

CHAPTER FIVE

RICE: THE TRADITIONAL SOURCE OF PROSPERITY IN TROUBLE



*"Of all of the rice fields in Nakhon Si Thammarat,
not one is as productive as those in Pak Phanang."*

King Rama V in a letter to the Crown Prince
July 9, 1905

NOTE TO READER
October 1, 2006

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Rice seedlings are transferred for transplantation.



When King Rama V visited Pak Phanang in 1905, the region was well known as a good rice producing region, but even the King was surprised at its productivity. Then, and for years before, Pak Phanang was a center for export of rice to Singapore, Malaysia and China. During the following 40 years, tax records and the development of at least eleven large rice mills attest to the importance of both rice and trade to the economy of Pak Phanang. However, since about 1960, the production and area of rice planted has declined. The CORIN team tried to determine what factors may have contributed to this decline in the traditional source of prosperity for Pak Phanang. An overview of the history of rice production is shown in the timeline developed from interviews with local residents (Table 5.1).

Much of the lowland behind the coastal mangroves has been used for rice farming for generations. The land is flat, and the soils are of mixed terrigenous and marine origin with low organic content. Recently, farming has diversified somewhat and fruit and nut orchards also are important to the agricultural economy of the region. The average rainfall at the Pak Phanang Irrigation District office over the 15 year period of 1975-1989 was 1,685 mm, approximately 800 mm less than the average measured at Nakhon Si Thammarat, just 30 km away.

RAIN FED RICE FARMING: BEFORE 1940

The first rice fields depended solely upon rain for water. In July, at the very beginning of the rainy season, farmers would till their fields and eradicate the weeds that had grown during the dry time. Either "wet" or "dry" rice seed was used, depending upon the nature of the rains that year. The production of rice at the end of this period, according to interviews of rice farmers in the area was 500-1,000 kg/rai (3,125-6,250 kg/ha).

Towards the end of the 19th century, the government started to aid rice farmers by digging canals to provide better water drainage. This increased the area available for rice farming by making available land that previously had been flooded the entire year. The canals also provided better transportation to the farmers for getting their rice to market. Khlong Sukhum, a waterway that remains important today, was dug in 1897 connecting the Pak Phanang River with Khlong Bang Chak. Khlong Sukhum not only provided transportation and drainage, but brought fresh water to communities that suffered from salt water intrusion at high tides or in the dry season. At that time, Khlong Sukhum was not used for irrigation.



Seedling transplantation.

Table 5.1. Rice Timeline.

- 1897 Expansion of rice farms as a consequence of the construction of Khlong Sukhum.
- 1907 Rice trade very significant. Large rice mills built, international trade booms.
- 1917 Government prohibits private rice export.
- 1940 Road to Nakhon Si Thammarat started. Government controls rice export and buys rice from farmers at low prices.
- 1955 Government completely monopolizes rice trade, bringing about the declining profit for the large rice mills. Start of small-scale rice mills.
- 1962 Typhoon Harriet.
- 1967 Dredging of canals starts.
- 1972 Beginning of government promotion of rice farming. End of large rice mills. Shift of manpower to fishery.
- 1977 Double cropping introduced.
- 1988 Massive flood causes widespread damage. Intensive shrimp farming becomes important.



Rice paddy field.



Shrimp grading for processing.



TRANSITIONS: 1940-1972

The rain fed rice system gave way to irrigation and mechanization starting in about 1940. Changes in government and in society after the Second World War led to alterations in agricultural sector. More and more individual farmers owned their own land, but powerful and influential people were able to acquire large tracts of productive land.

The most important economic development during this time was the construction of the road, in the early 1940s, from Pak Phanang to Nakhon Si Thammarat City, parallel to Khlong Sukhum, followed by the construction of a water gate on Khlong Sukhum in 1950. The road facilitated land transport to the detriment of marine shipping, and greatly influenced the subsequent development, including rice farming, of the district of Pak Phanang.

In 1945, following World War II, the government took control of rice exports as a means of repaying war debts. The export control, which was designed to keep the price of rice high, had the opposite effect: because high priced Thai rice could not compete in world markets and the price of rice dropped drastically. Large scale mechanized rice mills, the first of which opened in 1905, disappeared by the mid-1950s, and were replaced by small scale rice mills operated by individual rice farmers.

An old rice mill.



In 1962, Typhoon "Harriet" hit the area and devastated the rice farming industry. Flooding of the paddy fields wiped out the year's planting, and, since there was no rice to sell, the Chinese merchants migrated away. For three years after the typhoon, rice farming was impossible, causing a massive transfer of manpower from rice to small-scale fishing in the coastal areas. Then the expansion of the commercial fishing fleet into the Gulf of Thailand fishery, particularly during 1975-1978, drew about 50% of the young people from the rice farms to the fisheries sector, causing a further drop in the capacity of the rice sector to be productive (see Chapter 6).

Soil fertility dropped and the rains became less dependable after typhoon Harriet according to the rice farmers we interviewed. In addition, the price of rice dropped (Figure 5.1) as a result of the government's pricing policy, particularly the premium imposed on exported rice, as well as increased international competition. The occupation of rice farming became a marginal one, with farmers barely able to earn a living from their land. The Royal Thai Government promoted rice production from about 1967 onward by introducing new varieties of rice and the use of fertilizers. Some canals were dredged to a depth of three to four meters to increase water storage as well as to repair damage from the 1962 typhoon.





Mechanization in ploughing.

THE GREEN REVOLUTION IN PAK PHANANG: 1977-1987

The "Green Revolution" in rice farming prompted the government to develop policy to increase rice production by changing rice growing technology in the region. Though the use of improved rice varieties, mechanized plowing, increased applications of fertilizer and pesticides and double-cropping using faster growing strains, about 50% of the rice farms in the Pak Phanang area switched

to taking two crops from the land each year. Total rice production during this period is shown in figure 5.2, and the average production was about 200 kg/rai (1250 kg/ha) for single crops and 400 kg/rai for double crops. The switch to double cropping brought a much higher demand for freshwater. The government tried to meet this increased demand by continued dredging of the irrigation canals and installation of additional water gates in the khlongs. Also, economic incentives were created, such as the establishment of the Bank for Agriculture and Cooperatives.

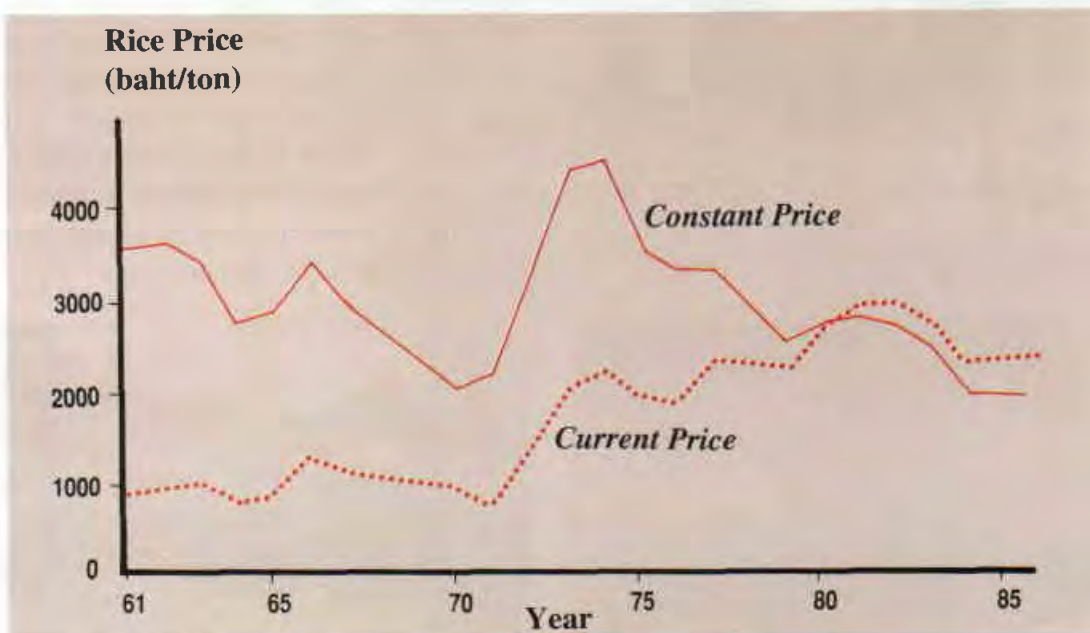
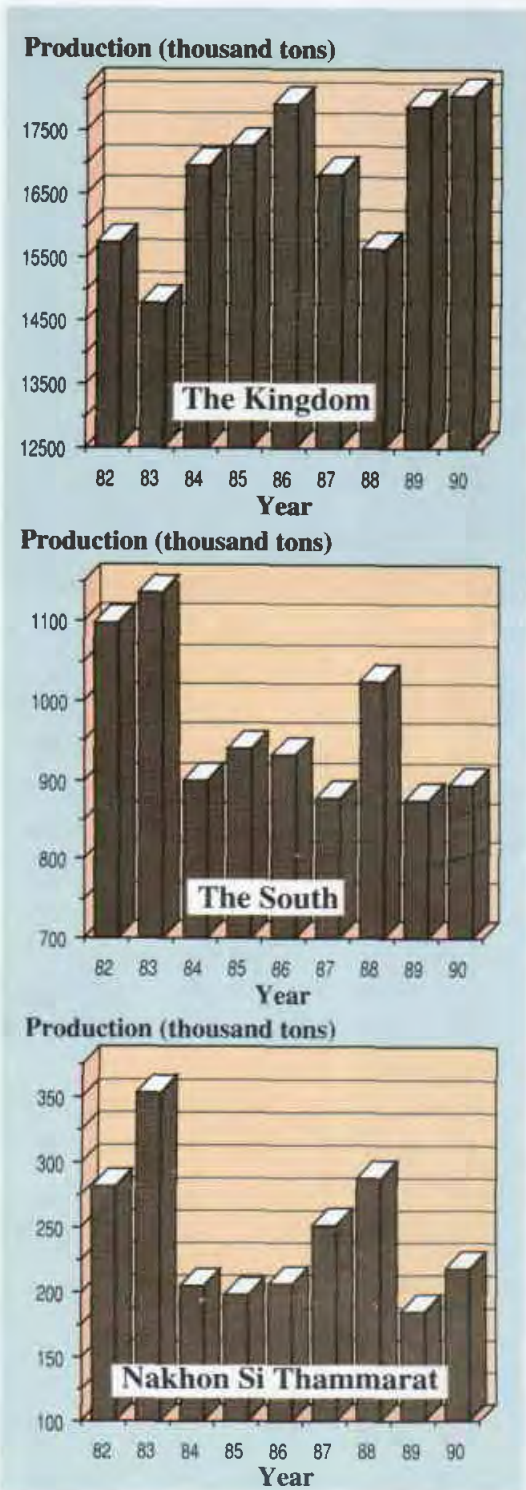


Figure 5.1. Rice value at the farm of Phattalung Province from 1961 to 1985, as compared to the value in constant 1,980 baht.



THE RICE CRISIS NOW: 1987-1991

The recent years have been difficult for rice farmers in the Pak Phanang area. The flood of 1988 was devastating for both the uplands and the lowlands. Total rice production dropped sharply, as some farmers lost their entire crops, although the average production remained about 207 kg/rai (1,813 kg/ha). The two years subsequent to the flood were unusually dry. Young people again left the area, searching for other occupations, causing a shortage of labor to plant and harvest. The poor economic returns for rice farming persuaded some farmers to turn to other crops, and now some of the farmers living along the canals are growing vegetables or fruits or converting to shrimp farms along the coast. Others have invested more heavily in making their paddy fields more productive, installing water pumps and sprayers as well as fertilizer and pesticides. Once again, the rice farmers are facing significant economic problems, now made more difficult by an apparent change in the local climate.

Figure 5.2.
A Comparison of rice production in all of Thailand, southern Thailand and the province of Nakhon Si Thammarat from 1982 to 1990.

