

Public Resource Allocation and Agricultural Competitiveness

Food Security Research Project (FSRP)

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Ministry of Agriculture & Cooperatives



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FSRP CORE BUSINESS: Improving Agricultural Policy and Food Security through

- Empirical Research
- Capacity Building
- Outreach

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Today's focus

1. Resource allocation for agricultural sector
2. Promoting cost-effective use of fertilizer
3. Insights into maize sector
4. Returns to agriculture investment

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1. Resource Allocation to Agriculture

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Sector share of national budget

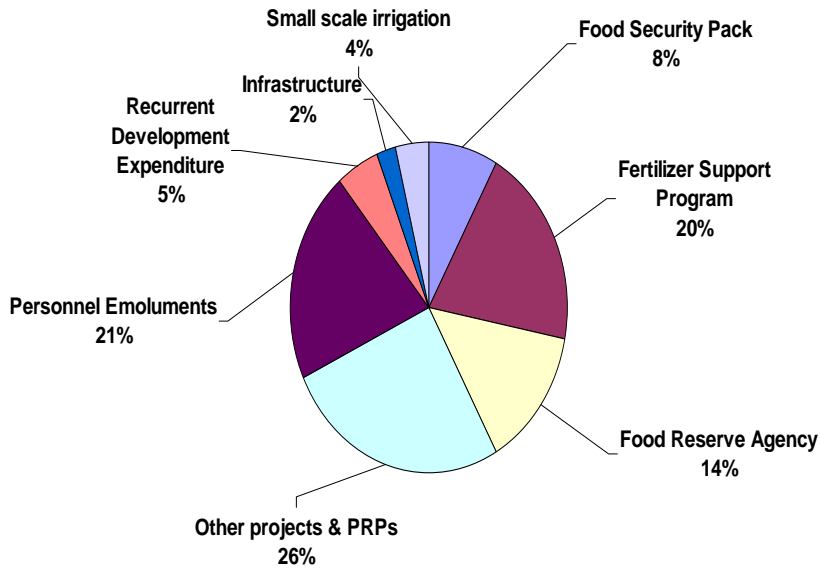
Year	Share of national budget
1998/99	2
1999/00	2
2000/01	2
2001/02	3
2002/03	4
2003/04	6
2004/05	7
2005/06	4

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Stated Priority Areas Under NDP

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- Irrigation
 - Agricultural infrastructure and land
 - Research – crops, livestock & fisheries
 - Extension – crops, livestock & fisheries
 - Animal health

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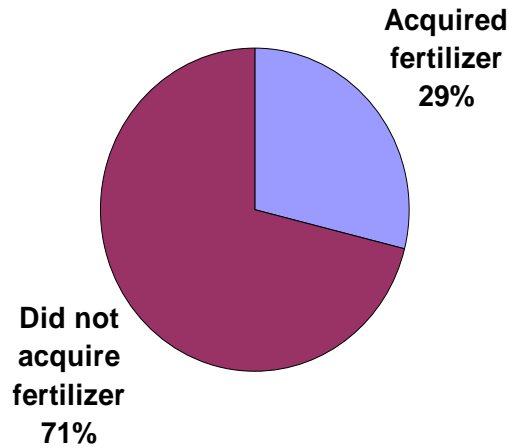
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2. Fertilizer

Budget priority #1

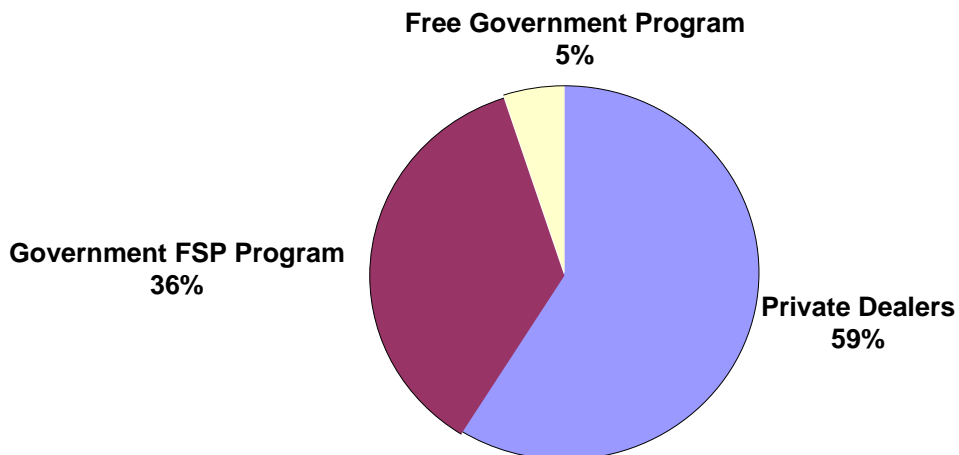
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Majority of farmers do not acquire fertilizer



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How did Farmers Acquire Fertilizer in 2002/03?



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Key Findings

- Households acquiring fertilizer from private dealers:
 - higher incomes and wealth
 - close to tarmac roads and district center
 - higher education
- Household acquiring fertilizer from FSP:
 - higher incomes and wealth
 - close to tarmac roads and district center
 - Civil service employees

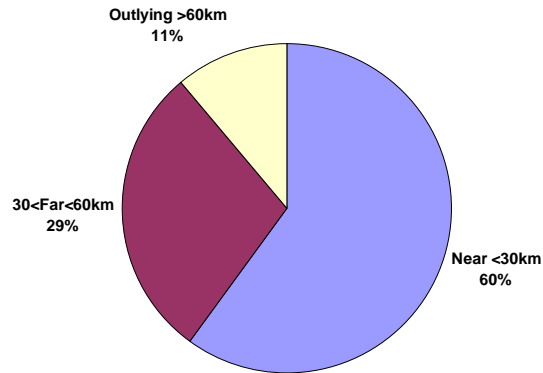
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Fertilizer sources by per capita income levels (ZMK'000)

	FSP recipients	Acquire from private trader	Non-users
Income (zmk ' 000)	804	774	266
Assets (zmk ' 000)	425	342	173
Farm size (ha)	??	??	??
Maize area (ha)	1.33	1.12	0.71

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Distribution pattern for FSP fertilizer



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Key Findings:

- Households in districts where government programs operate are 70% less likely to acquire fertilizer from private dealers than households in districts where government programs do not operate.
- For every additional tonne distributed by FSP, small farmer fertilizer use rises by 200kg.

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Key Findings:

- Maize-fertilizer response:
 - 15-20% higher if acquired on time
 - 10-15% higher for fertilizer acquired from private dealers than from government program

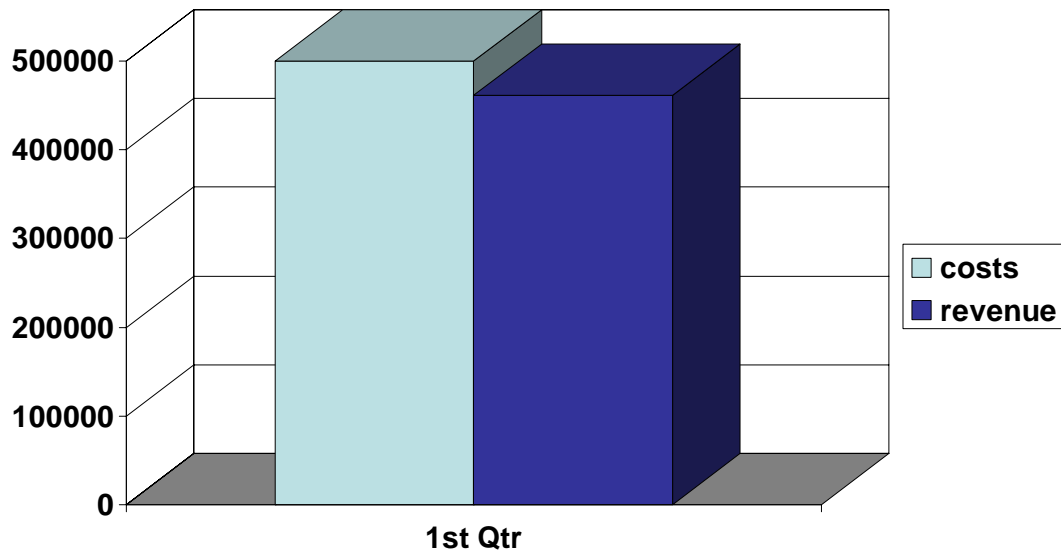
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Fertilizer profitability

- Actual yield gain (1999/00):
 - 1.6kg of maize per kg of fertilizer
- Potential yield gain:
 - 3 to 12kg of maize per kg of fertilizer

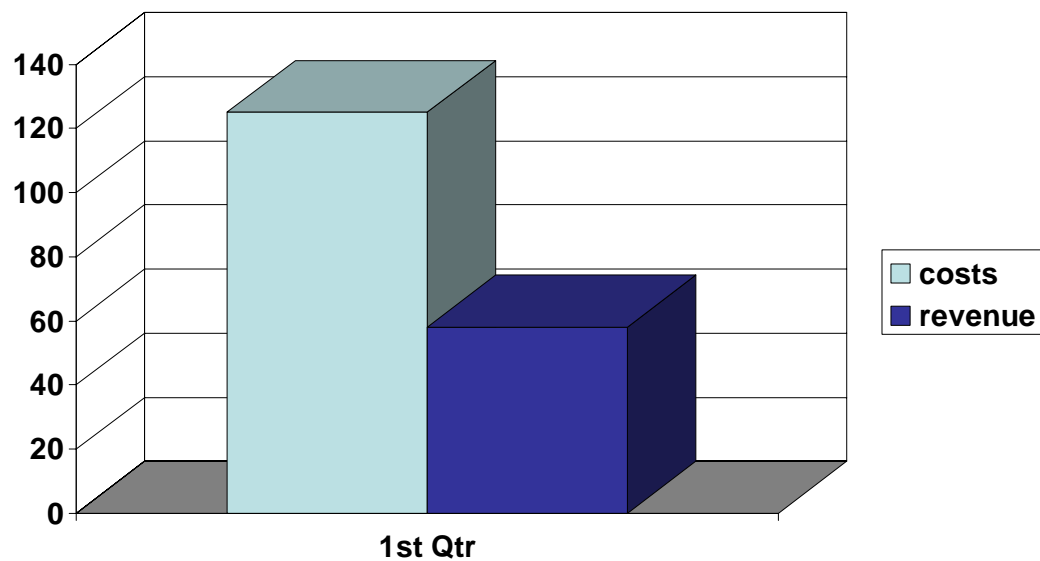
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Financial outcome of FSP for farmers



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Financial outcome of FSP for Treasury



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3. Maize

budget priority

#2 (FRA+FSP)

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Concentration of Maize Sales Among Smallholder Farmers

- Only 28% of the households sell maize
- 2% of the rural Households (25,000 farms) account for 50% sales of maize
- FRA price support focuses on these 2% of rural HH

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Characteristics of Maize Selling & Non Maize Selling Households

Attribute	Maize Sellers		Households Not Selling Maize
	2% of HH accounting for top 50% of total Maize	Rest of Maize Sellers	
Landholding Size (Hectares)	6.00	3.91	2.79
Value of farm assets (USD)	1,558	541	373
Total Household Income (USD)	2,282	514	291

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Insights into the processing sector

- Large-scale millers:
 - Up to 60% share of total mealie meal consumed
 - Of this, 70% of the maize they mill is supplied by small holder farmers

- Hammermill channel:
 - market share of at least 40% of mealie meal
 - Mugaiwa is 20% cheaper than breakfast meal
 - The poor primarily consume mugaiwa

- Important for Government to nurture small milling sector, since the poor rely on it

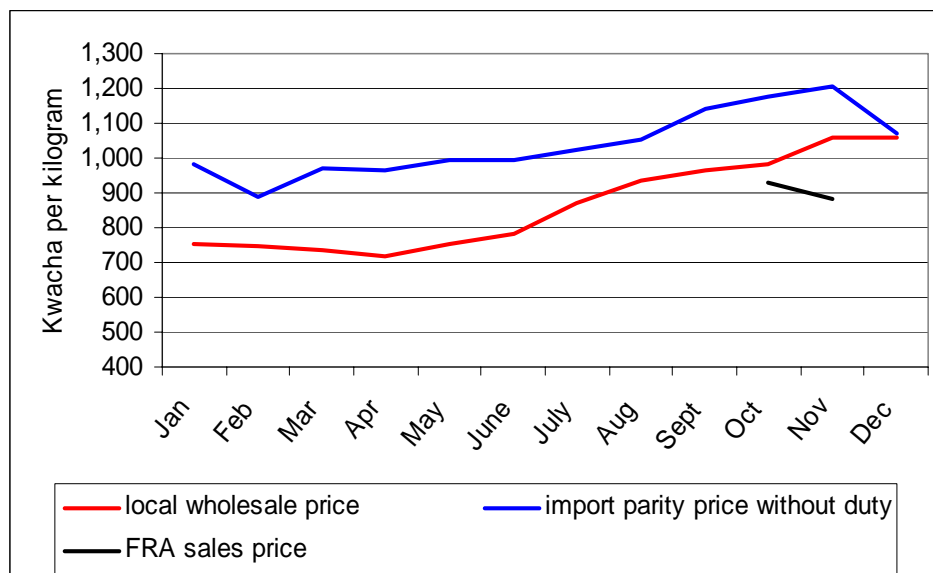
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Stop and go policies discouraged private maize import in 2005

- Maize import duty raised, then rescinded
- Slow issuance of import permits
- New sanitary and phytosanitary requirements introduced
- Cheap FRA maize sales to millers discourages commercial imports
- Import delays cost Zambia consumers

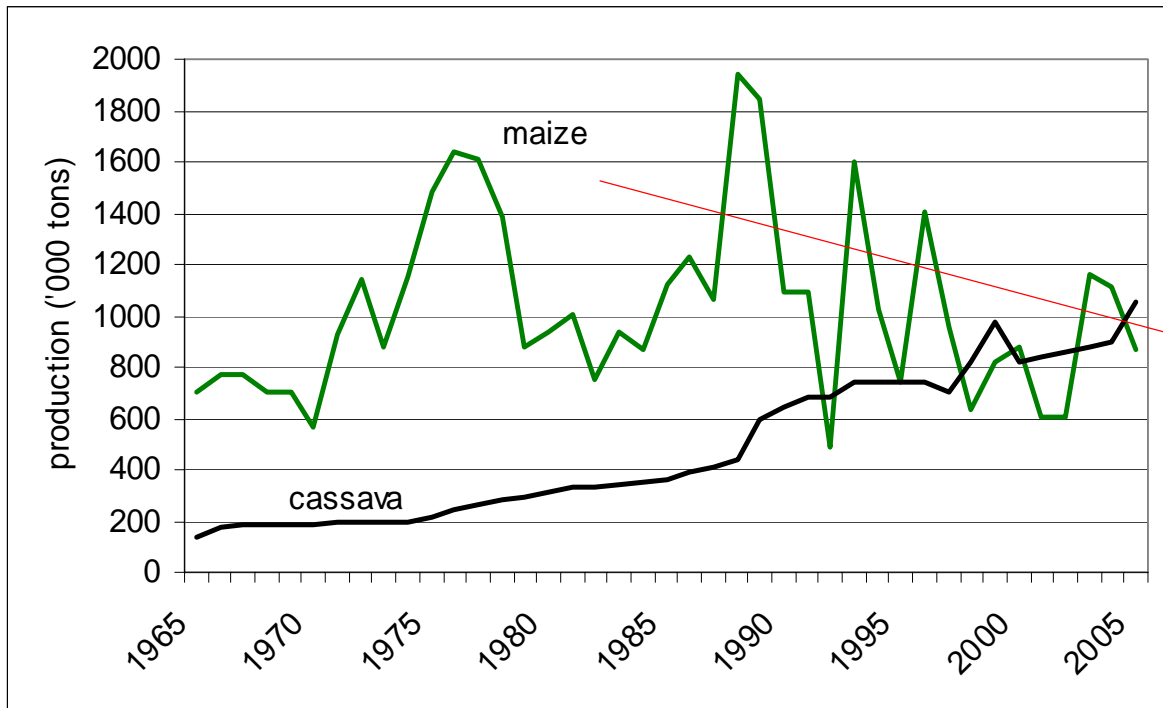
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The millers' decision: import or buy from FRA?

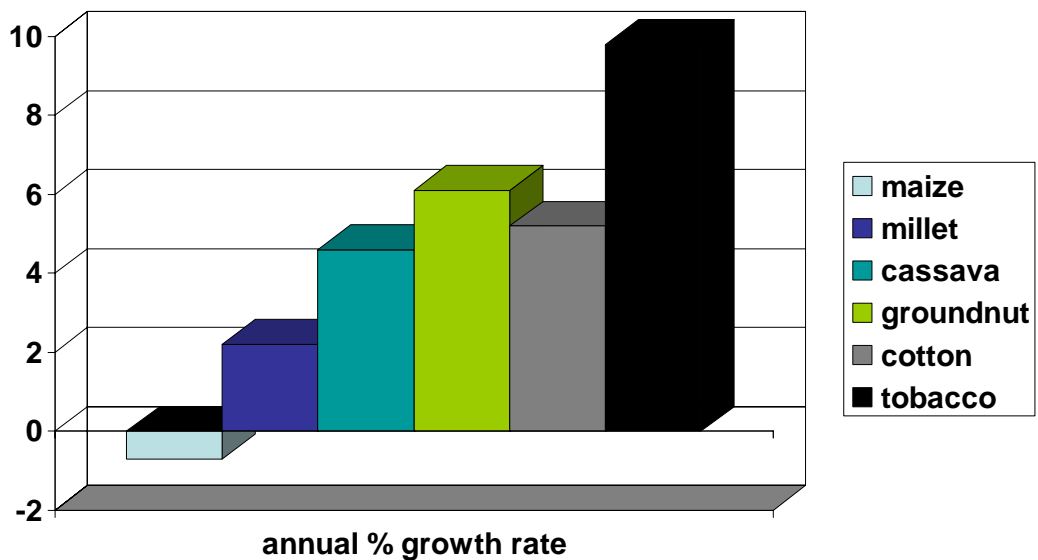


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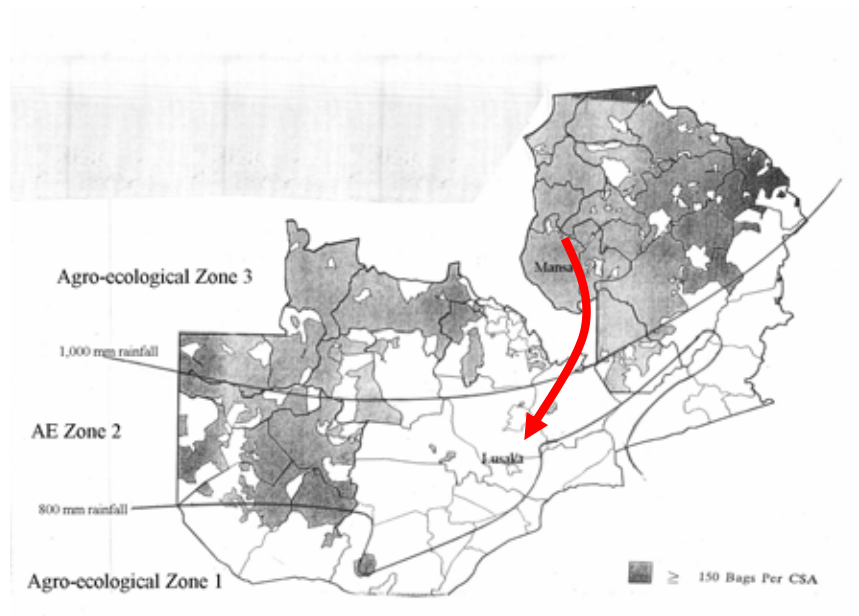
Production Trends in Food Staples



Annual growth rates, 1992/3-2001/02



Can the new varieties of cassava provide drought insurance in central Zambia?



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Is cassava a good food security crop in central Zambia? YES

	Cassava	Maize	
		good year	bad year
Yield/ha	30 tons	3 tons	1 ton
Calories/ha/year	11,000	9,200	3,000
Calories/day worked	193,000	60,000	23,000

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Cassava produces good yields in central Zambia, even in an erratic rainfall year



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5. Returns to Alternative Investments:

What can we learn from other areas?

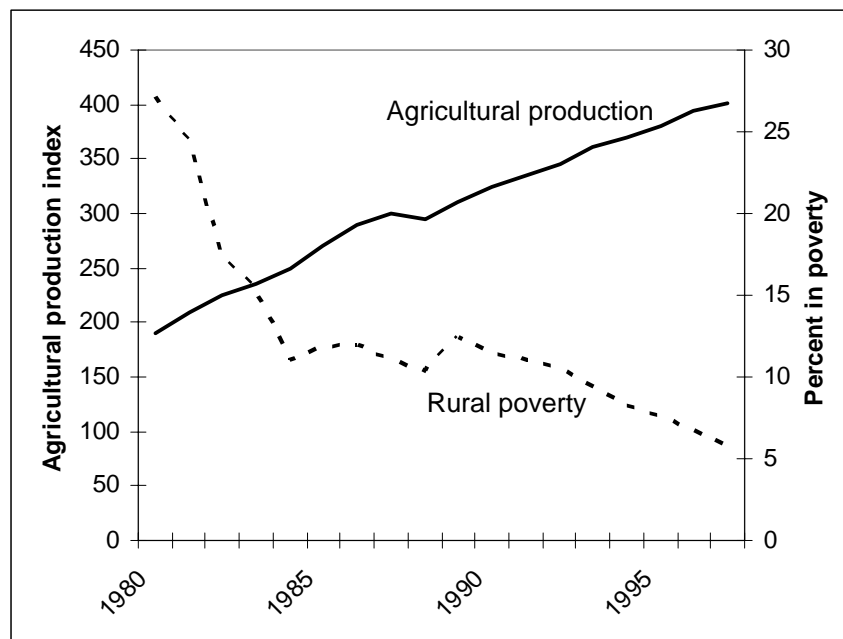
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Why spend on agriculture?

- Agriculture is a powerful poverty fighter
 - No country has ever achieved mass poverty reduction without a prior substantial boost in agricultural productivity
- Maputo commitment: 10% budget spending on agriculture

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Agricultural growth and poverty reduction in China



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Returns

	Returns
Subsidies	Negative – 12%
Investments	
- research & extension	35% to 70%
- roads	20% to 30%
- education	15% to 25%
- communications	10% to 15%
- irrigation	10% to 15%

Evenson (2001), Ahmed and Donovan (1992), World Bank (1994), Psycharopolis (1985),

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Key budgetary implications for Zambia

- Why does Zambia focus the most resources on the least profitable forms of agricultural spending?
- Should GRZ spend greater share of its budget to
 - Agricultural productivity R&D
 - Extension
 - Rural infrastructure development
 - Irrigation

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6. Summary

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Resource Allocation

- Growing but still below target of 10%
- Not consistent with GRZ stated priorities

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Fertilizer

- Fertilizer subsidy accrues to a small % of farmers who are better off
- Displaces private suppliers not involved with the program
- Government fertilizer subsidies provide negative financial returns & has small impact on maize production

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Maize

- Most government expenditures on maize purchases accrue to the elite 2% rural households
- Government policy appears to be disadvantaging informal millers
- Government sends mixed signals to traders/millers
- Trade is becoming an important feature in Zambia's food security

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Trends and Crop Diversification

- Diversification is a success story, but threatened by kwacha appreciation
- Rise of cassava promotes food supply stability in drought years

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FSRP's continuing mandate

- Support 10% CAADP goal
- Assist MACO to reallocate resources in line with its stated priorities
- Improve agricultural statistics to inform policy decisions
- Improve analytical capacity within MACO, ACF, CSO and ZNFU
- Improve government policy to promote operation of private sector

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