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THE ECONOMY AND NATIONAL INCOME

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OF

THAILAND



by

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with the collaboration of the National Income Office

OFFICE OF THE NATIONAL ECONOMIC DEVELOPMENT BOARD

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Bundhit Kantabutra

Office of the National Economic Development Board  
Bangkok, Thailand.  
September, 1959.

## FOREWORD

Attempts to estimate the gross domestic products for Thailand began in 1950. In 1953 the National Income Division was set up in the Office of the National Economic Council to carry on that work on a permanent basis, including the presentation and the publication of the national income estimates and related data for Thailand. This function together with the personnel of the National Income Division was transferred to the National Income Office in the Office of the National Economic Development Board in 1959, on the ground that national income estimates are among the necessary tools required for the development planning activities.

At present, the progress in the estimation of the national income for Thailand is hampered by many limitations, one of which is the scarcity of relevant statistical data. Nevertheless, the office will continue to do its best, with the resources at its disposal, to improve the national income estimates, so that they can be utilized as instruments in the connection with the appraisal and the prediction of the economy.

This book is intended to provide information on the methods and the implications involved in the national income estimates for Thailand. The fulfillment of such a task is attributed to the valiant efforts made by the staff in the National Income Office.

Chalong Pungtrakul  
Acting Secretary-General

Office of the National Economic Development Board  
October 14, 1959.

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## CHAPTER I

### PROFILE OF THE THAI ECONOMY

This chapter gives an outline of the Thai economy which will put the subsequent picture of the national income of Thailand in clearer perspective.

Like most primary producing countries in the world, Thailand is at the moment going through a difficult phase. There has been a fall in the prices of her exports of primary products -- rice, rubber, tin and teak, which together constitute about 80 per cent of her total annual exports; but her import requirements remain as high as ever, and will in all probability be even higher once her economic development program, now almost certain to be adopted, gets into full swing in the near future. It will be about 6 or 7 years before she starts to reap the benefits of her major capital investment projects.

### THE BASIC PROBLEMS

At the root of most of Thailand's economic difficulties are four major problems. First, there is the country's overwhelming dependence on very few export products -- notably rice, rubber, tin and teak -- the world prices of which have been subject to violent fluctuations. Second, the lack of fuel and power necessary for the development of manufacturing industries. Third, the shortage of investment capital. The vicious circle formed by low productivity and low income, hoarding or non-productive use of surplus income combine to make inhibit local capital formation. The fourth factor is the shortage of qualified personnel in both technical and managerial skills for development purposes.

The future well-being of Thailand depends largely on success in solving these four problems. These difficulties, though formidable, are not unsurmountable. Thailand has the natural potential resources necessary for economic growth. Her agricultural base is considered prosperous and sound, for, according to the Ministry of Agriculture **1953 Economic Farm Survey**, about 80 per cent of farmers own their

land, a situation which is better than in many other countries. In general, there is no grinding poverty, or pressure of population on resources. Above all, her leaders are determined to meet the challenge with which the country is faced. There is therefore some assurance that she will forge ahead in her economic development.

## AGRICULTURE

First let us look at her agriculture. Whether we like it or not, the general economic pattern of Thailand will remain overwhelmingly agricultural for years to come. Thailand is endowed with rich alluvial soil in the central plain which is most suitable for rice cultivation. In other parts of the country, the climate and physical features are conducive to the cultivation of other crops -- sugar cane, coconuts, tobacco and rubber for example. The overriding tendency in the last twenty years or so has been the strengthening in the relative importance of agriculture. Of the 8.2 million hectares of cultivated land in 1956, about 7.3 million were devoted to the main crops, and of this figure about 1.2 million hectares, or 17 per cent, were irrigated. Among these main crops, rice unquestionably predominates. In 1956, it occupied over 6 million hectares of land, and gave a harvest of altogether 5.8 million hectares. Production came to over 8 million metric tons. As is to be expected, the labor force is mainly engaged in agriculture (about 85 per cent), and approximately half of Thailand's national income comes from that source. As a matter of fact, if we are to make a comprehensive assessment of the contribution of agriculture to the Thai economy, we should also count the income generated by the activities associated with agriculture viz: the processing, financing and distribution of agricultural products. On that reckoning, the contribution of agriculture to the national income would be even greater. Agricultural commodities account for between 70 to 80 per cent of the total annual exports over the past ten years. Rice, rubber, and teak together supplied more than 70 per cent of the total exports in 1957.

The degree of specialization in foreign trade is determined to a large extent by the availability and character of the natural resources.



To avoid the economic ill effects of excessive dependence on a few products, the Government is committed to a program of crop diversification. Of late, the prices of primary products have fluctuated rather violently, and stiff competitions from other countries may be expected in the case of rice in the near future. Many rice importing countries such as Japan and the Philippines have launched rice production programs with a view to achieving self-sufficiency. In the face of all these unfavorable developments, the Government, through its recently organized National Economic Development Board, is seeking to arrange for a more intensive drive towards crop diversification because of its important bearing on the stability of income. The experiences of other countries have clearly demonstrated that, in a recession, a diversified economy can withstand the shocks of price fluctuations much better than an economy dependent on few export commodities. Another serious disadvantage of Thailand's economy is that, although the average occupied population in agriculture is approximately 85 per cent, its gross geographical product averages around 50 per cent only, which brings out the relatively higher average production of non-agricultural labor. Previous attempts to encourage the growth of crops other than rice have met with some success. Coconuts, cotton, tobacco, soybeans, maize, peanuts, and sugar cane have been grown in substantial quantities since the Second World War. In 1957, the production of coconuts was 1.4 million metric tons, which was 8 per cent higher than that of the previous year, while the land occupied was 136 thousand hectares as compared to 132.5 thousand in 1956, an increase of 2.6 per cent. Tobacco is grown on an increased scale in Lampang, Chiangmai, and many other northern provinces of the country. In 1957, the amount of tobacco came to 66,000 metric tons, while in 1953 it was only 50,000 metric tons. A substantial increase in the cotton crop was also noted in 1957, when 42,000 hectares of land yielded 36,000 metric tons, as compared to 26,000 metric tons from 41,000 hectares in 1953. Another important crop which originated in the north was sugar cane which in 1957 yielded 4.1 million metric tons, an increase of 8 per cent over the production of the previous year. Among the secondary crops, sugar cane is

perhaps one of the most promising. Realizing its potentialities, the Government as early as 1936 established a sugar refinery in Lampang under the auspices of the government-controlled Sugar Organization. Production since then has grown steadily to about 30,000 metric tons of crystalline white sugar in 1957. The number of refineries increased to 40 in 1958. The largest of these is owned by the National Economic Development Corporation Ltd., which is expected to handle 3,000 metric tons of cane. Many of these new refineries are in the north and central part of the country. The Government has endeavored to foster natural silk production in response to much greater demands from local as well as from foreign markets. In 1959, production is expected to exceed local demand for the first time. Five demonstration centers were established in the northeast to give technical advice to the public. There is a good chance of Thai silk becoming one of our most important sources of income.

A few important conclusions can be drawn from the following tables which compare land utilization statistics of 1957 with those of 1951, the earliest year in which statistics are available from the Ministry of Agriculture. Table 1 shows the increase in land utilization of 206,400 hectares between 1951 to 1957. Table 3 reveals that land devoted to rice was actually reduced by 12.98 per cent over that period. Taken altogether, land sown to crops other than rice increased by 13.17 per cent. Some of these crops, namely, sesame, maize, peanuts, oil seeds, and tobacco, the increase in each and every case was about 25 per cent. These recent developments seem to indicate that the diversification program of the Government has begun to take effect.

Table 1. - Land Utilization

	1951		1957	
	Hectares	per cent	Hectares	per cent
Agriculture land	9,389,120	18.34	9,897,600	19.25
Forest land	29,910,400	58.43	29,910,400	58.19
Swamp land	188,640	0.37	188,640	0.37
Others	11,705,440	22.86	11,403,360	22.19
Total	51,193,600	100	51,400,000	100

Table 2. - Agriculture land

	1951		1957	
	Hectares	per cent	Hectares	per cent
Cultivated	7,701,760	82.03	7,858,400	79.40
Farm woodland	858,560	9.14	858,560	8.67
Other uses	828,800	8.83	1,851,640	11.93
Total	9,389,120	100	9,897,600	100

Table 3. - Cultivated land

	1951		1957	
	Hectares	per cent	Hectares	per cent
Rice crops	5,978,400	77.63	5,080,160	64.65
Tree	923,040	11.98	926,720	11.79
Crops other than rice	800,320	10.39	1,851,520	23.56
Total	7,701,760	100	7,858,400	100

Diversification of crops is but one of the major agricultural policies of the Government. The others are the improvement of agricultural techniques, the elimination of middlemen in order to relieve the farmers from indebtedness, the fostering of cooperative movements and the establishment of more agriculture selfhelp settlements in various parts of the country. More recently, a soil analysis service has been developed by the Kasetsart University soil laboratory which, the Government hopes, will render expert advice on how much and what kind of fertilizer will be needed. Marketing is not being neglected; more market outlets are being sought for agricultural products under the direction of the Ministry of Economic Affairs.

## IRRIGATION

Of vital importance to a rice growing country such as Thailand is the extent and effectiveness of the flood control and irrigation system. In the 40 years since 1917, Thailand has had both floods and droughts which in some years accounted for the fall to almost half of her annual paddy production (e.g. 43 per cent in 1919). The Government has taken appropriate steps to obviate such disasters. As far back as 1916, work was started on the water control project known as the Pasak South Canal Project which was completed in 1922 and provided irrigation for about 100,000 hectares. Later, in the 1930's, work was begun on the drainage system at Chiengrak and Klong Dan providing more than another 533,000 hectares, but little else was done until after the Second World War, when there were rapid developments in all kinds of irrigation schemes viz: governmental projects, private or people's projects, pump irrigation projects, and, last of all, the tank irrigation projects in the northeast started in 1951 which were designed to store water caught during the rainy season for livestock and fish breeding. There are now about 100 such tank irrigation projects. The increase in the area irrigated is impressive. In 1957, our record shows that 1.1 million hectares were irrigated by the public irrigation system, which was an increase of 7 per cent over the previous year. Meanwhile, the privately irrigated area had risen to 160,000 hectares, an increase of 5,280 hectares above the figure of the previous year. Pump irrigation schemes were enlarged to cover 1.2 million hectares -- an increase of 51 per cent. Also in 1957, 33,000 hectares were irrigated by the tank irrigation scheme -- a slight increase. Most notable of these schemes is perhaps the construction of the great Chainat Dam and the more recent Yan Hee Multiple-purpose Hydro-electric Project. The construction of these two projects entails heavy expenditure. The cost of the Chainat Dam will be in the neighborhood of one billion baht in local currency (U.S.\$ 50,000,000) plus a loan from the World Bank of 18 million dollars. A barrage was built across the huge Chao Phya River which serves as the key to other smaller schemes in the Central Plain. When the scheme is completed in 1960, it is expected that 32,000 hectares will be irrigated, which will increase

the yield of paddy by some 950,000 metric tons annually. Another notable benefit is that during the dry season it will be possible to irrigate the upper reaches, and thereby increase the export surplus of rice by at least 100,000 metric tons.

The Yan Hee Project is a multiple-purpose project. Not only will it provide hydroelectric power at less than half the present charge, but its dam and reservoir will effect flood control, serve irrigation and navigation purposes, and increase the effectiveness of the Chainat Project at the same time. It may also make possible double cropping for rice in many areas now operating on only one crop a year. Altogether, annual income from rice production is expected to rise by about 20 million dollars. The Yan Hee Project will cost around 175 million dollars.

In sum, with the aid of these intensive drives in diversifying agricultural crops, introducing better agricultural techniques and a more effective irrigation system, Thailand hopes to raise its annual rice exports to 2 million tons within the next five years.

## FORESTRY

Contributions from forestry to the national income in the past have been quite substantial--about 10 per cent of total agriculture in 1955. Timber accounted for about 5 per cent of the value of all exports in 1957. In 1957, about 30 million hectares were under forest in Thailand, and this figure is approximately 58 per cent of total area of the Kingdom, exceeding farm land by at least 20 million hectares. There is a tremendous number of species and varieties of woods, shrubs, etc. Only half of total forest lands is accessible, but plans are being made to open up the other half as well. The exploitation includes logging, timber trade and transport. The production of timber today is almost double that of ten years ago; and the same may be said of firewoods, charcoal, and other forest products. Mention should also be made of the increasing importance of lac which is produced in the North and Northeast regions. Seedlac and sticklac are exported to the United States in greater quantities than before. Among the various kinds of timber, teak is easily the

most important. Normal production amounts to about 200,000 cubic meters in 1957. Yang and Teng Rang follow, with a little less than half of total production volume. It will be noted that, owing to the Government's conservation program, there has recently been a steady decline in the amount of quality timber produced. Previously, Thailand's normal production of teak was about one third of the world's total, but, soon after the Second World War, there was widespread evidence of uneconomical practices in the exploitation of timber. To prevent undesirable consequences, the Forestry Department submitted to the Government a "Five-Year Development Program" designed, among other things, to adopt a rotation system of cutting whereby only about half of the forest area would be exploited at any one time over a 15-year period, and the other half set aside for reforestation. Thanks mainly to this conservation policy, there has been a general decline in the cutting of teak as well as in most other varieties of timber -- Takien, Daeng, Pradu, Tabak, Kraya Loey, etc.

With the technical assistance of USOM, FAO, and a few other international agencies, intensive research projects are being conducted. Recent activities include a complete and accurate inventory of the stocks of forests, forest areas, and vegetation types in which aerial photography was supplemented by ground reconnaissance and the enumeration of the existing stock. It has also been proposed that aerial photography will be used more intensively to make a forest inventory and in stratified random strip sampling. There are altogether 15 projects aiming at conservation, and at improvement, and modernization of techniques of exploitation integrated into this forest development scheme which is believed to be comprehensive enough to achieve a sustained yield of timber as well as of other forest products.

## FISHERIES

Fisheries, which form the important protein element in Thailand's food and are valued at about 2,000 million baht, or 10 percent of total value of agricultural product in 1956, rank next to farming in

importance. Fortunately for the poor families, there are plenty of fish of many varieties wherever there is water--in the rivers, canals, and even in the marshes and rice fields during the rainy season or high tide. Both marine and riverine catches are made in large quantities for domestic consumption as well as for export in dried forms. The greatest commercial centers for fish are in Bangkok whose markets absorb more than 150,000 metric tons annually, 70 per cent of which from the sea. Marine fish are caught along the coastal waters of the Gulf of Thailand as well as along the eastern shores of the Indian Ocean between Burma and Malaya, while fresh water fish come to Bangkok from nearby inland provinces. The prosperity of the gulf's fisheries depends chiefly on mackerel (Pla-tu), Molluscs, shrimps and crustaceans. It has been estimated that the annual production of fisheries at present is in the neighborhood of 350,000 tons, half of which is consumed fresh and the other half processed for future consumption. From these scattered statistics, one can easily gauge the importance of fishing in Thailand in respect of employment, and of foreign exchange earnings. It is also an excellent source of much needed protein. Foreign experts who have made a study of the question are of the opinion that the extremely rich aquatic resources of Thailand are far from being fully exploited. The Government has accordingly taken steps to adopt programs for the conservation of fish resources and to modernize the present methods of catch. Another new development is the expansion by the Government of refrigeration and storage facilities for the better preservation of fish. Unfortunately, prices fluctuate violently with the daily supply; there is at present no means whereby the surplus of today's catch can be stored to meet the possible shortages of tomorrow. The joint project at present sponsored by the Government and USOM is to install refrigeration facilities in Bangkok as well as to transport fish from Bangkok to the northeastern provinces by refrigerated railway cars. This will undoubtedly bring vast benefits to the Thai economy.

## LIVESTOCK

Traditionally, the northeast supplies cattle and the essential water buffaloes for the farm needs of the peasants of the central

plain. The promotion of livestock is also included in our program of diversification, but the obstacles are many and varied. Livestock in Thailand, as in most other Asian countries, has been suffering from infectious diseases. Of these, rinderpest is the most dangerous. To control them is costly. Very little progress has therefore been made during prewar years. During the war, owing to the prevalence of the diseases, there was a shortage of animals for ploughing rice fields, and about 50,000 hectares of land were left uncultivated. The Government undertook to promote measures which would eventually lead to complete eradication. There is no doubt that there is a great future for livestock production in Thailand. Frozen meat is very much in demand in nearby countries, notably in Hong Kong and Japan. With substantial aid from USOM, plans to improve breeding and marketing facilities have been drawn up. Livestock production is certain to expand as a result.

## INDUSTRY AND POWER

Industry in Thailand is still on a relatively modest scale. It occupies only 2.6 per cent of the labor force according to the **1954 Economic and Demographic Survey**. Manufacturing in recent years has accounted for about 10 to 15 per cent of the national income and only about two per cent of the total labor force. Most of the manufacturing activities are confined to food processing for domestic use, construction and building materials, matches, furnitures, cigarettes, and handicrafts. These are among the major items which are manufactured at home, and even these items are not produced in sufficient amount to satisfy total demand. The difference has to be met by importation. There are many reasons why Thailand lags behind in industrial production. The fertility of the soil has made possible a subsistence agriculture which blesses every Thai with an adequate livelihood, so high indeed that only the most ambitious of them would seek alternative occupations in industry. Then again there is the obvious lack of fuel and power, capital, skilled labor and managerial personnel. The installed capacity of electricity in 1957 was only 116,770 kilowatts. The present Government has stressed the impor-



tance of industrialization and is determined to promote it vigorously. Surveys and investigations conducted during the last few years have shown that there are adequate physical resources in the form of raw materials for the development of industries on a substantial scale. There are still many kinds of agricultural products which can be processed, canned, or otherwise preserved--for domestic consumption and exports. And new mineral and oil deposits may well be discovered which would favor industrialization substantially. The outlook is therefore good.

## A SHORT ACCOUNT OF THAILAND'S INDUSTRIAL DEVELOPMENT

The general policy of the Government is to give preference to industries using local raw materials, and to production which will conserve foreign exchange. However, the magnitude of capital investment affects the rate of industrial progress, and it has been decided that these capital investments should come as much as possible from private sources. Government participation is approved only in certain cases, for instance, where public welfare is concerned and where the risks are such that no private capital is likely to be interested. Even then, however, the Government is ready to step out of the picture as soon as private capital is ready to take over. The Government is well aware of the barriers to industrialization such as shortages of skilled personnel, and is looking for way and means to surmount them. Recognizing the important role foreign investment in the development of the economy, it is encouraging such investment through various devices. Foreign capital is given assurances of non-interference on the part of the State, and no limits are placed on the transfer of either profits or capital abroad. Special rates of taxes and tariffs are promised on certain commodities to industries considered vital to our industrial development. The Government's eagerness to promote industrialization is reflected in the Industrial Promotion Act which, it is hoped, will facilitate substantial foreign investments. Among many attractive features of this Act is the waiv-