Associate Professor Nipon Poapongsakorn, a distinguished fellow and former President, Thailand Development Research Institute Foundation (TDRI)

Dr. Nipon Poapongsakorn formerly held the position of President of TDRI, and Dean, Faculty of Economics, Thammasat University, where he was also Associate Professor. He has been also teaching business and political economy course in the Executive MBA program of Thammasat University.

Nipon Poapongsakorn is the author of over 160 research articles and publications related to labour economics and human resources; agricultural and livestock policies; industrial economics, trade and investment; corruption and conflicts of interest, as well as economic evaluation and planning assessment. His on-going research is the rice research and long-term issues facing the rice industry. He now begins to do new research in the areas of water management, emphasizing on the institutional arrangement of flood management.

Nipon Poapongsakorn has advised governments, the ADB and the World Bank on issues from the rice price and agricultural policy, education and industrial policy to trade strategy. He is currently an executive member of the Asian Society of Agricultural Economists, member of the Tribunal of Public Information on Economy and Fiscal Information, the Legal Development Committee of the Council of State, and the National Reform Assembly Committee etc. He used to serve as committee members and directors of several government agencies, state enterprises and foundations, e.g., the Board of Investment, the National Economic and Social Development Board, the Trade Competition Committee, the Port Authority of Thailand, the Government Saving Bank, TMB Board of Directors and the Foundation of Rural Reconstruction and Development, etc.
Rice in Thailand: Production, Consumption, Export and Policy

Nipon Poapongskorn
Thailand Development Research Institute

The workshop on South-East Asian rice production. Hosted by KNIT and TRF at the Rama Gardens Hotel, Bangkok March 18th to March 22nd, 2013.

Outline

- Production
- Consumption
- Stock
- Export
- Paddy pledging project
RICE PRODUCTION

Rice output increased by 7 times in 65 years.
Expansion of Rice Production in modern Thai history
1947 - 2012

Source: TDRI, 2012
Production (Tons)

Wet season (growth 2.06%)

Dry season (growth 6.12%)

Planted area (Ha)

Wet season (growth 0.94%)

Dry season (growth 6.53%)

Source: OAE.
**Yield (Kg./Ha)**

Yield - Wet season (Kg./Ha)
- Growth: 1.12%

Yield - Dry season (Kg./Ha)
- Growth: -0.52%

Source: OAE.

**Index of harvested area and production**

Wet season (1993=100)

Dry season (1993=100)

Source: OAE.
Water shortages are becoming more severe but irrigated area increased slowly.

**Irrigation area (growth 0.92%)**

<table>
<thead>
<tr>
<th>Years</th>
<th>Millions Ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>1984</td>
<td>2.5</td>
</tr>
<tr>
<td>1987</td>
<td>2.5</td>
</tr>
<tr>
<td>1990</td>
<td>2.5</td>
</tr>
<tr>
<td>1993</td>
<td>3.5</td>
</tr>
<tr>
<td>1996</td>
<td>3.0</td>
</tr>
<tr>
<td>1999</td>
<td>3.5</td>
</tr>
<tr>
<td>2002</td>
<td>3.5</td>
</tr>
<tr>
<td>2005</td>
<td>3.5</td>
</tr>
<tr>
<td>2008</td>
<td>4.0</td>
</tr>
</tbody>
</table>

Source: RID and TDRI 2012.

**Demand for water to grow rice.**

<table>
<thead>
<tr>
<th>Years</th>
<th>Billion M3</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>15</td>
</tr>
<tr>
<td>2014</td>
<td>16</td>
</tr>
<tr>
<td>2016</td>
<td>16</td>
</tr>
<tr>
<td>2018</td>
<td>17</td>
</tr>
<tr>
<td>2020</td>
<td>18</td>
</tr>
<tr>
<td>2022</td>
<td>18</td>
</tr>
<tr>
<td>2024</td>
<td>18</td>
</tr>
<tr>
<td>2026</td>
<td>20</td>
</tr>
</tbody>
</table>

**Land holding size increased.**

**Paddy Farm size in Central Plains, (Ha/household)**

<table>
<thead>
<tr>
<th>Years</th>
<th>Size (Ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>3.86</td>
</tr>
<tr>
<td>1998</td>
<td>3.47</td>
</tr>
<tr>
<td>2003</td>
<td>3.74</td>
</tr>
<tr>
<td>2008</td>
<td>3.81</td>
</tr>
</tbody>
</table>

Source: NSO, Agricultural Census.
Young workers moved out of agriculture

Older workers remained in agriculture

Source: NSO, Labor Force Survey.

The increased use of agricultural machinery.

Number of agricultural machinery

Source: OAE and FAO.
In response to increasing incidence of filth in rice seeds, farmers buy new seeds, rather than cleaning the seeds, thanks to family labor shortage.

Source: TDRI Survey 2012.

Increasing incidence of using planting machines and parachute in Central Plains: Time saving

Source: TDRI Survey 2012.
**Increasing use of combined harvesters: time saving and cost reduction**

Source: TDRI Survey 2012.

**Hiring big trucks to transport paddy to the market rather than using own vehicles: time saving & lower transportation cost**

Source: TDRI Survey 2012.
Rice farmers use more fertilizer and Central Plains use fertilizer more than other region.

Insecticide use on the rise due to duty free.
The outbreak of pest due to increasing cropping intensity

Areas of BPH outbreaks 2009-2010

Proportion of farmers who suffer from outbreak by type of pest 2005 and 2010

BPH is a major problem.

Disaster in Thailand 1989-2010

Number of drought-affected tambons

Number of flood-affected tambons

Value of drought damage

Value of flood damage


Source: TDRI Survey 2012.

Source: Department of disaster prevention and mitigation.
Effect of flood and drought on agriculture 1989-2010

Areas of drought-affected (Million ha)

Areas of flood-affected (Million ha)

Source: Department of disaster prevention and mitigation.

Investment in research is declining. To politicians, unlike extension services, investment in research do not yield short-term benefits

Rice Research Intensity

Source: Bureau of the Budget, NRCT and NESDB.
CONSUMPTION OF RICE

Global rice consumption is increasing slowly. And may begin to decline in the next 10 years.

Thailand rice consumption in the next 10 years is increasing slowly.

Source: C. Peter Timmer, Steven Block, and David Dawe, 2010.

Thailand rice consumption

Source: TDRI 2012.

Source: C. Peter Timmer, Steven Block, and David Dawe, 2010.

Asian reduce the consumption of rice.

Percentage of calories from rice. In total calories.

Source: FAO Food Balance Sheets.

Thailand: rice and flour consumption per capita (kg).

Source: NSO, SES.

RICE STOCK (SKIP)
GOVERNMENT STOCK OF RICE IS ALWAYS THE SECRET.
The actual quantity between 100 – 170 million tons.

USDA – World Ending Stocks
(mil. tons)

FAO – World Ending Stocks
(mil. tons)

Source: USDA and FAO.

China increased ending stock.

USDA – Ending stock (mil. tons)

FAO - Stock Variation (mil. tons)

Source: USDA and FAO.
Rice export jumped from 4 mt to 11 mt between 1990 and 2011, then declined drastically due to the paddy pledging policy.

Rice export of Thailand 1990-2012

Source: Thai Rice Exporters Association and Ministry of Commerce.
Export markets are very diversified, thanks to the effort of private exporters

Top 10 destinations

- Nigeria: 13%
- Senegal: 10%
- Iran: 9%
- South Africa: 7%
- Malaysia: 5%
- North Korea: 4%
- Iraq: 4%
- China: 4%
- Singapore: 4%
- Other: 36%

Source: Thai Rice Exporters Association.

Almost equal export shares of 3 types of rice

Rice export by selected rice

Source: Thai Rice Exporters Association.
Source: Thai Rice Exporters Association and USDA.

Value of total rice export

Quantity of total rice export

Source: Thai Rice Exporters Association.
Value of white rice export

- 2009/10 [0.09 Trillion Baht]
- 2010/11 [0.14 Trillion Baht]
- 2011/12 [0.08 Trillion Baht]
- 2012/13 [0.03 Trillion Baht]

Quantity of white rice export

- 2009/10 [5.75 Million Tons]
- 2010/11 [9.38 Million Tons]
- 2011/12 [5.00 Million Tons]
- 2012/13 [1.73 Million Tons]

Value of Hom Mali rice export

- 2009/10 [61.4 Billions Baht]
- 2010/11 [63.0 Billions Baht]
- 2011/12 [55.6 Billions Baht]
- 2012/13 [22.9 Billions Baht]

Quantity of Hom Mali rice export

- 2009/10 [2.27 Millions Ton]
- 2010/11 [2.53 Millions Ton]
- 2011/12 [1.87 Millions Ton]
- 2012/13 [0.76 Millions Ton]

Source: Thai Rice Exporters Association.
PADDY PLEDGING PROJECT

Amount and value of paddy sold under the pledging project

Paddy (36 million tons in 3 seasons)

Value (670 billion baht)

Source: BAAC.
Government’s poor export performance.
The rice was sold only 60 billion baht in 2012.

Plan of sold rice in pledging program

<table>
<thead>
<tr>
<th>Year</th>
<th>Plan</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>156,000</td>
<td>15,000</td>
</tr>
<tr>
<td>Jan-13</td>
<td>15,000</td>
<td>7,300</td>
</tr>
<tr>
<td>Feb-13</td>
<td>13,800</td>
<td>13,500</td>
</tr>
</tbody>
</table>

Source: MOC and BAAC.

Profit and loss of rice pledging program.

<table>
<thead>
<tr>
<th>Category</th>
<th>Expenditure</th>
<th>Revenue</th>
<th>Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Billion baht</td>
<td>382</td>
<td>207</td>
<td>-175</td>
</tr>
</tbody>
</table>

Source: TDRI.
Paddy expensive, Cheap rice

(A) paddy price (15%)

Paddy (15%)

Source: Rice price at Ayutthaya. Rice Mills Association of Thailand and the Office of Trade and Economic Indices. Ministry of Commerce

Who Won, Who Lost

Gainers

Losses of 175 billion baht (If no corruption).

Losers

• Taxpayers.
• Export business.
• Business, who not have to pull some strings
Who sold rice to the program? (Cont.)

The benefits of farmers participating in the pledging program by the pledging value.

Wet season 2011/12

<table>
<thead>
<tr>
<th>Value Range</th>
<th>Number of Farmer</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.01-0.2 Mil. THB</td>
<td>80.4</td>
<td>48.9</td>
</tr>
<tr>
<td>0.21-0.4 Mil. THB</td>
<td>17.4</td>
<td>34</td>
</tr>
<tr>
<td>0.41-0.6 Mil. THB</td>
<td>1.2</td>
<td>12.1</td>
</tr>
<tr>
<td>&gt;6 Mil. THB</td>
<td>0.9</td>
<td>0.9</td>
</tr>
</tbody>
</table>

(13.7 tons)(27.3 tons) (41 tons) (>41 tons)

Dry season 2012

<table>
<thead>
<tr>
<th>Value Range</th>
<th>Number of Farmer</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.01-0.2 Mil. THB</td>
<td>64.5</td>
<td>32.9</td>
</tr>
<tr>
<td>0.21-0.4 Mil. THB</td>
<td>32.9</td>
<td>24.7</td>
</tr>
<tr>
<td>0.41-0.6 Mil. THB</td>
<td>7.2</td>
<td>36.1</td>
</tr>
<tr>
<td>&gt;6 Mil. THB</td>
<td>7.2</td>
<td>18.2</td>
</tr>
</tbody>
</table>

(13.7 tons)(27.3 tons) (41 tons) (>41 tons)

Source: BAAC.

Who have benefited? Poor or rich farmers?

- spread the benefits of pledging program (assuming that every farmer who sold rice at 15,000 baht / ton).

Source: Ammar, calculate from SES, NSO.
THANK YOU