Facts about Zambia Agriculture Sector

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&
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Why this Presentation?

- Highlight key facts about Zambia’s Agriculture
- Key policy levers to achieve broad based pro-poor agricultural growth in the country
Presentation outline

- Zambia Agricultural Development Goals
- Zambia achievements to date
- Unexploited opportunities
- Under appreciated facts about Zambia’s agriculture
- Conclusion
Zambia Ag. Development Goal

Reduce poverty through broad-based income growth for those in the agricultural sector
Data on Smallholder Farmers in Zambia

Nation Wide Random Surveys
CFS/PHS/SS 99/00 = 364 SEAs
CFS 2006/07 onward = 660 SEAs

Ag/Ecological Zones
- Zone I
- Zone IIa
- Zone IIb
- Zone III
Zambia’s Economic Achievements

- Zambia
  - Classified as low-middle income by World Bank
  - GDP growing at 6% per annum
  - Agricultural growth rate at 7% - above 6% CAADP Goal
  - Three consecutive maize bumper harvest years

BUT Persistently high rural poverty: ≈80%
Poverty in Zambia

- Rural poverty rates stubbornly high
- Urban poverty declining
  - rising income
  - rising demand for a variety of ag processed commodities
- High malnutrition rates of children under 5 years

Source: GRZ’s Central Statistical Office and RALS 2012
Under exploited potential

- Zambia is in a unique position
  - Abundance of fertile land
  - Water
  - Generally, favorable climate for agricultural production
  - Growing population, rapid urbanization and rising incomes creating more opportunities for smallholder farmers
  - Can easily become a ‘Breadbasket’ for the region

Are Zambia’s agricultural policies amenable to these opportunities?
Persistently low maize yields

Can Zambia achieve this target under the current agricultural policies?

Sources: MAL/CSO Crop Forecast Surveys, 2006/07 - 2013/14
Average yields of key commodities compared to global average

Source: CFS datasets, various years with Global figures obtained from COMESA
Under Appreciated Facts About Zambia Agriculture
Many smallholder households are land constrained

- 25% have less than 0.5 ha of land
- 58% indicate there is no unallocated land in village
Percent of smallholder that say “There is NO land available”
Why are Zambia Farmers land constrained?


Considerable land is covered by water, national parks, GMA

Settlements concentrated on areas with infrastructure

Hence, the land constraints in a land-abundant country is not a paradox

Under Appreciated Fact # 2

- Nearly 30% of rural farm HHs are net buyers of maize

Net Buyers Negatively affected by high maize prices

Source: RALS 2012
Better off HHs account for majority of maize sold to FRA, 2011

These account for 78% of maize sold to FRA

% of maize surplus sold to FRA

<table>
<thead>
<tr>
<th>Area cultivated</th>
<th>% of maize surplus sold to FRA</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-20 ha</td>
<td>14%</td>
</tr>
<tr>
<td>5-9.99 ha</td>
<td>23%</td>
</tr>
<tr>
<td>2-4.99 ha</td>
<td>41%</td>
</tr>
<tr>
<td>1-1.99 ha</td>
<td>17%</td>
</tr>
<tr>
<td>0-5.99 ha</td>
<td>5%</td>
</tr>
<tr>
<td>0-0.49 ha</td>
<td>1%</td>
</tr>
</tbody>
</table>

Source: RALS 2012
Under Appreciated Fact # 3

- Highly concentrated patterns of maize surplus generation
  - 2-5% of smallholder farm households account for 50% of marketed maize
  - Maize surplus generation is highly associated with area cropped and household assets
Government expenditure on FISP is benefiting mostly the larger and relatively already well off HHs with very little impact on yields and poverty reduction.
## Land size, poverty and FISP in Zambia

<table>
<thead>
<tr>
<th>Total area cultivated</th>
<th>Number of farms</th>
<th>% of farms</th>
<th>Poverty Rate (%)</th>
<th>% of farmers receiving FISP fertilizer</th>
<th>kg of FISP fertilizer received per farm household</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.99 ha</td>
<td>596,334</td>
<td>39.6</td>
<td>81</td>
<td>14</td>
<td>24.1</td>
</tr>
<tr>
<td>1-1.99 ha</td>
<td>499,026</td>
<td>33.1</td>
<td>81</td>
<td>31</td>
<td>69.3</td>
</tr>
<tr>
<td>2-4.99 ha</td>
<td>354,116</td>
<td>23.5</td>
<td>66</td>
<td>45</td>
<td>139.7</td>
</tr>
<tr>
<td>5-9.99 ha</td>
<td>49,410</td>
<td>3.3</td>
<td>38</td>
<td>59</td>
<td>309.7</td>
</tr>
<tr>
<td>10-20 ha</td>
<td>6,999</td>
<td>0.5</td>
<td>15</td>
<td>53</td>
<td>345.6</td>
</tr>
<tr>
<td>Total</td>
<td>1,505,885</td>
<td>100</td>
<td>76</td>
<td>29</td>
<td>77.1</td>
</tr>
</tbody>
</table>

Source: RALS 2012
Maize productivity effects of FISP

- Mason and Tembo 2014
  - All factors constant
    - 1 kg of FISP fertilizer: 2.0-3.8 kg maize
    - 200 kg FISP packet: 401.2 to 756.6 kg
  - Uneconomical productivity response to fertilizer at commercial prices
    - Current average commercial fertilizer price ZWK 210 per 50 kg
    - FRA price ZWK 70 per 50 kg
    - Breakeven response rate (not including transactions costs) = 3 kg of maize per Kg of fertilizer
Zambia Agriculture Budget

Where is the money going?
Sector Allocation up by 30%
Where should the funds be invested?

- Quality expenditure of the funds is critical to achieve sustained agricultural growth.
- There is need for effective investments in the key drivers of agricultural growth:
  - agricultural R&D
  - extension services
  - livestock production and disease control
  - rural infrastructure i.e. feeder roads
  - Irrigation
Ranking of Returns of Investment in Poverty Reduction: Evidence from Asia and Africa

<table>
<thead>
<tr>
<th>Investment Category</th>
<th>China</th>
<th>India</th>
<th>Thailand</th>
<th>Vietnam</th>
<th>Uganda</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural R&amp;D</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Roads</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Education (Agricultural Extension Services)</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

Why Frequent Negative Returns for Subsidies Programs?

- Subsidized inputs crowd out the private sector deliveries & discourage investments in new private input dealer networks
- Misallocation and inefficiencies – leading to unsustainable fertilizer use
- Diversion and rent seeking raises incomes of some but does little to raise crop productivity
- Late delivery of inputs does not improve productivity
FRA and FISP taking too much

Staff receive salaries but delayed release of operational funds

<table>
<thead>
<tr>
<th>Program</th>
<th>% of others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel Emoluments</td>
<td>62</td>
</tr>
<tr>
<td>Capital Expenditure</td>
<td>21</td>
</tr>
<tr>
<td>Grants &amp; other payments</td>
<td>13</td>
</tr>
<tr>
<td>All others</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Program</th>
<th>% of PRPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>FISP</td>
<td>56</td>
</tr>
<tr>
<td>FRA</td>
<td>42</td>
</tr>
<tr>
<td>All others</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total PRP</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
Areas of concern

- From Past Trends
  - Government expenditure through FRA/FISP benefiting larger and relatively already well off HHs
  - GRZ spending through FISP/FRA has little impact on yields and poverty reduction
  - FRA/FISP come as an opportunity cost to key agric growth drivers (irrigation, rural electrification, R&D, extension, etc.)
Conclusion

- Zambia has:
  - potential to have broad-based economic growth;
  - potential to address the stubbornly high rural poverty rates and high malnutrition;
  - potential to be the ‘breadbasket for the region’;
  - **But:** Policies should evolve and take advantage of the many agricultural opportunities arising from the rising food demand, rising urban incomes and the changing consumption patterns.