Briefing on Zambian Agriculture

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Country Overview

- Land locked
  - Borders 8 countries

- Land mass: 743 million hectares
  - 2.8 million cultivated by smallholders
  - Most of the country well-suited for crop production

- Population: 15 million
  - 59% rural
  - 1.5 million smallholder households

Source: Generated from Afripop
Economic performance: The aggregate picture

- Sustained high GDP growth
  - ~6% per year
- Headcount poverty rate
  - Declined from 73% in 1998 to 61% in 2010
- Reclassified as low middle income

Source: World Bank Data
Agricultural Performance: The aggregate picture

- Sustained surplus maize production
  - Marketable surplus avg. ~1.5 million tons since 2010
- Only African country self-sufficient in wheat
- Erratic growth pattern
  - Generally high since 2010
- Declining contribution to GDP
  - Consistent with economic transformation
- Public expenditure on ag high and growing

Source: World Bank Data
Digging Deeper: The paradox of Zambian agriculture

Despite positive developments:
- Rural poverty virtually unchanged
- Rural people disproportionately experience poor nutritional outcomes

Source: Living Conditions Monitoring Survey various years, RALS 2012
Land size and land constraints

- Approximately 70% of Zambian farmers own 2 hectares of land or less
- 58% of smallholder HHs indicate there is no land available in their villages

Primary reasons:
- Geographic clustering of populations
- Alienation of large tracks of land
- Labor constraints

Source: RALS 2012
Market concentration

Smallholder maize market position

- Neither buys nor sells, 31%
- Net sellers, 42%
- Net buyers, 27%

2-5% of households account for 50% of marketed surplus

Market participation closely linked to cropped area and household assets
- ~3% of smallholders cultivate 5 hectares or more

Source: RALS 2012
Public spending on agricultural has grown steadily in nominal terms since 2010

- Not keeping pace with total spending
- Budget allocations mostly lower than CAAPD goal

Over 50% of budget on maize input and output subsidies
  - FRA and FISP

Source: Kuteya et al 2015
## Distribution of public expenditure

<table>
<thead>
<tr>
<th>Total area cultivated (maize + all other crops)</th>
<th>Number of farms</th>
<th>% of farms</th>
<th>% of farmers receiving FISP fertilizer</th>
<th>kg of FISP fertilizer received per farm household</th>
<th>% of Total FISP fertilizer received</th>
<th>% of farmers expecting to sell maize</th>
<th>Expected maize sales (kg/farm household)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.99 ha</td>
<td>596,334</td>
<td>39.6%</td>
<td>14.3%</td>
<td>24.1</td>
<td>12%</td>
<td>22.2</td>
<td>135</td>
</tr>
<tr>
<td>1-1.99 ha</td>
<td>499,026</td>
<td>33.1%</td>
<td>30.6%</td>
<td>69.3</td>
<td>30%</td>
<td>47.7</td>
<td>609</td>
</tr>
<tr>
<td>2-4.99 ha</td>
<td>354,116</td>
<td>23.5%</td>
<td>45.1%</td>
<td>139.7</td>
<td>43%</td>
<td>64.0</td>
<td>1,729</td>
</tr>
<tr>
<td>5-9.99 ha</td>
<td>49,410</td>
<td>3.3%</td>
<td>58.5%</td>
<td>309.7</td>
<td>13%</td>
<td>82.1</td>
<td>6,613</td>
</tr>
<tr>
<td>10-20 ha</td>
<td>6,999</td>
<td>0.5%</td>
<td>52.6%</td>
<td>345.6</td>
<td>2%</td>
<td>86.8</td>
<td>15,144</td>
</tr>
</tbody>
</table>

Total 1,505,885 100% 28.6% 77.1 100 42.7 950

Source: RALS 2012
Limited diversification

Percent households by number of crops grown Zambia, 2011

Source: 2012 CSO/MAL/IAPRI Rural Agricultural Livelihoods Survey
Low Yields

Yield Comparison Zambia and LDCs

- Avg. yields remain below Least Developed Country Averages
- Yields are increasing, but at a marginal rate
  - Mostly the result of good weather conditions

Source: Crop Forecast Survey, FAOSTAT
Input use

Improved seed use rates

<table>
<thead>
<tr>
<th>Crop</th>
<th>Improved seed use rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maize</td>
<td>54.8</td>
</tr>
<tr>
<td>Sunflower</td>
<td>28.9</td>
</tr>
<tr>
<td>Groundnuts</td>
<td>17.9</td>
</tr>
<tr>
<td>Soyabeans</td>
<td>12.9</td>
</tr>
</tbody>
</table>

Source: RALS 2012

Fertilizer use on maize

- Improved input use for maize has increased substantially since 2000
  - Driven by large subsidy program
- Improved seed use for non-maize crops remains low

Source: Crop Forecast Survey, various years
### Cell Technology Use and Access

#### Changes in cell phone ownership in rural Zambia

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>53%</td>
</tr>
<tr>
<td>2015</td>
<td>60%</td>
</tr>
</tbody>
</table>

#### Cellphone Functions and Internet Calculations

<table>
<thead>
<tr>
<th>Function</th>
<th>2012 (%)</th>
<th>2015 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obtain information about farm produce prices</td>
<td>15.8</td>
<td>84.2</td>
</tr>
<tr>
<td>Locate buyers for your farm products</td>
<td>17.6</td>
<td>82.4</td>
</tr>
<tr>
<td>Assist in running your own non-farm business</td>
<td>20.4</td>
<td>79.6</td>
</tr>
<tr>
<td>Send or receive money</td>
<td>12.0</td>
<td>88.0</td>
</tr>
<tr>
<td>Do phone banking</td>
<td>2.9</td>
<td>97.1</td>
</tr>
<tr>
<td>Get extension information</td>
<td>5.0</td>
<td>95.0</td>
</tr>
<tr>
<td>Get weather predictions</td>
<td>.7</td>
<td>99.3</td>
</tr>
<tr>
<td>Talk to family and other general communication</td>
<td>100.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Cellphone functions and internet - calculations, etc.</td>
<td>100.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>
Economic headwinds

- Growing fiscal deficit
  - Much of it from domestic credit markets
    - Treasury bill yields on 182 day bills increased from a low of 2.6 to 17.5%
- Rapid devaluation of the kwacha
  - Since August has lost more than 75% of its value relative to the dollar
- Massive electricity shortage
  - Minimum of 8 hours of power outage per day
- Rapid inflationary pressure
  - Below 8% in August, as of December 21.1%
- Presidential elections slated for August 2016
Conclusion

How can we achieve transformational change?:

1. Strategies to contend with geographic dispersed, thinly traded markets
   - Effective aggregation
   - Investments in hard and soft infrastructure

2. Get technologies and information into farmers’ hand
   - Last mile solutions
   - Leveraging HH investments in cell phone technology

3. Manage risks:
   - Price, weather, default, exchange rate, and policy

4. Policy environment
   - Need predictability
   - Level playing field to engage the poor
Thank You