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AGRICULTURAL POLICY ANALYSIS PROJECT, PHASE II

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Under contract to the Agency for International Development, Bureau for Science and Technology, Office of Agriculture
Project Office Hampden Square, 4800 Montgomery Lane, Suite 500, Bethesda, MD 20814 • Telephone (301) 913-0500
Telex: 312636 • Fax: (301) 652-7530 • Fax: (301) 652-7791

DEMAND MANAGEMENT OF THAILAND'S FOOD SYSTEM

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**Author: Martin Abel, Abel, Daft and Earley
Thomas Earley, Abel, Daft and Earley**

Prime Contractor: Abt Associates Inc., 55 Wheeler Street, Cambridge, MA 02138 • (617) 492-7100

**Subcontractors: Harvard Institute for International Development, Harvard University, One Eliot Street, Cambridge, MA 02138 • (617) 495-2164
Food Research Institute, Stanford University, Stanford, CA 94305-6084 • (415) 723-3941
North Carolina State University, Department of Economics and Business, Box 7645, Raleigh, NC 27695-7645 • (919) 737-7187
Abel, Daft & Earley, 1410 King Street, Alexandria, VA 22314 • (703) 739-9090
International Science and Technology Institute, 1129 20th Street, NW, Suite 800, Washington, D.C. 20036 • (202) 785-0831
International Food Policy Research Institute, 1776 Massachusetts Avenue, NW, Washington, D.C. 20036 • (202) 862-5600**

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ABSTRACT

Demand management has been defined as the complex of price, marketing trade, and macroeconomic policies that a government uses to influence food supply and demand, food prices, and patterns of food consumption.

Except for rice and sugar, there has been little direct government intervention in food markets in Thailand. The major reasons for a lack of intervention are an abundant food supply and a heavy reliance on exports of food and agricultural products.

In rice, government interventions aimed at keeping consumer prices low and maximizing returns from exports. But beginning in the 1980s, the government began to withdraw from active participation in the rice market. Its decisions were driven by increased political power of rice farmers, rice declining in importance in the diet, and rice becoming less important in total exports.

In the case of sugar, demand management took the form of charging domestic consumers a high price, in order to stimulate production and finance exports without using direct government subsidies.

EXECUTIVE SUMMARY

Thailand is a developing country that has employed demand management to only a limited extent in food and agriculture. With the exception of rice and sugar, there has been little direct government intervention in markets for food commodities.

One reason for this state of affairs is that Thailand has been blessed with abundant food supplies and the threat of food shortages and hunger has never been very real. As a consequence, there have not been strong political pressures for the government to overtly manage food demand, except for rice and sugar.

Another reason is that Thailand has had a long history of being a food and agricultural exporter. This background has made the government reluctant to intervene in agricultural markets for fear of disrupting the country's comparative advantage in exports and aborting the flow of benefits derived from dynamic export performance.

Rice has been the major foodstuff and is one commodity where demand management has historically been important, although even in this case the government began to withdraw from market interventions in the early 1980s. The policy mix followed aimed both at keeping consumer rice prices low and at managing exports in ways that were perceived to maximize export earnings and to finance the government. But over time, these interventions have almost totally disappeared as farmers gained more political power and demanded a fairer price for rice, rice declined in relative importance in the consumer diet, and rice became a less important source of foreign exchange and government financing as the agricultural sector and the whole economy grew and diversified.

In the case of sugar, policies evolved to stimulate production and exports without direct government subsidies. The approach taken was almost the reverse of that for rice with consumers being taxed in order to finance exports and provide an attractive return to producers and millers. The political importance of producers and millers has loomed large in this history.

While Thailand has been successful in achieving export growth for both rice and sugar, the paths for getting there were quite different historically with rice producers being penalized and consumers being favored until the 1980s, with the reverse having been the case in sugar. But policy directions for both these commodities began to converge in the 1980s as rice policy shifted in favor of producers.

Demand management for other foods has been modest at best or non-existent. Production and consumption have been driven primarily by domestic and world market considerations, not by government policies.

1. INTRODUCTION

Demand management has been defined as the complex of price, marketing, trade, and macroeconomic policies that a government uses to influence food supply and demand, food prices, and patterns of food consumption. In many developing countries, government interventions in the food sector designed to balance competing policy objectives play important roles in either promoting or retarding agricultural growth and diversification.¹

This paper examines various forms of demand management used by Thailand over the past few decades. Unlike many other developing countries, Thailand has been a net food exporter. As such, it has not had to worry about physical shortages of food, and food security per se has not been of overriding concern. Yet as a food exporter, food prices in Thailand have been or potentially were influenced by wide fluctuations in world prices, and protecting domestic consumers against extreme fluctuations has been a concern of the government and has resulted in policy interventions in the food system. However, these interventions have declined over time, and particularly in the 1980s, as agricultural production and food consumption increased and became more diversified, consumer incomes increased, and there was a growing realization that Thailand has a comparative advantage in producing a wide range of agricultural and food products and the country could benefit from a more open economy.²

The changing nature of Thailand's agricultural production, consumption and trade are reviewed and the role of demand management policies in this changing environment are discussed. In the process we shall see how the country evolved from being one in which rice was the primary food crop to one whose agricultural production, consumption, and trade have grown rapidly and become highly diversified.

2. OVERVIEW OF ECONOMIC AND AGRICULTURAL PERFORMANCE

We begin with an overview of Thailand's economic and agricultural performance. Thailand has been able to maintain fairly high economic growth rates as shown in Table 1. While growth in industry and services outpaced agriculture, the latter still performed well by world standards. Annual agricultural growth averaged 5.4 percent in the 1958-73 period and declined to 3.7 percent in the 1984-88 period. While the rate of growth has declined, it is still rapid in relation to performance by most other developing countries and, as we shall see later, in relation to growth in domestic demand.

¹Richard H. Goldman, Demand Management of Asia and Near East Food Systems: An Introductory Overview, February 1990 and Demand Management of Pakistan's Food System, 1960-86, October 1989. Agricultural Policy Analysis Project, Phase II, Abt Associates Inc., Washington, D.C.

²Martin E. Abel and Thomas C. Earley, The Role of Agricultural Trade in the Economic Development of Malaysia, Thailand, and Indonesia, April 1990. Agricultural Policy Analysis Project, Phase II, Abel, Daft and Earley, Alexandria, VA.

Table 1
Real Annual Average Economic Growth in Thailand

<u>Year</u>	<u>GDP</u>	<u>Agriculture</u>	<u>Industry</u>	<u>Services</u>
	-----percent-----			
1951-58	3.9	1.9	5.4	5.6
1958-73	7.2	5.4	9.0	7.8
1973-84	6.4	3.9	8.2	6.9
1984-88	6.9	3.7	7.6	7.8

Source: Ammar Siamwalla and Suthad Setboonsarng, Trade, Exchange Rate, and Agricultural Pricing Policies in Thailand, World Bank Comparative Studies, World Bank, 1989, and Quarterly Bulletin, Bank of Thailand, various issues.

This pattern of economic growth resulted in a decline in agriculture's share of GDP and increases in the shares of industry and services. Agriculture's share declined from nearly 40 percent in 1960 to about 17 percent in the late 1980s (Table 2). It is interesting to note that agriculture's strong performance in the late 1980s prevented its share of GDP from declining, and, that agriculture still remains an important sector of the economy.

Table 2
Thailand: Shares of Major Sectors in GDP

<u>Year</u>	<u>Agriculture</u>	<u>Industry</u>	<u>Services</u>
	-----percent-----		
1960	39.8	18.6	41.7
1965	34.8	22.7	42.5
1970	29.3	25.3	46.4
1975	31.5	24.8	43.7
1980	25.4	28.5	46.1
1985	16.8	34.0	49.2
1988	16.9	32.4	48.0

Source: Ammar Siamwalla and Suthad Setboonsarng, Trade, Exchange Rate, and Agricultural Pricing Policies in Thailand, World Bank Comparative Studies, World Bank, 1989 and Quarterly Bulletin, Bank of Thailand, March 1989.

Thailand's agricultural development history can be divided roughly into three stages, although they have overlapped in time. The first stage was one of increasing agricultural output by bringing new land into production. That phase essentially ended by the 1980s as little new land was readily available for crop production. The second stage involved diversification of production into new, low value crops. The third stage, which is not independent of the second, involved diversification of production and exports into new and higher value products.

Land use in Thailand since 1950 is shown in Table 3. Between 1950 and 1982, area in forests fell by more than one-half while crop area more than doubled. But land use patterns began to stabilize in the 1980s and there is now little new land that can be easily brought into agricultural production and output growth must rely on increases in yields and diversification into the production of higher valued products.

Table 3
Land Utilization in Thailand

	<u>1950</u>	<u>1960</u>	<u>1970</u>	<u>1980</u>	<u>1982</u>
	-----million hectares-----				
Forests	31.71	28.19	23.27	16.55	15.68
Agriculture	8.27	10.00	15.04	19.04	19.77
Rice	5.40	6.20	9.37	11.77	11.72
Field Crops	0.73	1.11	2.25	4.12	4.69
Tree crops	0.77	0.93	1.46	1.78	1.90
Other	1.37	1.76	1.96	1.37	1.46
Unclassified	<u>11.33</u>	<u>13.13</u>	<u>13.00</u>	<u>15.72</u>	<u>15.86</u>
Total	51.31	51.31	51.31	51.31	51.31

Source: Ammar Siamwalla and Suthad Setboonsarng, Trade, Exchange Rate, and Agricultural Pricing Policies, World Bank Comparative Studies, World Bank, 1989.

The opening of new land was accompanied by and in some cases even led by the development of transportation infrastructure. The northeast, for example, benefitted greatly from road networks constructed in the 1960s that were motivated as much by military as by developmental concerns. As a consequence, Thailand has a relatively good transportation system that helps make its agriculture competitive in world markets.

Thailand's population in 1986 was nearly 53 million. The population growth rate has been declining quite rapidly. It averaged 2.7 percent a year in the 1965-80 period, declined to 2.0 percent in the 1980-86 period, and is expected to average 1.6 percent a year to the year 2000 (Table 4). Since agricultural output growth has consistently outpaced population growth, Thailand has had ample food supplies to accommodate growth in per capita incomes and export growth.

Table 4
Thailand: Population Growth

Growth rates (percent)	
1965-80	2.7
1980-86	2.0
1986-2000 proj.	1.6
Population (millions)	
1986	53
1990	56
2000	65

Source: World Development Report, 1988, World Bank.

Thailand is classified as a rapidly growing, middle-income developing country. Its per capita GNP was \$810 in 1986 and life expectancy was 64 years. Furthermore, caloric consumption is at a comfortable level -- 2,400 calories in 1985, up from 2,200 calories in 1965 (Table 5).

Table 5
Thailand: Basic Indicators

Population (million), 1986	52.6
Per capita GNP (\$), 1986	810
Life expectancy (years), 1986	64
Per capita calorie supplies	
1965	2,200
1985	2,399

Source: World Development Report, 1988, World Bank.

Thailand's agricultural trade performance is reviewed for the 1983-88 period for exports and the 1983-87 period for imports. This was a period when macroeconomic and exchange rate policies were favorable for trade, and government interventions through commodity policies either decreased or remained unchanged depending on the commodity. Furthermore, rapid growth in exports has occurred in new commodities for which there is little or no government intervention. This trade experience illustrates how Thailand's agricultural production including fish and seafood has been able to expand faster than domestic demand and how it has been able to diversify very rapidly and has moved into the stage where production of high valued products is important.

Thailand's export volumes for a number of agricultural commodities are shown below for the 1983-88 period. Among the traditional commodities one observes the following:

- Rubber and rice exports increased by about 11 and 8 percent a year, respectively.
- Corn and sorghum exports declined by 14 and 37 percent a year, respectively, as rapid growth in domestic demand preempted exportable supplies. The loss in these exports was more than offset by rapid growth in poultry exports.
- Cassava exports, which now far exceed corn exports, have continued to increase but somewhat erratically as a result of both fluctuations in production and in export demand. Still, growth averaged more than 9 percent annually.
- Sugar exports showed only a slight upward trend in the 1983-88 period, but have risen sharply since then.

By comparison, Thailand has had rapid growth in exports of a number of relatively new products.

- Chicken exports more than tripled in the 1983-88 period and grew at nearly 34 percent a year. Thailand is now one of the world's largest poultry exporters.
- Fish and seafood exports have also grown rapidly. Taken together the quantity of these export items increased by over 200 percent in the 1983-88 period, or by 30 percent a year.
- Canned pineapple has also experienced rapid growth of over 20 percent a year, and exports of fresh fruits and orchids have grown at respectable rates.

In more recent years Thailand has had a relatively open import regime for agricultural products that it is not well suited to produce. As indicated in Table 7, imports of dairy products, wheat and flour, tobacco, and cotton have been increasing as domestic demand for them has grown. The growth in cotton imports reflects textile exports as well as domestic textile demand. Soybean oil imports have declined as domestic oil needs have been met from domestically produced palm oil and imported soybeans. However, soybean meal imports have been increasing to meet the rapidly growing demand for animal feeds.

Table 6
Thailand: Exports of Agricultural Products

	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>Annual Growth</u>
	-----1,000 mt-----						percent
Rubber	555.1	591.9	680.0	760.9	885.9	937.7	11.1
Rice	3,476.5	4,615.8	4,062.2	4,523.6	4,443.3	5,089.4	7.9
Corn	2,658.7	3,144.6	2,782.0	4,013.2	1,649.2	1,214.5	-14.5
Sorghum	228.3	219.2	316.9	267.3	146.0	22.7	37.0
Cassava	5,196.8	6,569.7	7,088.4	6,318.6	6,210.9	8,121.5	9.3
Sugar	1,536.9	1,242.0	1,724.4	1,960.6	2,025.8	1,855.2	3.8
Tobacco	35.6	35.9	32.9	33.1	27.1	31.3	-2.5
Chicken	22.9	34.2	37.8	64.8	81.9	97.5	33.6
Prawns	20.2	19.4	24.0	28.1	33.9	49.8	19.8
Cuttlefish, fresh	39.3	42.8	46.3	58.9	61.6	58.9	8.4
Fresh fish	53.4	75.3	96.4	118.9	130.4	149.5	22.9
Canned fish	49.9	81.4	102.9	171.4	185.4	249.5	38.0
Canned crustaceans	19.6	29.0	29.5	34.3	41.9	56.5	23.6
Canned pineapple	135.6	186.3	192.8	226.0	259.8	341.4	20.3
Fresh fruits	51.1	45.7	57.3	52.4	44.6	54.2	1.2
Orchids	7.9	7.5	7.8	6.1	7.1	9.5	3.8

Source: Quarterly Bulletin, Bank of Thailand, 1989

Table 7
Thailand: Major Agricultural Imports

	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>Annual Growth</u>
	-----1,000 mt-----					percent
Dry milk	46.6	46.7	44.7	53.1	61.0	7.0
Butter	4.7	4.7	4.7	5.7	7.6	12.8
Wheat and flour	222.9	169.0	169.8	186.0	245.1	2.4
Tobacco	4.6	6.9	8.7	9.3	8.8	17.6
Cotton	109.7	116.0	132.5	193.4	249.6	22.8
Soybean meal	191.5	296.2	155.0	205.9	239.6	5.8
Soybean oil	18.0	41.8	11.8	2.7	0.8	-74.2
Fish and products(\$mil)	42.8	85.8	138.3	283.7	N.A.	-

Source: FAO Trade Yearbooks, various issues.

3. FOOD CONSUMPTION

One can get a good picture of food consumption in Thailand from data prepared by FAO based on 1979-81 average food balance sheets (Table 8). Daily calorie intake was 2,330 with 93.5 percent coming from vegetable sources. Daily protein consumption was nearly 47 grams with 74 percent coming from vegetable products and daily fat consumption was 36 grams with 60 percent coming from vegetable products.

Table 8
Thailand: Daily Per Capita Food Consumption, 1979-81 Avg.

	<u>Grams</u>	<u>Calories</u> (No.)	<u>Protein</u> -----Grams-----	<u>Fat</u>
All food		2,330	46.9	26.0
Vegetable products		2,178	34.7	15.6
Animal products		152	12.2	10.4
Total ex alcohol		2,309	46.8	26.0
Cereals	631.3	1,540	27.6	3.6
Rice	612.1	1,484	26.0	3.3
Maize	8.7	28	0.7	0.3
Wheat	10.0	27	0.8	0.1
Roots and tubers	52.4	63	0.4	0.1
Cassava	34.2	45	0.2	0.1
Sweet potatoes	17.9	18	0.2	0.1
Sugar and honey	97.1	288	0.5	0.2
Pulses	3.4	11	0.7	0.1
Nuts and oilseeds	32.8	65	1.8	5.3
Vegetables	123.2	37	1.9	0.3
Fruit	216.4	96	1.3	0.4
Meat and poultry	40.0	86	5.1	7.1
Eggs	5.5	8	0.6	0.6
Fish and seafood	52.6	37	5.7	1.3
Milk	21.6	9	0.8	0.2
Oils and fats	6.7	58	-	6.5
Spices	3.4	10	0.4	0.4
Nonalcoholic beverages	0.8		0.1	
Alcoholic beverages	14.5	21		

Source: Food Balance Sheets, 1979-81 Average, FAO.

Cereals have dominated the Thai diet and rice is by far the most important cereal grain. All cereals accounted for 66, 59, 14 percent of calories, protein, and fat. The comparable

numbers for rice alone were 64, 55, and 13 percent. In terms of calories, the importance of other foods in decreasing order are sugar and honey, fruits, meat and poultry, nuts and oilseeds, roots and tubers, oils and fats, fish and seafood, vegetables, alcoholic beverages, pulses, and spices.

The clear and overriding importance of rice in the diet would indicate that this food has been the prime target for demand management in Thailand, and that has been the case. Sugar, also important in the diet, has been another crop for which there has been significant government intervention. There has been little direct government involvement for most other food and agricultural products.

4. DEMAND MANAGEMENT POLICIES³

4.1 Rice

We begin with rice because of its importance and the way it illustrates the evolution of agricultural policies in Thailand.

Throughout most of the post-WWII period, the government intervened in the rice economy in a major way. The most enduring form of intervention was the rice export tax regime, which contained various elements whose mix changed over time, but in simplified terms involved the following:

- Rice exports were licensed by the government even though private exporters made export sales. The government also engaged at times in direct sales to other developing countries.
- Exporters were also required to sell specified quantities of rice to the government at below market prices, with the quantity of such sales varying over time.
- The control over exports enabled the government to keep the domestic price of rice well below world market levels. It was able to capture a large part of this price difference which became a major source of government income, accounting at times for 25 percent of total government revenue. It also kept the price of the major foodstuff low.
- At times there were modest efforts to subsidize the price of rice for specific groups.

³This section draws upon Ammar Siamwalla and Suthad Setboonsarng, Trade, Exchange Rate, and Agricultural Pricing Policies in Thailand, World Bank Comparative Studies, World Bank, 1989

- The export tax on rice was done away with in the early 1980s and domestic and world market prices have been in line since then.
- A producer price support program was in effect during the 1975-83 period, but there was never enough money to buy more than small quantities of rice and it was ineffective.

The impact of rice policy was to keep prices low in Thailand relative to the world market, and retail prices have tracked wholesale prices in the domestic market. For example, Siamwalla and Setboonsarng calculated that the export tax on rice as a percent of the border price averaged 42 percent in the 1960s and 38 percent in the 1970s. By the mid-1980s the tax rate had declined to a nominal level of only about 5 percent.

The resulting impacts of these policies on Thailand's rice supply-demand balance are shown in Table 9. As the export tax on rice declined in the 1980s, rice area increased, there was a marginal improvement in yields, and production expanded. Exports averaged significantly higher in the 1980s than in the 1970s. During most of the 1980s, domestic consumption stabilized in the 8.3-8.5 mmt range partly due to higher domestic rice prices and partly as a result of higher incomes moving consumers away from rice to other foods.⁴

Thailand, through its rice policies, has also been able to maintain a high degree of stability in the real domestic rice price despite wide swings in the world price as can be seen in Figure 1. The narrowing of the difference between the domestic and world price starting in the early 1980s is also evident.

The policy motivations behind Thailand's rice policy and the reasons it has changed are quite complex. Early on, the export tax on rice was driven primarily by the need for government revenue. Since rice was the major export crop and export taxes are easy to collect, government officials favored this source of revenue. Another reason for the export tax and government involvement in exports was a widely held view that Thailand could exercise some monopoly power on world prices. Since the early 1960s Thailand has been among the top three rice exporters and it was the leading exporter in many years. Government officials held the view that controlling rice exports could help raise the world price. There was also a widely held view that rice traders and millers could exercise monopoly power in the domestic market if left to their own devices and control over and taxing of exports was one way to limit profits made by traders and millers. Finally, rice producers either did not have the political power to override the rice policy regime or did not think it was much of an issue, particularly since they were low-cost producers.

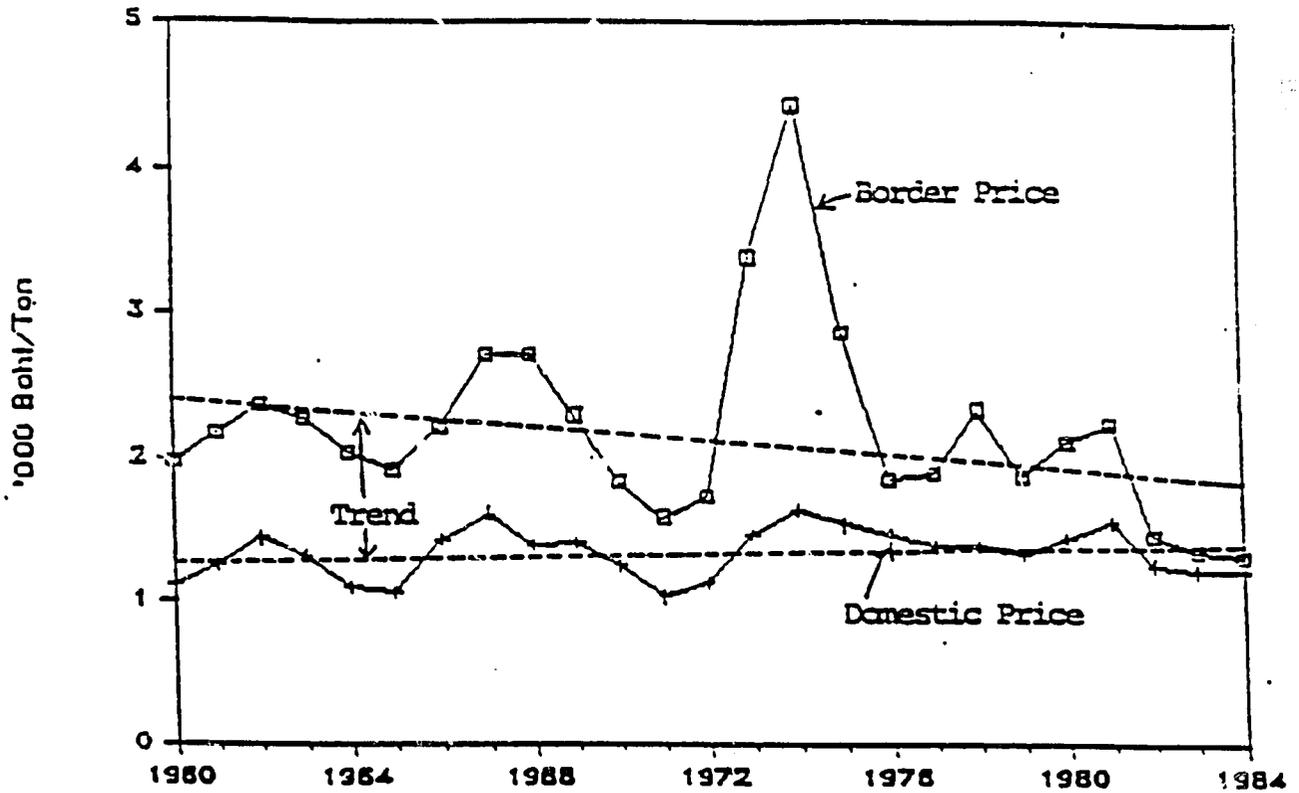
⁴Shoichi Ito, E. Wesley, F. Peterson, and Warren G. Grant "Rice in Asia: Is it Becoming an Inferior Good?", American Journal of Agricultural Economics, Vol. 71, No. 1., February 1989. This article shows that the income elasticity of demand for rice in Thailand became negative in the late 1950s and has been decreasing (increasing in absolute value) since then.

Table 9
Thailand: Rice Supply-Demand Balance, Milled Basis

<u>Crop Year</u>	<u>Area</u>	<u>Yield</u>	<u>Production</u>	<u>Exports</u>	<u>Consumption</u>	<u>Per Capita Consumption</u>
	mil. ha.	mt/ha.	-----mmt-----			kg.
1970	7.3	1.85	8.9	1.1	8.1	223
1971	6.8	1.98	9.0	1.6	7.7	205
1972	7.1	1.94	9.1	2.1	7.0	181
1973	6.8	1.83	8.2	0.9	7.8	197
1974	7.7	1.94	9.8	1.0	8.2	201
1975	7.5	1.78	8.8	0.9	7.4	177
1976	8.4	1.83	10.1	1.9	8.3	193
1977	8.2	1.84	9.9	2.9	7.6	173
1978	8.8	1.59	9.2	1.6	7.5	166
1979	8.9	1.96	11.5	2.7	8.1	176
1980	8.7	1.82	10.4	2.7	8.1	173
1981	9.2	1.89	11.5	3.0	8.0	168
1982	9.1	1.95	11.7	3.6	8.1	166
1983	8.9	1.89	11.1	3.7	8.1	163
1984	9.6	2.03	12.9	4.5	8.3	164
1985	9.6	2.07	13.1	4.0	8.5	164
1986	9.8	2.06	13.4	4.3	8.6	163
1987	9.7	1.95	12.5	4.4	8.3	155
1988	9.2	1.95	11.9	4.8	8.4	154

Source: World Grain Situation and Outlook: Reference Guide on Rice, FAS, USDA, October 1989.

Figure 1
Border and Domestic "Paddy" Prices
(Adjusted by the GNP Deflator 1972 = 100)



Source: Ammar Siamwalla and Suthad Setboonsarng, Trade, Exchange Rate, and Agricultural Pricing Policies in Thailand, World Bank Comparative Studies, World Bank, 1989.

But things began to change in 1974. The emergence of a more competitive political system began to give farmers more of a voice in policy matters as politicians began to compete for their votes. Rice millers and traders also emerged as more powerful political forces since they were a source of political patronage and were courted more aggressively as the political arena became more competitive. A third factor was the declining share of rice in consumer expenditures as shown in Table 10. This meant that there would be less political resistance from consumers to increases in rice prices relative to world levels. Finally, as the Thai economy grew and became more diversified, the importance of the export tax on rice in total government revenues declined. All these forces taken together eroded support for the export tax, a high degree of government intervention in rice, and the rice consumption subsidy.

Table 10
Share of Rice in Consumer Expenditures

	<u>Whole Kingdom</u>	<u>Bangkok</u>
	-----percent-----	
1962/63	16.93	6.96
1975/76	15.47	6.98
1980/81	12.09	4.99

Source: National Statistical Office, issues of Household Expenditure Survey for 1962/63 and Socio-Economic Surveys for 1975/76 and 1980/81.

4.2 Sugar

The government has intervened in the sugar market in various ways over time to keep the domestic price above world levels. Since the early 1980s, Thailand has had a quota system that involves direct government intervention. A portion of the crop falls under an A-quota which can be sold freely in the domestic market at a high price. A B-quota sets the amount of sugar required to cover long-term contracts. Some of this is exported by the government and some by the sugar mills. The rest of the crop or C-quota sugar can be freely exported at world market prices.

The impact of sugar policy is indicated by the different levels of raw sugar prices in the 1982-84 period. The average border or world price was Baht 4,691 a ton, the mill price was Baht 6,830 a ton, and the consumer price was Baht 10,863 a ton. Clearly, this policy represents a substantial tax on consumers and significant support to producers, but it was necessitated by low world prices and by Thailand's heavy dependence on the export market. Thai production costs are actually quite competitive, and with rising world prices in recent years, production and exports have expanded sharply.

It is useful to begin a discussion of Thailand's sugar policies with the results it has yielded over time in terms of various sugar prices. Table 11 shows sugar prices, raw basis, for the world market (border price), cane growers, sugar mills, and consumers.

In general growers received about the world price of sugar, their prices being somewhat higher than the world price in some years and somewhat lower in others. The one major exception was the 1973-76 period when world prices rose sharply and grower prices did not keep pace. This was not the case, however, in 1981 when world prices escalated and the grower price followed the world market. One can conclude that Thai sugarcane producers generally have received about the world price. In most years miller prices have been significantly above those received by growers. Exceptions were 1965, 1978, 1979, 1982, and 1983. It also means that the miller prices were generally above the world price with the only exception being the 1973-76 period. This implies that

export subsidies were needed to make Thai sugar competitive in world markets.

Consumer prices of sugar have been significantly above world levels except in the 1973-76 period. Clearly, sugar policies have taxed Thai consumers in most years, despite the fact that sugar is an important component in the diet representing the second single largest source of calories after rice.

Table 11
Thai Sugar Prices

<u>Year</u>	<u>Border Price</u>	<u>Grower Price</u>	<u>Miller Price</u>	<u>Consumer Price</u>
-----baht/ton, raw basis-----				
1962	1,161	3,413	3,450	3,810
1963	2,648	3,251	4,752	4,900
1964	3,222	3,236	5,394	5,140
1965	1,184	2,690	2,453	2,540
1966	1,651	2,410	2,784	3,050
1967	2,176	2,384	3,650	3,480
1968	2,054	2,919	4,178	4,030
1969	2,369	2,630	3,662	3,560
1970	1,708	2,115	2,730	2,880
1971	2,182	2,229	3,108	3,520
1972	3,262	2,544	3,452	4,210
1973	4,306	3,043	4,176	4,110
1974	8,762	3,309	5,515	4,420
1975	10,676	4,721	6,597	4,470
1976	6,069	4,808	5,595	5,220
1977	4,647	4,528	4,677	4,760
1978	3,818	5,150	4,212	5,020
1979	4,025	5,603	4,679	5,590
1980	6,499	6,315	8,631	10,110
1981	8,932	8,023	9,191	10,190
1982	5,841	7,949	6,546	10,720
1983	4,037	6,119	5,833	10,910
1984	4,194	6,421	6,829	10,960

Source: Ammar Siamwalla and Suthad Setboonsarng, Trade, Exchange Rate, and Agricultural Pricing Policies in Thailand, World Bank Comparative Studies, World Bank, 1989.

Sugarcane growers must sell their output to nearby mills since cane is perishable and it cannot be moved long distances because of its bulk. As Thailand's sugar industry began to expand in the late 1960s, growers recognized the potential market power that mills could exert on prices at harvest time. What evolved was the organization of producers into associations that could bargain with millers and become a strong political force with the government. At about the same time, mills were increasing in size and they become more concerned with obtaining an adequate supply of sugarcane. A system of contract production evolved with quantities contracted for either directly

from farmers or with intermediaries who in turn contracted with producers. By the early 1970s collective bargaining between producers and mills over price and deliveries had become commonplace.

It has been the government's objective for a long time to assure an adequate return to the sugar industry. But in doing so, government has faced two problems. One is the volatility in world sugar prices. The other is its unwillingness to subsidize sugar production directly through the budget. It coped with these problems by essentially setting a high domestic consumer price for sugar that generated sufficient earnings in combination with export revenues to assure producers an adequate return in most years. This basic approach evolved during the 1980s into the quota system described earlier with a three-tier pricing system. Under the various policy regimes that have prevailed, the Thai consumer has subsidized exports in most years. Also, the government is directly involved in regulating the level of sugar production and allocating sugar between domestic use and exports.

Thailand's sugar policy regime seems to have worked reasonably well in terms of achieving the government's policy objectives. The one major exception was in 1980 when world sugar prices began to rise sharply. In that year the government set production too low and it was forced to import some sugar to cover domestic needs.

Siamwalla and Setboonsarng point out that the political economy of sugar differs from other crops and especially rice in three basic ways:

- Because of the strong role that growers and millers have played in the sugar economy, the role of the bureaucracy has been limited.
- Sugar policy has been stated in clearly defined legislation and regulations.
- The strong political role of growers and millers has resulted in contentious and at times unsavory behavior in the political arena.

Thailand's sugar policies resulted in a marked expansion in production in the 1970s and 1980s. While domestic consumption has increased, growth has been moderated by the high prices consumers have had to pay for sugar. As a consequence most of the growth in production has gone into exports (Table 12).

Table 12
Thailand: Sugar Production, Consumption, and Exports

<u>Year</u>	<u>Production</u>	<u>Consumption</u>	<u>Exports</u>
	-----1,000 mt-----		
1960	429	423	6
1961	463	461	2
1962	343	300	43
1963	271	218	53
1964	407	358	49
1965	436	353	84
1966	385	330	55
1967	329	314	15
1968	205	205	-
1969	378	362	16
1970	439	383	56
1971	566	392	175
1972	510	102	408
1973	818	543	275
1974	1,087	643	444
1975	1,154	558	595
1976	1,643	519	1,124
1977	2,244	591	1,653
1978	1,629	589	1,040
1979	1,768	578	1,190
1980	1,103	651	452
1981	1,707	589	1,119
1982	2,597	391	2,206
1983	2,099	562	1,537
1984	2,053	811	1,242

Source: Ammar Siamwalla and Suthad Setboonsarng, Trade, Exchange Rate, and Agricultural Pricing Policies in Thailand, World Bank Comparative Studies, World Bank, 1989.

4.3 Other Commodities

Government interventions for most other key food and agricultural commodities have been minimal and domestic prices have traded at world market prices. These are discussed briefly below.

4.3.1 Corn

Thailand's corn policies can be divided into two periods -- before and after 1981. Prior to 1981, Thailand directed its corn exports heavily to Japan and Taiwan. This was done through a system of quotas assigned to exporters. Corn prices were set using a formula that involved Chicago futures prices. But by 1981, 95 percent of Thailand's corn exports went to countries other than Japan and Taiwan and the export licensing system was abandoned.

The market for corn has been consistently open, and domestic and world prices have been about equal. This was true even during the period when the export licensing system was in effect -- domestic prices were only slightly below the world price.

Area in corn increased throughout the 1960s and 1970s as did production. But low world prices in the latter half of the 1980s have slowed growth in corn area and production. Thailand was able to increase its corn exports and satisfy slowly growing domestic use until the mid-1980s. In more recent years, however, corn exports have been declining as domestic use has surged in response to rapid increases in domestic meat and poultry production, and rapid growth in poultry exports (Table 13).

A recent study of the outlook for Thailand's feed and livestock industry indicates that Thailand's exportable surplus could decline to zero by the year 2000 if per capita income growth is as high as 6.5 percent.⁵ With only 4 percent growth corn exports would fall to 1.5 - 2.0 million metric tons, and at best they would stagnate. These alternative scenarios are shown in Figure 2. While less dependence on exports would theoretically permit Thailand to more easily divorce its domestic corn prices from world levels, the need to remain a competitive exporter of meat and dairy products should prevent that from happening.

4.3.2 Cassava

In general, cassava trade is free of interventions. In 1981, Thailand along with Indonesia and Brazil entered into an agreement with the European Community (EC) to limit cassava exports to that market. Except for 1984 when allocations of EC quotas to exporters depended on sales to other countries, the EC quota has not distorted cassava prices and exports to non-EC markets have expanded. However, EC grain policy itself was instrumental in creating a strong EC demand for cassava in the first instance.

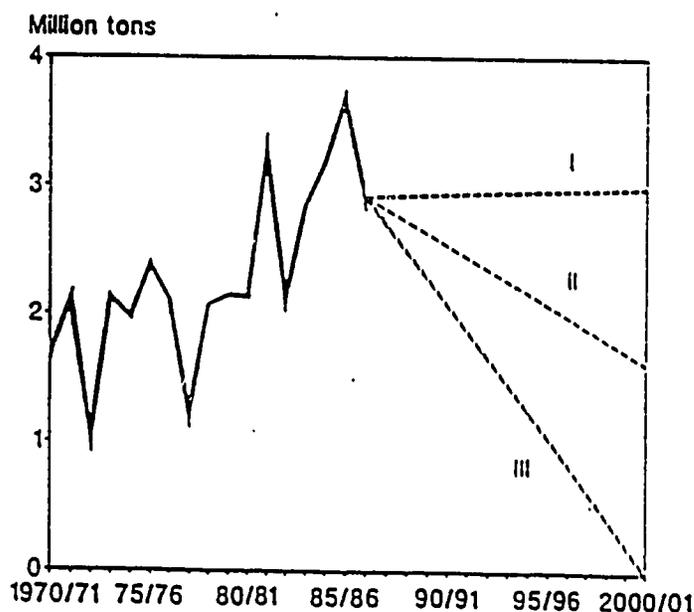
⁵Sara J. Schwartz and Douglas H. Brooks Thailand's Feed and Livestock Industry to the Year 2000 Foreign Agricultural Economic Report No. 242, U.S. Department of Agriculture, March 1990.

Table 13
Thailand: Corn Supply-Demand Balance

<u>Crop Year</u>	<u>Area</u>	<u>Yield</u>	<u>Production</u>	<u>Exports</u>	<u>Consumption</u>
	mil. ha	-----mmt-----			
1975/76	1.3	2.28	3.0	2.4	0.6
1976/77	1.4	1.96	2.8	2.1	0.7
1977/78	1.5	1.40	2.0	1.2	0.8
1978/79	1.5	2.03	3.0	2.1	1.0
1979/80	1.5	2.17	3.3	2.2	1.0
1980/81	1.6	1.90	3.0	2.1	0.9
1981/82	1.8	2.49	4.4	3.3	1.0
1982/83	1.8	1.86	3.4	2.1	1.2
1983/84	1.8	2.16	4.0	2.8	1.2
1984/85	2.0	2.23	4.4	3.2	1.3
1985/86	2.2	2.40	5.4	3.8	1.6
1986/87	2.0	2.05	4.3	2.6	1.7
1987/88	NA	NA	2.7	0.8	1.9
1988/89	NA	NA	4.2	1.4	2.8

Source: World Grain Reference Tables, FAS, USDA, and World Grain Situation and Outlook, FAS, USDA, various issues.

Figure 2
Corn Export Projections, Thailand



4.3.3 Soybeans

Thailand has had modest import duties on soybeans, soybean meal, and soybean oil. Since 1984 there has also been a form of quotas for soybeans and meal that require a percent of purchases to be made from domestic beans and meal. Siamwalla and Setboonsarng estimate that these interventions have increased the domestic price of meal by about 10 percent above the world price -- not a large difference.

The rapidly expanding livestock and poultry sector has created a strong demand for soybean meal and will probably work to keep government interventions at modest levels in the future.

5. CONCLUSIONS

Thailand is a developing country that has employed demand management to only a limited extent in food and agriculture. With the exception of rice and sugar, there has been little direct government intervention in markets for food commodities.

One reason for this state of affairs is that Thailand has been blessed with abundant food supplies and the threat of food shortages and hunger has never been very real. As a consequence, there have not been strong political pressures for government to overtly manage food demand except for rice and sugar.

Another reason is that Thailand has had a long history of being a food and agricultural exporter. This background has made the government reluctant to intervene in agricultural markets for fear of disrupting the country's comparative advantage in exports and aborting the flow of benefits derived from dynamic export performance.

Rice has been the major foodstuff and is one commodity where demand management has historically been important, although even in this case the government began to withdraw from market interventions in the early 1980s. The policy mix that was followed aimed both at keeping consumer rice prices low and at managing exports in ways that were perceived to maximize export earnings and to finance the government. But over time, these interventions have almost totally disappeared as farmers gained more political power and demanded a fairer price for rice, rice declined in relative importance in the consumer diet, and rice became a less important source of foreign exchange and government financing as the agricultural sector and the whole economy grew and diversified.

In the case of sugar, policies evolved to stimulate production and exports without direct government subsidies. The approach taken was almost the reverse of that for rice with consumers being taxed in order to finance exports and provide an attractive return to producers and millers. The political importance of producers and millers has loomed large in this history.

While Thailand has been successful in achieving export growth for both rice and sugar, the paths for getting there were quite different historically with rice producers being penalized and consumers being favored until the 1980s, with the reverse having been the case in sugar. But policy directions for both these commodities began to converge in the 1980s as rice policy shifted in favor of producers.

Demand management for other foods has been modest at best or non-existent. Production and consumption have been driven primarily by domestic and world market considerations, not by government policies.

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