thai chick producers have continued to improve genetics in broiler breeding stocks so that average meat yields per bird have increased in recent years. Technological advances and strong demand have driven the growth of production and export. Integrated producers have also invested money to introduce or improve their broiler meat processing facilities from slaughtering to cooking processes. Accordingly, Thailand is currently considered one of the premium suppliers for cooked chicken meat products to Japanese and EU customers. Chicken meat is by far the most popular meat product among consumers because it is cheaper than other meats and easy to prepare. Problems of BSE and FMD within other meats have also made poultry a more attractive alternative.

**Table 2.** Production, consumption and export of chicken meat during 2005-2009

| Year     | Production    |             | Consumption |        | Export (*1,000 tons) |                |       | Value for export, Million USD |
|----------|---------------|-------------|-------------|--------|----------------------|----------------|-------|-------------------------------|
|          | Million heads | *1,000 tons | *1,000 tons | Kg/h/y | Frozen meat          | Processed meat | Total |                               |
| 2005     | 787           | 1,117       | 872         | 13.97  | 0.1                  | 276            | 276   | 967.73                        |
| 2006     | 874           | 1,269       | 982         | 14.84  | 2.6                  | 294            | 297   | 1,086.03                      |
| 2007     | 840           | 1,183       | 883         | 14.76  | 11                   | 322            | 333   | 1,130.70                      |
| 2008     | 920           | 1,360       | 959         | 14.76  | 14                   | 387            | 401   | 1,679.67                      |
| 2009     | 937           | 1,384       | 990         | 15.18  | 18                   | 379            | 397   | 1,598.00                      |
| % change | 19.06         | 23.90       | 13.53       | 8.66   | 17900.00             | 37.32          | 43.84 | 1.97                          |
| 2010 (f) | 960           | 1,419       | 1,019       | 15.49  | 21                   | 379            | 400   | 1,616.06                      |

(f) forecast

Source: Thai Broiler Processing Exporters Association (2010)

During 2005-2009, broiler production has increased by 19.06% which produced 1.38 million tons in 2009. As broiler industry has the highest value in Thailand, the market share are consisting of Charoen Pokkapan (CP) 29%, Sunvalley Ltd. 22%, Betagro 14%, Saha Farm 14% and others. Domestic consumption of chicken meat is 0.99 million tons or 71.5% of total production which is estimated around 15.18 kilograms per annum as shown in Table 2.

Egg production has expanded by 26.75 % during 2005-2009, which production yield about 9,902 million eggs in 2009. High increasing rate has been occurred after avian influenza outbreak in 2004 because government under operations of DLD had restricted control for poultry production included applying evaporative cooling system. Domestic consumption of chicken meat is 9,499 million eggs or 96% of total production which is estimated around 142 eggs per annum as shown in Table 3. Rate of consumption is relatively small compared to other Asian countries such as China, Japan and Taiwan because cholesterol content in egg yolk concerns consumers. Therefore, government has promoted to increase consumption rate by educating on nutritive value of egg and setting up “School egg project” for each pupil to consume 3 eggs per week. These will be leading to enhancement of egg consumption to be 200 eggs per annum in 2012.

**Table 3.** Production, consumption and export of hen egg during 2005-2009

| Year     | Production,<br>Million eggs | Consumption  |          | Export<br>Million eggs |
|----------|-----------------------------|--------------|----------|------------------------|
|          |                             | Million eggs | Eggs/h/y |                        |
| 2005     | 7,812                       | 7,645        | 118      | 167                    |
| 2006     | 8,555                       | 8,296        | 127      | 259                    |
| 2007     | 8,990                       | 8,682        | 132      | 308                    |
| 2008     | 9,424                       | 8,949        | 135      | 475                    |
| 2009     | 9,902                       | 9,499        | 142      | 403                    |
| % change | 26.75                       | 24.25        | 20.33    | 141.32                 |

Source: OAE (2010)

### Swine

Production has moved from a system dominated by small growers to larger-scale commercial operations. Around 80% of total production takes place on large farms and feed mill companies. More than half the production is on farms with over 100 pigs. The collapse in production in 1998 had a significant impact on small farms. Low prices and high cost of production forced many small farms out of business. Commercial pig raising farms have gradually been developed in provinces around Bangkok mainly due to a rapid increase in urban demand for pork. These commercial farms use intensive fattening operations with high quality swine catering to more discerning markets in the cities. The important commercial-pig-raising areas are Nakhon Pathom, Chachoengsao, Chon Buri, Ratchaburi and Suphan Buri. This development has been made possible by a few feed mill companies which are responsible for providing piglets, animal feeds, drugs as well as veterinarian services and farm management know-how.

**Table 4.** Swine production, consumption and export of pork during 2005-2009

| Year     | Production       |                | Consumption   |           | Export<br>(* 1,000 tons) | Value for export<br>(Million USD) |
|----------|------------------|----------------|---------------|-----------|--------------------------|-----------------------------------|
|          | Million<br>heads | *1,000<br>tons | (*1,000 tons) | (Kg/h/yr) |                          |                                   |
| 2005     | 9.83             | 744.13         | 731.96        | 11.75     | 12.17                    | 57.42                             |
| 2006     | 10.40            | 787.28         | 776.27        | 12.36     | 11.01                    | 46.64                             |
| 2007     | 11.62            | 879.63         | 869.44        | 13.80     | 10.19                    | 43.48                             |
| 2008     | 10.50            | 794.85         | 782.57        | 12.34     | 12.28                    | 52.70                             |
| 2009     | 10.20            | 772.14         | 761.14        | 12.00     | 11.00                    | 61.06                             |
| % change | 3.76             | 3.76           | 3.99          | 2.13      | -9.61                    | 6.33                              |
| 2010 (f) | 11.20            | 847.84         | 834.84        | 13.16     | 13.00                    | 72.30                             |

(f) forecast

Source: Swine Producers and Processors for Exporting Association (2010)

In 2009, swine production was 10.20 million heads which was decreased by 2.8% compared to the previous year due to high price of feedstuffs, leading to high cost of production started from the end of 2007 until the first half of 2008. These results had a significant impact on small and medium scale farms which were lost their business. Total pork supply in 2009 reached 772 million tons, of which 98.6% were produced for local consumption and the remaining 1.4% was exported. Pork consumption was declined in 2009 due to economic recession associated with high price of pork. Consumption per capita was approximated 12.0 kilograms per annum in 2009 which had increased by 2.13% compared to year 2005. However, pork is still a traditional and popular Thai food which demand has been mostly for domestic consumption.

### **Cattle**

There are several beef production systems in Thailand depending on investment and potential of producers. However, beef market plays important role in types of production system which can be classified into 3 systems as following 1) to produce for high quality markets which market share is only 1%. European crossbred steers are fattened for 10 to 14 mo and reached BW between 550 and 600 kg. Beef is tender due to high marbling which has high quality as imported meat; 2) to produce for medium quality markets is that high Brahman crossbred bulls were fattened for 3 to 4 mo in order to increase body muscle and fat; and 3) to produce for opened markets which meat is from native cattle, low Brahman crossbred bulls, culled and old cattle that are grazed in communal land without supplementation. Thai native cattle had been classified as *Bos indicus* and used as draught animal in the past.

In 2009, beef production was 1.17 million heads which was calculated as 168,050 tons of carcass weight and has been increased by around 6% compared to year 2005 (Table 5). There has been a modest growth in beef production due to not due to lower price of live beef cattle, leading to giving up their business by smallholders. There has been no growth in beef consumption due to economic recession associated with high price of beef. Consumption per capita was approximated 2.86 kilograms per annum in 2009.

**Table 5.** Production, consumption and export of beef during 2005-2009

| Year     | Production    |                        | Consumption   |               | Export<br>(*1,000 tons) | Import<br>(*1,000 tons) |
|----------|---------------|------------------------|---------------|---------------|-------------------------|-------------------------|
|          | Million heads | *1,000 tons of carcass | Million heads | (*1,000 tons) |                         |                         |
| 2005     | 1.10          | 158.80                 | 1.24          | 178.85        | 0.54                    | 1.29                    |
| 2006     | 1.17          | 162.92                 | 1.24          | 179.28        | 0.46                    | 2.01                    |
| 2007     | 1.20          | 172.41                 | 1.25          | 179.57        | 0.27                    | 1.92                    |
| 2008     | 1.19          | 170.93                 | 1.25          | 180.00        | 0.09                    | 1.87                    |
| 2009     | 1.17          | 168.05                 | 1.25          | 180.29        | 0.15                    | 1.94                    |
| % change | 6.36          | 5.82                   | 0.81          | 0.81          | -72.22                  | 50.39                   |

Source: OAE (2010)

Milk production is dominated by small dairy farms which typically have 5-10 milking cows and around 28% of farmers have more than 20 heads of dairy cattle. Therefore, smallholders account for most of milk production in Thailand. There are often problems such as low productivity, infertility and mastitis in dairy cows. Poor quality feed is a major problem, leading to poor quality in raw milk production. The government has heavily promoted dairy production to improve income distribution. This has encouraged a switch from rice production to dairy production. Promotion of milk production occurs through price guarantees for raw milk.

In 2009, milk production was 840,000 tons from 293,000 lactating cows (Table 6) and milk consumption per capita was approximated 14 litres per annum. School milk project subsidies account for 50% of milk consumption. A local content requirement policy requires firms which import skim powdered milk to buy local raw milk from farmers via dairy cooperatives.

**Table 6.** Dairy production, consumption and export of milk and milk products during 2005-2009  
 Source: OAE (2010)

| Year     | Population                     |  | Production<br>(*1,000 tons) | Consumption<br>(*1,000 tons) |
|----------|--------------------------------|--|-----------------------------|------------------------------|
|          | Dairy cattle<br>(*1,000 heads) | Dairy lactating cows<br>(*1,000 heads) |                             |                              |
| 2005     | 493                            | 296                                    | 843                         | 799                          |
| 2006     | 518                            | 310                                    | 888                         | 856                          |
| 2007     | 495                            | 292                                    | 822                         | 917                          |
| 2008     | 491                            | 291                                    | 786                         | 825                          |
| 2009     | 498                            | 293                                    | 840                         | 908                          |
| % change | 1.01                           | -1.01                                  | -0.36                       | 13.64                        |

### ***Export to Global Market***

In 2008, Thailand exported in the rank 13th in the world, valued 23,864 million US dollars (approximately, 800,000 million Baht which is accounted of 2.4% of the total world food export). Meat export from Thailand has been in the rank 18th of the world, valued 1,855 million USD or 2% world market share which the composition of market consists of chicken (90.6%), duck (5.0%), pork (3.1%) and beef (1.3%).

During 2005-2009, exports of chicken meat and product had a trend to increase average 14.46% per annum. Due to avian influenza outbreak in 2004, there has been changed in pattern of export from fresh meat to processed meat. Export of chicken meat has been reported around 397,000 tons with export value of 1,600 million USD in 2009 which is in the world rank 4th with 5% market share (Laurujisawat, 2010). The main importers for Thai chicken meat are Japan (43.70%), EU (46.35%) including England, Netherlands, Germany and Ireland and others (9.95%) including Vietnam, Singapore, South Korea and Hong Kong in 2009. Chicken meat exports (both cooked and uncooked) in 2009 reportedly dropped by 1% from 397,000 tons to 401,000 tons in 2008. Thailand's exports of cooked chicken meat are forecast to grow by 7-8 percent in 2010 due to an anticipated recovery in the economy of importing countries, especially EU and Japan. In addition, China, a major competitor in Japanese market, is likely to lose its competitiveness with Thailand due to growing domestic consumption and increased concerns from trading partners about the safety of Chinese food products associated with result from reduction of import tariff according to Japan Thailand Economic Partnership Agreement (JTEPA). However, it has been believed that the prospect of Thai exports would be brighter if EU increases its import quota of cooked meat and if both EU and Japan agreed to accept uncooked product under Thailand's proposed compartmentalization scheme.

Regarding the total export market, duck has been the second with estimated market value of 84 million USD. For the export of duck meat to global market, the major importers for cooked product, about 8,984 tons with value of 71 million USD, are European countries such as England 45.9%, Germany 35.1%, Netherlands 11.2%, Ireland 2.3%, and others 6.2% while Vietnam is the only main market for frozen duck meat with 3,068 tons and a value of 13 million USD. For duck meat export, Thailand is in the world rank 4th with 8% market share.

Thirdly, the exports of pork to global market, the major importers were mainly in Asia which total market value was 61 million USD in 2009. There are 2 types of export products as frozen or chilled pork and cooked pork. In 2009, the export for raw pork approximated 784 tons with a value of 2 million USD which the main markets were Hong Kong (94.7%), Cambodia (4.2%) and Vietnam (1.1%). For cooked pork, the export value was 59 million USD with around 10,000 tons which the major markets are for instance Japan 97.0%, Hong Kong 1.5% and Singapore 1.2%. For market of frozen pork in Hong Kong, China is the significant competitor due to lower cost of production and transportation associated with new regulation in allowance of fresh pork display for sale which had directly benefit to China who export fresh pork compared to Thai frozen pork, leading to decrease Thai export of frozen pork.

Lastly, the export of beef to global market was estimated about 242,450 USD in 2008. The major importers were Japan 98.4% and USA 1.6%.

Apart from meat export, several animal and animal products have been exported such as hen egg, live animals, hides, and others. The export value of hen egg estimated about 28 million USD with

403 million eggs which the main markets were Hong Kong (79.2%), China (15.4%), Jordan (3.2%) and others (2.3%) in 2008. For live animals including chicken, cattle and pig, they were exported to neighboring countries such as Malaysia, Laos, Cambodia and Myanmar with the export value of 48.2 million USD in 2008. Cattle were mainly exported to Malaysia (19.8 million USD) and others (2.4 million USD) including Laos, Cambodia and Myanmar. Cambodia and Laos were the major importers of pig with the export values of 17.7 and 3.2 million USD, respectively. For buffalo export, the main importers were Myanmar and Laos with the values of 2.6 and 1.2 million USD, respectively. The main markets for export of native chicken, broiler and laying hen were Laos (147 thousand USD), Cambodia (117 thousand USD) and Myanmar (38 thousand USD).

### ***Challenges of Livestock Business***

In the future, livestock business, especially commercial production for export, has focused on not only high productive efficiency but also consideration of main factors affecting livestock business. Important factors which had impacted on global market of animal and their products are new laws or regulations for import and export, epidemic spread of disease, baht appreciation and global economic crisis which will be described as following:

#### ***1. Trade Laws and Regulations***

*Laws or Regulations Concerning Food Safety.* Food safety has been mentioned broadly especially in developed countries and utilized for trade negotiation such as product quality with no chemical residue, production process which had environmental friendly, hygienic raising, post-harvest process. There will be more competitiveness when free trade agreement has been negotiated. For example, Japanese government pay attention to consumers concerned their health by the basic law on food, agriculture and rural areas. This law aimed to set up security and stability of food supply, multifunctional agriculture including rural sustainability, environment, food security, geographic importance, food quality and safety, and animal welfare. Thai export company has to monitor and adapt to problem of residue in animal goods according to specifications and standards for foods, food additives, etc. under the Food Sanitation Act 2008 by Japan External Trade Organization issued on January 2009. In addition, the European Commission has been responsible for food safety by using Rapid Alert System for Food Products which has been reported about risk or hazard of goods by EU members as well as by consumers directly. Goods have been guaranteed by producers and entrepreneurs to ensure that it is no health hazard for consumers or be reported immediately if hazard is detected. Moreover, EU has a system for management of food safety to take care of safety through the supply chain of food as well as to be traced back.

Thailand has also focused on food safety and established government's organization, named "Thai Agricultural Commodity and Food Standard" which had responsibility for food standard, laws and regulations concerning food safety, and coordination with foreign countries in order to build up agreement, measures of standards and food safety, and controls of import-export of food and agriculture. Since 1994, Thailand has become one of the 80 members of World Trade Organization (WTO), there are several agreements which country members have to proceed according to WTO especially Agreement on the Application of Sanitary and Phytosanitary Measures (SPS) and Agreement on Technical Barrier to Trade (TBT).

*Import Quota Administration* .Administration of import quota is aimed to control for import and limit quantity of imported goods for example EU import quota for chicken meat. Import of chicken meat to EU has been classified as frozen fresh meat, salted meat and cooked meat with tariff rates of 53, 15.4 and 10.9%, respectively. The EU control amount of salted meat and cooked meat imports by limiting import quantity. Under the agreement, Thailand received 92,610 tons, out of a total quota of 264,245 tons, for salted chicken meat but could not export due to avian influenza outbreak. Quota for cooked chicken meat for Thailand was 160,033 tons, out of a total quota of 50,953 tons. The EU recently notified WTO of its plan to raise import tariff on 8 items of poultry meat products. These include uncooked chicken meat products containing more than 57% chicken meat, cooked chicken meat products containing 25-57% chicken meat, and containing less than 25% chicken meat which these products are currently not under the EU tariff-rate-quota. Additionally, Thai exporters have

requested the Department of Trade Negotiations (DTN) of the Thai government to discuss with the EU a possible increase in current quota ceiling and import tariffs in 2009 (Preechajarn, 2009).

*Laws or Regulations Concerning Environment.* Pollution from animal production has partly caused environmental impact which is increasingly important issue for international trade negotiations. It is stated that animal production or animal goods should not generate environmental pollution. The major environmental threats of intensive livestock production are deteriorating water quality, spreading of disease and pathogens, accumulation of nutrients and heavy metal, odour, volatilisation of ammonia, emissions of methane and nitrous oxide, etc. Moreover, animal industry involves upstream, midstream and downstream industries which have participatory prevent and solve the environmental problems. More effective technologies are needed to meet new regulations and compliance measures for pollution control which would cause an increase in cost of animal production.

## **2. Disease Problem**

Problems of diseases and pathogens has been seriously affected on both domestic and international markets of animals and their products, leading to consequent impact on animal production. For new disease information, there is an international organization named “World Organisation for Animal Health (OIE)” who currently monitor and inform movement of animal disease. In recent, the major disease that clearly affected on animal industry is avian influenza because its impact on human health and death as well as on economic aspect by causing farmers out of business and exporters stop export of fresh chicken meat. Because of avian influenza outbreak, the Royal Thai Government (RTG) launched several measures to support the poultry industry, from small-scale farmers to integrated poultry processors. These measures include the avian influenza Stamping-Out Campaign on poultry farms/areas, a compensation scheme for disease-affected farmers, fee exemptions for chicken slaughterhouses, and outreach to help unemployed workers/operators. In addition, foot and mouth disease has also impacted on exports of fresh pork and beef to international market.

## **3. Economic Crisis**

Problems about Thai currency crisis and global economic recession significantly affect on a decrease in consumers’ power of payment. The global financial crisis of 2008-09 severely impacted on Thailand's exports, however, with most sectors experiencing double-digit drops. In 2009, the economy contracted about 3.5%, mainly due to lower exports as a result of the global economic crisis. The Thai government is focusing on financing domestic infrastructure projects and stimulus programs to revive the economy, as external trade remains weak and the persistent internal political crisis dampens foreign direct investment prospects.

## **CONCLUSIONS**

For developing countries including Thailand to become significant exporters of livestock products, they would need to achieve productivity gains in livestock production. This might be enough to generate exports to other developing countries, but also to develop markets in other industrial countries, it would be needed to put in place much higher food safety and quality standards, together with trace-back facilities and information systems about livestock diseases and control mechanisms, to satisfy the very high consumer standards in industrial country markets. Thai major food exporters have expanded their production capacity through new machinery purchases or upgrades to meet demand for a variety of products in the major markets and to satisfy international quality standards including HACCP and ISO. Therefore, Thai food strategy towards safety and quality foods increase export value of products and also strengthen good image of Thai foods which altogether lead to total better country’s economy.

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