Determining the Appropriate Size of Zambia’s Strategic Grain Reserve and Options for Food Reserve Agency Reforms

By
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Summary Points

Size of the SGR

- Current SGR of 500,000MT is outsized for ensuring food security
- Revise SGR to 150,000 MT (3 months lead time) or 350,000 MT (5 months lead time) for 2018/19 season
- Conduct periodic reviews of SGR size to reflect changing population dynamics, market, availability & consumption patterns

FRA Reforms

- Procure less maize through a transparent system e.g. ZAMACE or private sector
- Pricing and timing of stock rotation should be well-managed
- Reduce direct GRZ involvement in grain storage to promote private sector storage
Primary objective of SGR is to ensure food security but is also a market intervention tool to reduce farmers’ price risk and stabilize consumer prices.
Specific Objectives of SGR

To ensure a reliable supply of maize grain and other designated agricultural commodities

To meet local shortfalls in supply of maize grain plus other strategic crops

To meet food emergencies caused by drought or flood or other natural disasters

To stabilize grain and maize meal prices by increasing supply
However, the SGR has problems...

1. High levels of grain wastage due to poor stock rotation practices
2. SGRs have proved not to stabilize prices, especially when export bans are in place
3. Crowds-out private sector investment
4. Strains the already squeezed budget e.g.

In 2017/18, SGR budget was over K1 BILLION, accounting for 4.5% of all social spending (agriculture, education, health and social protection)
Ensuring food security with less: case for scaling down SGR

- From 2014 to date, SGR has remained at 500,000 MT
- Estimation was based on population, monthly consumption requirement of 100,000 MT and a lead time of five months
- This estimate no longer reflects:

A. Improved trading and processing capacity
B. Increased local production

Maize production has increased over years mainly due to area expansion and shift in production zones

Source: CFS, various years
C. Changing consumption patterns

Starchy staples have declined as a proportion of total expenditure for Zambia

- E.g. proportion of food budget spent on maize fell from 23% in 1998 to 14% by 2015

![Bar chart showing the decrease in proportion of food budget spent on maize from 1998 to 2015.](chart)
D. Increased private sector investments in marketing and storage capacity

Private sector investments in storage was 550,000 MT in 2013

Private sector investment has increased storage capacity to 947,000 MT of maize by 2018

Source: GTAZ
Putting it together

Grain shortfalls are more unlikely because:

• Share of consumption expenditure on maize has gone down
• Maize production is higher
• Private sector storage capacity is higher

Private sector can meet any shortfall in a shorter space of time due to improved production, trading and processing capacity
Ensuring food security with less: case for scaling down SGR

In view of changing nature of economy

• Size of SGR could be reduced to 150,000 (3 months) or 350,000 MT (5 months lead time) for 2018/19 season without compromising food security
Calculating size of SGR by objective (1)

<table>
<thead>
<tr>
<th>SGR major objective</th>
<th>Assumptions</th>
<th>Calculations</th>
<th>Suggested optimal SGR size (MT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>To meet local shortfalls in the supply of maize grain for human consumption</td>
<td>• Vulnerable population estimated @ 6.5 million</td>
<td>6.5x10^6<em>90days</em>255g</td>
<td>149,175</td>
</tr>
<tr>
<td></td>
<td>• Lead time required for food imports to reach the country @ 3 months (90 days)</td>
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<td></td>
<td>• Maize consumption requirements @ 255g per capita nutritional level per day</td>
<td></td>
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</tr>
<tr>
<td>Lead time to mobilize additional grain supplies @ 4 months (120 days)</td>
<td></td>
<td>6.5x10^6<em>120days</em>255g</td>
<td>198,900</td>
</tr>
<tr>
<td>Lead time @ 5 months (150 days)</td>
<td></td>
<td>6.5x10^6<em>150days</em>255g</td>
<td>248,625</td>
</tr>
</tbody>
</table>

Source: Kuteya & Samboko, 2018
Calculating size of SGR by objective (2)

<table>
<thead>
<tr>
<th>SGR major objective</th>
<th>Assumptions</th>
<th>Calculations</th>
<th>Suggested optimal SGR size (MT)</th>
</tr>
</thead>
</table>
| To meet maize grain deficit for human consumption plus industrial requirements (stock feed and breweries) | • Vulnerable population estimated @ 6.5 million  
• Lead time required for food imports to reach the country @ 3 months  
• Cereal consumption requirements @ 255g per capita nutritional level per day  
• Industrial requirements @ 1.4g per day | 6.5x10^6*90days*255g*1.4g | 208,845 |
| | Lead time to mobilize additional grain supplies @ 4 months | 6.5x10^6*120days*255g*1.4g | 278,460 |
| | Lead time @ 5 months | 6.5x10^6*150days*255g*1.4g | 348,075 |

Source: Kuteya & Samboko, 2018
As current SGR is outsized for ensuring food security, FRA can better achieve its objectives by minimizing intervention in maize sector.

Reducing role of FRA will crowd in private sector investment and promote productivity growth.

FRA needs to revise size of SGR and conduct periodic reviews to reflect changing population dynamics, vulnerability, consumption patterns and time taken to import food.

• Pricing and timing of stock rotation should be well-managed
• Reduce direct GRZ involvement in grain storage to promote private sector storage coverage
## Recommendations: FRA Reforms

<table>
<thead>
<tr>
<th>Private-sector led growth</th>
<th>FRA reforms should promote private-sector led growth through ZAMACE and PPPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Damaging stock releases</td>
<td>Grain reserves stocks rotation should be predictable</td>
</tr>
<tr>
<td>Questionable price stabilization</td>
<td>Price stabilization role of SGR is questionable and could be dropped and re-allocate resources to more productive areas</td>
</tr>
</tbody>
</table>
Vision of a slimmed down SGR and reformed FRA

- Food Security
- Private sector-led growth
- Reduced role of FRA
- Reduced GRZ costs
Thank You