Unappreciated Facts about Staple Food Markets:
The Potential for Win-Win Outcomes for Governments, Farmers, Consumers and the Private Sector

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Michigan State University

Presented at the ACTESA/COMEA Conference “Awakening the Sleeping Giant: Making Grain Markets Work for Smallholder Farmers and Consumers in Eastern and Southern Africa

Lusaka, 10 May 2010
Competing models of the role of state and private sector in food markets:

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Organization of presentation

1. 4 under-appreciated facts about food markets in the region

2. discuss how these underappreciated facts affect the state’s ability to create *win-win outcomes* for:
   - Farmers
   - Consumers
   - Private sector
   - Government
Fact #1

• Both E and S Africa are rapidly becoming food deficit regions
  – Urban populations growing much faster than the region’s ability to feed it
  – Wheat imports rising rapidly – wheat is becoming the #1 staple in terms of consumer expenditures
Fact #2

- Land shortages are now a major constraint on:
  - Smallholders’ ability to produce a food surplus
  - Only 25%-35% of smallholders sell grain
  - Land constraints will never allow 80-90% of smallholders to produce a surplus no matter how well markets function unless land constraints in smallholder farming areas are overcome
Fact #3

• Tangible evidence of improvements in smallholders’ access to markets for both inputs and food
Fact #4

- Public investments with the greatest returns to ag growth and poverty reduction are:
  - infrastructural investment
  - R&D
  - conducive policies that support private investment in markets and production
Fact #1

- Both E and S Africa are rapidly becoming food deficit regions
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Net grain exports: 1975-2007

Southern Africa (with South Africa)

Source: FAOSTAT 2010
Net grain exports: 1975-2007

Source: FAOSTAT 2010
Net grain exports: Kenya

Source: FAOSTAT 2010
Wheat product consumption total (MT) and per capita (kg), Zambia
Diversification of consumption patterns due to increasing wheat imports

<table>
<thead>
<tr>
<th>Urban center</th>
<th>Year</th>
<th>% share of main staples budget (&quot;main staples&quot; = maize, wheat, rice and cassava)</th>
<th>Main staples % share of total food budget</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Maize</td>
<td>Wheat</td>
</tr>
<tr>
<td>Nairobi</td>
<td>2003</td>
<td>36</td>
<td>39</td>
</tr>
<tr>
<td>Maputo Province</td>
<td>2002</td>
<td>9</td>
<td>57</td>
</tr>
<tr>
<td>Northern Mozambique*</td>
<td>2002</td>
<td>33</td>
<td>8</td>
</tr>
<tr>
<td>Lusaka</td>
<td>2007/8</td>
<td>39</td>
<td>49</td>
</tr>
<tr>
<td>Kitwe</td>
<td>2007/8</td>
<td>43</td>
<td>45</td>
</tr>
<tr>
<td>Mansa</td>
<td>2007/8</td>
<td>46</td>
<td>28</td>
</tr>
</tbody>
</table>

*includes Nampula city
Fact #2

- Tackling rural poverty, promoting smallholder commercialization and enabling more farmers to become surplus producers will require expanding smallholders’ access to land:
  - 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

- **Mozambique**: 50% sell only, 30% buy only, 10% both, 10% neither
- **Zambia**: 40% sell only, 40% buy only, 20% both, 10% neither
- **Kenya**: 50% sell only, 30% buy only, 10% both, 20% neither
- **Malawi**: 60% sell only, 20% buy only, 10% both, 20% neither

**Legend**:
- Green: sell only
- Orange: buy only
- Blue: both
- Gray: neither
Farm size distribution: small-scale sector

- Kenya
- Malawi
- Mozambique
- Zambia

hectares

1st quintile
2nd quintile
3rd quintile
4th quintile
5th quintile
• Marketed grain surplus from smallholder sector is extremely concentrated:
  – 2% of farmers account for 50% of total grain sales
## Characteristics of smallholder farmers, Zambia 2006/07

<table>
<thead>
<tr>
<th>Category</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 (2%)</td>
<td>4.3</td>
<td>1,132</td>
<td>720</td>
<td>1163</td>
<td>2,932</td>
</tr>
<tr>
<td>Rest of maize sellers</td>
<td>328,561 (26%)</td>
<td>1.6</td>
<td>316</td>
<td>88</td>
<td>193</td>
<td>634</td>
</tr>
<tr>
<td>Households not selling maize</td>
<td>907,255 (72%)</td>
<td>0.9</td>
<td>231</td>
<td>0</td>
<td>97</td>
<td>415</td>
</tr>
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Fact #3

• Tangible evidence of improvements in smallholders’ access to markets for both inputs and food
  ▪ this should raise the returns to future public investments to ag
Number of traders “coming into this village to buy maize from farmers” – 2009 and 2010

![Bar chart showing the percentage of villages sampled under different number of traders in Kenya, Zambia, and Malawi.](chart.png)

- Under 5 traders
- 6 to 10 traders
- 11 to 15 traders
- 16-20 traders
- Over 20 traders

Legend:
- Green: Kenya
- Blue: Zambia
- Red: Malawi
Farmers’ access to markets

• Median distance travelled by farmers to point of maize sale in:
  – Kenya = 0 km
  – Malawi = 0 km
  – Zambia = 3 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 marketing 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
Nairobi, Kenya: Price trends for retail sifted maize meal and wholesale maize grain
Difference between retail maize meal – wholesale grain, Nairobi

The chart illustrates the trend of the difference between retail maize meal and wholesale grain in Nairobi from 1994 to 2008. The trend is given by the equation: trend = -0.068 KSh/kg per month (t-stat = 13.75). The data shows a downward trend over the years, indicating a decrease in the difference.
Lusaka, Zambia: Price trends for retail breakfast meal and wholesale maize grain

constant 2007 Zambia kwacha per kg

breakfast meal, retail Lusaka

maize grain, wholesale Lusaka
Graph of difference between retail maize meal – wholesale grain, Lusaka
Under-provision of rural storage

5 main reasons:

1. Multiple harvests per season in some areas (eg., Kenya, Tanzania, Uganda)
2. Unpredictable government operations that affect normal seasonal pattern of prices (eg., export bans, stock releases at concessionary prices)
3. Lack of confidence in crop production forecasts
4. Uncertainty as to disposition of marketing board silos
5. Lack of quality standards wrt moisture content
Fact #4

• Public investments with the greatest returns to ag growth and poverty reduction leading to Asian green revolution are:
  – infrastructural investment
  – R&D
  – conducive policies that support private investment in markets and production
## Ranking of Alternative Investments: Meta-Study Evidence from Asia and Africa

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<td>6</td>
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Recommendations/ proposals

1. Lease some marketing board silos in need of rehabilitation to private sector: win-win by leasing > 10 years.
   i. Farmers and private sector benefit from increased supply of storage facilities
   ii. Government benefits from capital investment in rehabilitated storage

2. Donors pay cost of SAFEX option contracts in return for ensuring open regional trade
   i. Should reassure governments that adequate supplies will be available, and can therefore commit to a rules-based system (Model 2)
Recommendations/ proposals

3. 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

4. Help farmers with marketing skill training
Lunzu retail price and farmer-reported prices received in remote villages in Blantyre District, 2009
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   i. KMDP example, Kenya
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- 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
Asante sana, zikomo, twalumba, tantenda, obrigado, thank you.....
Figure 15. Shares of consumers’ expenditures on staple food products by retailer type, four cities of Zambia, 2008
Shares of Consumers’ expenditures on staple food products by retailer type, Nairobi, Kenya, 2003

% of total staple expenditures

1st 2nd 3rd 4th 5th

informal retailer marketplace small supermarket chain supermarket