Hindrances to Higher Crop Productivity

Presented by
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What is Agricultural Productivity?

- **Agricultural productivity** is measured as the ratio of agricultural outputs to agricultural inputs.

- Focus for this presentation:
  
  Yield = output/land harvested - A measure of land productivity.
World and Zambian Maize Yields (MT/Ha) by Year

Source: CFS and FAO crop yields data, various years
Trends in growth of yield of other key crops

Source: CFS data, various years
Why has crop productivity remained so low in Zambia?

- Use of recycled/fake hybrid seed
- Poor crop management practices
- Fake/Low usage of fertilizer
Total Fertilizer Usage (MT) by Year

Source: CFS, various years
Conventional FISP related challenges

- Poor targeting of farmers/beneficiaries
- Delays in input distribution
- Poor fertilizer use efficiency among targeted farmers
- One-size-fits-all fertilizer recommendation
E-Voucher related challenges

- Late release of programme funds by Government resulting in delayed e-cards activation
- Problems with banks:
  - Lack of physical presence by contracted banks in some districts (Operations too centralized)
  - Taking too long in replacing lost PIN codes
- FRA late payments seem to hinder farmers to make their deposit early
Why agriculture has continued to lag behind

Rate of return to agricultural investments: Evidence from Asia

<table>
<thead>
<tr>
<th>Expenditure type</th>
<th>Rank w.r.t. returns to:</th>
<th>Rank</th>
<th>Returns</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agricultural growth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agricultural R&amp;D</td>
<td>1</td>
<td>35% to 70%</td>
<td></td>
</tr>
<tr>
<td>Roads</td>
<td>2</td>
<td>20% to 30%</td>
<td></td>
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<tr>
<td>Education</td>
<td>3</td>
<td>15% to 25%</td>
<td></td>
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<tr>
<td>Irrigation investment</td>
<td>4</td>
<td>10% to 15%</td>
<td></td>
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<tr>
<td>Fertilizer subsidies</td>
<td>8</td>
<td>Negative – 12%</td>
<td></td>
</tr>
</tbody>
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Source: Fan et al. (2008). Expenditure types ranked by returns to agricultural growth

Zambia Ministry of Agriculture budget allocations (2017)*

- Input subsidy (FISP) 64.2%
- Output price support (FRA) 21.5%
- Personnel 9.6%
- Operation fund supplies 2.2%
- Other 2.6%

Source: Zambia Ministry of Finance. *excludes donor-funded agricultural development programs
Key investments to improve crop productivity

- Government should put more resources in:
  - Agricultural productivity R&D
  - Extension
  - Rural infrastructure development
  - Irrigation

- Subsidies on fertilizer are least profitable forms of agricultural spending