Guiding Investments, Policies, and Programs to Support Smallholder Agriculture and Poverty Reduction in Africa

T.S. Jayne, Duncan Boughton, and Steve Haggblade
Michigan State University

Presented at the Bill and Melinda Gates Foundation, Seattle, August 10, 2010

Competing models of the role of state and private sector in food markets:

**Model 1**
- Rely on markets; state role limited to:
  - Public goods investment
  - Regulatory framework
  - Strengthening of institutions / defense of property rights
  - Policies supportive of private sector entry and competition

**Model 2**
- Primary reliance on markets - but role for rules-based state operations
  - e.g., buffer stock release to defend stated ceiling price
  - Marketing board purchases at stated price announced in advance
  - Transparent rules for initiating state imports

**Model 3**
- Role for markets and discretionary state intervention
  - Trade restrictions; marketing board activities ramp up and down unpredictably
  - Based on premise that private sect. cannot ensure adequate food in response to Q shortfall
  - Justification for unconstrained role for state interventions to correct for market failures
Organization of presentation

1. Why does such a small % of smallholder households participate as sellers in food markets?
   - Poor access to markets? Market failures?
   - Low farm productivity?
   - Lack of land and other assets to produce a surplus?

2. Identify investments, programs, and policies that can bring smallholders into markets, raise their incomes, and reduce poverty

3. We address these issues in the context of presenting a few salient facts about smallholder agriculture

Fact #1

1. Getting the policy and enabling environment right will greatly influence the effectiveness of investments being made to support smallholder agriculture, including those of governments as well as BMGF, AGRA, World Bank, etc.

2. Broad agreement that commodity exchanges and WRS can play a major role in staple food markets – but they will be ineffective in Model 3.
   - Fixed costs of these institutions require large volumes traded
   - Unanticipated price movements caused by discretionary government actions raises risks of participating in these institutions
Under-provision of seasonal storage: systemic reasons

6 main reasons:

1. Multiple harvests per season in some areas (e.g., Kenya, Tanzania, Uganda)
2. Unpredictable government operations that affect normal seasonal pattern of prices (e.g., export bans, stock releases at concessionary prices)
3. Threat of grain confiscation (recent examples in Ethiopia, Malawi, Zimbabwe)
4. Lack of confidence in crop production forecasts
5. Uncertainty as to disposition of marketing board silos
6. Lack of quality standards wrt moisture content

Fact #2

- Overcoming the problems of inadequate rural storage is much more complex than just building storage facilities
- In fact, building storage facilities will in most cases NOT overcome the problem of inadequate rural storage
- Must address the systemic disincentives to store grain
Precondition for private-sector led market development

- Address the policy uncertainty and unpredictability that inhibits development of:
  
  i. Storage in rural areas and small towns
  
  ii. Bank financing of large-scale storage and annual trader working capital operations
  
  iii. Vibrant commodity exchanges
  
  iv. Warehouse receipt systems

  (circulate hand-out)

Fact #3

- Tangible evidence of improvements in smallholders’ access to markets for both inputs and food
  
  - much improvement still required, but access to buyers and markets has improved dramatically
  
  - Access to buyers and transport are not the main constraint on smallholders’ ability to commercialize for the majority of farmers
Number of traders “coming into this village to buy maize from farmers” – 2009 and 2010

Farmers’ access to markets

- Median distance travelled by farmers to point of maize sale in:
  - Kenya = 0 km
  - Malawi = 0 km
  - Zambia = 1.5 km

- Importance of cell phone ownership on ability to find buyers – over 65% of rural households in Kenya own cell phone
Household-reported distance: farm to point of maize sale, 2008/09 season, accessible villages, Mulanje District

Lunzu retail price and farmer-reported prices received in remote villages in Blantyre District, 2009
Luchenza retail price and farmer-reported prices received in remote villages in Mulanje District, 2009

![Graph showing Luchenza retail prices over time in MK per kg from 2009:03 to 2009:09.]

Nairobi, Kenya: Price trends for retail sifted maize meal and wholesale maize grain

![Graph showing price trends for retail sifted maize flour and wholesale maize grain in constant 2007 Kenya shillings per kg from 1994 to 2008.]

Difference between retail maize meal – wholesale grain, Nairobi

trend = - 0.068 KSh/kg per month (t-stat = 13.75)

Lusaka, Zambia: Price trends for retail breakfast meal and wholesale maize grain
Difference between retail maize meal – wholesale grain, Lusaka

Kgs breakfast meal affordable per average monthly wage earnings, services sector value-added per employee, and per capita GDP – Lusaka, 1994-2010
Loaves of bread affordable per average monthly wage earnings, services sector value-added per employee, and per capita GDP – Lusaka, 1994-2010

Fact #4

- Tackling rural poverty and enabling more farmers to become surplus producers will require expanding smallholders’ access to land and assets and raising the productivity of these assets:
  - Only 25% of smallholders sell grain
  - Can market improvements enable 80%-90%?
  - Land and asset constraints prevent this
Smallholder Households’ Position in the Maize Market

Farm size distribution: small-scale sector
Maize production:
Area cultivated and Average yields

Food Reserve Agency maize purchases, 2007/08

Pre FSP Era
FSP Era:Target
Yield 4-5 Mt/ha

Area Cultivated (hectares)  Average Yields (Mt/ha)
### Disparities within smallholder agriculture, Zambia - 2004

<table>
<thead>
<tr>
<th></th>
<th>N=</th>
<th>Farm size (ha)</th>
<th>Asset values (US$)</th>
<th>Gross rev. maize sales (US$)</th>
<th>Gross rev., crop sales (US$)</th>
<th>Total hh income (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top 50% of maize sales</td>
<td>31,328</td>
<td>4.9</td>
<td>1,132</td>
<td>720</td>
<td>1163</td>
<td>2,932</td>
</tr>
<tr>
<td></td>
<td>(2%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rest of maize sellers</td>
<td>328,561</td>
<td>1.6</td>
<td>316</td>
<td>88</td>
<td>193</td>
<td>634</td>
</tr>
<tr>
<td></td>
<td>(26%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Households not selling maize</td>
<td>907,255</td>
<td>1.1</td>
<td>231</td>
<td>0</td>
<td>97</td>
<td>415</td>
</tr>
<tr>
<td></td>
<td>(72%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: CSO Supplemental surveys, 2008

### Disparities within smallholder agriculture, Zambia - 2008

<table>
<thead>
<tr>
<th></th>
<th>N=</th>
<th>Farm size (ha)</th>
<th>Asset values (US$)</th>
<th>Gross rev., maize sales (US$)</th>
<th>Gross rev., crop sales (US$)</th>
<th>Total hh income (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top 50% of maize sales</td>
<td>30,150</td>
<td>7.2</td>
<td>3,703</td>
<td>3,199</td>
<td>3,354</td>
<td>7,624</td>
</tr>
<tr>
<td></td>
<td>(2%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rest of maize sellers</td>
<td>467,320</td>
<td>1.8</td>
<td>257</td>
<td>172</td>
<td>252</td>
<td>1,272</td>
</tr>
<tr>
<td></td>
<td>(31%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Households not selling maize</td>
<td>1,010,014</td>
<td>1.1</td>
<td>129</td>
<td>0</td>
<td>57</td>
<td>756</td>
</tr>
<tr>
<td></td>
<td>(67%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: CSO Supplemental surveys, 2008
Recommendations/proposals

Competing models of the role of state and private sector in food markets:

- **Model 1:** Rely on markets; state role limited to:
  - Public goods investment
  - Regulatory framework
  - Strengthening of institutions / defense of property rights
  - Policies supportive of private sector entry and competition

- **Model 2:** Primary reliance on markets but role for rules-based state operations:
  - e.g., buffer stock release to defend stated ceiling price
  - Marketing board purchases at stated price announced in advance
  - Transparent rules for initiating state imports

- **Model 3:** Role for markets and discretionary state intervention:
  - Based on premise that private sector cannot ensure adequate food supplies in response to production shortfalls
  - Justification for unconstrained role for state interventions in markets to correct for market failures
Recommendations/proposals

1. Promote a policy environment consistent with Model 2 (Model 1 may work best but may not be politically feasible)

2. Raise investment in crop science, extension, and physical infrastructure, which will:
   i. raise farm productivity
   ii. Reduce the costs of participating in markets for both farmers and traders

3. Help farmers with production and marketing skill training

Lunzu retail price and farmer-reported prices received in remote villages in Blantyre District, 2009
Recommendations/ proposals

4. Take measures to relieve land constraints on smallholder market participation:
   i. Public investments in currently under-utilized areas (e.g., Gokwe, Zimbabwe)
   ii. Support staple food productivity growth through R&D, crop science, extension
   iii. Promote crop diversification into higher-valued crops

Recommendations/ proposals

5. Jury still out on the “development state” approach (large input subsidy programs and marketing board operations). The evidence to date is that these policies:
   i. have successfully raised maize production
   ii. have not effectively reached the poor; benefits are concentrated among the better-off smallholders
   iii. have not appreciably reduced rural poverty
   iv. have produce tangible benefits but that the costs of achieving them have been substantial -- major opportunity costs in terms of foregone investments that might have produced greater benefits