Options for Zambia’s Maize and Mealie Meal Industry During El Niño Years

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Outline

- Introduction
- High Dependence on Copper
- Agriculture: a major earner of export revenue
- Zambia’s potential
- Effects of El Nino
- Policy Options
Introduction

The 2015/16 production season characterised by uncertain weather

- This phenomenon is referred to as El Nino
- Most of Southern Africa also affected
- Zambia and the region was faced with low rainfall in the 2014/15 production season
- Zambia’s agriculture is mostly rain-fed – hence El Niño caused panic!
Introduction

There was wide media speculation about Zambia’s maize situation.

Zambia was the only country with maize stocks in the region.

This season the region is likely to face acute maize shortages:

- Is this an opportunity or threat for Zambia?
- What lessons can Zambia draw from El Niño years?
- What are the options for Zambia’s maize and mealie meal industries?
Economy still heavily Dependent on Copper

- Falling revenues from mineral exports (30% drop from 2014)
- Need to diversify economy away from Copper

Source: UN COMTRADE, Various Years; CSO 2015
Agriculture: a Major Earner of Export Revenue

- In 2015, the value of agric exports 27% of NTE value
- Of the agric exports value, 43% was maize
- As a single commodity, maize had the highest share of Non-Traditional Exports (NTEs) for most months

Source: CSO Monthly Bulletins
Performance of Agricultural Exports

Source: CSO, Various Years
Huge Opportunities for Zambia’s Agriculture!
Huge Opportunities for Zambia’s Agriculture!

- 40% of fresh water resources in the SADC region
- Zambia’s Irrigation potential of 430,000 Ha
- About 156,000 Ha under irrigation
Zambia has become more resilient during El Niño years

Production and carryover stock cushioning the effects of El Nino Years

<table>
<thead>
<tr>
<th></th>
<th>2001/02</th>
<th>2004/05</th>
<th>2012/13</th>
<th>2014/15</th>
<th>2015/16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maize Production (MT)</td>
<td>601,606</td>
<td>866,187</td>
<td>2,532,800</td>
<td>2,618,221</td>
<td>2,873,052</td>
</tr>
<tr>
<td>Maize Consumption</td>
<td>1,202,900</td>
<td>1,141,889</td>
<td>2,534,026</td>
<td>3,086,854</td>
<td>2,905,896</td>
</tr>
<tr>
<td>Deficit/Surplus (incl. carry over stock)</td>
<td>-581,294</td>
<td>-85,000</td>
<td>453,995</td>
<td>876,768</td>
<td>634,681</td>
</tr>
</tbody>
</table>

Source: MAL/CSO, Various Years
Northern parts received better rainfall than the Southern parts

Uncertain nature of the El Nino weather – rainfall patterns improved from late January

Map 1: July 1, 2015 - December 31, 2015

Map 2: July 1, 2015 - February 29, 2016

Source: Vulnerability Assessment Committee
Zambia Production Shifting North

- Production is shifting to Northern Zambia
- North includes: Central, Copperbelt, Luapula, Muchinga, Northern and North-Western Provinces
- South includes: Eastern, Lusaka, Southern and Western Provinces.
- Northern parts produced 49% above the Southern parts
  - North: 1,720,073 MT
  - South: 1,152,979 MT

Source: MAL/CSO, Various Years
Nominal Maize Grain Prices

- Prices rise and fall within a season
- Reflects seasonal grain availability
- Also reflects high demand from the region
- Currently prices have started to drop

Seasonal grain price changes (Nominal prices)

Source: IAPRI/ZNFU/CSO, Various Years
Nominal Mealie Meal Prices

- Mealie meal price rise was also exacerbated by high regional demand in the season

Source: IAPRI/CSO, Various Years
Are maize grain prices rising in real terms

![Graph showing real and nominal grain prices over time.](image-url)
Are mealie meal prices rising in real terms
El Nino Effects: Regional price differences as a pull for Zambia’s maize

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>SURPLUS/DEFICIT</th>
<th>PRICE</th>
<th>% DIFFERENCE WITH ZAMBIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zambia</td>
<td>634,681</td>
<td>$225</td>
<td>-</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>-700,000</td>
<td>$340</td>
<td>34%</td>
</tr>
<tr>
<td>Malawi</td>
<td>-100,000</td>
<td>$282</td>
<td>20%</td>
</tr>
<tr>
<td>South Africa</td>
<td>-1 250 000</td>
<td>$314</td>
<td>28%</td>
</tr>
<tr>
<td>Tanzania</td>
<td>-</td>
<td>$329</td>
<td>32%</td>
</tr>
<tr>
<td>Kenya</td>
<td>-610,000</td>
<td>$313</td>
<td>28%</td>
</tr>
<tr>
<td>Uganda</td>
<td>-</td>
<td>$286</td>
<td>21%</td>
</tr>
<tr>
<td>Mozambique</td>
<td>-</td>
<td>$288</td>
<td>22%</td>
</tr>
</tbody>
</table>

Source: FAO GIEWS ; NAMC, 2016; Personal Interview with Grain Trader; RATIN
El Nino Effects: Regional price differences as a pull for Zambia’s maize

Export Parity Prices in the region

<table>
<thead>
<tr>
<th>Country</th>
<th>Maize price in</th>
<th>Transport from Zambia to</th>
<th>Duties and Fees</th>
<th>Handling Costs</th>
<th>Export parity price from Zambia to</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Africa (Randfontein)</td>
<td>340</td>
<td>60</td>
<td>0</td>
<td>10</td>
<td>280</td>
</tr>
<tr>
<td>Malawi (Lilongwe)</td>
<td>282</td>
<td>40</td>
<td>0</td>
<td>10</td>
<td>242</td>
</tr>
<tr>
<td>Tanzania (Dar es Salaam)</td>
<td>329</td>
<td>150</td>
<td>0</td>
<td>10</td>
<td>179</td>
</tr>
<tr>
<td>Mozambique (Beira)</td>
<td>288</td>
<td>95</td>
<td>0</td>
<td>15</td>
<td>193</td>
</tr>
<tr>
<td>DRC (Lubumbashi)</td>
<td>90</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>-</td>
</tr>
<tr>
<td>Kenya (Nairobi)</td>
<td>313</td>
<td>230</td>
<td>0</td>
<td>10</td>
<td>83</td>
</tr>
<tr>
<td>Angola</td>
<td>-</td>
<td>120</td>
<td>0</td>
<td>10</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: FAO GIEWS; NAMC, 2016; Personal Interview with Grain Trader; RATIN
As one of the buyers, government has set its own price at K75 per 50kg bag;

Private sector will also purchase at their own price.

Note that export parity shows incentives for producers/traders in export markets.

El Nino creates a large differential between local and export incentives.

Source: IAPRI/CSO, Interviews with Grain Traders
El Nino Effects: Huge price differences a major pool factor for informal mealie meal exports

Mealie Meal Price differences between Zambia and DRC: April, 2016

Kitwe,
Breakfast meal price
K85 per 25kg

Kasumbalesa (Zambian side)
Breakfast meal price
K175 per 25kg

Kasumbalesa (DRC side)
Breakfast meal price
K250 per 25kg

Lubumbashi
Breakfast meal price
K400 per 25kg

Source: IAPRI Rapid Survey
El Nino Effects: Huge price differences a major pool factor for informal mealie meal exports

Zambia recently faced problems with smuggling of maize to the DRC
Maize meal price stabilization

- Subsidies to large commercial millers
- The majority of rural poor do not consume commercial mealie meal (only 6% based on RALS 2015)
- Some of the urban poor consume repackaged mealie meal and end up paying more
...Maize meal price stabilization

Hammer mills can be an effective and cheaper way of targeting poor consumers

Source: IAPRI Rapid Survey

<table>
<thead>
<tr>
<th>Costs: April, 2016</th>
<th>Ndola</th>
<th>Kitwe</th>
<th>Lusaka</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Breakfast 25 kg</td>
<td>79</td>
<td>85</td>
<td>84</td>
</tr>
<tr>
<td>Hammer Mill (per 25kg)</td>
<td>48</td>
<td>42</td>
<td>47</td>
</tr>
<tr>
<td>Repackaged (per 25 kg)</td>
<td>100</td>
<td>113</td>
<td>100</td>
</tr>
</tbody>
</table>
Zambia Should Facilitate Agricultural Trade:

• Demand in other countries is an opportunity

Facilitating trade has a number of advantages:

• Diversification exports away from copper
• Offers expanded markets beyond the domestic markets
• More investments in the ag sector including FDI
• Increasing governments revenue and forex
• Improves reputation as a reliable source of maize for the region
• Informal trade flourishes even under export bans
...Policy Options

To assist the poor consumers, the government through the FRA should avail maize to informal millers and should step up the distribution of maize grain to communities in order to strengthen the informal milling sector.

Invest in early warning systems to anticipate adverse weather conditions.

Invest in irrigation facilities for both small scale and large scale farmers.

Irrigated early or winter maize can help mitigate the effects of El Nino once detected early.
“As the **El Nino wanes off**, meteorologists are indicating a possibility of the development of a weak **La Nina**. A La Nina event, may result in generally **above normal rainfall** in Zambia between **December 2016 and March 2017**. The SADC Regional Vulnerability Assessment Committee is currently meeting in South Africa where a regional perspective will be developed on the forecasted La Nina event” (ZNFU Agro Watch).
THANK YOU