Diversifying Zambia’s Agriculture

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Presentation Flow

Agricultural Diversification Overview

Concerns about Maize Centered Policies

Opportunities for Alternative Value Chains
Agricultural Diversification Overview

Number of Crops

- National: 2
- Central: 2
- Copperbelt: 2
- Eastern: 3
- Luapula: 2
- Lusaka: 2
- Muchinga: 3
- Northern: 3
- Northwestern: 3
- Southern: 2
- Western: 2
Proportion of cultivated area devoted to various crops

- Maize: 53.6%
- Sorghum: 10.6%
- Groundnuts: 7.5%
- Cassava: 6.9%
- Orange Sweet Potato: 6.15%
- Seed cotton: 3.3%
- Soya Beans: 1.5%
- Mixed Beans: 3.2%
- Cowpeas: 0.3%
- Sweet Potatoes: 0.2%
- All other Crops: 0.1%
- Gardening: 6.9%
Concerns on Maize Centric Policies

Increases risks, at both household and economy-wide level, associated with:

- Climate change – droughts
- Price volatility
- Market risks

Deplete soil nutrients through soil mining

Limit the potential to use agriculture as a poverty reduction tool

Limit the scope and scale of trading and input supply
Zambia Situation in 2015/16 Ag. Season

- Northern parts received better rainfall than the Southern parts

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
Opportunities for Alternative Agricultural Value Chains
Region I:
- Rainfall Less than 800mm/annum
- Loamy to clay soils
- Cotton, sorghum, millet, sesame, cashew nuts, livestock, fisheries

Region IIa:
- Rainfall range – 800 to 1,000 mm/annum
- Inherent fertile plateau soils.
- Maize, cotton, tobacco, sunflower, soybeans, irrigated wheat, groundnuts, flowers, paprika, vegetables, cassava, millet, horticulture, livestock.

Region IIb:
- Rainfall range 800 – 1,000 mm/annum
- Loamy to sandy soils
- Cassava, sorghum, millet, sesame, cashew nuts, livestock, fisheries

Region III:
- More than 1,000mm of rainfall/annum
- Very deep soils, sandy clay loam.
- Cassava, millet, sorghum, beans, groundnuts, rice, coffee, tea, pineapples, fish farming, livestock.

Source: Ministry of Agriculture
Livestock Production Opportunities by Province

Source: Ministry of Fisheries and Livestock

Indaba Agricultural Policy Research Institute
Horticulture

- Gross margins of cabbage, tomato and onion are much higher than that of maize:
  - 219 times for cabbage
  - 179 times for tomato
  - 138 times for onions
Important research findings on horticulture

- Proximity to good road infrastructure significantly increases smallholder farmers participation in horticultural markets.
- Chaotic market places disadvantage farmers and other market participants.
- Price instability reduces the probability of participation in horticultural markets.
Way forward for horticulture

- Develop wholesale markets with concrete flooring to facilitate drainage and cleaning
  - designated entry and exit points for vehicular and human traffic
  - Loading and off-loading bays, storage facilities
- Invest in road, water and electricity infrastructure
Commercial farmers-80% of the production 2015/16

Increasing demand for soybeans driven mainly by a fast-growing poultry sector

Sector expected to grow by 8% a year over the medium term to 2020

Soybeans production trends
Opportunities for Soybeans production

- Rising prices, due to increased domestic demand for soybeans in animal feed, cooking oil, and processed soya products
- Movement of grain traders into the smallholder soybean market
- Improving soil quality on smallholder farmers through maize/soybean crop rotations
Way Forward for Soybeans

Increase productivity – improve extension services
- Use of inoculum among Smallholders
- Legume-cereal rotation

Increase awareness of use and benefits of consuming soybeans products
Groundnuts remains an important crop in Zambia:

- Alternative source of income
- Important component source of protein in the much of the rural diet
- Cultivated by almost half of the smallholders
- Second most cultivated crop after maize
- High Demand for groundnuts locally and regionally
Way forward for Groundnuts

**Improve yields** - Private sector investment - supply of hybrid seed varieties using the out-grower model.

**Improve market participation (Local and export) among the producers by:**
- Reducing the high levels of *aflatoxin contamination* caused by poor drying and storage methods.
- Increase local assembling of produce
- Increase value addition
Livestock

- Livestock contributes;
  - 3.2% to national GDP and over 30% to agric. GDP
  - 6% to smallholder households’ income
    - Can be as high as 30% (among livestock market participants)
  - Constitutes 20% of household assets
- Yet livestock budget share of the Poverty Reduction Program still remains very small
Livestock Production Trends - National

Opportunities in Livestock

Rapidly increasing demand

- Deficit of ~320 thousand tonnes of meat and 760 million liters of milk (MAL et al, 2011)
- Export Market

Meeting this rapidly increasing demand for animal-source foods presents a "big opportunity for smallholders to earn a better living"
Way forward in livestock

1. Train /deploy more veterinary assistants
2. Encourage farmers to use veterinary drugs and vaccines
3. Construction of new and rehabilitation of existing community dip tanks
4. Effective breeding and restocking programs
5. Encourage private sector participation
   - Establish and operationalize through PPPs livestock service centers, breeding and milk collection centers
Fish

Capture Fisheries
  Wild fish in natural water bodies

Aquaculture Fisheries
  Fish farming
Fish

- Employment – Directly & indirectly
  - More than 1 million

- Contribution to GDP
  - 0.4% - Agriculture, Forestry and Fishing GDP in 2010 (CSO, 2014)

- Food and nutrition security
  - 53.4% of animal protein (FAO, 2012)
Opportunities in the fishing sector

- **High Demand- Supply gap**
  - Annual aquaculture production: 20,000mt
  - Annual capture fisheries production: 75,000mt
  - Total Annual consumption: 130,000mt
  - Deficit: 35,000mt per year

- **A lot of water** - 12 million hectares of water and 8 million hectares of wet lands

- **Export Market**
## Gross margins (Fish vs Maize)

<table>
<thead>
<tr>
<th></th>
<th>Fish production on 100 m² (equivalent to 1 Ha)</th>
<th>Maize Production on 1 Ha</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Revenue</strong></td>
<td>K 213,840.00</td>
<td>K 2,914.30</td>
</tr>
<tr>
<td><strong>Total Cost</strong></td>
<td>K 147,064.50</td>
<td>K 1,051.30</td>
</tr>
<tr>
<td><strong>Gross Margins</strong></td>
<td>K 66,775.50</td>
<td>K 1,863.00</td>
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</tbody>
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Way forward for Fisheries

- Facilitate better storage facilities
- Facilitate access to Credit and Finance
- Increase number of breeding centers for fingerlings
- Good quality fingerlings and feed availability
For agricultural diversification to become a reality in Zambia, it needs to start with us!
Thank You