The “Regulation” of Rice Market in Indonesia

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Structure of the Presentation

• Introduction: G20 Summit 2011 and food reserve issues
• Indonesia’s objectives of “regulating” the rice prices
• Performance: Past success, but troubling present
• More complex challenges of Indonesia’s food security
• Issues on ASEAN+3 emergency rice reserve initiatives
• Concluding remarks: the remaining issues
Introduction: G20 & Food Reserve Issues

• The Cannes Summit 2011 re-emphasizes food security and access to sufficient, safe and nutritious food. The G20 leaders have decided to act on 5 objectives:
  1. Improving agricultural production and productivity,
  2. Increasing market information and transparency,
  3. Reducing the effects of price volatility for the most vulnerable,
  4. Strengthening international policy coordination, and
  5. Improving the functioning of agric commodity derivatives' markets

• Food reserve issues remain controversial, not only on the political dimensions and consumers vs. producers debates, but also on the practicality and governance requirements.

• Indonesia has been successful in executing food reserves, but possible adaptation in other countries needs special cares.
The Indonesian Rice Economy: Political

- The rice economy contributes significantly to the overall agricultural performance, although the present share of rice is not as large as that in the 1970s and 1980s.
- Rice has been and remains a political commodity: All political leaders have used food security approach as main flavors of the economic development strategies.
- Good performance in the rice economy cannot be separated from the roles of Bulog as an important parastatal agency in implementing price support policy for domestic stabilization through buffer stock policy (floor-price and ceiling price for market operation) and international trade policy.
- Micro-problems of the rice economy mostly deal with production inefficiency at the farm sector, very small land holding size, and poor financial access.
Objectives of “Regulating” the Rice Market

- Food security and price stabilization: farmers’ incentives, consumers’ protection
- Setting the floor price above equilibrium and buy the excess supply of rice to fulfill the buffer-stock all over the regions
- Selling the stock in a market operation below equilibrium or in a subsidized price
BULOG: Past Success, Trouble Present

• The Indonesia’s Food Logistic Agency (Bulog) has been a success story of government intervention in food-price stabilization policy;
• Indonesia is successful in insulating severe instability in the world market of rice, at relatively “low costs” compared to its benefits.
• Strong policy supports during the Soeharto administration on the rice economy include tremendous investments in irrigation infrastructures, research and development, extension, subsidies on inputs and credits.
• The most praised indicator is the achievement of self sufficiency in rice, bringing Soeharto to receive an FAO award in 1985, poverty decreased significantly, rice production regions show prosperity, and Indonesia becomes a role-model for other developing world.
• However, since the mid 1990s Bulog has experienced serious troubles such as political affiliation, governance, weakened power, non-clear status in food authority, in additions to decentralization issues and non-satisfactory rice production in the regions.
The Fall of Soeharto: Rice Liberalization?

The Letter of Intent to the IMF in 1998 has changed rice-policy in Indonesia.

Bulog lose its monopoly power, no more privilege of financial sources, and handle only rice, but not other (strategic) commodities.

Indonesia tried to liberalize the rice trade, taking the risks of price instability in the world market, which is 3-4 times higher than in domestic market.

Bulog was really in public call…
The “Reformasi”: Managed-Open Market

• Post-Soeharto government administrations adopt strategies of managed-open market, sometimes with import-ban (during President Megawati), but open to world market, though with limited licenses (current President Susilo Bambang Yudhoyono).

• However, the government cannot afford to fully-support the “price-band” policy, but on procurement price as a reference for stock management, and subsidized rice to poor family in the country.

• Government programs on rice production have to face reality and serious challenges of climate change, world food crisis and poor capacity of local government administrations.
Evolution of Rice Market “Regulation” in Indonesia

Source: Bulog, 2009
Stability Performance: Empirical Evidence

• Rice markets in five major regions in Indonesia is horizontally integrated during New Order regime (1968-1997). Rice markets were segmented during free-market period (1998-2000) and during managed-open market period (2001-2004).

• Vertical integration between paddy and rice market only occurred during New Order, but price transmission flew in one direction.

• Both paddy price and rice price were stable during New Order, due to stock procurement and floor-price management. “Market operation” cannot stabilize the rice price during free market, the production performance was really poor.

• Rice price is relatively more stable during managed-open market. In general, paddy price is relatively more stable (compared to rice price) during all three periods.
Price Stability during Soeharto’s New Order

Real Price of Paddy, 1978-1998

Real Price of Rice, 1978-1998

Price Stability during Free Market

Real Price of Paddy, 1998-1999

Real Price of Rice, 1998-1999

Price Stability during Managed-Open Market

Real Price of Paddy, 2000-2004

Real Price of Rice, 2000-2004

Stability during Food Crisis: For how long?

- Strategies on rice reserves, procurement and stock management during global food crisis (2008-2009) have stabilized the domestic rice prices, despite high fluctuation in the global price. But, domestic production also increased and the weather was quite good.

- However, increasing rice price in domestic market since 2010 has generated serious discussions on the current food policy that focuses only on procurement price, instead of “price-band” policy such as pre-2005.

- Attention has to be given on production activities, good agricultural practices, input uses: fertilizers and pesticides, irrigation infrastructures and water management.
Market Price & Procurement Price of Paddy & Rice, 2006-2011

Source: Bulog, 2011
# The Rice Economy: Staple, strategic crop

(Data: Harvested area, yield, and production of rice, 2002-2011)

<table>
<thead>
<tr>
<th>Year</th>
<th>Harvested area (ha)</th>
<th>Yield (ton/ha)</th>
<th>Production (ton)</th>
<th>Growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>11,521,166</td>
<td>4.47</td>
<td>51,489,694</td>
<td>2.04</td>
</tr>
<tr>
<td>2003</td>
<td>11,488,034</td>
<td>4.54</td>
<td>52,137,604</td>
<td>1.26</td>
</tr>
<tr>
<td>2004</td>
<td>11,922,974</td>
<td>4.54</td>
<td>54,088,468</td>
<td>3.74</td>
</tr>
<tr>
<td>2005</td>
<td>11,839,060</td>
<td>4.57</td>
<td>54,151,097</td>
<td>0.12</td>
</tr>
<tr>
<td>2006</td>
<td>11,786,430</td>
<td>4.62</td>
<td>54,454,937</td>
<td>0.56</td>
</tr>
<tr>
<td>2007</td>
<td>12,147,637</td>
<td>4.71</td>
<td>57,157,435</td>
<td>4.76</td>
</tr>
<tr>
<td>2008</td>
<td>12,327,425</td>
<td>4.89</td>
<td>60,325,925</td>
<td>5.46</td>
</tr>
<tr>
<td>2009</td>
<td>12,883,576</td>
<td>5.00</td>
<td>64,389,890</td>
<td>6.75</td>
</tr>
<tr>
<td>2010</td>
<td>13,244,184</td>
<td>5.01</td>
<td>66,411,469</td>
<td>3.13</td>
</tr>
<tr>
<td>2011*</td>
<td>13,224,379</td>
<td>4.94</td>
<td>65,385,183</td>
<td>-1.63</td>
</tr>
</tbody>
</table>

Source: BPS (various years), *Latest: Third Production Forecast, as of November 1, 2011
Java remains the production center of rice

(Data: Rice production per province, 2000-2009)

Source: BPS
Seasonal Pattern of Rice Harvest

- **Production**
- **Consumption**

The graph shows the monthly volume (in million tons) of rice production and consumption from January to December. The production peaks in April and May, while consumption remains relatively constant throughout the year.
Economies of Scale of the Rice Farms

• The majority of food-crop farmers (about 54%) is smallholders, facing problems of economies of scale. Although the literature suggests two different results in efficiency of small farming, the problems in economies of scale will reduce the welfare outcome.

• The government program of agrarian reforms in 2007, known as asset reform and access reforms, to increase the farm-holding size and improve the market access has been very slow because of non-compatibility with program priorities of local governments.

• Current administration has initiated new approach on corporate farming and food-energy estates, especially outside Java, to boost food production & to maintain food security in the country.

• This might create new ecosystem threats on social and cultural balance and environmental sustainability for the future.
## Land-Holding Size: Spatial & Vertical Disparity

<table>
<thead>
<tr>
<th></th>
<th>Agric Household (000)</th>
<th>Household utilizing land (000)</th>
<th>Household with &lt;0.5 ha land (000)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agric. Census 1993</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Java</td>
<td>11,671 (100%)</td>
<td>11,564 (99%)</td>
<td>8,067 (69%)</td>
</tr>
<tr>
<td>- Off Java</td>
<td>9,116 (100%)</td>
<td>8,954 (98%)</td>
<td>2,737 (30%)</td>
</tr>
<tr>
<td><strong>Indonesia</strong></td>
<td>20,787 (100%)</td>
<td>20,518 (99%)</td>
<td>10,804 (52%)</td>
</tr>
<tr>
<td><strong>Agric. Census 2003</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Java</td>
<td>13,583 (100%)</td>
<td>13,262 (98%)</td>
<td>9,842 (72%)</td>
</tr>
<tr>
<td>- Off Java</td>
<td>11,286 (100%)</td>
<td>10,799 (96%)</td>
<td>3,411 (30%)</td>
</tr>
<tr>
<td><strong>Indonesia</strong></td>
<td>24,869 (100%)</td>
<td>24,061 (97%)</td>
<td>13,253 (53%)</td>
</tr>
</tbody>
</table>

Source: BPS (various years)
## Climate Change Impacts on Production

<table>
<thead>
<tr>
<th>Food crops</th>
<th>Production in 2006 (ton)</th>
<th>Forecast of Production Decrease in 2050 (ton)</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowland Rice</td>
<td>51,647,490</td>
<td>10,473,764</td>
<td>20,3</td>
</tr>
<tr>
<td>Upland Rice</td>
<td>2,807,477</td>
<td>761,522</td>
<td>27,1</td>
</tr>
<tr>
<td>Maize</td>
<td>11,609,463</td>
<td>1,574,966</td>
<td>13,6</td>
</tr>
<tr>
<td>Soybean</td>
<td>747,611</td>
<td>92,503</td>
<td>12,4</td>
</tr>
<tr>
<td>Sugarcane</td>
<td>1,279,070</td>
<td>97,453</td>
<td>7,6</td>
</tr>
</tbody>
</table>

Source: Handoko, et al. (2008)
Food Insecurity and Vulnerability Atlas

Source: Agency for Food Security and WFP, 2010
ASEAN+3 emergency rice reserve initiatives

- Each country in ASEAN is pressured to formulate proper food security policy in the wake of food shortages and high prices.
- One argues that market could be more effective in allocating limited supplies than can government. Others are concerned with government decision makers and private traders in neighbouring countries who try to estimate available inventories and forecast the future production levels.
- ASEAN+3 (China, India, Japan) have supported emergency rice reserve initiatives as a part of the Integrated Food Security Frameworks (IFSF), for influencing policy and effecting regional collaboration in ways which strengthen market institutions.
- However, the implementation of such initiatives is still far away, as a diverse array of food security policies persists on the part of individual governments, each of which is intent on protecting its own consumer and/or farmer interests.
Closing Remarks: Issues in the near future

- Food policy in Indonesia is likely to continue “regulating” the rice market, although not all costs as during the Soeharto Era. Thus, institutional strengthening and food authority have to be improved.
- The Government of Indonesia is pressured to improve productivity and efficiency in rice production, capacity building in R&D, strategies rural development and employment creation;
- The stock management strategy on a deficit condition might differ significantly from that on a surplus condition. Indonesia has to learn from neighbouring rice-producing countries on how to improve the governance of rice stock, which might serve as a necessary condition for developing ASEAN food security reserves.
- A follow-up action on ASEAN+3 emergency rice initiatives includes technical cooperation on investment policies in market-chain infrastructures and capacity building on institutional arrangements.