Fertilizer Subsidy Policies in Selected Countries

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China, India, Bangladesh, Pakistan, Indonesia, Nigeria, Rwanda, Malawi, and Tanzania

• 50% of fertilizer demand
• 80% of subsidized fertilizer
Types of Fertilizer Subsidies

- **Traditional (Asia)**
  - Government support for production, importation and distribution of fertilizers
  - Sales at pan-territorial subsidized prices *via* state owned enterprises
  - Universal availability to farmers & history of use
- **“Smart” (Sub-Saharan Africa)**
  - Land locked countries with substantial inland transport
  - Sporadic fertilizer subsidies; low fertilizer use
  - Private Sector Involvement
  - Targets Poor Farmer and/or Specific Crops
  - Exit Strategy

### Comparison of Fertilizer Subsidy Expenditure, 2011

<table>
<thead>
<tr>
<th>Country</th>
<th>Total Gov. Exp. (as % of GDP)</th>
<th>Total Gov. Exp. (US $ M)</th>
<th>Fertilizer Subsidy (US $ M)</th>
<th>Subsidy as % of Total Gov. Exp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh</td>
<td>9.80%</td>
<td>12,607</td>
<td>1,498</td>
<td>11.9%</td>
</tr>
<tr>
<td>China</td>
<td>22.57%</td>
<td>1,691,042</td>
<td>21,810</td>
<td>1.3%</td>
</tr>
<tr>
<td>India</td>
<td>14.30%</td>
<td>262,521</td>
<td>14,610</td>
<td>5.6%</td>
</tr>
<tr>
<td>Indonesia</td>
<td>15.00%</td>
<td>133,945</td>
<td>1,520</td>
<td>1.1%</td>
</tr>
<tr>
<td>Pakistan</td>
<td>17.60%</td>
<td>37,621</td>
<td>506</td>
<td>1.3%</td>
</tr>
<tr>
<td>Nigeria</td>
<td>6.00%</td>
<td>24,705</td>
<td>409</td>
<td>1.7%</td>
</tr>
<tr>
<td>Malawi</td>
<td>15.00%</td>
<td>844</td>
<td>148</td>
<td>17.5%</td>
</tr>
<tr>
<td>Rwanda</td>
<td>15.00%</td>
<td>961</td>
<td>10</td>
<td>1.0%</td>
</tr>
<tr>
<td>Tanzania</td>
<td>16.60%</td>
<td>5,624</td>
<td>64</td>
<td>1.1%</td>
</tr>
<tr>
<td>Total</td>
<td>12.59%</td>
<td>2,169,870</td>
<td>40,575</td>
<td>1.87%</td>
</tr>
</tbody>
</table>

Sources: Derived from current review papers and World Bank Database.
Cereal Yields (kg/ha) for Nine Countries, 1990-2013

Impact of Commodity Price Volatility (2007/08)

Fertilizer Subsidy Cost (2006-11)

• 22% increase
• $31.3-$38.2 billion

Subsequent fall from 2014
Fertilizer Subsidy Implementation

- Domestic Fertilizer Production Costs
  Subsidized to Lower Fertilizer Prices to All
  Farmers in Bangladesh, China, India, Nigeria, and Pakistan
- Imported Fertilizer Subsidized in All Countries
- Transportation Subsidies

China

- Two Sets of Policies
  - Subsidy to promote domestic fertilizer production
  - Market intervention and trade restriction policies aimed to
    control domestic fertilizer price and secure supply
- Formal Agricultural Subsidy Program (2004) was provided an
  Aggregate Input Subsidy (fertilizers, seeds, CPPs, machinery)
- $12 billion (2011) – $17 billion (2014)
- Total agriculture subsidy (production, inputs, grain) = $21 billion
  (2011)
**India**

- Domestic production 90% (2000), 56% (2011/12)
- Heavy emphasis on subsidizing urea
- Fertilizer subsidy = $21 billion (2008/09)
  $11 billion (2013/14)
- Nutrient-based subsidy (2010)
- Significant nutrient imbalances

**Pakistan**

- Fertilizer industry progressively privatized between 1996 and 2005
- Natural gas allocated to fertilizer industry (16%)
- Subsidy increased from 35% (1995) to 75% (2011) or from $79 million to $506 million
- Urea production capacity increased by 45% since 2005 but no increase in total natural gas supply
Pakistan (cont.)

- Imports of urea, DAP, and MOP (2008)
- Subsidies on imported fertilizer, 2006/07-2009/10 based on difference between import and domestic prices
- Subsidies on P and K dropped 2010/11
- Urea exempted from sales tax 2001-2011; loss revenue estimated at $363 million
- Established domestic urea industry, vibrant private agribusiness sector and use by farmer increased 14X (1971-2014)

Indonesia

- Subsidy for domestic production
- Subsidized CRP applied to limited amounts of fertilizer per farmer (ration)
- Urea production subsidy converted to natural gas subsidy price subsidies revised (2003-08)
- Farmers’ access to subsidized fertilizer restricted (<2 ha/season; actual crop area needed), not happening
- From 2006-14, subsidy burden increased from $336 million to $1.71 billion
Bangladesh

- Gradually privatized by 1992
- 1994-95 setback (urea scarcity)
- 300,000 mt imports 1996-
- Public-private partnership
- Average level of subsidization (2005-14)
  - >60.2% urea
  - 38.8% TSP
  - 41.0% MOP
  - ~$1 billion/year (2013 and 2014)

Nigeria

- Urea and NPK production capacity, imports significant, tendered through private sector
- Total subsidies ranged from 65-85%
- Prior to 2011 fertilizer distributed to all farmers
- Growth Enhancement Support Program (2011)
  - Federal government withdrew from procurement and distribution; targeted subsidy program based on vouchers (40-50% subsidy) + 5 kg seed
Malawi

- Liberalized in 1990s; dependent on imports
- Three supply chains (private sector, national farmer association & government subsidy channel)
- FISP (2005) established by MoAFS
  - Vouchers 50 kg urea+50 kg NPK; seed
- Subsidy costs consumed 23% of national budget & 42% of agriculture budget (2014); negative impact on private sector development; diversion from intended beneficiaries; complicated voucher redemption

Rwanda

- Import dependent; Landlocked
- Crop Intensification Program (CIP) initiated in 2007
  - Government procured, auction for regional distribution to private sector importers
  - Winning bidders paid 30% down payment, credit passed to agro-input dealers/farmer cooperatives to farmers
  - Beneficiary farmers selected by MINAGRI (vouchers provided 50 kg DAP or NPK; 25 kg urea + seed + extension
  - Substantial increase in fertilizer use and crop production, but unpaid credit by 2012 = $20 million
  - Major changes in 2013; subsidy discontinued in 2014
Tanzania

• Traditional subsidy program prior to 2001; subsidy removed 2001-2002; imports decreased + Minjingu phosphate rock
• New subsidy program in 2004-Fertilizer use increased 8X by 2008
• Voucher program (2008) included 50% of the cost of 50 kg DAP or 100 Kg of Minjingu Mazo, 50 kg urea, improved seed (maize or rice)
• Well targeted beneficiaries, but no credit access

Fertilizer Subsidies Pros and Cons

• Pros
  – Supported increase food production; food security
  – Supported domestic fertilizer production
  – Popular with politicians and farmers
• Cons
  – Costs not sustainable; More cost effective measures including diverse public expenditures for agriculture
  – Bias toward N fertilizers at the expense of balanced plant nutrition
  – Targeting subsidies not effective in most cases
Recommendations by Country-China

• Domestic production integrated into global fertilizer trade
• Subsidy restricted/targeted to poor farmers
• Subsidy should promote balanced plant nutrition in order to reduce N overuse
• Seasonal inventory subsidies should be reduced/removed
• Subsidy reductions should allow for other rural and agriculture investments

Recommendations by Country-India

• Decontrol of industry over 3-5 years period
• Secure and increase supply of natural gas
• Standardize natural gas pricing for 26 gas based fertilizer plants
• Decontrol expected to increase farm level price 3X, to compensate smallholders (< 2 ha) 5,000 Rs/ha; other farmers Rs 4,000/ha for 3 years
• Remaining subsidy focused on balanced plant nutrition
Recommendations by Country-Pakistan

- Simultaneously remove natural gas subsidy and the General Sales Tax
- Liberalization costs not substantial, but will require secure natural gas supply for urea/ammonia plants

Recommendations by Country-Malawi, Nigeria, Rwanda and Tanzania

- Fertilizer subsidy part of agriculture policy for foreseeable future
- Clear trends evolving with some countries targeting pro-poor strategies, while others focused on national food security target all farmers
- Subsidy programs expected to expand beyond fertilizers and seeds to integrated subsidies
- Possible linkages between subsidies and fertilizer blending companies
- Increasing role for private sector in procurement and distribution
General Recommendations

• Asia
  – Rationalize and limit fertilizer subsidies only to farmers who need assistance
  – Fully commercialize and rationalize the fertilizer production industry over a 3-5 year period

• Sub-Saharan Africa
  – Targeting of farmers based on governments objectives
  – Subsidies needed to promote fertilizer use

• Common to Asia & Sub-Saharan Africa
  – Holistic interventions/investments
  – Clear exit strategy
  – Governance and political commitment