

Seminar on Increasing Productivity in the Agricultural Sector to Contribute to the On-Going Macroeconomic Modeling Process

MoFNP - Tecla Lodge, Wed, 6th August, 2008

Information and Analysis to Improve Agricultural Productivity & Reduce Rural Poverty in Zambia

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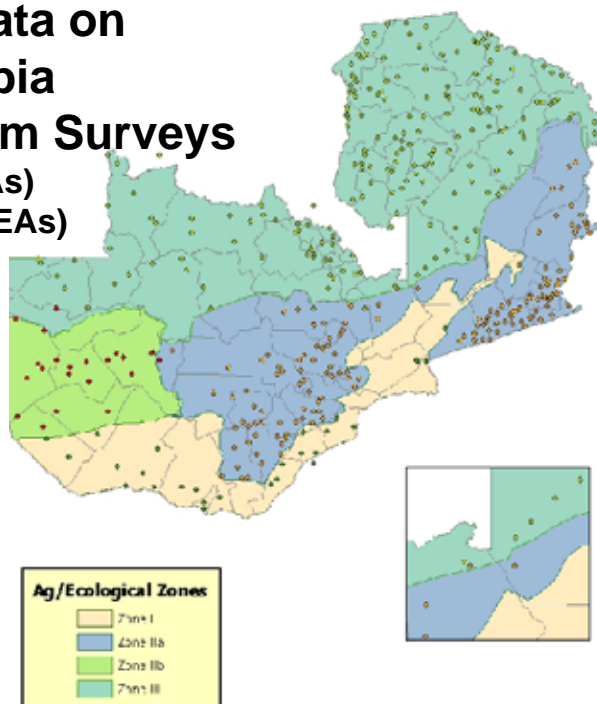
FSRP – Various Topics Being Covered Special Research/Outreach Targets for 2008

- With CSO/MACO. Improve CFS/PHS data utilization
- 3rd round PHS/Supplemental Rural Livelihood Survey (May-June 2008 field work) & (Aug-Sept data prep)
- Utilize CFS and PHS/SS Data & Analysis to Inform Discussions of Options To Respond to the Food & Input Price Challenges in 2008, 2009 and Beyond.
- Consolidate & Utilize data (Aug 2007) & (Feb 2008) rounds of the urban food consumption survey
- Continue research & outreach on factors associated with agricultural productivity growth in Zambia

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Source: Empirical Data on Smallholders in Zambia – Nation Wide Random Surveys

(CFS/PHS/SS 99/00 = 364 SEAs)
(CFS 2006/07 onward = 660 SEAs)



Map of Central Statistical Office Statistical Enumeration Areas (SEAs) Sampled in the CSO/MACO/FSRP Post Harvest and Supplemental Surveys in 2001 and 2004 (and to be completed in 2008) by Zambia's Agro-Ecological Zones

History: Growth rates (% pa) in Crop Output in Zambia, 1990/91 - 2005/06

| Crop | 1990-1994 | 1995-1999 | 2000-2005 | 1990-2005 | CAADP 2015 Target |
|------------------|-----------|-----------|-----------|-----------|----------------------|
| Maize | -0.50 | 0.66 | 1.62 | 0.49 | 4.84 |
| Cassava | 3.30 | 11.86 | 3.60 | 4.33 | 5.54 |
| Groundnuts | -5.70 | 1.77 | -0.53 | 2.96 | 5.35 |
| Cotton | -8.17 | -3.88 | 3.65 | 3.40 | 9.37 |
| Total crop value | -3.25 | 1.91 | 1.31 | 1.09 | 6.09 |

History: Crop Productivity Growth Rates (% pa) in Zambia, 1990/91 - 2005/06

| Productivity measure | 1990-1994 | 1995-1999 | 2000-2005 | 1990-2005 |
|----------------------|-----------|-----------|-----------|-----------|
| Output per ha | -2.95 | -0.75 | 1.42 | -0.06 |
| Output per HH | -4.76 | 0.27 | 0.77 | -0.42 |
| Area planted per HH | -1.81 | 1.02 | -0.65 | -0.36 |

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Summary

- Real value sluggish and increasing at lower rate than rural population growth (1.1% p.a).
 - Investments in technologies, institutions, information and people needed
- Output trends have visible turbulence – natural & institutional
 - Stable trading arrangements and irrigation investment programs needed
- Productivity levels are falling
 - output growth explained by increase in area and labor with no technical progress

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Wide Agreement : Key Investments to Drive Productivity Growth in Agriculture

- Technology (research on crops/livestock, management practices, extension, processing improvements)
- Markets (property rights, standards, contract law, adjudication, market facilities, market price and supply information, marketing extension)
- Infrastructure (roads, irrigation, rural electrical power, ports, communications)

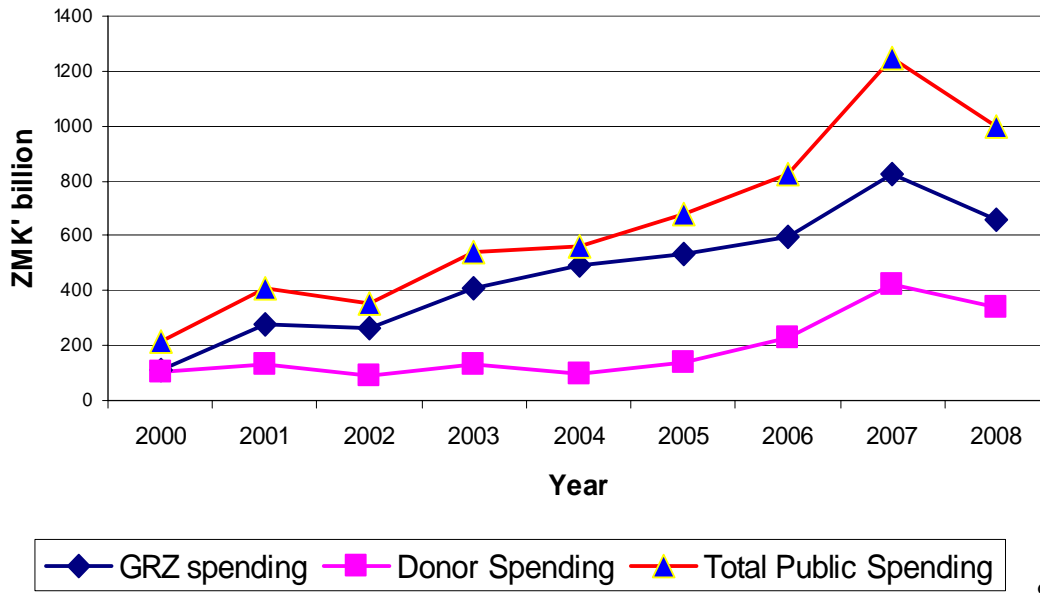
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How to Increase Agriculture Productivity in Zambia ?

- Increasing the amount of resources deployed in agriculture
 - progress in achieving MAPUTO declaration
- Seek efficient use the existing resource envelope
 - Impact of spending depends on composition
 - Reduce spending on subsidies for “private goods”
 - Prioritize investment spending in drivers of productivity across sub-sectors, functions, economic uses, regions and administrative boundaries

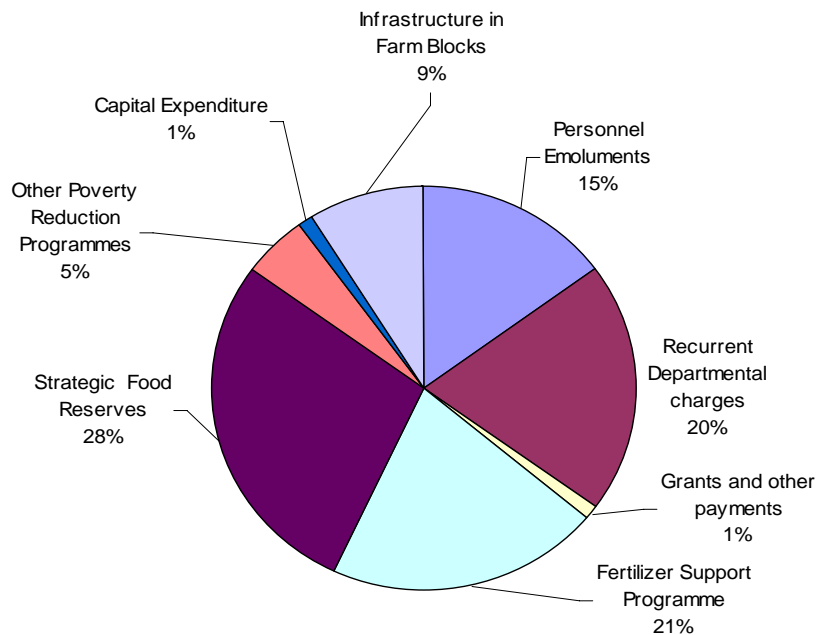
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Real Public Agricultural Expenditure (PAE) levels, 2000 – 2008



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Public Resource Allocation for the Agricultural Sector, 2007



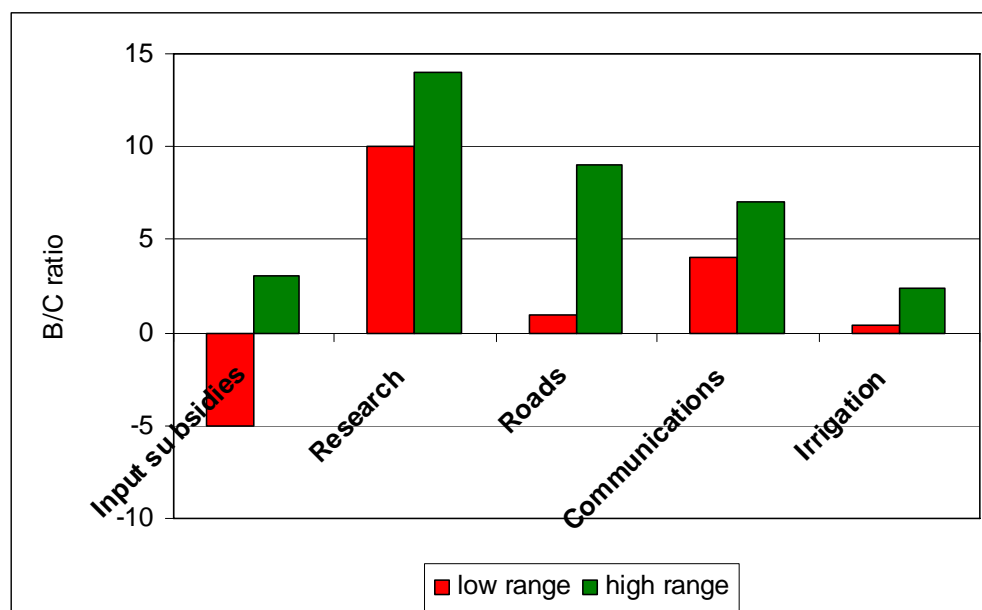
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Prioritization of Public Agricultural Spending in Zambia, 2000 - 2008

| | Average spending | | Growth (%/yr) | FNDP Ranking |
|------------------------|------------------|-------------------|------------------|--------------|
| | (%) | (ZMK' billion) | | |
| Long-term investments | 3.4 | 16.0 | 8.3 | 1 |
| Subsidies | 52.8 | 245.2 | 6.5 | 4 |
| Research & Development | 18.1 | 83.9 | 8.6 | 2 |
| Administration | 5.4 | 24.9 | -2.5 | 3 |
| Personnel Emoluments | 20.3 | 94.3 | 2.9 | 5 |
| Total | 100.0 | 464.3 | 5.6 | |

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Other Countries - Summary: Returns to Alternate Forms of Ag. Spending



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Summary

- Investment Level & Composition Critical:
 - Allocation increasingly focuses on low return spending on private goods (financing maize and fertilizer)
 - At the expense of high return investments in productive public goods (research, management insights, agricultural extension, roads, communications, timely information, irrigation)

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Conclusions (1)

- Generation and transmission of managerial and technical information skills to farmers
 - Extension needed to increase farmer's ability to manage input use
 - Extension to emphasize input efficiency instead of use levels e.g., precise timing of input application
 - Adequate research and extension linkages
- Public/private investment in breeding research for replacement of old varieties
 - Need to capture genetic gains in productivity in order to manage drought stress and disease susceptibility
- Public/private investment in resource augmenting practices
 - Conservation farming may reduce risks and enhance intertemporal productivity
 - Subsidies for learning may encourage intensification but overuse may degrade the environment
- Public generation and transmission of market information
 - Crucial in establishing location and season specific input application recommendations

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Conclusions (2)

- Public involvement in marketing should be backed by disclosures of:
 - Funds available and volumes to be handled
 - Location of operation
 - A plan of phasing out
- Create a conducive environment for further private sector investment
 - Stabilize macroeconomic environment, interest and exchange rates
 - Stabilize expectations on competing public spending & market opportunities – domestic and regional
 - Monitor pricing and encourage competitive practices
 - Develop communication systems and reduce energy tariffs