

Masters' Thesis

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Rice Price Policy in Thailand

- Policy Making and Recent Developments

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Abstract

Formulating and implementing agricultural policies are important for the development of the agricultural sector and the rural population. The process of policy making is a political bargain between politicians and citizens. The outcome of this process, the policies, cannot be expected to be Pareto efficient resource allocations since altruistic behaviour is not very likely. All participants in the process have their own agenda.

Thailand is the world's largest rice exporter and one of the most efficient producers. Rice policies in Thailand have always been rather sensible due to the export orientation of the agricultural sector. Interventions in the rice market were first introduced after the Second World War, when export taxes were implemented. Influenced by the development on the world rice market and the domestic economy, rice policies have been altered during the decades. In the 1980s Thailand abolished the export taxes and rice policies were liberalized.

In the beginning of the 21st century the Thai government introduced a new rice price policy that has been in use on and off since the introduction. The policy functions as a mortgage program in favour of the producers. When the Samak government reintroduced the price policy for the crops in 2008, the pledging price was the highest ever. This had a negative effect on the domestic rice market and also consequences for the rice trade. Due to the high prices, export orders went down as the importers decided to wait for rice from cheaper producer countries. Millers had problems joining the mortgage program due to lack of credit and high requirements. The policy has undermined the market forces and therefore also negatively affected the integration of the rice market. If the policy is sustained with high pledging prices, there is a risk of large negative effects in the long run since farmers' incentives to reduce costs and become more effective might be harmed.

The rationale behind the program was most likely not economic but rather political. The peculiar political situation in Thailand might have triggered the new government to launch the program in order to receive support from farmers even though a negative impact on the domestic rice market and the rice trade was very likely.

Keywords: Thailand, rice, price policy, rice marketing system

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Abbreviations

AEGZ	Agroecological zone
BAAC	Bank of Agriculture and Agricultural Cooperatives
BOT	Bank of Thailand
FAO	Food and Agriculture Organization of the United Nations
FOB	Free on Board
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GMP	Good Manufacturing Practises
HACCP	Hazard Analysis and Critical Control Points
IRRI	International Rice Research Institute
ISO	International Organization for Standardization
PRD	the Government Public Relations Department (Thailand)
R&D	Research and Development
USDA	United States Department of Agriculture
WTO	World Trade Organization

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1. Introduction

Thailand has been the largest exporter of rice in the world since the end of the Second World War. This success explains why several studies have been conducted throughout the years about the Thai rice market, on the rice policies and their effects on the market. Even though Thailand always has been export oriented, the rice sector enjoyed quite a lot of protection against rice imports. After joining the GATT in the early 1980s, Thailand liberalized its policies and most of the distortions were removed.

A new rice price policy was introduced in 2001. This policy functioned as a mortgage program in which farmers were able to get a fixed minimum price for their rice, which was slightly higher than the market price. Since 2001, the government has used the program on and off and when it was reintroduced in early 2008 it had not been used for about two years. For the first crop of 2008 the pledging price was 10,000 bath and for the second crop the price was increased to 14,000 bath, which was the highest pledging price ever. The reintroduction of the mortgage program was done during a time when the world market prices of rice were increasing sharply. Hence, pure economic considerations could not have been the motive.

Implementing the price policy for the second crop, during a time when the world market prices had reached its highest level in 25 years, resulted in a lot of criticism from various economists and people involved in the rice trade.¹

1.1 Purpose

The purpose of this paper is to study Thailand's rice policy, both in a historic perspective and the current policies with emphasis on the price policy.² The study will try to answer questions about the policy, such as what effects the mortgage program has had on the prices and the supply of rice. A brief discussion about the rationales behind it will also be included. Further, the development on the world market will also be taken into account since the recent price increases have been in sharp contrast with how the prices have behaved in the past 25 years.

¹ See chapter 5.

² The minimum price policy will also be called the mortgage program from here onwards.

1.2 Method and Data

Data have been collected from international data bases such as the World Bank, the International Rice Research Institute (IRRI), the United States Department of Agriculture (USDA) and from the national data base; The National Statistics Office of Thailand (NSO). Scientific articles and studies of the Thai rice sector and the world market have been used as well as secondary sources such as news articles containing interviews with key persons in the rice sector, and concerning the most recent development in Thailand. With the collected information as the basis, attempts to answer the questions asked in this study have been made. The conclusions are opinions by the author alone if nothing else is stated.

1.3 Delimitation

There are a few things that need to be mentioned about this study. The study focuses on the mortgage program and its effects on the prices and the functioning of the market. There are other policies affecting the rice sector but they will only briefly be mentioned.

Secondly, since the end of 2007 there has been a lot of turbulence on the rice world market and within the Thai rice sector. We have not yet seen the end of the price development and the effects of the high price levels. Since the development has been so rapid and there are so many players involved, it has been necessary to put a time limit after which new data and information have not been included. The section concerning the development on the world market ends in August 2008.

The last thing to be mentioned is that there were some problems finding information about the mortgage program, especially for the second crop of 2008 since it was only decided by the Thai government very recently and implemented in June. The program just ended and the full effects of it will not be known until later. Further, most of the information concerning the Thai rice market and the government's rice policies are in the Thai language. Even though some were translated into English, I am sure that there is information that I have missed.

1.4 Outline

The study is structured as follows. The next section deals with agricultural policy. The process of policy making and the rationales behind it are explained, as well as the effects of policies, and common problems. The third section describes the patterns of the world rice prices and discusses the reasons for the sharp price increases on the world market since the

end of 2007. The fourth section of this study introduces Thailand as the world's largest rice exporter. The history of rice policy in Thailand and the policies introduced since the beginning of the 21st century are described. The fifth section analyzes the actors involved in the rice industry and how the rice marketing system functions. The mortgage programs effects on prices and the market are analyzed and the government's reasons for reintroducing the policy and the opinions of key actors in the rice sector are discussed. The last section summarizes the findings of this study.

2. Agricultural Policy

Most countries in general and developing countries in particular have implemented policies that affect the agricultural sector either directly or indirectly. These policies can take various forms and have both intended and unintended effects. This section will explain the logic behind policies and how they are formulated. The rationales behind different types of policies and measures will be described as will some of their effects.

2.1 Policy Making

The formation of policies can be considered as the result of political bargaining between a country's politicians on the one hand and the citizens on the other. The citizens can either act in the form of lobby groups with special interests or as individuals who trade their votes for specific policy action (de Gorter and Swinnen, 2002). When policies are formulated, it cannot be assumed that the persons involved are being altruistic in the sense that they are trying to achieve a Pareto efficient resource allocation.³ The degree of autonomy that politicians enjoy is different, and they have different objectives behind their decision making. Some might have the objective of getting re-elected while others have visions of improving their countries and increasing welfare. Further, in order to formulate policies and exercise control, information is needed and information is not a free good. Policymakers' power and preferences are conditional upon the institutions within the public sector in their country such as the bureaucracy structure etc. Hence, in order to understand and predict in what way interventions in the economy will be made by the government, the institutions must be studied (Gravelle and Rees, 2004, pp. 340-344).

Different types of external shocks such as economic crises can give policy makers incentives and more power to create and implement policies than what would have been the case normally. However, the most common scenario is that politicians try to maximize their political support, which generally is associated with the presumed changes in welfare as a result of different policies. It is common that politicians try to support groups in the society whose welfare is declining compared to other groups. In democracies, in particular democracies with large numbers of farmers, farmers' votes can be very influential. However, in developing countries farmers often lack strong organization, leadership, human and social

³ For further information see the theory of government failure and policies, see for example Gravelle and Rees (2004), pp. 340-344.

capital etc, which results in their interests being poorly represented and, hence, policies tend to have an urban bias or bias towards the landed elite. In developed countries on the other hand, farmers usually have created very strong organizations which have considerable impact on the policy making (World Bank, 2008, p. 43).

2.2 Why Agricultural Policy?

Some policies are more politically acceptable and politically effective due to imperfect information on welfare effects than other policies that would be better from an economic point of view. However, due to the nature of politicians' preferences and objectives, the former type is usually the one chosen. An example of this is price support measures. Feeding its population has always been an important issue for governments in developing countries and stable domestic prices and self-sufficiency in the most important staple crops have been essential. In Asia for example, self-sufficiency in rice production has been considered critical for both economic and social reasons as well as for political reasons. However, achieving self-sufficiency through price support measures is politically more feasible than direct income transfers and therefore price support has been the favoured measure (World Bank, 2008, p. 44).

According to Krueger et al. (1991), there three main reasons are used to justify interventions such as direct and indirect taxation of agriculture. Firstly, in countries where the formal sector is small or the institutional capacity of collection of other taxes is low, taxing trade in agricultural products is relatively easy. Secondly, since agriculture is quite insensitive to incentives, fixing prices of agricultural products at low levels in urban areas does not result in a large reduction in agricultural output. The third reason is that primary products' terms of trade appear to be declining over time. However, this quite negative view of the prospects for the agricultural sector has been reassessed to some extent (Krueger et al. 1991, p. 3).

Binswanger and Deininger (1997) argue that the short run supply response of output in the agricultural sector is much more inelastic compared to other sectors and hence it has been easier for policymakers to implement discriminating policies in agriculture. However, in the long run agriculture is highly elastic and therefore policies have a large impact. Thus, getting the policies right is crucial for the development of the agricultural sector (Binswanger and Deininger, 1997, p. 1969).

The World Bank concludes in its World Development Report 2008 *Agriculture for Development* that depending on how far a country has reached in its development, different types of challenges are prevailing. For the transforming countries to which Thailand belongs and which are characterised as countries in which agriculture no longer is a main contributor to the GDP but where poverty is mostly rural, the problems cannot be solved through protection or subsidies. Instead, it argues that:

“Addressing income disparities in transforming countries requires a comprehensive approach that pursues multiple pathways out of poverty – shifting to high value agriculture, decentralizing nonfarm economic activity to rural areas, and providing assistance to help move people out of agriculture.” (World Bank, 2008, p. 2)

2.3 Types of Policies

Rural areas and agriculture are characterized by heterogeneity and this requires different types of policies. Policies have to be tailored to correspond to the specific conditions and needs within the sector or group of people that constitute the target. Amongst the toughest policy dilemmas is balancing attention between different groups given specific resource constraints.

The types of agricultural policies that first come into mind are the different types of direct measures available to governments that want to intervene in the agricultural sector. Measures such as government procurement, export quotas and direct taxation of exports, which are all direct and sector-specific, have the effect that they keep the prices received by producers of agricultural output lower than they would have been in equilibrium without distortions and interventions. However, there are also different types of measures that aim at benefiting producers of agricultural products. Quantitative restrictions and import tariffs have been commonly used to protect the domestic production of import-competing commodities. Many countries also provide subsidies to farmers in forms of low interest loans, credits, and critical inputs such as fertilizers, high quality seeds and pesticides etc (Krueger et al. 1991, p. 1). Subsidizing private goods such as fertilizers and credit has often been the basis of agricultural spending. This spending is regarded as “...overall substantially less productive than investments in core public goods such as agricultural research, rural infrastructure, education, and health.” (World Bank, 2008, p. 41)

Other types of interventions that have been commonly used in agricultural markets in developing countries are dual pricing systems in which producers have received high prices while consumers have been charged low prices, and the governments have paid the difference. Subsidies to poor urban consumers have also been given in the form of price ceilings etc. However, these types of policies have faced many problems, both administrative and economic.

Direct agricultural policies are created to have a specific effect, but there are policies that are created and implemented in other areas of the economy that also affect the agricultural sector. In international trade theory a policy that implements protection for a specific sector will at the same time impose a tax on other sectors of the economy. Policies concerning industrial protection are one such example, and macroeconomic policies are another. These types of policies affect the agricultural sector in the sense that they distort the production incentives by rendering agriculture "...more or less attractive than other sectors of the economy." (Krueger et al. 1991, p. 1) There are various effects of policies that indirectly affect agriculture. For example, industrial protection causes the real exchange rate to appreciate, which works as a tax on the agricultural sector. Industrial protection also obliges producers of agricultural commodities to pay a price above the world market price for inputs, and it also causes farmers to have reduced purchasing power of manufactures. Further, macroeconomic policies have caused incomes from exports and import-competing products to lose purchasing power. Thus, it is clear that not only direct agricultural policies but the general economic policies in a country indirectly affect the agricultural sector profoundly (Krueger et al. 1991, p. 2).

2.4 Effects

Due to disparities within agriculture and the rural areas, policies are likely to have both losers and winners. Studies of the effects of different types of policies in developing countries, conducted for the World Bank, show that one of the most common effects is that agriculture's share of gross domestic product decreases and that the growth of production and export of agricultural products slow down. When interventions have required a lot of administrative work, both producers and traders have tried to avoid the costs of the interventions, and hence illegal activities have increased (Krueger et al. 1991, p. 2).

Other findings showed that even though farmers benefited from the direct policies, the net effect of direct and indirect policies tended to be negative, thus taxing the producers of

agricultural products. A negative effect has also been seen on the incentives to invest and implement new technology and techniques, causing out migration and reducing investments in agriculture (Kruger et al. 1991, p. 3).

In developing countries, it is common that farmers demand subsidies and protection since they are lagging behind the non-agricultural sectors of the economy. This creates a policy dilemma since these countries are subject to fiscal constraints and the opportunity costs of subsidies are reduced investments in "...public goods for growth and social services in rural areas." (World Bank, 2008, p. 8)

The effects of different policies on output, government spending and balance of payments are often hard to predict and the policies do not always attain the expected reactions from different groups affected by the policies.

3. Price Patterns on the World Rice Market

Trade in rice has always been very limited; only a small percentage of the total world production has been sold on the world market. In 2007 only around seven percent of total production was traded on the market. The large rice economies, especially the Asian countries, have had policies of self-sufficiency in rice, hence only turning to the world market in times of deficiency. As a result of the limited trade, the world market prices have been fluctuating. After the Green Revolution⁴ there was a large increase in rice supply and prices decreased and became more stable. However, at the end of 2007 prices started to increase sharply. This section will describe the historic development in rice prices and try to explain the reasons for the recent price increases.

3.1 Price Development 1960-2008

At the beginning of the 2000s, world rice prices reached their lowest level since the 1960s. Rice started to show fluctuating but slowly increasing prices in 2001 and this continued until the end of 2007. Since October 2007, rice prices have increased dramatically. The export price of the commonly traded Thai rice 5 percent broken, free on board (FOB) in \$US per ton, increased from 329.2 in October 2007 to 907 in April 2008. The fob price of Thai premium white rice reached 950 \$US at the end of April after which it levelled out until the end of May when the price started to decline. In July 2008 the premium white rice declined to around \$US 800 fob and prices have kept on declining every month (Prasertsi, 2008, p. 2).

Looking at rice price data from the beginning of the 1960s, two different periods can be seen. Between the early 1960s until the beginning of the 1980s, rice prices were highly fluctuating, with peaks in 1967, 1974 and 1981 with prices of 971, 1418 and 728 \$US per ton respectively. In 1971 and 1979 rice prices dipped, decreasing to 520 and 555 \$US per ton respectively. Since the beginning of the 1980s until recently, prices have been relatively stable and low.

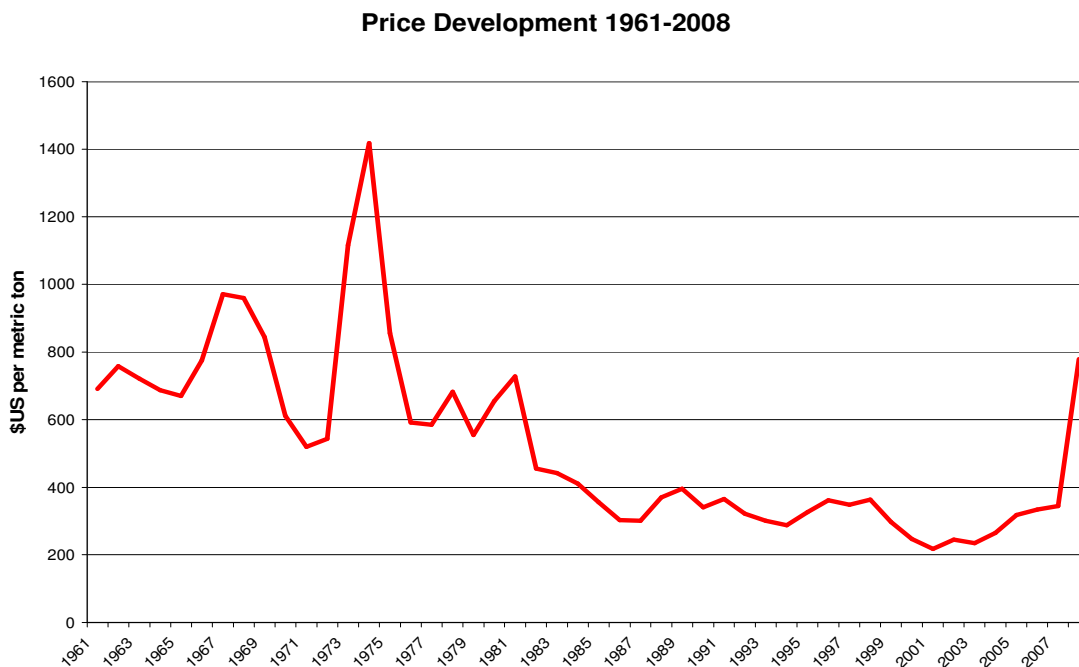
There are several reasons for the price fluctuations in the past. A very limited trade in rice with few large exporters made the supply to the world market sensitive to the development of individual exporters' domestic markets. A production shortage due to crop failures could cause the world prices to rise. On the demand side of the market, production

⁴ The Green Revolution refers to the development within rice research and production that started in Asia in the early 1960s and then spread throughout the rice producing countries. For further information about the Green Revolution see for example www.irri.org or Pingali et al. (1997).

changes in large consuming countries have also had a large impact on the world prices. When large consumers, such as Indonesia, have had an unexpectedly high demand for rice from the world market due to domestic production shortages, world prices have increased. Other reasons for the price fluctuations were the two oil shocks which caused the prices of many commodities to rise (Wailes, 2005, p. 177).

In the early 1980s the results of the Green Revolution could be seen and Vietnam entered the export market (Ryan, 2002, p. 1). In the following years Vietnam and other exporting countries increased their exports and more countries engaged in the production, consumption and international trade of rice. The increased trade and number of actors on the market had a positive impact on the world market on which prices declined and became relatively stable until they started to increase again in the early 2000s (Braun and Soledad Bos, 2005, p. 14). At the beginning of the 21st century the demand for rice started to increase faster than the supply. Many countries in Sub-Saharan Africa and the Middle East, which are not traditional rice consuming countries, increased their rice imports substantially.

Figure 1: World market prices for Thai rice 1960-2008



Source: Prices 1961-2007 from IRRI World Rice Statistics and prices for 2008 from the World Bank Pink Sheet

The graph above displays the price of Thai rice 5 percent broken (fob) between 1961 and 2008 (average price Jan-Aug). Seen in this longer perspective, prices today have not

increased to historically extraordinary levels but they are still much higher than they have been for the past 30 years.

3.2 Reasons for the Increasing Prices

According to Dr. Randy Barker (2008), the Consultant and Acting Head at the Social Sciences Division at the International Rice Research Institute (IRRI), there are three reasons for the recent price increases. First of all, there is an imbalance between the supply and demand of rice. Secondly, prices of other commodities have increased as well, which has influenced the price of rice. The third reason is speculation by people involved in the rice production and trade. There is another factor that has to be mentioned, namely the depreciation of the US dollar which partly can explain the increased prices (Pandey, 2008, p. 36)

3.2.1 Supply and Demand

In the 1960s and 1970s there were concerns about food security in Asia due to shortfalls in grain production at the same time as the population kept increasing. The release of the IR8⁵ and the Green Revolution resulted in large investments in irrigation and increased farming area. The increased rice production that followed this development led to a surplus of rice and low and fairly stable prices in the 1980s.

The surplus production and low prices, which were sustained until the beginning of the 2000s, have now disappeared due to the fact that increases in production have been outpaced by the increase in consumption. The decade between 1997 and 2007 witnessed a production growth rate of 0.75 percent whilst consumption grew at 0.94 percent. In order for countries to supply people with rice, rice stocks in the major stock holding countries were sold out. This trend has been reversed since the start of the price increase at the end of 2007 (Barker 2008, p. 15).

There are several underlying factors to the slow increase of supply of rice. In the 1970s large sums were invested in public agricultural R&D, especially in Latin America and Asia and investments increased for every year. Due to the large rice surpluses of the 1980s, there was a slowdown in agricultural investments. Increases in investment expenditure are much lower today and developed countries are on average even decreasing their investments

⁵ A new high-yielding and stronger rice variety developed by the IRRI in order to increase world production of rice so as to prevent a food crisis, especially in Asia.

in R&D. The lack of investments in research and development and rural infrastructure has resulted in a stagnation of rice yields. In the past decade, the Asian annual yield growth rate has been 0.61 percent but countries such as China, which is the largest rice producer in the world, and Myanmar have experienced decreasing rates lately (Barker, 2008, pp. 18-21).

There are also other underlying factors on the supply side. The rise in energy prices has led to a cost-price squeeze making it more difficult for farmers to be competitive and to make profits. There is also an increased pressure on different resources used in the production. Most countries are facing a water shortage which is a severe problem for rice farming since it is the most water-requiring grain crop. Countries such as Thailand that used to have an abundant water supply are now facing scarcity of surface water and increased water usage in the Northern region has resulted in a reduced inflow of water to the Central region, which is a large rice producing region (Poapongsakorn et al. 1998, p. 2). There are also pressures on land and labour. In Thailand, there is a shortage of labour in the rural areas during the main rice planting season since many young people have migrated to the cities and due to increased school enrolment (Poapongsakorn et al. 1998, p. 3). Other constraints to rice production are pressures on agricultural diversification and transformation, which are causing farmers to change crops. According to Baker (2008) there are also climate changes due to global warming affecting the rice production, at least in the short term.

In addition to the supply side factors there are also demand side factors behind the increased gap between world supply and demand. World population growth results in more people that have to be fed every year and thus increased consumption. Much of the increased consumption is in areas where there is not enough rice production to meet the regional demand, which has led to increased trade. Southeast Asia, Sub-Saharan Africa and the Middle East are the three regions in which rice imports have increased the most since the 1990s and even though there have been large increases in rice production in Sub-Saharan Africa and the Middle East, consumption has clearly outpaced production.

3.2.2 Increasing Commodity Prices

The increasing rice prices also depend on the increase of other commodity prices and increased prices of other food crops. Prices of corn, soya and wheat have all increased sharply in the past year. According to data from Bloomberg, FAO, and Jackson Son & Co., prices of corn, rice, soya and wheat increased by 31, 74, 87 and 130 percent respectively between March 2007 and March 2008. Prices of urea and fuel have increased sharply (Barker, 2008, p. 26), and the price of rice seeds and fertilizers has increased by almost 100

percent during the past year, all affecting the cost of production and therefore also the price of rice (Reuters 2008-04-20).

3.2.3 Speculation

Speculation and the behaviour of actors involved in the rice production and trade affect the rice prices. Due to production shortages and increased dependence on imports, many countries have changed their rice policies and regulations. The Philippines, which is one of the largest rice importers in the world, have abolished their import tax on rice but are using a domestic price stabilisation policy that have hindered domestic prices from increasing at the same pace as world prices. Philippine domestic prices of rice at all levels in the marketing system and prices of urea have only increased by 17-24 percent since 2006, while the price of Thai rice 5 percent broken has increased by over two hundred percent. Large exporting countries have also changed their behaviour due to the price increases and food security concerns. India and Vietnam, amongst others, have introduced export restrictions which further put restraints on the world market supply of rice (Barker, 2008, p. 30). Rice traders also speculate on rice prices, causing the prices to increase and to fluctuate. At the end of June 2008, Forbes reported on declining rice futures due to falling prices in Asia and due to reports that American rice growers' plan to increase the planted area (Forbes 2008-06-25). However, the recent price increases of rice are not only due to speculation by private actors, but also by different governments.

According to Hanke (2008), governments worldwide responded to the increasing rice prices by increasing their stockholdings. These speculations have resulted in a supply and demand shock which have spurred the price increase further (Forbes 2008-06-25). Evidence that supports this argument is that prices have declined since the end of May. According to a USDA report by Ponnarong Prasertsri, Thai rice prices have declined as a result of a deceleration in export orders due to importers waiting for cheaper rice from producers such as Vietnam, which this year has experienced a large expansion of planted area (Prasertsri, 2008, p. 2).

4. Rice in Thailand – Historical Aspects

Since the middle of the 19th century Thailand has been one of the largest rice exporters in the world. With a suitable climate, abundant land resources, long tradition of rice farming and a sensible domestic rice policy, Thailand has managed to retain its position as the world's leading rice exporter. Even though Thailand only produced around 4.4 percent of the total world production, which amounted to 627 million tons of paddy rice or 421 million tons of milled rice in 2007, Thai exports constituted some 30 percent of world exports. This is in sharp contrast to, for example, Vietnam and India, which constitute 5.5 and 22 percent of total production but only 17 and 11 percent respectively of total exports.⁶ In the following section, country characteristics and rice production in Thailand is described, followed by the history of the rice industry and the development of rice policies.

4.1 Country Characteristics

Thailand is a medium size country situated in Southeast Asia and shares borders with four other countries; Laos in the northeast, Cambodia in the east, Malaysia in the south and Burma in the west to northwest. Thailand also borders towards two seas; the Gulf of Thailand and South China Sea in the east and the Andaman Sea and Indian Ocean in west. The climate is warm subhumid tropics and classified as AGEZ 2 (agroecological zone 2) (IRRI, 2000).

Independent of income, rice is the main staple food for the whole population but consumption of rice tends to decrease as incomes increase. Agriculture, forestry and fishing constitute around 10 percent of total GDP with a decreasing share. In 2005 agricultural exports amounted to 16 percent of total exports and agriculture employed some 40 percent of the population in 2006 (WTO, 2006, p. 105). Thailand has a population of 65.1 million people of which 16.2 million, or 3.7 million households, are rice farmers (IRRI, 2006). Thus, around 26.5 percent of the total population is involved in rice farming and the majority of the population lives in rural areas. According to the World Bank, Thailand is classified as a transforming country; characterised by declining importance of agriculture in GDP, very fast growing non-agricultural sectors, and high rural poverty. In Thailand there has been a large decrease in poverty in the past decades but most of it has occurred in urban areas. Between

⁶ For further rice production and export data etc see for example USDA 2007, IRRI World Rice Statistics or NSO.

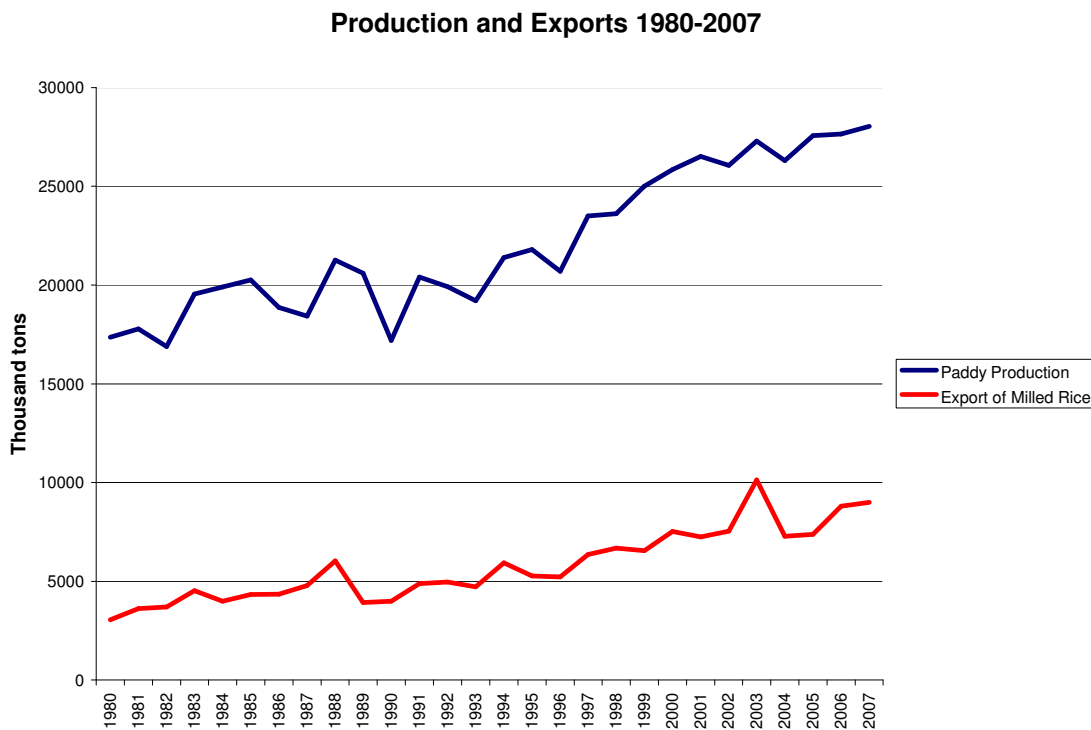
1970 and 1999, poverty in urban areas declined 3.7 times faster than in the rural areas (World Bank, 2008, p. 36).

4.2 Rice in Thailand

The total cultivated area in Thailand amounts to 20,900 thousand hectares of which around half is devoted to rice farming. From the end of the 1960s until the early 1980s, land devoted to rice farming expanded rapidly due to the progress achieved with the Green Revolution and the efforts to increase rice production. Production increased from 12.4 million tons to 21.2 million tons of paddy during the revolution's first two decades (IRRI, 2000). In 2006 the total production of paddy rice was 29.5 million tons and, according to USDA, Thailand produced around 18.4 million tons of milled rice in 2007. Of the total milled rice, around 9 million tons were exported, making Thailand the largest exporter of rice in the world with a market share of around 30 percent calculated from all varieties and qualities together. Around 50 percent of the Thai exports are high quality long grain rice, which receives the highest price on the market (Vanichanont, 2004, p. 4). Thailand has been able to increase its exports almost yearly, as a result of a combination of increased production as well as a decrease in domestic per capita consumption (IRRI, 2000).

Figure 2 below shows the production of paddy rice and exports of milled rice in Thailand 1980-2007. The data used in the figure come from IRRI World Rice Statistics but is originally collected by USDA. There are a few different data bases with production and trade data, and usually the amounts of rice cited are slightly different. The rice data from USDA show overall smaller quantities than other data bases such as FAO but have the longest time series.

Figure 2: Thailand's production of paddy rice and exports of milled rice 1980-2007.



Source: IRRI World Rice Statistics

The average yield in 2006 was around 2.9 tons per hectare which is low compared to the world average of 4.1 and the Asian average of 4.2 tons per hectare (IRRI, 2007). A reason for this low yield is that Thailand mainly produces traditional low-yielding but high quality types of rice that acquire a higher world market price than the modern high-yielding varieties produced in many other countries. But even in Thailand, farmers are slowly changing the production towards new varieties and hybrid varieties, especially suitable for dry season farming. The main rice growing season, the wet season, stretches from June to August with harvesting in October to January. The second season, the dry season, stretches from February to April with harvesting taking place in April to June (Wiboonpongse and Chaovanapoonphol, 2001, pp. 190-191).

The low yield is also due to Thailand's low percentage of irrigated farming area; most of the farming area is rainfed lowland (IRRI, 2000). In 2006, only around 15 percent of the total rice farming area was irrigated while 77 percent was rainfed lowland. Flood prone areas constitute only 5 percent and upland around 3 percent of the total rice area (IRRI, 2006).

Thailand is divided into four regions; north, northeast, central and south. All the regions have different rice farming environments. The largest rice producing area is the northeast region in which the most famous rice variety, jasmine rice, is grown.⁷ One third of Thailand's total area and around fifty percent of the total rice farming area are located in this region. It is also the most densely populated region. Farms in this region are predominantly family farms with small land holdings, producing mostly for their own needs. In cases of production surplus, rice is sold to the domestic market or to rice exporters. Rice is grown on the less favourable and more risky rainfed lowlands, with only one crop per year due to lack of irrigation. Only 20 percent of Thailand's irrigated areas are located in this region, and less than ten percent of the land is planted with rice in the dry season.

In the central and northern regions, farms are commercialised to a much larger extent. Farm holdings are on average three times larger than in the northeast and production surpluses are larger. Rice is grown in more favourable environments with irrigated areas in the central plains and along the large Chao Phraya River, yielding more than one crop per year. One fifth of the wet season rice and almost 75 percent of the dry season rice is grown in the central region. Farms in the central region use high technology and are mechanized to a large extent. In addition to the large rice production, the central region is also home to a large share of the industry in Thailand which causes labour shortages in the rice peak seasons (IRRI, 2000).

In the northern region, rice is grown in upland areas or on terraces and lowland valleys where there is abundant water. This region has almost one third of Thailand's total land area and around 20 percent of the total rice farming area. Farms in this region are also mechanized to a much larger extent compared to the northeast region (IRRI, 2000).

The southern region has only a small rice production. The environment is less suited for rice farming and in total only 14 percent of the total land area and six percent of the total rice area are located in the southern region. Due to this, local shortages of rice are common (IRRI, 2000).

4.3 History of the Rice Industry and Rice Policy

Agriculture and agricultural policy play an important role in the economy, especially for developing countries. A requirement for industrial development is a well functioning agricultural sector that can provide food at low and stable prices and labour to the industrial

⁷ The jasmine rice is called Hom Mali in Thai

sector. Agriculture can also earn foreign exchange and help in financing the industrial development and help create markets and stimulate demand for the products of the manufacturing sector (Rock, 2002, p. 485).

Traditionally the rice industry has had an important role in the Thai economy and rice still constitutes a rather large share of the GDP. Rice is the main staple food and involves all consumers independent of income; however, for many poor consumers rice is very important since it is the cheapest staple food (Vanichanont, 2004, p. 2). The rice industry employs a large share of the population and the majority of all farmers. Further, the rice industry has contributed to government revenues and rice exports contribute to foreign exchange earnings. In 2004, rice was exported to a value of around 1900 million US dollars (Vanichanont, 2004, p. 2). Due to the above facts, rice policy has been very important for the government and received a lot of attention from economists who have been analyzing the impacts from various policies (Wiboonpongse and Chaovanapoonphol, 2001, p. 193). Since Thailand has been a net agricultural exporter, the policies have been governed by this fact (Warr and Khopaiboon, 2007, p. 1). With the rapid industrialization in the past decades, the importance of the rice industry has been declining steadily. This decline has been followed by a shift in rice taxation policy; from a policy that collected high taxes from rice exporters in order to finance the industrialisation and which was largely paid for by farmers, to a policy that favours the rice farmers (Choeun et al. 2006, p. 104).

4.3.1 Early Rice Policies – 1850s until the Second World War

In the mid-1850s Thailand signed a treaty with Great Britain and adopted a free trade system that lasted until the Second World War. The result was a great increase in demand for rice from the western countries, which led to large public investments in infrastructure such as roads and canal constructions along the Chao Phraya River delta so that the large areas of uncultivated land could be turned into rice farming areas⁸ (Siamwalla and Setboonsarng, 1991, p. 238).

Due to these investments, Thailand could produce enough rice to increase and sustain large rice exports and develop into a large rice economy. At this time, rice constituted more than 60 percent of Thailand's total exports and around 30 percent of the total world rice exports (Siamwalla and Setboonsarng 1991, p. 239).

⁸ The expansion of cultivated land and the increase of cultivated land per worker in the agricultural sector lasted until the late 1970s.

4.3.2 Rice Policies from the 1950s

The government interventions in the rice sector started after the Second World War when a rice export monopoly was created. In 1954 the government abandoned the monopoly and private exports were allowed, but subject to several taxes and regulations. The long history of export orientation of the agricultural sector made it possible for the Thai government to implement effective and straightforward rice policies. The aim was to stabilize prices, keep them low for consumers and to extract revenues. During the period 1950-1986, four instruments for intervention and taxation of exports were used. They all had different foundations and were controlled by different departments but all the revenues accrued to the government. Together these instruments resulted in an export taxation rate around 40 percent from the end of the 1950s until the beginning of the 1970s (Warr and Khopaiboon 2007, p. 7).

From the 1950s until the 1970s, the Thai government used the high export taxes to extract revenues that could be used to industrialize the country and subsidize the urban citizens. The subsidy was made possible by introducing a “rice reserve requirement” which forced all exporters to grant the Ministry of Commerce rice at prices under the market price (Siamwalla and Setboonsarng 1991, p. 239). Since agriculture was not seen as a dynamic sector, it was also thought that agriculture would not lead to growth of the economy. The price elasticity of agricultural products was low, at least in the short run, and this made it possible to tax the agricultural production. Farmers in general, and rice farmers in particular, were poor, uneducated and lacked organization, which also made taxing agriculture attractive from a political point of view (Warr and Khopaiboon, 2007, p. 2).

The effects of the tax called the “rice premium”, together with other interventions resulted in more stable domestic prices which at the time was the goal of the rice price policies. However, another effect of the rice premium was that farmers had to carry most of the burden of the tax; hence they received much lower prices than would have been the case without the tax (Wiboonpongse and Chaovanapoonphol, 2001, p. 194).

The interventions also resulted in lower exports and since Thailand was a large country on the rice market, a higher world market price. This was achieved by the government by restricting the quantity of rice that was allowed to be exported in order to “... limit competition among exporters as a strategy for cartelizing the trade and thus for extracting additional monopoly profits from foreign buyers.” (Siamwalla and Setboonsarng, 1991 p. 240) The extra profits from these limited exports mostly benefited the exporters themselves. Prices were profoundly affected in the domestic market. However, consumer

prices and the farm gate prices were only slightly affected. Instead it was the retail shops that received most of the profits from the cheap rice program, and the millers who acquired the profits from the producer price support program. From a political point of view the interventions were very important.

4.3.3 Policies in the 1970s – The Phase out Period

The period that followed the 1970s is characterized as a phase out period in which there was a sharp break with earlier rice tax policies and rice taxes were lowered. Even though the rate of export taxation increased to around 60 percent during the commodity price boom 1972-1974, it declined rapidly afterwards to around 20 percent⁹ (Warr and Khopaiboon, 2007, p. 7). In 1974 the Farmers' Aid Fund Act was created. The Act stated that the revenue from the rice premium should accrue to an aid fund for the farmers. In this way, the government taxed the farmers and used the revenues to help the same farmers. Since the revenues no longer accrued to the Ministry of Commerce, the rice premium was no longer as attractive and instead the rice reserve requirement became the preferred intervention.

Another important change in the 1970s was that policies shifted from being pro consumer towards benefiting producers. The cheap rice program was slowly reduced in both amount and quality and was abandoned at the beginning of the 1980s. At the same time the support prices for farmers were gradually increased. The main purpose of the support program was to redirect profits from the export tax to the millers. The rice millers had substantial influence over politics since they were financiers of political campaigns and also in control over key votes. Since millers often worked as agents for the government in rice procurements, they were able to acquire a rather large share of the benefits of the program (Siamwalla and Setboonsarng, 1991, pp. 240-243).

4.3.4 Free Trade Orientation

At the beginning of the 1980s the Thai government changed its rice policy to be more free trade oriented. In 1982, Thailand signed the GATT agreement which played a role in liberalizing the rice policies (Kajisa and Akiyama, 2003, p. 7). In 1986 the rice premium was abolished and export subsidies were introduced as a result of the downward trend in world food prices and the increasing income disparities between rural and urban areas (Chouen et

⁹ Except during the second OPEC oil price shock in 1979-1980 when the tax rate increased to around 40 percent, all four export taxes gradually declined from the mid-1970s until they were all abolished in 1986.

al. 2006, pp. 105-108). Overall, the 1980s was a decade devoted to liberalizing the rice policy; the Thai government more or less withdrew from the domestic market and let the world market determine the domestic rice prices. However, some interventions and support were still provided in the form of indirect measures which the farmers themselves could choose whether to use or not (Kajisa and Akiyama, 2003, pp. 14-15). Until the mid-1990s, the result of all interventions and policies concerning rice was a net taxation of rice production (Warr and Khopiaboon, 2007, p. 17).

The post-1980s liberalization of rice policies in Thailand was largely due to political considerations. Thailand had experienced rapid urbanization and urban incomes were increasing much faster than the rural incomes. The poverty disparities between rural and urban areas were increasing. The political climate in Thailand was also changing with more democratic institutions evolving (Warr and Khopaiboon, 2007, p. 3).

Since the mid-1980s policies such as mechanization of rice farms have been emphasised. Areas that are not the best suited for rice farming have become targets for diversifying crops and crop substitution. Sustainable farming such as crop rotation and organic farming has also been promoted (IRRI, 2000).

4.4 Thailand's Rice Policy in the 21st Century

Rice policies and strategies to develop the rice sector in Thailand are developed by the Ministry of Agriculture and Cooperatives together with the Ministry of Commerce. Before presenting the strategies for the Cabinet where they get approved, the National Rice Policy Committee has to take the policies and strategies under consideration.

Between 2007 and 2011, six strategies for sustainable development are to be implemented. The strategies concern different aspects of the domestic rice sector and include production and rice farmers' development as well as product development and marketing. Marketing overseas are also included together with strategies for value creation and logistics development. The most controversial of the strategies is the one concerning rice price stabilization (BOT, 2007).

Even though the government withdrew from the domestic rice market in the 1980s it has again become very much engaged in the rice market. The Thaksin Shinawatra government that came into power in 2001 introduced a rice price guarantee policy that has largely undermined the market mechanism. The minimum price guarantee policy functions as a mortgage program in which the farmers can get low interest loans from the government

“...against the pledge of rice, with the pledged rice canceling the debt if rice prices do not meet a target.” (World Bank 2008, p. 36) In this way, farmers can sell their paddy rice to government agencies and also be able to buy back their paddy within 90 days at a three percent interest rate. The program is run by the Bank of Agriculture and Agricultural Cooperatives (BAAC) and supervised by the Ministry of Finance (Prasertsri, 2008, p. 2). Since the guaranteed price is set much higher than the market price, the policy has resulted in large rice procurements by the government. During the main harvest period in late 2005 to early 2006, the government built up a stock of more than five million metric tons (Reuters 2006-02-23). By the end of August 2008, the government had accumulated 2.82 million metric tons in stocks.

The government both exports rice on a government to government basis and provides forms of export subsidies. The mortgage program has become very costly for the government and each time the program is run large sums are spent. After suspending the program for almost two years the Samak government reintroduced it. The regime gained power after the election following the military coup in 2006.

The mortgage program was launched with an intervention price of 10 000 bath per ton for the first harvest of 2008. In June 2008, the government decided to launch the program for the second harvest as well pledge a price of 14 000 baht per ton. The cost of this program was estimated at around 35 million baht and up to 2.5 million tons of paddy rice were to be bought before the end of the program on the 30th of September (The Nation 2008-06-10).

4.5 Conclusions

The most important influence on rice policies in Thailand has been the export orientation of the agricultural sector. This has limited the scope for intervention and the measures available to the government.

A few different trends can be distinguished in the development of rice policies. In the early period of intervention, the government taxed the agricultural sector heavily, especially the rice sector, since it was politically feasible. It was a way to gather revenues to industrialize the country without too much opposition. The farmers, who constituted the majority of the population and implied a large taxation base, had low political influence due to their lack of education and organization.

As the country became industrialized and urban incomes rose, income disparities between urban and rural areas increased. Farmers became more aware of the effects of the

policies and also better organized. This forced the government to change their policies towards being more producer oriented. By introducing the price support, the government increased income for the farmers but they also gained support from the millers who benefited largely from the price support and constituted an important political vote bloc. The abolishing of the rice premium and other export taxes also increased Thailand's international status. Since Thailand became a member of GATT at this time, this could have influenced the policy decisions.

The introduction of the mortgage program in the 21st century could also be explained by politicians' agenda to gain votes by increasing the income of the farmers who still constituted the majority of the population. There is however another important development that most surely played a role in the policy making and that is the price development in the world market. As could be seen in Figure 1, the world market prices for rice reached extremely low levels at the beginning of the 2000s. Since the price development at that time had been following a more or less stable and slowly decreasing trend for about 20 years, the government might have decided to intervene by increasing the prices for farmers. When prices started to increase the program was only used occasionally but it was ready for use whenever the government wanted to.

5. The Marketing System and Effects of Price Policies

The rice marketing system in Thailand has a complex structure with many intermediaries and different systems for different types of rice. Both the government and private operators act in the system that roughly can be divided into two different levels; one for paddy rice and one for milled rice.

5.1 Marketing System for Paddy

The marketing system for paddy rice can be divided into two levels; local and central. Compared to other countries, Thailand's marketing system is rather efficient with only about one month's storage between harvests and wholesale. The short storage time is made possible by the Thai rice policies that allow international trade to play an essential role in the Thai rice economy. Due to the short storage time, seasons do not affect farm gate prices to a great extent and marketing costs are reduced (Dawe et al. 2008, p. 459).

There are five actors at the local level in the marketing system; the farmers, local traders, brokers, farmers' organisations and government agencies. Some of the farmers sell their rice directly to the millers however, since most farmers are small and do not own trucks, local buyers collect paddy rice from farmers or local markets and transport it to the mills where they sell it. The local buyers are usually a village shop owner or sometimes also a farmer. The ones that frequently collect rice of different varieties and qualities usually contract medium and larger millers since they know where to buy rice of specific types (Wiboonpongse and Chaovanapoonphol, 200, p. 195).

There are two types of farmers' organisations at the local level. The first one is the Farmers Group which is a legal unit of at least 30 farmers that act together to increase their bargaining power on the market. The Farmers Groups work together in marketing activities, hiring and acquiring of facilities etc., and they sometimes organize and operate transports, equipment and storage. They may also perform financial transactions. The Farmers Groups sell their paddy directly to traders or millers.

The second form of organisation is the agricultural cooperative which collects paddy from its members and transports it to larger cooperatives and millers. Some of the cooperatives mill the rice for members and sell it to the market. Only a very few agricultural cooperatives are specialized in milling and marketing of rice (Wiboonpongse and Chaovanapoonphol, 2001, p. 195).

The Thai government also operates at the local level in the rice marketing system. The government has agents that buy rice directly from the farmers at a guaranteed minimum price which is usually above the market price. In 1996 the government agencies were buying around 4.4 percent of all rice sold by farmers, and in recent years this number has increased due to the mortgage program which has made it more attractive for farmers to sell to the government agencies.

Brokers and commission agents act at all levels of the rice marketing system but their percentage at the local level is rather small. The brokers' main purpose is to create market connections between millers and exporters or wholesalers and help wholesalers and exporters to find rice of specific varieties and qualities. Almost all millers use brokers in order to find rice in the quantities and qualities that the exporters and wholesalers want; only a few large millers sell directly to exporters and wholesalers. At the local level, brokers procure rice from the farmers and sell either to millers or to local traders (Wiboonpongse and Chaovanapoonphol, 2001, p. 196). The role of private traders has been reduced due to the introduction of central wholesale markets (Dawe et al. 2008, p. 257).

In main production areas there are central paddy markets set up by government agencies or by the private sector. The privately owned central markets backed by the Ministry of Commerce function as a meeting place for assemblers, traders and millers. Depending on the size of the market place, different services and facilities are provided. Usually the market place provides labour, drying lawns for the rice, gauges to control moisture, storerooms and sometimes also loans. The owners of the market places earn profits from these services and facilities, but do not usually get involved in the rice trade (Wiboonpongse and Chaovanapoonphol, 2001, pp. 196-197).

The market centres set up by the government are managed by two different ministries and functions as government procurement centres. According to the study done by Wiboonpongse and Chaovanapoonphol (2001), there are 176 sub district paddy centres run by the Department of Agricultural Extension, Ministry of Agriculture and Agricultural Cooperatives. The centres provide similar facilities and services to the privately owned market centres; drying lawns, warehouses and weighing equipment etc. The BAAC have three market places, one in each major producing region; north, northeast and central (Wiboonpongse and Chaovanapoonphol, 2001, p. 196).

The introduction of the wholesale paddy markets made the marketing system in Thailand more effective. Due to the markets and the agents working to find the right types of rice, the search costs in Thailand are kept low compared to other countries. Despite the

markets proven benefits, it is believed that the current government policy concerning rice is reducing the importance of the wholesale markets (Dawe et al. 2008, p. 456).

5.2 Marketing System for Milled Rice

From the local and central levels, all the paddy rice has to pass through a miller, which is where the main processing activity takes place, before it can be sold further. There are small, medium and large millers of which the small millers serve farmers and villages for which they mill for consumption. Medium sized and large millers mill for local, regional and sometimes also export markets (Wiboonpongse and Chaovanapoonphol, 2001, p. 201). In the past years small and medium sized millers have had increased difficulties staying competitive and the number of mills has been steadily decreasing. In 2007, there were many thousands of mills scattered around the country but only around 900 were large. One problem is that many of the mills, especially the smaller and medium sized ones, employ inefficient technology. Larger millers have upgraded their technology for both production and packing and many of them have received standards such as Good Manufacturing Practises (GMP), International Organization for Standardization (ISO) and Hazard Analysis and Critical Control Points (HACCP) during the past decade (Vanichanont, 2004, p. 4). Due to the financial system in Thailand, that can provide low interest loans, there is opportunity for expansion of existing mills and entrance for new ones, which is competitiveness enhancing. Compared to countries like the Philippines though, mills in Thailand are more efficient (Dawe et al. 2008, p. 457).

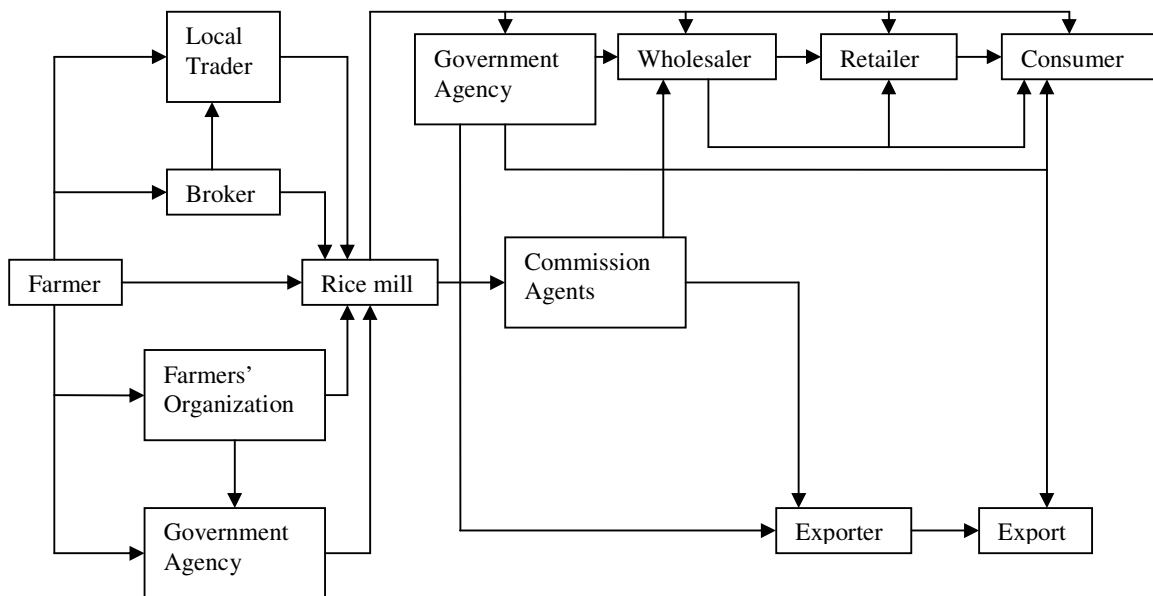
From the millers, rice can take different paths before it reaches its final destination. The largest share of milled rice is bought by commission agents who help exporters and wholesalers to find the right qualities and varieties of rice. There are more than 100 exporting companies in Thailand and they are a very strong sector in the rice industry (Vanichanont, 2004, p. 4). Due to the mortgage programme, the government has increased its procurements of rice and therefore also its exports. In 2007 the rice exports by the government increased to around one million tons, which was around twelve percent of total exports for that year (BOT, 2007).

Government agencies also buy a substantial share of rice from millers. The government agencies then sell the rice to wholesalers who sell it on to retailers and finally to consumers. Some rice is sold directly from the millers to exporters or even to foreign importers, but only the really large millers sell directly. In the same manner millers

sometimes sell directly to wholesalers, retailers or even consumers, but only a small percentage of the rice is sold in this way (Wiboonpongse and Chaovanapoonphol, 2001, pp. 198-200).

As explained above, the rice marketing system might not seem so complicated. However, there is a large number of paths that rice can take among the different actors. What makes the marketing system even more complicated is that different types of rice have slightly different marketing systems. Figure 3 below shows the marketing system for rice in general and is based on a map by Wiboonpongse and Chaovanapoonphol (2001)¹⁰.

Figure 3: Marketing System for Rice



Source: Wiboonpongse and Chaovanapoonphol (2001), p. 198

5.3 Price Determination and Price Transmission

Economic theory states that if there are many buyers and sellers of a good, monopoly is constrained. If the market system is efficient, there will also be efficient prices and the

¹⁰ Since the study by Wiboonpongse and Chaovanapoonphol (2001), the price policy has affected the marketing system and therefore the percentages of purchases stated in the study are not replicated here.

government will abstain from price fixing and there will be an efficient allocation in the production of goods (Lindblom 2001, pp. 140-146).

The prices of agricultural products are usually determined in the retail markets from which the prices are transmitted to the producers (farm gate prices). Before the Thaksin Shinawatra government introduced the mortgage program for rice, it was found that the paddy prices in Thailand at the beginning of the 2000s were determined by a combination of local demand for and supply of rice as well as the demand from regions suffering from scarcity and demand for exports (Wiboonpongse and Chaovanapoonphol, 2001). According to a study by Siamwalla et al. (1981) local demand and supply were the most important factors in determining the price since around 67 percent of all rice produced was consumed in the same area at the time of the study. However, this is likely to have changed over time and is also likely to be different in different regions since the supply and demand patterns are different. Further influences on the prices, mentioned in the study by Wiboonpongse and Chaovanapoonphol, (2001) even if not to a large extent, were government intervention.

In the aforementioned study, high competitiveness in the rice sector is assumed since a large number of commission agents were active in the trade and there were a large number of sellers and buyers. The large size of the domestic rice trade also provided competition. Further, the actors in the paddy market system indicated that they were price takers. Millers and other actors with storage capacity can choose to sell their rice at times when prices are high, which most farmers can not do. It was found that all intermediaries were using the method of mark-down pricing i.e. that the expected selling price minus costs and a certain profit would constitute the buying price (Wiboonpongse and Chaovanapoonphol, 2001, p. 202).

Further, prices were found to be transmitted both backward and forward between different levels in the marketing system in both the short run and the long run but the market was found to be more efficient in the short run. Later studies of the marketing system in Thailand also conclude that the system is efficient and that since Thailand is very open to trade in rice, the domestic prices are largely dictated by the world market prices and the exchange rates to some extent (Dawe et al. 2008).

5.4 The Mortgage Program Effects on Rice Prices and the Market

As mentioned above in the policy section, the Taksin Shinawatra government introduced a rice price policy that would guarantee farmers a certain minimum price for their paddy.

When the price policy was introduced by the Samak government, the arguments for the mortgage program were to increase rice prices for Thai farmers so as to increase their living standards and most importantly to prevent price fluctuations around the time for harvest. Even though prices have increased sharply since the end of 2007, the Thai government still implements the mortgage program. After stopping the program after the first crop, in June 2008, the government decided to continue the program for the second crop of 2008. The program started on the 15th of June and run until the 30th of September. The government argued that implementing the program also for the second crop was necessary in order to increase the supply of rice, increase exports and increase their stockpiles (PRD 2008-08-05).

For the second crop in 2008, the guaranteed price for white paddy of a specific quality was set at 14,000 baht per ton which was around 20 percent higher than the market price¹¹ at the time of the decision making and it was the highest pledging price ever. According to Ponnarong Prasertsri (2008) the implementation of the mortgage program for the second crop could influence domestic as well as export prices to increase again because the intervention price is usually used as the point of reference for market prices. An intervention price of 14,000 baht per ton of white high quality rice could result in a recovery of export prices to at least \$US 900 per metric ton. However, since the price peak in April prices have been declining and there has not yet been a recovery. By August the price of white Thai rice five percent broken had declined to 693.5 \$US per metric ton (Prasertsri 2008, p. 2).

One of the more instantaneous effects of the high pledging price was a suspension of purchases from exporters and millers since they considered the price to be too high. Rice millers also considered the requirements for the mortgage program to be unclear and too high to join. They also lacked access to the large amounts of credit required (The Nation 2008-06-16).

Another effect was an immediate decrease of export orders when importing countries decided to wait for the Vietnamese harvest since Vietnamese rice is much cheaper. The president of the Rice Exporters Association Mr Chookiat Ophaswongse has been highly critical and argues that the continuation of the program, especially after the world market prices have declined, will damage the Thai rice market in both the short run and the long run. A factor further contributing negatively to the situation is that the Thai export volume is

¹¹ The fob export price of Thai white rice, five percent broken were in June (average) 757 \$US/ton which was roughly around 22700 baht.

expected to decrease due to the increase of the world supply, in turn the result of an increased production worldwide due to the high prices (The Nation 2008-06-10).

Due to guaranteed prices high above the market prices government stocks have been building up. In August 2008, the stocks amounted up to 2.82 million tons of which most is five percent broken white rice. The Thai government announced that it planned to sell out some of the intervention stock as exports to make room for new mortgage procurements.

According to the Dean of the Economic Faculty of Thammasat University Mr. Nipon Poapongsakorn, the policy will only be useful to the farmers in the short run. In the long run it will have a largely negative impact. As a result of the policy the farmers are discouraged from concentrating on the quality of their rice and on increasing their productivity (Poapongsakorn 2007). When a government fixes prices, the efficiency of allocation in production is harmed. If the market system is efficient it accomplishes capital creation, technological innovation and entrepreneurs. This results in efficiency and growth. An efficient market system motivates all participants in the market (Lindblom 2001, pp. 140-146).

The National Rice Policy Committee argued that due to increasing production costs, the government had to continue with the mortgage program after being pressured by farmers who had to borrow money in order to plant their rice (Reuters 2008-04-20). However, planting costs were found to be less than 7000 baht per ton in June 2008 (The Nation 2008-06-10). Even though huge sums are spent on the mortgage program, it has been found that the farmers are not benefiting fully from the program (BOT 2007). Hence, the main targets for the mortgage program are not able to fully reap the benefits from it. Another problem has been the corruption that has followed due to the fact that government officials with lack of knowledge have been involved in the rice procurement instead of private actors. There have also been reports of mishandling and bad organization in some provinces (The Nation 2008-06-16).

5.5 Discussion

Before the minimum price policy was introduced, the study by Wiboonpongse and Chaovanapoonphol (2001) concluded that the Thai rice market was well integrated and that the marketing system was effective. However, the minimum price policy has reversed the integration of the market and disrupted the market forces since prices are fixed, thus not reflecting supply and demand. Disrupting the market forces will have effects on capital

creation, technological innovation and the motivation of entrepreneurs and other participants in the market.

The Thai government's decision to implement the mortgage program for both the first and the second crop of 2008, at the pledging price of 10,000 and 14,000 baht per ton respectively, must be considered with the price development in the world markets of different commodities in mind. The prices of various staple crops had been skyrocketing since the end of the previous year, and the costs of inputs for farmers such as oil and fertilizers had also become very expensive. Many farmers had to borrow money to buy inputs and due to the sharp increases in the prices for rice, many farmers also borrowed money in order to be able to plant a second crop in 2008.

Other factors influencing the policy decisions by the government are their goals for the rice sector and political support maximization. Since farmers still constitute a very large share of the population and the majority of the poor, and they have become better educated and well organized, their political influence is large. As a result of these factors, the government reached the conclusions that implementing the mortgage program at the specified pledging prices was the right policy decision.

World prices of rice started to decline at the end of April and after the implementation on the 15th of June, world prices declined even more. Instead of having a pledging price around 20 percent higher than the market price, the pledging price was much higher than that at the end of the program. This shows how difficult it is to predict not only the effects of a policy but also how the economic environment in which the policy will be implemented can change, changing the premises on which the policy is built. This is one of the main criticisms against interventions and distorting policies. Due to this fact, it is very important to construct sound policies that do not create major distortions and that can be reassessed and altered when needed.

It is extremely difficult to predict what will happen in the world market for specific commodities. For a limited market such as the rice market, where the development in individual countries can have substantial effects, it is even more difficult to predict the future development. The rice market is also special because of the major impact rice prices have socially, economically and politically in many countries in the world, especially the Asian countries. This makes the governments more sensitive to the development in the world market. This was proven when the rice prices started to increase at the end of 2007 and many governments acted quickly by limiting exports or eliminating import taxes etc. The Thai

government also acted by reintroducing the mortgage program and increasing the pledging price so as to increase the rice supply and the exports.

The price policy, which aims at supporting the poor farmers and guarantees them a higher price, was implemented during a time when the world market prices were higher than they had been in almost 30 years. And the program for the second crop was implemented when world prices started to decline. There are two possible explanations for this. Either the Thai government failed to predict the development on the world rice market and presumed that the declining prices were only temporary, or they chose to implement the program anyway in order to help farmers who had borrowed money to grow a second crop and who might have had problems paying back their debts if prices had declined too much. By doing this, the government gained more support in the countryside. Since the government is relatively new and there has been political turmoil for about the past two and half years, the Samak government might have valued farmers support higher than the mortgage programs' large financing costs.

Even if political objectives were the main influence on the policy decision, it is still difficult to understand from an economic point of view. What makes the government's policy decision surprising is that several studies of agricultural policies, whereof the World Bank's *World Development Report 2008* is one of the latest, clearly state that subsidies and protection will not help farmers to improve their situations in the long term. Accredited Thai economists such as Mr. Nipon Poapongsakorn have clearly criticized the policy and yet the government decided to implement it. If the policy makes the farmers' situation worse in the long run it will become a problem for the governments to come. Thus, implementing the policy is a sign of short term political thinking.

Not only has the minimum price policy been criticized by economists at the World Bank and Thai economists, but also by key persons within the rice trade. The mortgage program has had a negative impact on the Thai rice market in the sense that the functioning of the market mechanism has been distorted. The pledged prices have resulted in distortions in production and caused problems for the trade. Rice importing countries postponed their imports in order to await cheaper rice from other producer countries, which has harmed the Thai exporters. 2008 might be the first year in a long time in which the Thai export volume of rice decreased compared to previous years, instead of the increase which was expected in the beginning of the year. Thai rice millers have also expressed their discontent with the policy due to high requirements to join the program and unclear rules for participation. As for

the farmers, they have criticized the way the program has been organized in some areas where there have been problems with the implementation of the program.

In the short run farmers might gain from the higher prices since they enhance their profits, but in the long run they might have more to lose if the higher prices destroy their incentives to decrease costs and increase efficiency. Without enhancing efficiency and reducing costs, they will rapidly lose competitiveness on the world market and therefore face difficulties when the mortgage program is not in use.

As a result of the mortgage program the Thai rice market, which used to be well functioning and well integrated, has been damaged and is now not functioning in an economically sound way. The Thai rice sector has lost some of its competitiveness in the world market.

6. Conclusions

Countries formulate agricultural policies depending on the orientation of their agricultural sector or design specific policies for different agricultural commodities and what the market looks like. It is common that developing countries tax their agricultural sectors since it is feasible, and revenues from the tax are used to develop industries and support poor urban workers. On the other hand, in developed countries agriculture only represents a very small part of the economy and is usually subject to extensive protection. Getting the policies right is crucial for the development of the agricultural sector, for the development of rural areas and for the incomes of the rural population. But designing efficient policies is very difficult and the effects of policies are often not known or impossible to predict in advance. The economic environment in which they are implemented can also change, further making policy decisions more difficult. Due to different agendas and capacity, politicians might not construct the best policies from an economic point of view, but rather from a political point of view.

Looking at the development of rice policies, especially price policies, in Thailand several things are discovered. Since Thailand's agricultural sector always has been export oriented, the economy has been very open to international trade and the development in the world rice market. Policies have aimed at stabilizing domestic prices and have been altered during the years according to the development in the world market. The export orientation of the rice sector has had a large impact on the types of policies available for the politicians.

The developments of the Thai economy and the Thai rice sector have been even more influential on the policy decisions. As the country has industrialized and the economy has developed, the rice sector has had a diminishing share of GDP and the share of population involved in rice production have decreased. Simultaneously the rural population has become better educated, their political awareness has increased and they have become better organized. With the industrialization, the urban incomes have increased rapidly and the income of the rural areas has lagged behind and, thus, income disparities have increased. These developments have profoundly influenced the policy making. Starting with policies that heavily taxed producers, benefited consumers and the urban population, the policy changed slowly. By the end of the 20th century, Thailand's rice policy had become very neutral. At the beginning of the 21st century the policy evolved into markedly favouring producers when the mortgage program was introduced. Until this point, the domestic rice

policies in Thailand had been very sensible and not very distorting. However, the reintroduction of the mortgage program for the first and second crops in 2008, at very high pledging prices caused a lot of damage to the domestic rice industry. The reasons for introducing the policy must mainly been political and not economical. The peculiar political situation in Thailand might have triggered the new government to launch the program to secure support from the farmers, this while arguing that the policy had to be put in place for economic reasons. But judging from the reactions from economists and people involved in the rice trade and the situation in the world rice market, the economic rationale for introducing the policy at this time was very weak. The short term results of the policy have been a slowdown in exports, high domestic prices and large government expenditure. The domestic market has been harmed and integration has been reversed because the mortgage program distorted the market forces. In the long run the program will have more far reaching negative consequences if it distorts the incentives for farmers to enhance productivity and decrease costs. If the market forces are allowed to be distorted for a longer period, it can also destroy capital creation, technological innovation and motivation for all participants in the market. This affects the growth and the efficiency. The Thai rice sector might lose more of its competitiveness which has already been damaged due to the high prices of Thai rice compared to, for example, Vietnamese rice.

Since the mortgage program for the second crop has just finished, the full effects of it will not be known until later. An evaluation of the program and its effects is necessary and the government should revise its policy, especially the level of the pledging price.

References

- Binswanger, Hans P. and Klaus Deininger (1997). Explaining Agricultural and Agrarian Policies in Developing Countries. *Journal of Economic Literature* Dec 1997 35(4):1958-2005
- Braun, Joachim von; Soledad Bos, Maria (2005). The Changing Economics and politics of Rice: Implications for Food Security, Globalization and environmental sustainability. *Rice is Life: Scientific Perspectives for the 21st Century* 2005 International Research Institute
- Choeun, Hong; Yoshihisa Godo; Yujiro Hayami (2006). The Economics and Politics of Rice Export Taxation in Thailand: A Historical Simulation Analysis, 1950-1985. *Journal of Asian Economics* 17: 103-125
- Dawe, David C.; Piedad F. Moya; Cheryll B. Casiwan and Jesusa M. Cabling (2008). Rice Marketing Systems in the Philippines and Thailand: Do Large Numbers of Competitive Traders Ensure Good Performance? *Food Policy* 33:455-463
- de Gorter, Harry and Johan Swinnen (2002). *Political Economy of Agricultural Policy*. In Bruce Gardner and Raussier Gordon (eds.), *Handbook of Agricultural Economics*. Amsterdam: Elsevier.
- Gravelle, Hugh and Ray Rees (2004). *Microeconomics*. 3rd Edition, Pearson Education, Prentice Hall, Financial Times
- Kajisa, Kei; Takamasa Akiyama (2003). *The Evolution of Rice Price Policies over Four Decades: Thailand, Indonesia and the Philippines*. Foundation for Advanced Studies on International Development, Tokyo, Japan.
- Krueger, Anne O; Maurice Schiff and Alberto Valdés (1991). *The Political Economy of Agricultural Pricing Policy*. The International Bank for Reconstruction and Development/ The World Bank. The John Hopkins University Press
- Lindblom, Charles E. (2001). *The Market System: What It Is, How It Works, and What To Make Of It*. Yale University Press
- Pandey, Sushil (2008). The True Price of Rice: Rising Rice Prices Will Negate Progress in Poverty Reduction. *Rice Facts, Rice Today Jan-March 2008*. International Rice Research Institute.

- Pingali, P.L; Hossain, M; and Gerpacio R.V (1997). *Asian Rice Bowls: The Returning Crisis?* 1997 CAB International in association with The International Rice Research Institute
- Poapongsakorn, Nipon; Martin Ruhs and Sumana Tangjitwisuth (1998). *Problems and Outlook of Agriculture in Thailand*. TDRI Quarterly Review 13(2): 3-14.
- Poapongsakorn, Nipon (2007). Missed Opportunities: Thai Exporters Became Addicted to a Low Bath. 2007 Mid-Year Economic Report, *Bangkok Post*.
- Prasertsi, Ponnarong (2008). Thailand: Grain and Feed. Rice Intervention Program Returns Amid High Market Prices. *USDA Foreign Agricultural Service, Gain report No. TH8087*
- Rock, Michael T (2002). Exploring the Impact of Selective Interventions in Agriculture on the Growth of Manufactures in Indonesia, Malaysia, and Thailand. *Journal of International Development* 14(4): 485-510
- Ryan, Jim (2002). Assessing the Impact of Food Policy Research: Rice Trade Policies in Viet Nam. 2002 *Food Policy Journal*
- Siamwalla, A.; C. Pinthong, and W. Tosanguan (1981). Price and Marketing Policies for Agricultural Commodities. Research Reported to National Economics and Social Development Board
- Siamwalla, Ammar and Suthad Setboonsarng (1991). *Thailand*. In Anne O Krueger; Maurice Schiff and Alberto Valdés (eds.) *The Political Economy of Agricultural Pricing Policy*. The International Bank for Reconstruction and Development/ The World Bank. The John Hopkins University Press
- Vanichanont, Pramote (2004). Thai Rice: Sustainable Life for Rice Growers. FAO Rice Conference, Rome, Italy 12-13 February 2004
- Wailles, Eric J (2005). *Global Agricultural Trade and Developing Countries*. Rice: Global Trade, Protectionist Policies, and the Impact of Trade Liberalization 2005 The International Bank for Reconstruction and Development/ the World Bank
- Warr, Peter and Achanun Kohpaiboon (2007). *Distortions to Agricultural Incentives in a Food Exporting Country: Thailand*. Australian National University, Canberra, Australia and Thammasat University, Bangkok, Thailand
- Wiboonpongse, Aree; Yaovarate Chaovanapoonphol (2001). *Rice Marketing System in Thailand*. International Symposium, Agribusiness Management towards Strengthening Agricultural Development and Trade: III Agribusiness Research on Marketing and Trade.

World Development Report 2008. *Agriculture for Development*. The International Bank for Reconstruction and Development / The World Bank. Quebecor World

Unpublished Resources

www.bot.th.org:

Bank of Thailand (BOT) (2007). Strategies for Thai Rice Development. Press Release, Bank of Thailand.

www.irri.org:

Barker, Randy (2008). Reflections and Projections. Thursday Seminar presented at the IRRI, 24 April 2008. (Power point presentation)

IRRI (2000). Information by Country: *Thailand*. IRRI □ Science Online □ Rice Around the World □ Information by Country □ Thailand

IRRI (2006). Country Report 2006: Thailand. International Rice Research Institute

IRRI (2007). World Rice Statistics. IRRI □ Science Online □ Rice around the World □ World Rice Statistics □ Rice Production, Area and Yield □ Rough Rice Yield by Area and Region

www.wto.org:

WTO (2006). Thailand Trade Policy Review by Sector. WTO □ Students □ Information by Country □ Thailand □ Trade Policy Review □ Trade Policy Review by Sector

Internet Based Resources

Asia Golden Rice:

Rice Market Report

www.asiagoldenrice.com/news/23-2-06%20Rice%20Mkt%20Review.doc

2006-02-23

Forbes:

<http://www.forbes.com> > Rice Futures Decline on Asian Market Downturn, Associated Press
2008-06-25

[http:// www.forbes.com/hanke](http://www.forbes.com/hanke) > Hanke, Steve H (2008) > *Commodity Snatchers*

2008-06-25

The Government Public Relations Department (PRD):

Thailand remain the world's largest rice exporter

<http://thailand.prd.go.th>

2008-09-03

The Nation (Thailand's Biggest Business Daily):

Thailand Rice Operators Claim Record High Pledging Price Will Hit Market

www.nationmultimedia.com/2008/06/10/national/national_30075124.php

2008-06-10

Farmers upset as rice-pledging scheme stutters

www.nationmultimedia.com/2008/06/16/headlines/index.php

2008-06-16

The National Statistics Office of Thailand (NSO):

www.nso.go.th

Reuters:

As Rice Prices Soar, Farmers Roll Up Their Sleeves

www.reuters.com/article/newsMaps/idUSBKK5250020080420

2008-04-20

United States Department of Agriculture (USDA):

www.usda.gov

The World Bank:

www.worldbank.org