Facts about the Zambian Agricultural Sector

by
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Presentation to the House of Chiefs
Siavonga 17th June, 2017
### Why this Presentation?

**Highlight key facts about Zambia’s Agriculture**

- What is going on in Zambian agriculture?
- What can we do to improve the situation?

**Dialogue with the House of Chiefs**

- Important and strong voice that influences the design and implementation agriculture policy in Zambia.
Key Messages

What are the real drivers of agricultural growth?

Actualize Agricultural diversification

Revisit government subsidy programs
Parts of the Presentation

What really helps agricultural productivity?

What are the characteristics of the smallholder farmer?

What really is going on with subsidy programs?
  • Who is benefiting?
What really helps agricultural productivity?
## 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>

Rate of return to agricultural investments: Evidence from Asia

- Past agricultural budgets have not placed enough emphasis on broad-based public investments whose rate of return is:

<table>
<thead>
<tr>
<th>Investments</th>
<th>Rate of return</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subsidies</td>
<td>Negative to 12%</td>
</tr>
<tr>
<td>- research &amp; extension</td>
<td>35% to 70%</td>
</tr>
<tr>
<td>- roads</td>
<td>20% to 30%</td>
</tr>
<tr>
<td>- education</td>
<td>15% to 25%</td>
</tr>
<tr>
<td>- irrigation</td>
<td>10% to 15%</td>
</tr>
</tbody>
</table>

Source: IFPRI review of rate of return studies
Data on Smallholder Farmers in Zambia

Nationwide Random Surveys
In Collaboration with Central Statistical Office and Ministry of Agricultural Agriculture (formerly MAL)
Agricultural Priorities

- If government could increase its spending on rural development and poverty reduction programs, what are the top three priorities you would vote for?

- Input Subsidies (FISP)
- Education
- Water and sanitation
- Health Care
- Buy more maize through FRA
- Roads & Brides
Agricultural Priorities

- If government could increase its spending on rural development and poverty reduction, what do you think are the top three most important priorities?

1. Health Care
2. Roads & Bridges
3. Education
4. Water and sanitation
5. Input Subsidies FISP

Not in top ten
- Buy more maize through FRA
So where have we typically spent our money in the agricultural sector in Zambia
2015 Zambia Agriculture Budget Allocation

- 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>Total PRP</td>
<td>100</td>
</tr>
</tbody>
</table>
Political economy of public resource allocation

Government budget

- Long-term productive investments: R&D, infrastructure, education, etc.
  - High social payoffs
  - But payoffs come 5-20 years later
  - Critical for sustained poverty reduction

- Input subsidy programs
  - Marketing board price supports
  - Immediate political payoffs;
  - Visible support to constituencies
  - Contribution to sustained growth / poverty reduction is unclear
Zambia’s Smallholder Farmer
Fact # 1

- Many smallholder households are land constrained
  - 66.5% cultivate 2 ha of land or less
Land cultivated categories (RALS 2015)

<table>
<thead>
<tr>
<th>Category</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 0.5 Ha</td>
<td>10.8</td>
</tr>
<tr>
<td>0.5 to 1 Ha</td>
<td>21.5</td>
</tr>
<tr>
<td>&gt;1 to 2 Ha</td>
<td>34.2</td>
</tr>
<tr>
<td>&gt;2 to 5 Ha</td>
<td>27.7</td>
</tr>
<tr>
<td>Greater than 5 Ha</td>
<td>5.8</td>
</tr>
</tbody>
</table>

National
Percent of smallholder that say “There is NO land available” RALS 2015
Fact # 2

For land constrained smallholder farmers other agricultural enterprises other than maize are much more profitable.
Fact # 3: Many Smallholder Farmers Have No Surplus Maize to Sell

- **Net Buyers, 38.7**
- **Net Sellers, 56.6**
- **Autarkic, 4.7**
Fact # 4

Price supports on maize help very few farmers, and actually hurt many rural and urban households.
Who benefits from subsidy programs?
## Maize Sales

**Indaba Agricultural Policy Research Institute**  
**Maize Sales**  
**RALS 2015**

<table>
<thead>
<tr>
<th></th>
<th>Households</th>
<th>Land cultivated</th>
<th>Maize Sold</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
<td>Hectare</td>
</tr>
<tr>
<td>Maize seller</td>
<td>690,885</td>
<td>52.5</td>
<td>2.56</td>
</tr>
<tr>
<td>Top 50% of maize sales</td>
<td>59,961</td>
<td>4.6</td>
<td>6.87</td>
</tr>
<tr>
<td>Rest of all other maize sales</td>
<td>630.924</td>
<td>47.9</td>
<td>2.15</td>
</tr>
<tr>
<td>Non maize sellers</td>
<td>625,562</td>
<td>47.5</td>
<td>1.38</td>
</tr>
</tbody>
</table>
Excessive FRA participation in the maize market reduces private sector participation
Indaba Agricultural Policy Research Institute

Zambia 2013/14 bumper harvest experience

- Government committed:
  - to buy less
  - charge commercial mills economic prices for maize from the FRA

- Resulted in increased trader activity, higher spot prices for farmers, and increased production the following season.
Maize import and export bans do not help to keep grain prices within reasonable bounds for consumers and producers?
When grain prices spike above import parity, consumers are being unnecessarily taxed by an inefficient market

Import ban/restriction

When grain prices fall below export parity, producers are denied income opportunities from crop sales

[Export Ban]
Export bans and trade restrictions

- Generally doesn’t stop trade from occurring but raises smuggling costs, which depress prices for farmers and raise costs for consumers.
Fact # 7

The majority of farmers selling maize to a private trader do it in their village even in the most remote and isolated areas

- Long distances traveled by about 10% of the smallholder population to sell maize is generally not indicative of severe market access problems
- Reasonable degree of competition among village level grain assembly traders exists.
Distance to nearest largest maize sale transaction to private assembly traders

<table>
<thead>
<tr>
<th>Percentile of farm household distribution</th>
<th>Distance to nearest Boma (km)</th>
<th>Distance to nearest private assembly traders (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>37</td>
<td>6.9</td>
</tr>
<tr>
<td>10&lt;sup&gt;th&lt;/sup&gt;</td>
<td>6.0</td>
<td>0.0</td>
</tr>
<tr>
<td>25&lt;sup&gt;th&lt;/sup&gt;</td>
<td>13.0</td>
<td>0.0</td>
</tr>
<tr>
<td>50&lt;sup&gt;th&lt;/sup&gt;</td>
<td>30.0</td>
<td>0.0</td>
</tr>
<tr>
<td>75&lt;sup&gt;th&lt;/sup&gt;</td>
<td>58.0</td>
<td>3.0</td>
</tr>
<tr>
<td>90&lt;sup&gt;th&lt;/sup&gt;</td>
<td>80.0</td>
<td>21.0</td>
</tr>
</tbody>
</table>

Sources: Zambia: MACO/CSO Crop Forecast Surveys 2011
Market intermediation by traders bridge the geographic distances between farmers and urban markets weakening the link between geographic location and market access.

So called “Briefcase Traders” play a key role in providing a market for farmers in remote and isolated areas.
FISP
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>515,415</td>
<td>34.1</td>
<td>83</td>
<td>18</td>
<td>28.7</td>
</tr>
<tr>
<td>1-1.99 ha</td>
<td>503,656</td>
<td>33.3</td>
<td>80</td>
<td>39</td>
<td>83.24</td>
</tr>
<tr>
<td>2-4.99 ha</td>
<td>408,169</td>
<td>27.0</td>
<td>68</td>
<td>50</td>
<td>143.3</td>
</tr>
<tr>
<td>5-9.99 ha</td>
<td>70,822</td>
<td>4.7</td>
<td>35</td>
<td>61</td>
<td>229.17</td>
</tr>
<tr>
<td>10-20 ha</td>
<td>14,316</td>
<td>0.9</td>
<td>25</td>
<td>50</td>
<td>227.54</td>
</tr>
<tr>
<td>Total</td>
<td>1,512,378</td>
<td>100.0</td>
<td>75</td>
<td>36</td>
<td>89.07</td>
</tr>
</tbody>
</table>

Source: RALS 2015
Components of the Sector
Endowments

- 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

Is Zambia’s agricultural direction and pace going to take advantage of these opportunities?
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
  - Good maize harvests including three bumper harvests

**BUT** Persistently high rural poverty: ≈80%
Three Agro Ecological Regions

**Region IIb:** Rainfall range 800 – 1,000 mm/annum
- Loamy to sandy soils
- Cassava, sorghum, millet, sesame, cashew nuts, livestock, fisheries

**Region I:** Rainfall Less than 800mm/annum
- Loamy to clay soils
- Cotton, sorghum, millet, sesame, cashew nuts, livestock, fisheries

**Region III:**
- More than 1,000mm of rainfall/annum
- Very deep soils, sandy clay loam.
- Cassava, millet, sorghum, beans, groundnuts, rice, coffee, tea, pineapples, fish farming, livestock.

**Region IIa:**
- Rainfall range - 800 to 1,000mm/annum
- Inherent fertile plateau soils.
- Maize, cotton, tobacco, sunflower, soybeans, irrigated wheat, groundnuts, flowers, paprika, vegetables, cassava, millet, horticulture, livestock.
# Actors in Agriculture

<table>
<thead>
<tr>
<th>Farmers</th>
<th>Government</th>
<th>Private Sector</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image.png" alt="Image" /></td>
<td>• Executive</td>
<td>• Traders</td>
<td>• NGOS</td>
</tr>
<tr>
<td></td>
<td>• House of Chiefs</td>
<td>• Processors</td>
<td>• Think tanks</td>
</tr>
<tr>
<td></td>
<td>• Parliament</td>
<td>• Banks</td>
<td></td>
</tr>
</tbody>
</table>
Key Messages

- What are the real drivers of agricultural growth?
- Actualize Agricultural diversification
- Revisit government subsidy programs