Fertilizer Policy in Zambia: Implications and Alternatives

Nicholas J. Sitko
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Current Policy Approach

- Farmer Input Support Programme (FISP)
  - Designed to provide “viable” farmers with sufficient fertilizer for ½ ha of maize (100kg basal/100kg urea)
  - Government subsidies ~75% of the cost
  - In 2011/12 distributed 180,000 mt of fertilizer through FISP
    - Quantity has more than doubled since 2008/09
  - Fertilizer acquired from just two companies
  - Targeting and distribution
Why is Fertilizer Policy Reform Critical?
Effects on Agricultural Budget

- Food Reserve Agency (FRA) 57.2%
- Farmer Input Support Programme (FISP) 28.0%
- Other Poverty Reduction Programmes 0.7%
- Other expenditures 14.1%

Agricultural Budget, 2010
Effects on Private Sector

- 1 kg of subsidized fertilizer → 0.14 kg reduction in HH’s purchases of commercial fertilizer
- BUT ~33% of subsidized fertilizer leaks out of gov’t channel & is resold at commercial prices
- Implies change in total fertilizer use given 1 kg increase in subsidized fertilizer is:
  - +0.86 when don’t adjust for leakage
  - +0.53 when do adjust for leakage
## Who are the Beneficiaries?

<table>
<thead>
<tr>
<th>Total area cultivated</th>
<th>% of small-holder HHs</th>
<th>% receiving FISP fertiliser</th>
<th>Mean kg of FISP fertiliser received</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(A)</td>
<td>(B)</td>
<td>Recipient HHs</td>
</tr>
<tr>
<td>0-0.99 ha</td>
<td>39.6%</td>
<td>14.3%</td>
<td>168</td>
</tr>
<tr>
<td>1-1.99 ha</td>
<td>33.1%</td>
<td>30.6%</td>
<td>227</td>
</tr>
<tr>
<td>2-4.99 ha</td>
<td>23.5%</td>
<td>45.1%</td>
<td>310</td>
</tr>
<tr>
<td>5-9.99 ha</td>
<td>3.3%</td>
<td>58.5%</td>
<td>529</td>
</tr>
<tr>
<td>10-19.99 ha</td>
<td>0.5%</td>
<td>52.6%</td>
<td>657</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>28.6%</td>
<td>270</td>
</tr>
</tbody>
</table>
# Yield Response

Changes in Zambian Yield Response to Basal Fertilization over a Range of Soil Acidity Levels

<table>
<thead>
<tr>
<th>Soil pH</th>
<th>3.1 - 4.3</th>
<th>4.4 - 5.4</th>
<th>5.5 - 7.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional kgs of maize harvested per kg of basal fertilizer applied (mean across fields)</td>
<td>2.1</td>
<td>3.7</td>
<td>7.6</td>
</tr>
<tr>
<td>% of maize fields nationwide in this category</td>
<td>51%</td>
<td>47%</td>
<td>2%</td>
</tr>
</tbody>
</table>
Alternatives

- Three pronged approach:
  1. Consistent and coordinated policy dialogue based on empirical evidence
  2. Sustained public investment in crop research
  3. Adopt new modality:
     - Electronic Vouchers:
       - Current pilot by FAO/MAL: 37 Districts, 53,812 beneficiaries, and 107 agro-dealers
         - Provide farmers with choices: types of fert. and lime
         - Crowd in the private sector
         - Lower cost to government
         - Greater transparency
       - 2013 Budget includes funding for e-voucher pilot
Thank You
Effects of Soil Acidity on Yield