



The Effects of Rice Subsidies in Thailand

Jordan A. Frencft, Stamford International University

Introduction

It was June 2014 and Dr. Chairat Hiranyavasit pondered what he and his team of economic advisors should recommend to General Prayut Chan-o-cha, who had just seized power from the elected prime minister. Dr. Chairat Hiranyavasit and a team of economics professors from across Thailand were commissioned to advise the General what should be done regarding the former administration's price support scheme for rice. The team had also been asked to make recommendations about the future of Thailand's agricultural economic policy.

Dr. Hiranyavasit was the director of the MBA program at the National Institute of Development Administration (NIDA) in Bangkok, Thailand. this government university was regularly called on by the country's leaders for its academic professionals. the university was founded by the King of Thailand after his discussions about economic development of the country with Mr. David Rockefeller in 1963, and employed some of the top talent in the nation. Dr. Hiranyavasit had received his masters and doctoral degrees in business from Georgia State University in the U.S. prior to his appointment at NIDA.

Prime Minister Chan-o-cha, a general in the Thai army, had seized power in May of 2014. The former prime minister was ousted, after less than three years in office, under allegations by the military that their government was spending itself into a hole and that the price support program of 2011, which was buying rice from farmers at 50 percent more than the world price, was inept and hurting the country. the military regime also claimed that the former prime minister was corrupt and aiding her brother overseas, a former billionaire prime minister who had been exiled from the kingdom of Thailand. By late 2013, tens of thousands of rice farmers flooded into the streets of Bangkok seeking promised payments on rice they had sold to the government up to six months previous. In a trend, farmers from across the kingdom began committing suicide, leaving their fields untilled for the first time. the ousted prime minister was arrested by the current government and the military coup was far from bloodless. There were ongoing riots in the streets by citizens, and violent clashes as political party battled political party in the open streets, before the General enforced curfews and martial law, arrested peaceful student protestors and stamped out any open form of objection with an iron fist.

Background (Rice Spike of 2007–2008)

Rice in Thailand was the most important crop in the country, with half of the rural employment in agriculture. Thailand was among the top exporters in the world for rice, alongside India and Vietnam. Other important crops included rubber, sugarcane, and soybeans. the economic sector known as agriculture, forestry, and fishing contributed a total of 8.4 percent of the GDP by 2013.

Thailand was the only nation in Southeast Asia to avoid colonization and the people were fiercely independent as their beloved monarchy protected them for over 800 years. Support for the farming community was rooted in the Thai traditional way of life. Many Thai and foreign tourists traveled to visit the rural areas and experience the village lifestyle, if only for the weekend. the tourism to and movie site selection of rural areas had grown into a major industry for Thailand.

After World War II, Thailand was ordered to export 1.5 million tons of rice to Western countries free of charge as a consequence for allying with Japan and declaring war against the West. thus, the tradition of exporting rice began.

Previous to the policy that was implemented at the end of 2011, under policy introduced by the government in 2006, farmers selling rice to the government received a price that was lower than the world market price. the goal of this policy was to encourage more exports and also improve farmers' 'well-being' with a guaranteed buyer.

Between October 2007 and September 2008, the world price of rice shot up 198 percent. the sudden shock in price was attributed to sluggish production output and rising oil prices that had caused chemical fertilizer prices to increase sharply. the price for rice began to rise and spiraled upwards once the governments of the largest rice producing countries ordered supply of their domestic rice be kept for local consumption and not be exported abroad. this was done in an effort to keep the price of rice affordable for their own citizens. Thailand's government, however, did not restrict the exports of rice. With the skyrocketing world price, many Thai farmers hoarded the rice so that they could sell later at a higher price. the government also initiated a rice paddy pledging program that would give loans to farms that wanted to delay the sale of their crop on a forward contract. the objective of this policy was to support the price and increase farm incomes. Because the farmers were allowed to export rice out of the country at the high world market prices, supply of domestically produced rice increased and the farmers were able to take the higher profits and increase their production capacity for future seasons as well as improve their infrastructure. In contrast, countries that had export quotas reduced profits and production capabilities of their farmers.

Comparative Advantage in Rice

While Thailand had very limited capital resources and skilled labor, it had extensive wetland areas, a relatively large rural population, and a factor abundance of low-skilled workers. Roughly 49 percent of the labor force was employed in agriculture.

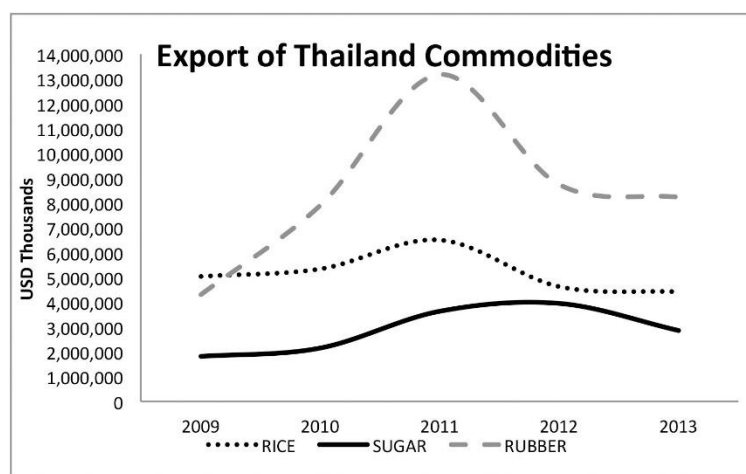
The years following 2011, Thai rice exports decreased as farmers sold domestically to the government for higher prices. **Exhibit 1** details the portion of rice relative to all commodities exported from Thailand and the world for the years 2011 to 2014. Of the rice exported, 44.66 percent was produced by five large corporations: Asia Golden Rice (16.5 percent); Capital Rice Group (13.51 percent); C.P. International (6.33 percent); Thanasan Group (4.48 percent); and Riceland International (3.84 percent). the remainder of the market mostly came from tens of thousands of small, family run farms.

Exhibit 1: Thai and World Exports for Rice and Total for All Commodities

EXPORTS				
Year	Thai Rice (\$)	World Rice (\$)	Thai All Commodities (\$)	World All Commodities (\$)
2011	6,507,473,000	24,048,687,000	228,823,973,000	18,057,459,396,000
2012	4,632,270,000	23,768,216,000	229,544,513,000	18,091,532,775,000
2013	4,420,370,000	25,440,992,000	228,527,440,000	18,552,445,385,000
2014	5,438,804,000	24,884,710,000	227,572,764,000	18,659,321,760,000

Data: UN Comtrade.

Rubber and sugar were also farmed commodities that benefited from Thailand's endowments. In 2011, a large increase in the production of rubber in Thailand was met with a dramatic drop in world prices and protests by the farmers. the spike in demand for rubber in 2011 and then the subsequent drop in world price can be seen in **Exhibit 2**. the government had set up low tariff agreements with China, Australia, and New Zealand to help increase rubber exports and offer financial incentives to replace trees older than thirty years to boost output. In 2012 the government began paying 5 THB (\$1:34THB) per kg more than the world market price in an effort to offset the falling prices in rubber. Sugarcane exports had been increasing from 2010 to 2012 due to a high sucrose content of the crop that increased the quality. In 2011, the EU allowed 200,000 tons of sugar to be imported duty-free from Thailand, and Russia selected Thailand as their sugar importer over Brazil. the bump in sugar demand from 2010 to 2012 can be seen in Exhibit 2. the government also supported projects that allowed sugarcane to be used to make ethanol, an alternative source of fuel for cars in Thailand.

Exhibit 2: Export of Thailand Commodities

Data: UN Comtrade.

The Price Support Program

I earn more and have higher savings thanks to the program.

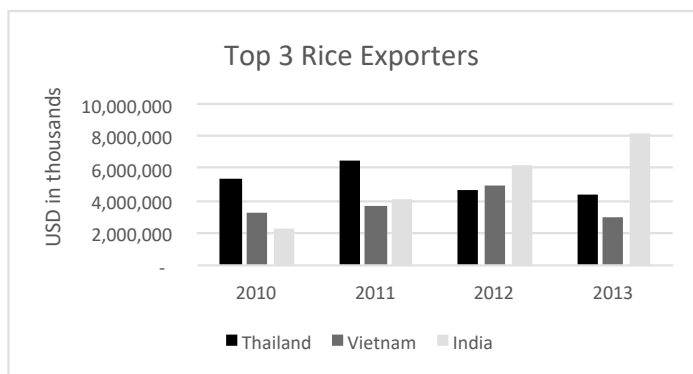
Mr. Groom To-Chai, age 67, Thai Farmer, April 2013

Mr. Groom To-Chai and farmers like him faced volatile agriculture prices. From the time they planted to the time their produce was ready for sale, the market price may have changed dramatically. In addition to price risk, other challenges farmers faced were the chance for floods, water-shortages, insects, a highly perishable inventory, and expensive GMO seeds and fertilizers that were sold to them by overseas companies. the rice provided by the local farmer was a necessity to sustain life and the "family farm" was a cultural heritage within Thailand's traditional way of life.

the assumption of the price support system that was implemented in 2011 was that the government would be able to manipulate the world price of rice. the plan was to buy the rice from domestic farmers at a price that was 50 percent higher than the then current world market price. the government planned to stockpile the rice, thus reducing the global supply, to later export the rice when prices had gone up.

What had actually happened in the wake of high government prices, was that farmers stretched to increase output. Thailand found itself hoarding unprecedented amounts of rice in an attempt to keep prices high. India and Vietnam, however, were able to fill the supply gap that Thailand left in the market from their scheme. India previously had a stockpile of rice of their own, from restricting rice exports ever since the rice spike of 2007, and farmers in Vietnam and India quickly adapted to fill the global market demand.

Exhibit 3: Top Three Rice Exporters in the World



Source: UN Comtrade.

The first year of the program the Thai government purchased 21,476,354 tons at an expense of 336.1 billion THB (~\$9.8 billion) and sold 4 million tons for 57.7 billion THB (~\$1.6 billion) in revenue. In reducing the government stockpiles all of the sales were always to foreign governments. the paddy rice that had been purchased by the Thai government was unmilled and thus 40 percent of the weight was waste and not usable for resale. In addition to the payments to the farmers, the government had other variable expenses, such as transportation, storage, and administration of the stockpiled rice. For the first year those other costs amounted to 25,119 million THB. Of the total amount of rice purchased, 100,000 tons had disappeared and could not be accounted for in the government's granaries (see **Exhibit 6**). the remaining transactions under the former government are in **Exhibit 4** and an abbreviated timeline of the purchases and sales by the government are in **Exhibit 5**.

During the first three years of the program that the government bought rice, the average yearly prices the farmers could have received from private companies were 12,776 THB (~\$375) (2011), 13,287 THB (~\$390) (2012), and 13,148 THB (~\$386) (2013). By mid-2014, the military regime had a quote from China to buy upwards of 100,000 tons for a discounted price of 10,096 THB per ton (~\$297).

Exhibit 4: Rice Program Purchases, Sales, and Other Costs

Rice Program (2011-2014, under former government) (As of February 2014)			
	2011/2012	2012/2013	2013/2014
Paddy Rice (ton)	21,476,354	22,476,596	10,796,154
Rice Cost (THB)	336,069,000,000	353,156,000,000	181,249,000,000
Other Costs (THB)	25,119,000,000	26,289,000,000	12,628,000,000
Gov Rice Sold (ton)	4,000,000	5,500,000	4,500,000
Sales Revenue (THB)	57,743,000,000	70,617,000,000	51,750,000,000

Exhibit 5: Timeline of Thai Government Purchases and Sales (See Text for Non-Rounded Data)

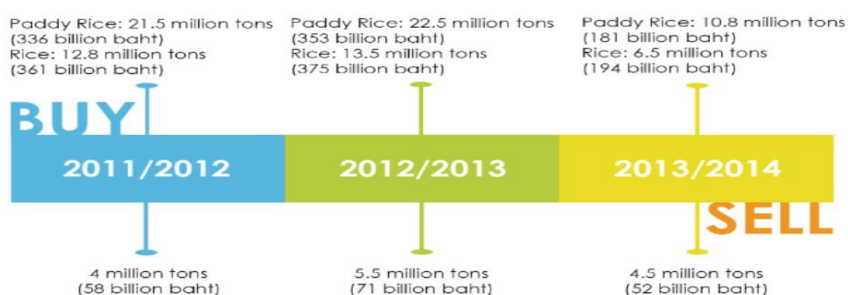
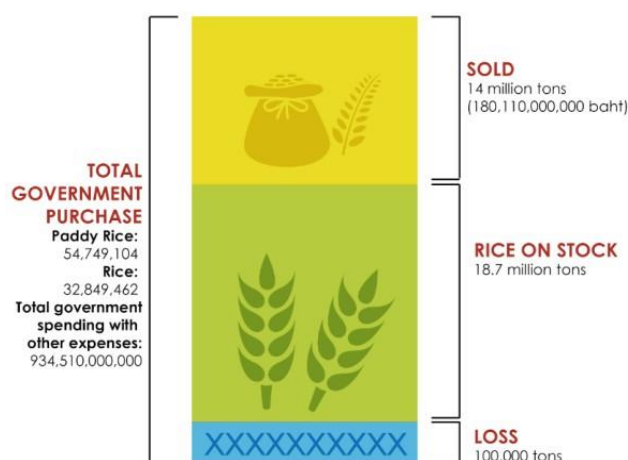


Exhibit 6: Government Granary of Rice (See Text for Non-Rounded Data)



Environment (Water and Land Usage)

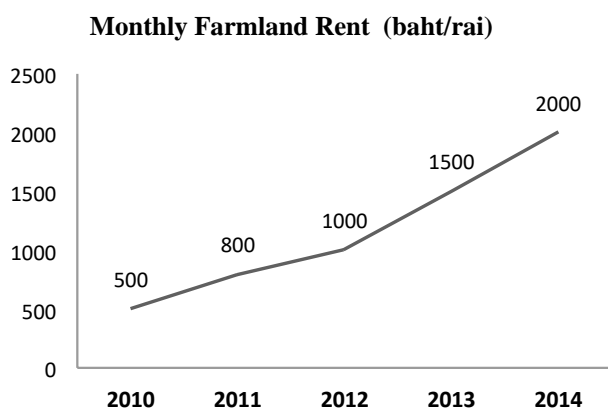
Rice was an extremely water intensive crop compared to other crops in Thailand. Due to the subsidies, farmers had significant incentive to expand production to areas outside of the normal irrigation zones. this required more water than was available to keep the land wet and many of the farmers failed to efficiently produce crops in these areas. Further, as farmland perimeters expanded, the water run off onto non-planted soils increasingly became a problem. Water resources in Thailand were scarce and the country was faced with continuous water shortages. As the residential and industrial water demands increased with the growing economy, farmers had to compete for the limited supply and that supply became increasingly more polluted. the increased pollutants in the water decreased the growth rate and quality of the rice produced. Synthetic fertilizers were used to increase capacity, which led to water and soil pollution.

The government put in place a policy of rising marginal costs. the water fee per unit increased as the amount used by the farmer also increased. It followed a progressive fee structure where the user paid a higher per unit price as they reached a higher usage level tier. the per unit prices scaled from 17.00 THB for the first 10 m³ up to 32.50 THB for each m³ used greater than 3,000 m³ during the period of one month.

There were two annual harvests per year and the rainy season required 600 m³ of water per rai whereas the hot season required 990 m³ of water per rai. Once the new rice scheme was introduced, the land area used for harvesting jumped from 10,667,000 rai to 11,000,000 rai (one rai equals 1,600 sq m³ or 0.395 acre).

the increased land usage had adverse impacts on the soil and caused deforestation. Also, most of the farmland was not owned by farmers, but instead 76 percent was owned by landlords. As can be seen from Exhibit 7, the rent from low-income farmers, those who could not afford their own land, had quadrupled in four years. From 2010 to 2014 the rate in which the land changed in sales price increased by 24.3 percent, from 3.7 percent to 4.6 percent growth.

Exhibit 7: Monthly Farmland Rent Cost



The Recommendation

Dr. Hiranyavasit now needed to decide what he and his team would advise the General to do for Thailand's future. They needed a policy that could be implemented by the end of 2014. the former prime minister was accused of launching the price support program in large part to win over the farming community and party votes for the 2011 election. Dr. Hiranyavasit knew that even though the General was not elected, he still needed to maintain good relations with the populous. Farmers tended to be politically powerful from the setup of the electoral voting system which evenly distributed voting representatives across low population rural areas and the heavily populated districts. the agricultural sector was also quite powerful with their own lobbyists and ministry department, and many of the political elites had their own interests in agricultural investments and secluded estate properties.

Would he advise the General continue on with the program created by the over-thrown prime minister and keep buying rice at above world market price? Or would he break the previous prime minister's promise, that was also the primary reason used for why the military took control over the government, and stop the subsidy program from continuing? He knew that alternative methods existed for aiding farmers and needed to also consider the benefits, such as national security and national pride, for price supports. Finally, he needed to weigh the affects any type of support would have on producers and consumers, in addition to any social, environmental, and international costs.

Conversions:

Average exchange rate for the period: 34 THB : 1 USD (THB = Thai baht ฿)
1 rai of land = 1,600 sq meters = 0.395 acre
1 unit of water = 1 m³
