THAILAND

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In 2000, the Thai economy continued to expand. The GDP growth rate in 2000 was 4.8 percent, an increase from 4.2 percent in 1999. Exports increased in the first three-quarters at 21.5 percent, while the industrial sector expanded by 6.5 percent. The weaker baht resulted in an increase in exports. High demand for Thai exports and pre-election spending in the second half of 2000 resulted in a higher growth rate in 2000.

In 2001, expansion in the Thai economy is expected to slow down to an increase of only 3 percent. This decrease—more than one-fourth of the increasing rate of the previous year—is due to adverse external factors, i.e., increasing oil prices and slow growth in the United States and Japan, Thailand's main export markets. Despite the weaker baht, export revenues were not expected to generate as high a growth rate as the one experienced in 2000. Domestic demand had been low while oil prices have remained high. Due to the low purchasing power of domestic buyers, it was not possible for producers to shift the burden of high energy costs and the weak baht to buyers. Private consumption expenditure is expected to be low in 2001. Private investment has not increased significantly, due to the over capacity in industrial sector outside of the export sector.

On average, 62 percent of Thailand's petroleum has to be imported, mainly from the Middle East. The Bank of Thailand estimated that a 10 percent increase in oil prices would result in a 0.6 percent increase in the cost of production and a 0.2 percent increase in inflation. Inflation is expected to rise in 2001 due to increases in oil prices and the loose fiscal policy of 2001.

Foreign demand has tended to decrease due to the slow growth rate of the United States economy and the slow recovery of the Japanese economy. The expansion in world trade seen in 2000 was expected to slow in 2001.

The main reason for slower growth in the Thai GDP in 2001 is the slow growth in its export markets: the United States, Japan, and the ASEAN nations are Thailand's major markets, absorbing more than 75 percent of Thai exports. According to the Bank of Thailand, the United States holds about 18-20 of the market share of Thai exports. If the US economy recovers in the later half of 2001, Thai exports may be increased by 4-5 percent; if not, the increase will be around 3-4.5 percent.

The Economic Intelligence Unit, Ministry of Commerce, has forecast that the Thai economy would expand at 4 percent in 2002, an improvement over 2001. Lower US interest rates and the weaker Japanese yen could be a benefit, since Thailand suffers a high level of external indebtedness. The weaker yen might decrease the cost of materials imported from Japan for the industrial sector in Thailand. An increase in government spending is expected to increase consumption and investment. Thailand's main source of income remains export growth, including tourism.

Food Prices and Consumption

The food price index in 2000 was 135.2, slightly lower than the 1999 figure of 136.7, while the general price index increased at a higher rate, from 128.7 in 1999 to 130.2 in 2000; this indicates a greater increase in non-food prices relative to food prices as domestic purchasing power decreased.

Per-capita income decreased from US$2,023 in 1999 to only US$1,964 in 2000; thus, the share of disposable income spent on food increased to 32.0 percent. Eating habits of the Thais has shifted to an increase in eating out rather than cooking at home; this change is more often found among the younger generation in urban areas. The share of expenditure used on eating out increased to 7 percent in 2000 and is estimated to increase further, to 7.4 percent, in 2001.

In 2001 the National Social and Economic Development Board estimated that per-capita income would drop to US$1,943 due to the recession, while the food price index and the general price index would increase to 141.7 and 131.7, respectively. The relatively greater increase in the food price index was due to slow growth in the agricultural sector, the main source of food production.

For 2002, it is forecast that per-capita income will decrease to US$1,918 while the food price index and the general price index will further increase to 146.4 and 136.4, respectively.

Food Processing and Marketing

The primary products from the food processing sector are frozen and canned seafood, frozen chicken, and canned fruit, including fruit juices.

In early 2000, there was a decrease in the shrimp catch because of unfavorable weather conditions. Nevertheless, high demand from the world market increased the domestic price by about 20 percent, thus resulting in increased shrimp culture. According to the Department of Fishery, shrimp production in 2000 was 249,000 tons, with an export of 143,867 tons of frozen shrimp having an export value of US$1,498 million. Including other forms of shrimp processing, export values from shrimp processing were US$2,684 million in 2000.

In 2001, the area of shrimp culture is expected to remain at the same level as it was in 2000, but there may be a decrease in production due to white spot disease. Shrimp prices are not as good as they were in the previous year because of recession in the two main markets, the United States and Japan.

Chicken production, according to the Office of Agricultural Economics, increased only 1.4 percent in 2000 due to an increase in demand abroad and the increase in share of income spent on eating out. Farm prices decreased by 7.7 percent due to strong competition in the international market, while exports increased by 13.3 percent as a result of the weakened weak baht. The main markets for Thai frozen chicken are Japan (60 percent), EU (30 percent), and Singapore and Hong Kong (10 percent).

In 2001, strong competition in the world market may lead to a decrease in the rate of growth of chicken production. Export prices and, consequently, farm prices are expected to be lower.

Fruit production in 2000, as reported by the Office of Agricultural Economics, increased by 6.7 percent. Fruit processing takes place in various forms, including chilling, freezing, and canning. Chilled fresh fruit exports from Thailand increased by 17 percent (mainly mangosteens, pineapples, pomelos, longans, and bananas). Frozen fruit exports increased by 50.0 percent (durians, longans, and pineapples). Canned and other processed fruit exports increased only by 0.6 percent (pineapples, rambutans, longans, mangoes, guavas, bananas, and pineapple juice). In terms of export value, the increases were lower, at 11.3 percent for chilled fruits, 37.0 percent for frozen fruits, and a decrease of 26.4 percent for canned and other processed fruits. Total export value amounted to US$431 million.

In 2001, the Office of Agricultural Economics expects an 8.0 percent increase in fruit production due to an increase in cultivated area. The weaker baht may result in an increase in fruit exports if there is a recovery in the global economy.

Agricultural Production and Trade

According to the Office of Agricultural Economics, agricultural production increased at 1.9 percent in 2000. The primary factors responsible for this low increase were the weather conditions, the recession in the world economy, and the relatively lower increase in the agricultural price index as compared to the consumer price index. The weaker baht resulted in increased export prices, an incentive for increases in agricultural production.

Weather conditions in 2000 allowed increased production in spite of the heavy rains and flooding in some provinces of the northeast and upper north. The world economic recession resulted in low purchasing power and high competition in world markets. The farm price index increased by only 2.7 percent, due to increases in the prices of fruits, vegetables, and livestock. Increases in farm prices led to increases in farm production. Nevertheless, the increase in oil prices raised the costs of production.

In 2001, agricultural production is expected to increase at a slower rate, around 1.9 percent, due to a continuing world recession, increases in oil prices, and strong competition in prices on the world market.

Growth rates in the agricultural sector as estimated by the Office of Agricultural economics are as follows:

- Item 2000 2001e Agricultural sector 1.91 1.38
- Crops 3.17 0.70
- Livestock 1.89 1.36
- Fishery -3.21 3.79
- Agricultural services 7.33 4.76
- Processing 1.45 2.50 Source: Office of Agricultural Economics

RICE PRODUCTION. Increased by 3.2 percent in 2000, due to a higher yield per cultivated area; nevertheless, rice exports decreased due to competition in the world market. In 2001, the increase in rice production was estimated to be only 2.6 percent because of unfavorable paddy rice prices.

CASSAVA PRODUCTION. In 2000 increased by 19.0 percent because of better farm prices in 1999 and expansion in the area under cultivation. Prices in 2000 were lower, so production in 2001 is expected to decrease by 2.2 percent. CAP (Common Agricultural Policy of the EU) reform and the reduction in grain prices according to the EU's Agenda 2000 would reduce the demand for EU imports. Exports of cassava are expected to be lower in 2001.

SUGAR CANE PRODUCTION. Decreased by 4.4 percent in 2000 because of lower prices and a decrease in planted area. A further decrease of 0.3 percent is expected in 2001. It is expected that exports will be lower in volume (7 percent) but will experience an increase in value due to higher prices in the world market.

MAIZE PRODUCTION. Increased 4.1 percent in 2000 because of the previous year's favorable prices. Nevertheless lower price in 2000 are expected to lead to a production decrease of 1.3 percent in 2001. Yield is expected to be lower in 2001 because of a lack of incentive regarding yield improvement.

SOYBEAN PRODUCTION. Increased by 2.4 percent in 2000 because of an increase in the area planted, a better yield, and better domestic prices. The price is expected to continue increasing in 2001, resulting in a production increase of 1.2 percent.

OIL PALM PRODUCTION. Decreased by 7.4 percent in 2000 because of lower yield per planted area. Due to domestic demand, it is expected that the planted area will increase and production will increase by 6.4 percent in 2001.

Overall, crop production increased by 3.2 percent in 2000. Nevertheless, the increase in 2001 is expected to be low—only 0.7 percent—because of restricted markets and strong competition in the world market.

LIVESTOCK PRODUCTION. Increased by 1.9 percent in 2000 because of an increase in swine, broiler, and milk cows driven by high prices in the previous year. In 2001 the increase will slow to 1.4 percent.

FISHERY PRODUCTION. Decreased by 3.2 percent in 2000 because of decreases in marine catches and the high cost of energy. An expected increase of 3.8 percent in 2001 will be the result of increased consumer demand, an increase in aquaculture, and the success of the Thai Sea Rehabilitation Plan.

Food and Agricultural Policy

To lessen the problem of slower growth in the agricultural sector, food and agricultural policies can be summarized as follows:

In the short run, economic self-sufficiency will be promoted, encouraging farmers, especially small farmers, to be self-sufficient and reduce their indebtedness. The "New Agricultural Theory" will promote integrated farming systems. Agricultural water sources will be improved, with an emphasis on small water sources and natural water supply. Government intervention to support agricultural prices

will be reduced and limited to situations where it is absolutely necessary, such as a severe decline in farm prices or in response to natural disasters. Farmers' institutions will be strengthened through the support of investments at low interest rates and provision of needed infrastructure.

In the long run, agricultural zoning will be implemented in an attempt to determine appropriate production areas by commodity. Farmers will be registered. Zoning for sugar cane and oil palm has already been put into practice. Zoning for other agricultural commodities is in process. There will be a five-year development plan for strategic agricultural commodities. Farmer indebtedness will be alleviated via adjustment by the Royal Decree on Farmer Recovery and Development Fund. Agricultural Technology Transfer Centers will be established at the sub-district level. Research and development will give priority to (1) commercial agriculture and biotechnology to increase production efficiency and reduce the costs of production, (2) appropriate technology to increase the value-added from agricultural products, and (3) lower energy costs.

Water Resource Issues

Thailand is an agricultural producer, especially of rice, because of its abundant water supply. Nevertheless, water shortages occur seasonally. Thailand's increasing population boosts the demand for water while supply is becoming relatively scarce because of the lack of efficient water management. In addition, there are competing demands for water use among human consumers, industry, and agriculture.

As estimated by the World Resources Institute in 1998, the annual water supply in Thailand was 179 million cubic meters, of which 61 percent was from internal renewable water sources and 39 percent was from international rivers. Per-capita water supply was 3,003 cubic meters per year.

In the estimation of Thailand Development Research Institute, the average rainfall is 1,630 mm/yr, of which 30 percent flows into water sources. In the total 25 watersheds, there were approximately 237,595 million cubic meters of water per year.

According to the FAO, 30 percent of the agricultural area was irrigated. The farmers themselves managed only 15 percent of these irrigated areas.

The Thailand Development Research Institute reported that per-capita water use in Thailand was 603 cubic meters per year. The use-to-resource ratio was 0.20 of the annual water supply, indicating a tendency toward water shortage and the need for better water management. Water shortages occur in some areas, most likely because of the distribution of rainfall and variations in population density. It is anticipated that, in addition to the water shortages already noted in the dry season in the northeast, water shortages will soon also be observed in the upper north during the dry season and in the lower Chao Phraya Watershed, where population and urbanization have rapidly increased.

Problems in water management in Thailand can be categorized into three areas: fragmented management schemes, the lack of appropriate pricing, and negligence in water quality and environmental control.

At present, more than 40 government agencies are responsible for water management. Policy-makers include the National Water Resources Committee, the National Economic and Social Development Board, the Royal Irrigation Department, the Electrical Generator Authority of Thailand, the Metropolitan Waterworks, the Regional Waterworks, and the Harbor Department. There are numerous agencies designated by the aforementioned authorities as well as by Cabinet resolution that involve with water resources and water resource management. These agencies often work independently, which can result in conflicts and overlapping, causing low efficiency in water resource management.

Water pricing can be adopted as a tool to increase efficiency in water utilization. Water access in Thailand can be considered "open-access" due to a lack of certain and effective regulation on water allocation. Those having access have priority in water use—thus demonstrating the lack of any efficient system of water resource allocation. Royal Decree in Irrigation B.E. 2485 allows the collection of an irrigated water use fee at the rate of not more than US$0.71/ha for water in agricultural use and US$0.01 /cubic meters for other uses. In 1975, the Ministry of Agriculture and Cooperatives allowed fee collection of US$0.005/cubic meters for the first 50,000 cubic meters, US$0.007/ cubic meters for the next 50,001 – 100,000 cubic meters, and US$0.01/ cubic meters for over 100,000 cubic meters. The fee can be exempted for an individual with a lower water utilization rate than 1,000- cubic meters/month and for public works. These rates are considered low and do not reflect the cost of the water supply. They have not been applied in practice.

Current water resource policy emphasizes water supply enhancement and tends to neglect allocation and demand management issues. The priority has been on water engineering, usually without a holistic view of the ecological system and a thorough understanding of water utilization in the non-agricultural sector. Recently, attempts have been made to manage on the basis of the watershed, but a holistic management scheme is still lacking and there was been low participation on the part of the users.

Former Prime Minister Chuan Leekpai has described national water policy as follows.

- Use of the Declaration of the Royal Decree on water resources as a common principle on water resource management.
- Establishment of Water Resource Management Authorities at the national, watershed, and designated local community level in order to coordinate policy and implementation. The watershed and local community authorities will collaborate in watershed management, allowing participation from the relevant parties.
- Prioritizing water utilization with efficiency under a transparent regulation. The users must assume responsibility in water services.
- Providing guidelines on water supply in accordance with costs, quality, and environment.

- Providing and developing water resources for agricultural use on a fair basis in response to needs of agricultural sector, as well as provision of other infrastructure.
- Enhancing public awareness of water through education, targeting water value realization, efficient water utilization, and the maintenance of water quality as well as the environment.
- Promotion of people participation in water management, including utilization, conservation, and water quality control for efficient water resource management.
- Planning on flood and drought prevention, control and correction, stressing land and other natural resources utilization.
- Promotion of research and development on policy implementation, public relations, information compilation, and technology transfer of water to the public.

For water resource management in the agricultural sector, the priorities are improvement of irrigation efficiency, minimizing the use of fertilizer and pesticides to maintain water quality, and introduction of fees on water utilization. In the non-agricultural sector demand should be curbed via an appropriate pricing system and encouragement of water recycling.

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	Units	1997	1998	1999	2000	2001E	2002F
FOOD CONSUMPTION PATTERNS							
Per capita caloric intake	Cal/day	1,751	1,751	1,751	1,751	1,751	na
Protein (% of calories)	%	13.2	13.2	13.2	14.0	14.0	na
Fat (% of calories)	%	22.2	22.2	22.2	22.0	22.0	na
Carbohydrates (% of calories)	%	64.3	64.3	64.3	64.0	64.0	na
INCOME AND FOOD PRICES							
Per capita income	US$/capita	2,488	1,930	2,023	1,964	1,943	1,918
% of disposable income spent on food	%	32.0	31.8	31.8	32.0	33.9	na
% spent eating out	%	6.1	6.3	6.3	7.0	7.4	na
Food price index	1994=100	130.1	139.2	136.7	135.2	141.7	146.4
General price index (CPI)	1994=100	122.8	129.0	128.2	130.2	131.7	136.4
POPULATION							
Total population	Million	61.2	61.9	62.4	62.4	62.9	63.4
Urban	Million	24.2	25.0	25.7	19.4	19.6	na
Nonurban	Million	37.0	36.9	36.7	43.0	43.3	na
Share of population in the following age groups							
0–4 years	%	8.8	8.7	8.5	8.5e	na	na
5–14 years	%	17.9	17.6	17.4	17.4e	na	na
15–19 years	%	9.6	9.4	9.3	9.1	na	na
20–44 years	%	41.6	41.7	41.7	41.7e	na	na
45–64 years	%	16.6	17.0	17.4	17.4e	na	na
65–74 years	%	3.7	3.8	4.0	4.0e	na	na
75+ years	%	1.6	1.7	1.7	1.7e	na	na
Median age of population	Years	26.7	26.9	27.4	29.7	na	na
Female labor force participation	%	71.0	70.9	70.8	70.8	na	na
LIFE EXPECTANCY							
Males	Years	67.4	67.4	67.4	75.0	75.0	na
Females	Years	71.7	71.7	71.7	70.0	70.0	na
FOOD INFRASTRUCTURE							
Trade capacity	1,000 Tons	6,423	6,880	7,768	7,223	na	na
Grain exports	1,000 Tons	5,560	5,956	6,927	6,186	na	na
Grain imports	1,000 Tons	863	924	841	1,037	na	na
Total food and agricultural trade	Million US$	15,794	13,592	15,326	16,489	na	na
Total food and agricultural exports	Million US$	10,803	9,252	12,258	13,204	na	na
Perishable products	Million US$	2,220	1,968	2,884	3,146	na	na
Fishery exports	Million US$	4,189	3,595	4,476	4,629	na	na
Total food and agricultural imports	Million US$	4,992	4,297	3,068	3,285	na	na
Perishable products	Million US$	243	225	246	311	na	na
Fishery imports	Million US$	812	825	900	848	na	na
Road access	Kms	51,476	51,762	51,957	52,960	na	na
Rail access	Kms	4,124	4,166	4,207	4,044	na	na
Power generation	Gigawatts	93,250	96,330	96,000	103,685	110,436	na
Percent of population with refrigerators	%	59.0	59.2	59.5	73.5	na	na
FOREIGN INVESTMENT IN THE FOOD SECTOR							
Inward FDI in the food sector, total	Million US$	5,292	2,401	1,879	837	na	na
Outward FDI in the food sector, total	Million US$	1,525	1,065	649	1,655	na	na
ROLE OF AGRICULTURE AND TRADE IN THE ECONOMY							
Agriculture as a share of GNP (Real)	%	9.5	9.0	9.0	10.0	11.3	na
Self sufficiency in grains	%	64.5	64.8	72.8	72.0	na	na
Self sufficiency in horticultural products	%	93.0	92.0	90.0	92.6	na	na
MACROECONOMICS INDICATORS							
GDP growth	%	–0.4	–8.0	4.2	4.8	3.0	4.0
Interest rate	%	15.25	15.25–15.50	9.00–10.50	8.00–8.75	na	na
Exchange rate	Baht/US$	31.48	39.33	37.00	40.11	44.00	43.50

na = not available E = estimate F = forecast