



# **DYNAMICS OF THAI AGRICULTURAL DEVELOPMENT**

Instructor : Nondh Nuchmorn  
Course : EE 390 Economics of Agricultural and Rural Development

# Early Development

- Thailand was already connected to world economy
- Treaty of Friendship and Commerce between the British Empire and the Kingdom of Siam (Bowring Treaty) 1855
  - ▣ 'Trade liberalization'
  - ▣ Free trade between British merchants and Siamese privates
  - ▣ Cancellation of 'deck duty' → 'import/ export tariffs'
  - ▣ Unequal treaties: → U.S., France, Portugal, Denmark, Hollanda, Japan, etc.

# Early Development

- Rice, salt, and fish become no longer prohibited trade commodities
- King Rama IV: “*Open Policy*” instead of “*closed Policy*” for rice trade
- Rice export → P↑ (3-5 baht to 16-20 baht/cart) → income generation → changing social structures
- Higher trade volume
- Export-oriented agricultural system of rice monoculture

# Early Development (the 1932-58)

- Agriculture remained the primary economic activities until the 1960s
- Rice milling industry → five family group of Chinese descent (Wanglee, Bulasuk, Bulakun, Iamsuri, Lamsam) came to dominate the rice trade in the 1930s (44% shares of rice milled in Thailand)
- Democratization: Economic policies tends to serve national interests > royal interests
- Increased government spending in canals and railways in rural areas → but little impact on productivity

# Early Development (the 1932-58)

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- Sugar industry protection → quadruple the area under crop between 1948-1957
- But in the late 1940s → Government imposed a series of export taxes and premiums on rice

# Thai Rice Policy

## Thailand Rice Premium Policy (1955-1973)

- the public explanation of rice premium were;
  - 1) To tax those middlemen and traders who were blamed as exploiting the rice price to farmers → 'profit tax'
  - 2) To keep the rice price low and benefiting consumers → 'price stabilization instrument'
- Main objective: "Max. gov. revenue"!! >> the welfare objective → to fund industrialization programmes
- Rice premium became the key gov. revenues (around 9-17% of total revenues)
- This revenues went to the 'Farmers subsidization fund'

# Thai Rice Policy

## **Thailand Rice Premium Policy (1955-1973)**

- Impacts
  - In 1950s, rice price that farmers received was about half the price they probably would received in the free market
  - Low labor costs
  - Favoring oligopolistic rice exporters

# Thai Rice Policy

## **Thailand Rice Premium Policy (1955-1973)**

- After 1973 (the civil uprising) → Election
  - The policy tended to be more populist to farmers
  - Introduction of 'Price guarantee schemes'
  - But rice premium was still maintained
    - Gov's reason: to keep the export price not too low by the domestic traders' competition

# Thai Rice Policy

## **Thailand Rice Premium Policy (1955-1973)**

- But on 1985, “Minimum price” that millers have to accept → affecting the exporters during the world price depression
- But practically, could not raise up the domestic price, gov,. Have no authority to force
- Cancellation of rice premium in 1986 → free trade

# The Engines of Growth (the 1960-70s)

- World communities boom → increased the importance of rubber within the export sector
- But P↓ after the war → poor returns for exports → government policy favored more to urban industrialization expansion and creation of internal market
- Agriculture facilitated industrialization
  - Supplying cheap food and labor, generating tax revenues, foreign exchange, and providing market for industrial outputs
- Between 1951 to 1958, the share of GNP from agriculture fell from 50.1% to 40.7%

# The Engines of Growth (the 1960-70s)

- Major source of agri. growth
  - ▣ Surplus land → “Expansion of cultivated land” (at the expense of forested areas)
  - ▣ More forest concessions were granted in the early 1970s than in any other period, allowing forested lands to be rapidly cleared, and occupied by farmers
  - ▣ enabled farmers to produce new commodities in new lands and increase exports in large quantities
  - ▣ Increasing growth → ‘Commodities boom’
    - Yield improvement, capital investment, and a shift from low value to high value crops

# The Engines of Growth (the 1960-70s)

- Major source of agri. growth
  - ▣ National Economic and Development Board
    - Agri-businesses
  - ▣ Bank of Agriculture and Agricultural Cooperatives (BAAC) in 1966
    - → encourage “diversification” → expansion of maize, cassava, kenaf, sugar crops
  - ▣ 1969, termination of the Thailand Sugar Cooperation’s monopoly on exports

# The Engines of Growth (the 1960-70s)

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## □ Diversification

- Between 1958-1971, the proportion of land planted to crops other than rice increased from 17.6% to 31.8%
- The failure of rice yields to improve dramatically even with the 'help' of the green revolution

# The Engines of Growth (the 1960-70s)

- Agricultural policies

- “Traditional government market intervention

- Comparative advantage

- “Policy bias” in agriculture for the major export commodities

- Rice and rubber → Taxes

- Maize and cassava → Export control

- \*Sugar → Subsidy

# Sunset (the 1980-90s)

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## **“Natural decline hypothesis”**

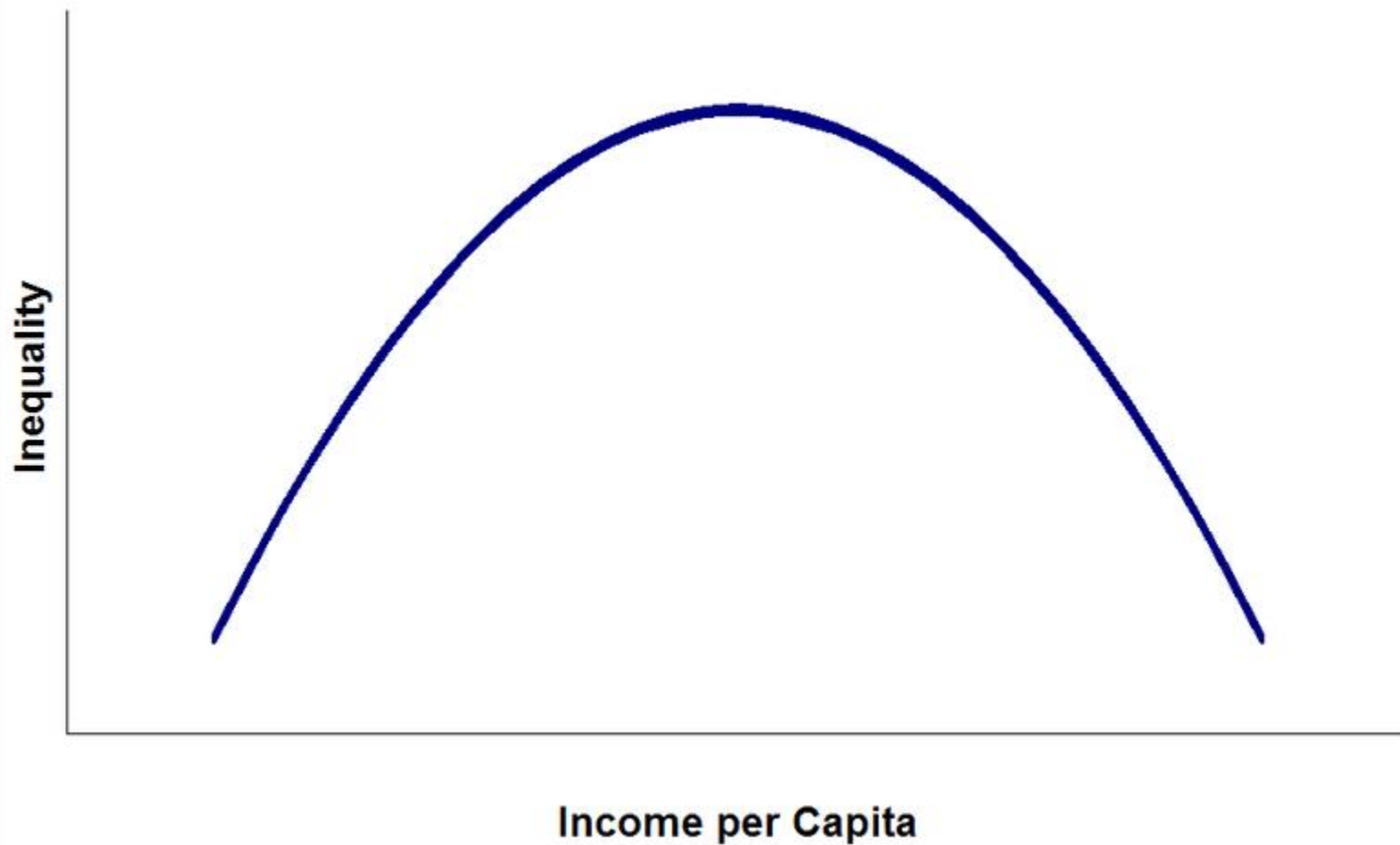
- Rise of industrial growth and, then, being self-sustained
- End of land frontiers → decreased in agri.price
- Declining share of Agri. in total GDP and total export
- Declining comparative advantages
- “Industrial boom” but “Agri.Commodity bust”

# Sunset (the 1980-90s)

- “Inter-sectoral inequality”?
  - ▣ Theoretically, “**Kuznets Curve**”:
    - first increasing and then decreasing level of inter-sectoral inequality
    - Narrowing gap between industrial and agricultural productivity

# Sunset (the 1980-90s)

- **“Kuznets Curve”:**



# Sunset (the 1980-90s)

- “Inter-sectoral inequality”?
  - But Thailand:
    - Continuously widening gap between agricultural and industrial labor productivity and wage level
    - the ratio of industrial over agricultural nominal wages increased from 6.34 in 1977 to 8.72 in 1990 → sectoral migration
    - The value of Gini-index climbing from 36.77 in 1975 to 46.96 in 1992
    - Trickle-down effects have reduced the country’s poverty incidence (as measured using a poverty line) from 42 percent in 1975 to 16 percent in 1992
    - Poverty is increasingly concentrated in rural areas

# Sunset (the 1980-90s)



- “Inter-sectoral inequality”?
  - ▣ But Thailand:
    - Low agricultural labor productivity → decreasing supplies of cheap foods into world markets

# Sunset (the 1980-90s)

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## **II. Dutch disease hypothesis**

- a massive boom in a large tradable sector, then the other tradable sectors would bear the cost of adjustments in the economy
- E.g. via “real exchange rate”, “competition in resource use”

# Sunset (the 1980-90s)

- **“Cost-price squeeze”**
- the export-oriented industrial boom
- primary factors of production become more expensive (wage for agriculture) → Costs go up,
- the (relative) prices come down as the real exchange rate appreciates + the effects from the severe worldwide agricultural depression of the 1980s

# Sunset (the 1980-90s)

- Impacts on the rural economy

## 1. **Changes in cropping patterns**

- the growth of the tradable crops, both exportables and import-competing, would be less than for the nontradable subsector
- the bulk of the growth has been in the fruit subsector, which grew at 9.9 percent per annum during the 1980s
- the growth in the protection of some important crops within that category, for example, the oil crops

# Sunset (the 1980-90s)

- Impacts on the rural economy

## 2. Labor markets

- Thai agriculture depends relatively more on hired labor than on family labor
- The share of expenses on hired labor (both cash and food provided during the operations) in total cash farm expenditures has increased from 33.6 percent in 1978/79 to 57.4 percent in 1991/92
- part of the is due to the increase in wage rates

# Sunset (the 1980-90s)

- Impacts on the rural economy

## 2. Labor markets

- Farmers are increasingly separating themselves into two categories

### 1) “casual farmers”

- older, using traditional methods, not particularly innovative
- their income and interests lie elsewhere than in farming, or else they are too old to introduce large changes in their patterns of living
- Expected to dwindle into insignificance within a generation

# Sunset (the 1980-90s)

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## 2) “professional farmers”

- acquiring new kinds of farming skills and technology to cope with changing output markets, but more importantly, to cope with the shortage and high cost of labor

# Sunset (the 1980-90s)



- Four major factors

1. A scarcity of water
2. A shortage of labor
3. An inefficient utilization of pesticides
4. Increasing competition in the world market

# Sunset (the 1980-90s)

## □ Scarcity of water

- Crop sector (e.g. rice) is the most water-intensive production
- Water is a free good (costless) but not adequate to the increasing demands for it → Water scarcity
  - A long-term declines in annual rainfall
  - changes in patterns of highland use, and upland cropping on the fringes of the basin → deforestation → reduced the sideflow into the Chao Phraya basin's tributaries and irrigation canals
  - rapid development in the North has tripled its water use of capita
  - the sectoral allocation of water has changed in favor of urban and industrial areas
    - the Bangkok Metropolitan region
    - Eastern Seaboard Industrial Area

# Sunset (the 1980-90s)

## □ Scarcity of water

- raising overall demand for water in agriculture → accumulated irrigated area has grown from 10,223,140 rai in 1960, to 18,685,480 rai in 1994
- water distribution is so inefficient and poorly maintained that an increasing portion of water is lost
- Free good → inefficient utilization

# Sunset (the 1980-90s)

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- Scarcity of water

Impacts:

- water shortages always hurt rural farmers more than urban workers and industrialists
- lower yields and smaller crops
- switching to the cultivation of less water intensive crops

# Sunset (the 1980-90s)

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## □ Labor shortage

- Rapid economic expansion → increased aggregate demands for agriculture
- Declining population growth rates, declining share of the labor force in total population
- Increasing competition for labor among sectors
- The number of employed persons in agriculture dropped from 20.5 million in 1989 to 16.9 million in 1995

# Sunset (the 1980-90s)

## □ Labor shortage

### Reasons

- many agricultural workers took up employment in non-agricultural sectors
- real wages in industry rose from 108.18 baht/day in 1977 to 206.42 baht/day in 1995, while real wages in agriculture stagnated at 63.99 baht/day until 1993
- the school enrollment of 15-24 years old increased by 1.51 million, accounting for 51 percent of the reduction of their agricultural employment

# Sunset (the 1980-90s)

- Inefficient uses of pesticides
  - Thailand's most pesticide-intensive crops, vegetables and fruits, are also its highest value added crops
  - Increasing shares of pesticide costs in total production costs
  - with 96 registered producers in 1996, Thailand's pesticide market is highly competitive
  - the great gap between registered trade-names and generic names → increased farmers' uncertainty regarding the effectiveness of pesticides

# Sunset (the 1980-90s)

- Inefficient uses of pesticides
  - a number of public policies have encouraged pesticide use
    - government's reduction of the import duty on formulated pesticides from 5 percent to 0 in 1992
    - tax differentials among agricultural inputs → the total effective tax on pesticides is 7 percent, while that on agricultural machinery and active ingredients for fertilizers is 8.05 percent and 17.7 percent, respectively.
    - DOAE provides farmers with free pesticides in case of a pest outbreak →  $MC = \text{almost } 0$ , Alternative methods: Integrated Pest Management (IPM) (biological control methods) are paid less attention

# Sunset (the 1980-90s)

- Inefficient uses of pesticides
  - Thai farmers generally spray highly concentrated pesticides with little intervals between spraying rounds, chemical residues in food are generally high
  - farmers often mix pesticides, creating a “cocktail” of several chemicals, without considering their combination possibilities
  - farmers frequently increase the concentration of pesticides, in the belief that increased intensities lead to greater protection
  - farmers tend to have a strong preference for pesticides which wipe out pests rapidly, thus using the most hazardous chemicals

# Sunset (the 1980-90s)

- Inefficient uses of pesticides
  - adverse externalities on consumers and the environment, whose costs are not borne by farmers and thus not included in the market price
    - the annual social costs in 1990 → 5.5 billion baht
    - implying that for every baht spent on pesticides society incurs costs of about one baht
  - pesticide application harm farmers' health and are technologically inefficient, i.e., they do not maximize farmers' expected profits

# Sunset (the 1980-90s)

## □ Agricultural Policies

- three-year plan on “Restructuring Agricultural Production Systems” (RAPS) in the late 1993
- reduce and replace the production of rice, cassava, coffee, and pepper, with the production of higher value products, such as vegetables, flowers, fruit trees, bamboo (for human consumption), fast-growing trees, cattle, and milk cows
- Policy instrument: subsidized credits and inputs

# Sunset (the 1980-90s)

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- Inefficiencies

1. the government's attempt to successfully pick winners and losers crucially depends on its knowledge and ability to forecast markets and prices better than farmers.

- However, the government's record in forecasting prices has been poor

# Sunset (the 1980-90s)

## □ Inefficiencies

2. the promotion of the production of “new” high value added products requires the government to provide farmers with adequate technology
3. planted area reduction of four main crops was incapable of maintaining their prices, the domestic prices of all major crops are determined by prices on the world market (except rice)
4. farmers who participated in the program were those who had already made plans to restructure their production

# Sunset (the 1980-90s)



- the world markets for most agricultural markets were (and still are) depressed by massive subsidies and protectionism, mostly from developed countries (but including some East Asian countries as well)
- The first response to the fall in world prices, particularly in the early to mid-1980s, was to try and "support" domestic prices, with public purchases at above market price

# Sunset (the 1980-90s)

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- Inefficiency
  - short-term influence
  - The purchases were too small to exercise any influence on prices
  - never put into a coherent well-thought out program
  - discredited as vehicles for patronage and corruption

# Policy reform?



- Institutional restructuring of the agricultural system
  - a mechanism to forecast demand for various commodities, and then manage the supply to match with the forecasted demand
  - Introduction of the “marketing boards”/ national agricultural council
  - Practice of “contract farming” whereby an agri-business firm would contract with farmers to produce a commodity, whose purchase and sometimes the price the firm would guarantee.

# Policy reform?

## “Supply management policy”

- Instead of trying to control supplies directly, the government began to provide incentives to draw farmers away from growing crops that it deemed to be in excess supply
- Instrument: credit policy
  - ▣ BAAC → has an organ which had close (if not always friendly) relations with individual farmers

# Policy reform?



- Livelihood development policy
- Natural resource & environmental policy