FOOD SECURITY SITUATION AND POLICY IN INDONESIA

Ronnie S. Natawidjaja
Irlan A. Rum

Center for Agrifood Policy and Agribusiness Studies
Padjadjaran University
Country Report Content

• Current rice production, utilization and food security situation in Indonesia
• Public policies on rice and food security in Indonesia
• Benefit Cost Analysis on different policy to achieve rice self sufficiency
• Conclusions
The Political Economy Context

• Rice is not just only the main staple or a commodity, it is nationally recognized cultural symbol of prosperity which carried into modern-day

• *Lumbung* which is the traditional rice barn found in every island and among all ethnic groups, is extensively used as a symbol of guarantee for food security

• From the political economic view, the government felt need to demonstrate its ability to control rice market in order to gain public confident.
Self-sufficiency has become the political objectives

• The argument has gained **even stronger support from the Parliament and interest groups** following the food price crisis in 2008.

• New Food Law 2012 strongly stated that **Food Security in Indonesia** has to be based on **local food availability** and **food sovereignty**

• Indonesian policy of self-sufficiency has been defined as at least **90% self-sufficient** in trend and allows BULOG to **import about 10%**.
The Food Law 18/2012

• According to the New Food Law No. 18/2012, Food Security has been defined as a situation when “individual” at all times, have physical, social and economic access to sufficient, diversified, safe and nutritious food that meets his/her dietary needs, food preferences and religious believes for an active and healthy life.

• The law also emphasizes that the food security condition should be developed based on primarily domestic production and the ability to define own food preference (food sovereignty) based on local specific need and resources.
• Food security is often misunderstood as “securing (protecting) our food need” → rice self sufficiency strategy seen as the only solution to the problem.

• These misunderstanding on definition of food security have been exploited for mainly a political gain. With a population of 230 million, fear of not having enough food and depended to other country is a popular issue.

• The self sufficiency on rice has becoming a must for every cabinet → The Ministry of Agriculture spent most of its budget for program to improve rice production by all mean possible even if only work temporarily for a short period.
Objective and Research Method

• The objective of the paper is to provide background information and political economic view from the country level perspective.
• We conducted key informant interview with the rice market stakeholders and Food Security in general
• Successfully interviewed 13 key informants all together:
  ▪ the Chamber of Commerce (Food and Agribusiness Section)
  ▪ Special staffs to the minister and the director of the Agency for Food Security
  ▪ The management of BULOG
  ▪ Large rice trader and modern millers
  ▪ Farmer leaders
  ▪ Modern retailers, and
  ▪ The Food Station which manages the largest Rice Wholesale Market in Indonesia, Cipinang Central Market, Jakarta.
# Rice Production in Indonesia

<table>
<thead>
<tr>
<th>Year</th>
<th>Area Harvested (000 Ha)</th>
<th>Yield (Ton/Ha)</th>
<th>Production (000 Ton)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Java</td>
<td>Outside Java</td>
<td>National</td>
</tr>
<tr>
<td>2000</td>
<td>5,754</td>
<td>6,040</td>
<td>11,794</td>
</tr>
<tr>
<td>2001</td>
<td>5,701</td>
<td>5,789</td>
<td>11,490</td>
</tr>
<tr>
<td>2002</td>
<td>5,608</td>
<td>5,913</td>
<td>11,521</td>
</tr>
<tr>
<td>2003</td>
<td>5,376</td>
<td>6,112</td>
<td>11,488</td>
</tr>
<tr>
<td>2004</td>
<td>5,714</td>
<td>6,209</td>
<td>11,923</td>
</tr>
<tr>
<td>2005</td>
<td>5,708</td>
<td>6,131</td>
<td>11,839</td>
</tr>
<tr>
<td>2006</td>
<td>5,704</td>
<td>6,083</td>
<td>11,786</td>
</tr>
<tr>
<td>2007</td>
<td>5,671</td>
<td>6,477</td>
<td>12,148</td>
</tr>
<tr>
<td>2008</td>
<td>5,742</td>
<td>6,585</td>
<td>12,327</td>
</tr>
<tr>
<td>2009</td>
<td>6,066</td>
<td>6,777</td>
<td>12,843</td>
</tr>
<tr>
<td>2010</td>
<td>6,358</td>
<td>6,895</td>
<td>13,253</td>
</tr>
</tbody>
</table>
## Rice Utilization in Indonesia

<table>
<thead>
<tr>
<th>Year</th>
<th>Household Consumption (000 Ton)</th>
<th>Feed &amp; Waste (000 Ton)</th>
<th>Seed (000 Ton)</th>
<th>Processing (000 Ton)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Java</td>
<td>Outside Java</td>
<td>National</td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>18,153</td>
<td>12,652</td>
<td>30,805</td>
<td>3,218</td>
</tr>
<tr>
<td>2001</td>
<td>17,070</td>
<td>11,975</td>
<td>29,045</td>
<td>3,105</td>
</tr>
<tr>
<td>2002</td>
<td>17,387</td>
<td>12,278</td>
<td>29,665</td>
<td>2,673</td>
</tr>
<tr>
<td>2003</td>
<td>17,607</td>
<td>12,516</td>
<td>30,123</td>
<td>2,709</td>
</tr>
<tr>
<td>2004</td>
<td>17,643</td>
<td>12,625</td>
<td>30,268</td>
<td>2,783</td>
</tr>
<tr>
<td>2005</td>
<td>18,235</td>
<td>13,135</td>
<td>31,370</td>
<td>2,864</td>
</tr>
<tr>
<td>2006</td>
<td>18,283</td>
<td>13,255</td>
<td>31,538</td>
<td>2,876</td>
</tr>
<tr>
<td>2007</td>
<td>19,294</td>
<td>14,080</td>
<td>33,374</td>
<td>3,027</td>
</tr>
<tr>
<td>2008</td>
<td>20,297</td>
<td>14,910</td>
<td>35,207</td>
<td>3,195</td>
</tr>
<tr>
<td>2009</td>
<td>20,277</td>
<td>14,994</td>
<td>35,271</td>
<td>3,408</td>
</tr>
<tr>
<td>2010</td>
<td>21,376</td>
<td>16,034</td>
<td>37,410</td>
<td>3,399</td>
</tr>
</tbody>
</table>

Sources: BPS, MOA
Rice Production and Consumption in Indonesia (Milled Rice)

MilionTonnes

2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010

Consumption  Production
Averages Food Expenditures per Capita by Food Items (percent of total expenditure)

Sources: BPS,
Monthly Rice Production in Indonesia 2004-2008 (Thousand Tons)

Sources: BPS,
## Rice Import and Export

<table>
<thead>
<tr>
<th>Year</th>
<th>Rice Imports (000 Ton)</th>
<th>Rice Export (000 Ton)</th>
<th>Net (000 Ton)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>1,354</td>
<td>1</td>
<td>-1,353</td>
</tr>
<tr>
<td>2001</td>
<td>637</td>
<td>4</td>
<td>-633</td>
</tr>
<tr>
<td>2002</td>
<td>1,786</td>
<td>4</td>
<td>-1,782</td>
</tr>
<tr>
<td>2003</td>
<td>1,425</td>
<td>1</td>
<td>-1,424</td>
</tr>
<tr>
<td>2004</td>
<td>236</td>
<td>2</td>
<td>-234</td>
</tr>
<tr>
<td>2005</td>
<td>189</td>
<td>43</td>
<td>-146</td>
</tr>
<tr>
<td>2006</td>
<td>438</td>
<td>1</td>
<td>-437</td>
</tr>
<tr>
<td>2007</td>
<td>1,405</td>
<td>2</td>
<td>-1,403</td>
</tr>
<tr>
<td>2008</td>
<td>286</td>
<td>1</td>
<td>-285</td>
</tr>
<tr>
<td>2009</td>
<td>450</td>
<td>0</td>
<td>-450</td>
</tr>
<tr>
<td>2010</td>
<td>686</td>
<td>0</td>
<td>-868</td>
</tr>
</tbody>
</table>

Sources: BPS, Bulog, MOA
Indonesia Rice Import

Million Tones

Year:
- 2000
- 2001
- 2002
- 2003
- 2004
- 2005
- 2006
- 2007
- 2008
- 2009
- 2010

Units:
- Million Tones

Graph showing the trend of Indonesia's rice import from 2000 to 2010.
Rice Value Chain in Indonesia

Source: Natawidjaja et.al, 2009
Rice Value Chain: Cost, Value Add, and Margin

Source: The rice value chain analysis was calculated based on primary data collected in October 2010 directly from farmers and various actors on the chain starting from Subang District, the main production center of West Java North Coastal area to the market center of Jakarta area.
### Province with Highest Poverty Level in Indonesia 2009

<table>
<thead>
<tr>
<th>Province</th>
<th>Absolute Number of Poor (000)</th>
<th>Percentage of People Below Poverty Line</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Urban</td>
<td>Rural</td>
</tr>
<tr>
<td>Papua</td>
<td>28.2</td>
<td>732.2</td>
</tr>
<tr>
<td>Papua Barat</td>
<td>8.6</td>
<td>248.3</td>
</tr>
<tr>
<td>Maluku</td>
<td>38.8</td>
<td>341.2</td>
</tr>
<tr>
<td>Gorontalo</td>
<td>22.2</td>
<td>202.4</td>
</tr>
<tr>
<td>Nusa Tenggara Timur</td>
<td>109.4</td>
<td>903.7</td>
</tr>
<tr>
<td>Nusa Tenggara Barat</td>
<td>557.5</td>
<td>493.4</td>
</tr>
<tr>
<td>Aceh</td>
<td>182.2</td>
<td>710.7</td>
</tr>
<tr>
<td>Lampung</td>
<td>349.3</td>
<td>1,209.0</td>
</tr>
<tr>
<td>Sulawesi Tengah</td>
<td>54.7</td>
<td>435.2</td>
</tr>
<tr>
<td>Sulawesi Tenggara</td>
<td>26.2</td>
<td>408.2</td>
</tr>
<tr>
<td>Bengkulu</td>
<td>117.6</td>
<td>206.5</td>
</tr>
<tr>
<td>Jawa Tengah</td>
<td>2,420.9</td>
<td>3,304.8</td>
</tr>
<tr>
<td>DI Yogyakarta</td>
<td>311.5</td>
<td>274.3</td>
</tr>
<tr>
<td>Jawa Timur</td>
<td>2,148.5</td>
<td>3,874.1</td>
</tr>
<tr>
<td><strong>INDONESIA</strong></td>
<td>11,910.5</td>
<td>20,619.4</td>
</tr>
</tbody>
</table>

Source: BPS
Correlation between Poverty Level and Food Expenditure by Province

Source: BPS
Vulnerability to Food Insecurity
Map of Indonesia

Thirty Most Vulnerable Districts to Food Insecurity by Provinces

Policy Instrument Supporting Food Security Policy

Policy instrument support the Food Security Policy:

- Rice trade policy (border control)
- Input and food subsidies
- Price stabilization policy
- Government procurement and reserve stock policy, and
- Rice for the poor policy (Raskin)
• Rice is **90% self-sufficient** in trend, allows BULOG to **import about 10%**.
• There is **no clear rule** about what determines the need for rice imports, how much imports are necessary, and **when to import**.
• Multiple authorities on rice import decision generated **heated debates and greater uncertainty in the rice market**, further increasing rice prices during critical times to the disadvantage of the poor.
Current Rice Self Sufficiency Policy

• Domestic market is isolated, no direct link to international rice market and import is facilitated by BULOG
• The current rice policy has resulted in more stable but much higher rice prices than the international rice price levels
• At the time of the lowest stock (Nov-Jan), domestic market is vulnerable to issue, gossip and speculation.
Domestic Rice Price in Indonesia and International Prices

Source: BULOG
Government Subsidy and Budget to Secure the National Food Security

Million IDR

Source: Coordinating Ministry of Economy
Government Purchase Price and the Actual Market Price for Rice and Paddy

Source: BULOG
Government Rice Stock Holding

Source: BULOG
# Rice for the Poor Distribution

<table>
<thead>
<tr>
<th>Year</th>
<th>Rice Distributed (ton)</th>
<th>Number of Recipient (Household)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>1,350,000</td>
<td>7,500,000</td>
</tr>
<tr>
<td>2001</td>
<td>1,501,274</td>
<td>8,700,000</td>
</tr>
<tr>
<td>2002</td>
<td>2,349,600</td>
<td>9,790,000</td>
</tr>
<tr>
<td>2003</td>
<td>2,059,276</td>
<td>8,580,313</td>
</tr>
<tr>
<td>2004</td>
<td>2,061,793</td>
<td>8,590,804</td>
</tr>
<tr>
<td>2005</td>
<td>1,991,897</td>
<td>8,300,000</td>
</tr>
<tr>
<td>2006</td>
<td>1,624,500</td>
<td>10,830,000</td>
</tr>
<tr>
<td>2007</td>
<td>1,736,007</td>
<td>15,781,884</td>
</tr>
<tr>
<td>2008</td>
<td>3,342,500</td>
<td>19,100,000</td>
</tr>
</tbody>
</table>

Source: BULOG
Benefit Cost Ratio of the Current Policy

• The Total Benefit:
  - Total value of rice production at domestic price

• The Total Cost:
  - Cost of rice production
  - Cost of seed and fertilizers subsidy
  - Cost of government rice procurement
  - Cost of rice import by BULOG

- The Benefit Cost Ratio = 1.00
Benefit Cost Ratio of the Current Policy

Average Benefit Cost Ratio = 1.00
Full Rice Self-Sufficiency Policy

• Rice is **100% self-sufficient, no trade is allowed.** So, domestic rice market is completely isolated

• There is **little saving from not importing** the rice, since the need for rice import is actually quite small

• To match the growing demand of rice and compensating for rice land conversion, government **need to spend additional budget** to keep certain amount of land available for rice production

  ▪ **The Benefit Cost Ratio = 0.98**
Benefit Cost Ratio of Full Rice Self-Sufficiency Policy

• The Total Benefit:
  ▪ Total value of rice production at domestic price
  ▪ Total saving from buying rice import

• The Total Cost:
  ▪ Cost of rice production
  ▪ Cost of seed and fertilizers subsidy
  ▪ Cost of government rice procurement
  ▪ Cost of rice land expansion (to keep up with demand)

 ▪ The Benefit Cost Ratio = 0.96
Benefit Cost Ratio of Full Rice Self-Sufficiency Policy

B/C Ratio

Average Benefit Cost Ratio = 0.98
Rice Self-Sufficiency Policy with Quota

• Rice is **90% self-sufficient** in trend, allows for import about **10% through quota**.
• Fixed rice import quota is set before the end of each **year** according to production and consumption prediction.
• The **National Food Authority** is mandated by the Food Law No. 18/2012 can decide on the amount of import quota needed and put into transparent bids to avoid corruption.
• Indonesia will still be able to **maintain its self-sufficiency policy but with more efficient, less harmful** results and consistent with international market price trends.
Benefit Cost Ratio of Rice Self-Sufficiency Policy with Quota

• The Total Benefit:
  - Total value of rice production at domestic price
  - Total saving from price adjustment to international market

• The Total Cost:
  - Cost of rice production
  - Cost of seed and fertilizers subsidy
  - Cost of government rice procurement
  - Cost of rice imported

• The Benefit Cost Ratio = 1.042
Benefit Cost Ratio of Rice Self-Sufficiency Policy with Quota

Average Benefit Cost Ratio = 1.042
Rice is **90% self-sufficient** in trend, allows for a controlled import through tariff;

Tariff barrier is a **preferred mechanism** from the trade agreement perspective;

**Tariff is set at 32%** to achieve an import target similar to the amount controlled by quota;

However, the challenge with the mechanism is on a border control and high cost of monitoring for the tariff policy to be effective.
Benefit Cost Ratio of Rice Self-Sufficiency Policy with Tariff

• The Total Benefit:
  ▪ Total value of rice production at domestic price
  ▪ Total saving from price adjustment to international market
  ▪ Income from tariff

• The Total Cost:
  ▪ Cost of rice production
  ▪ Cost of seed and fertilizers subsidy
  ▪ Cost of government rice procurement
  ▪ Cost of rice imported

  The Benefit Cost Ratio = 1.043
Benefit Cost Ratio of Rice Self-Sufficiency Policy with Tariff

Average Benefit Cost Ratio = 1.043
Conclusion

• Politically, rice self-sufficiency policy is a must for Indonesia. However, there are better alternatives policies to achieve the objective;

• The best and more pro-trade is self-sufficiency policy with a tariff mechanism. The challenge is on a border control and high cost of monitoring for the tariff policy to be effective;

• The second best is self-sufficiency policy with a quota mechanism. The policy gives the same Benefit Cost ratio with tariff policy. However, this policy is less preferred from the trade agreement perspective;

• The full 100% rice self-sufficiency policy is the most expensive and less effective policy to achieve the policy objective.
Policy Suggestion

- Food Security Policy in Indonesia is still over weighted by the political issue rather than real ground to earth problem of accessibility to food, energy and nutritional issue.
- To move forward, there is need of serious effort to fully implement and widely socialized the Food Law 18/2012 to local government and stakeholder members on the perspective of access to food, diversification, local specific food, safety, nutrition aspect, and food preferences.
- Need strong policy to slow down conversion of productive agriculture land to non agriculture.
- Short term Subsidy Policy should be able to be converted as much as possible to the long term investment in supporting Food Security of the country.