

# Lessons from Zambia's 2010 Maize Marketing Experience

C. Nkonde, N. Mason, N. Sitko, B. Burke, D. Banda, and T.S. Jayne

Food Security Research Project, Lusaka  
Presentation at Economics Association of Zambia,  
3 March 2011, Lusaka



# Collaborating institutions involved in this study:

- Food Security Research Project
- Agricultural Consultative Forum
- Ministry of Agriculture and Cooperatives
- Central Statistical Office

Disclaimer: The views expressed here are those of the authors and do not represent those of any particular agency, including FSRP, ACF, MACO, CSO or our funding partners, USAID or SIDA.

# Objectives of this presentation

## 1. Lessons learned from 2010

- What were the specific policy actions taken in 2010
- What were their impacts
- Distributional effects: winners and losers
  - large-scale farmers
  - three categories of smallholder households:
    - net sellers of maize
    - net buyers of maize
    - those that neither buy nor sell maize
  - urban consumers
  - millers
  - traders
  - government

---

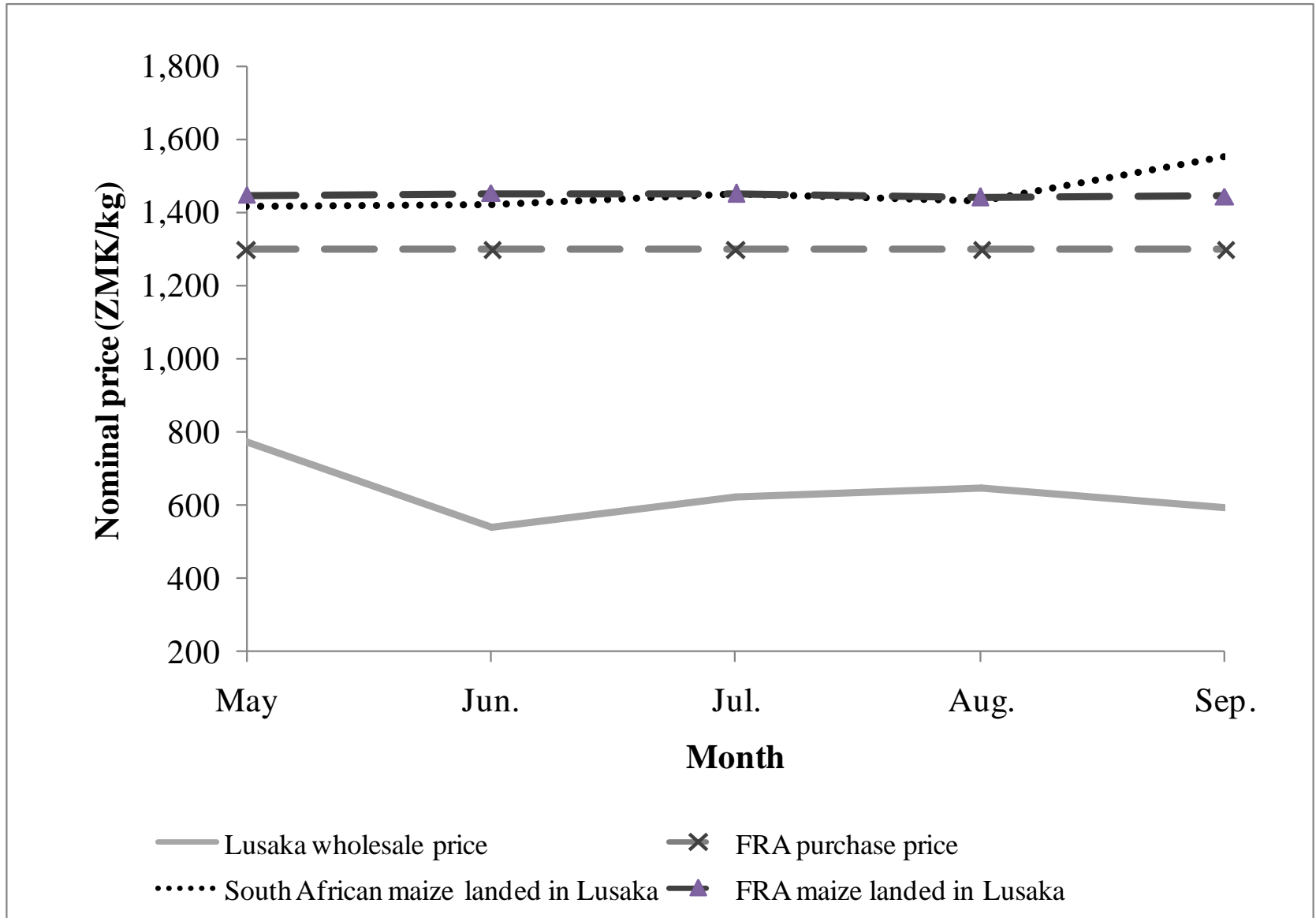
## 2. Implications for 2011 and beyond

- Concrete proposals for what could be done if 2011 should turn out to be another maize bumper crop
- What else is different in 2011 vs. 2010 that would need to be considered

# Main features of GRZ's response to 2010 maize bumper harvest:

1. FRA producer price of 65,000 kw/50kg (~ US\$275 per mt)
2. FRA maize purchase targets continuously revised upward as it became clear that original purchase targets would not be sufficient to absorb the marketed surplus  
– 878,570 MT purchased by FRA by 31 October 2010
3. Implicit restrictions on exports

# 2010 Maize prices: Lusaka wholesale, FRA Purchase Price, and c.i.f. from South Africa



## 5 Main Outcomes:

1. Accumulation of massive maize stocks
  - Kw 1.5 trillion (a 15-fold cost overrun)
2. Despite the record harvest, most smallholders did not produce a maize surplus in 2010.
  - Only 36% of smallholder farmers were expected to sell maize in 2010/11
  - extremely concentrated marketed surplus: About 49,000 farmers, or 3.3% of the total smallholder population, accounted for 50% of sales

# Disparities within smallholder agriculture, Zambia - 2008

	N=	Farm size (ha)	Asset values (US\$)	Gross rev., maize sales (US\$)	Gross rev., crop sales (US\$)	Total hh income (US\$)
Top 50% of maize sales	30,150 (2%)	<b>7.2</b>	3,703	3,199	3,354	7,624
Rest of maize sellers	467,320 (30%)	<b>1.9</b>	257	172	252	1,272
Households not selling maize	1,010,014 (67%)	<b>1.1</b>	129	0	57	756

Source: CSO Supplemental surveys, 2008

- 
3. After adding FRA marketing costs, millers could obtain maize more cheaply local markets (and from South Africa!) than from the FRA, unless it relied on the Zambian Treasury to subsidize the FRA's sale price

- 
4. The upward pressure that FRA's activities exerted on maize market prices made maize meal more expensive for urban and rural consumers than otherwise would have been the case.
- the FRA's activities effectively transferred income from rural and urban maize purchasing households to a small minority of surplus-producing farmers

---

5. FRA maize was also not competitive in regional export markets. FRA exports in 2010/11 have entailed a loss of US\$91-177 per ton exported.

- In this way, government has private discouraged exportation that otherwise could have relieved the national surplus without imposing major financial losses on the Treasury.

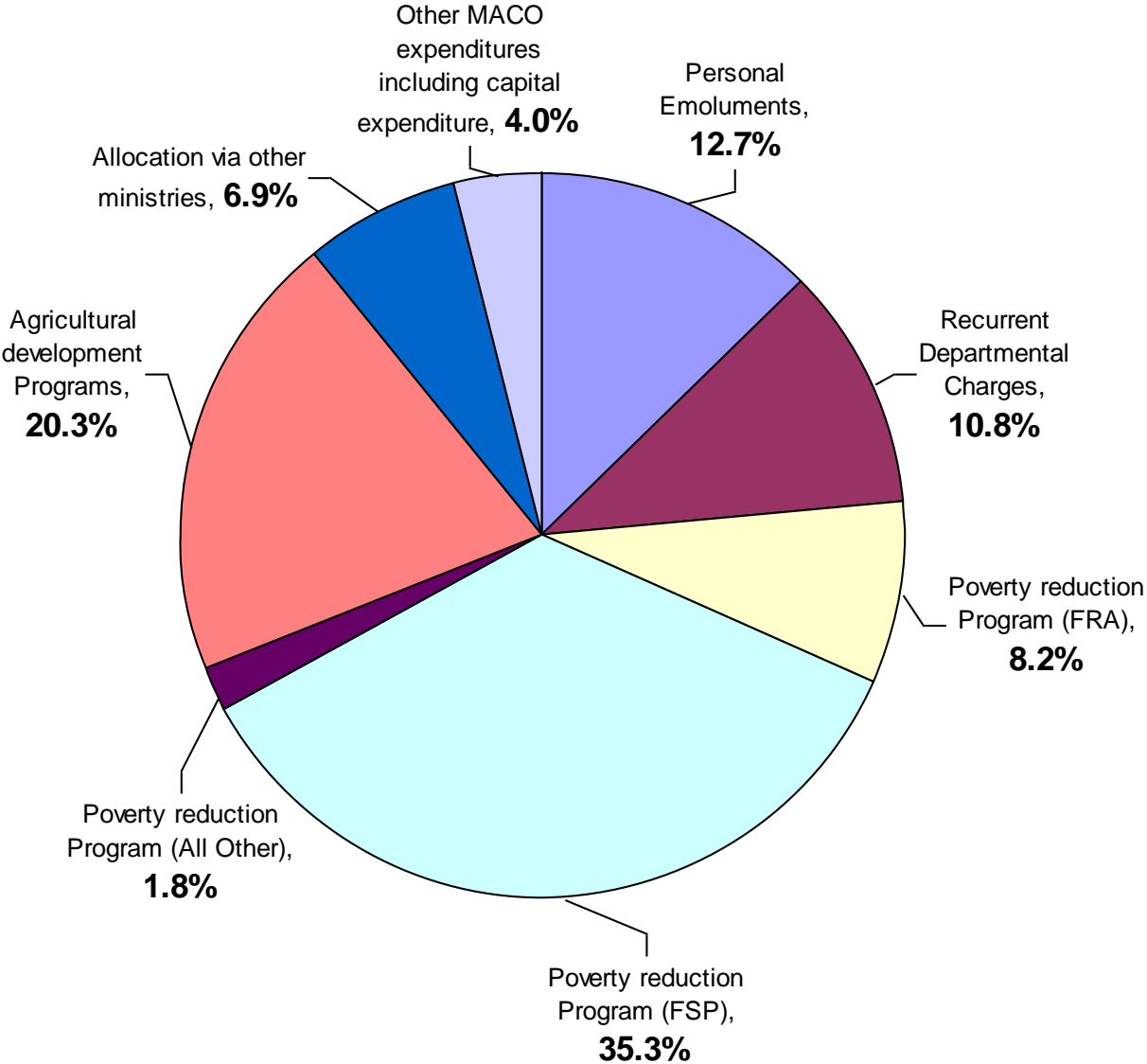
# Winners:

1. Large-scale commercial maize producers
2. 36% of smallholder farmers who sell maize
  - Recall 3.3% account for 50% of maize sales from smallholder sector
3. Government (at least in some ways)

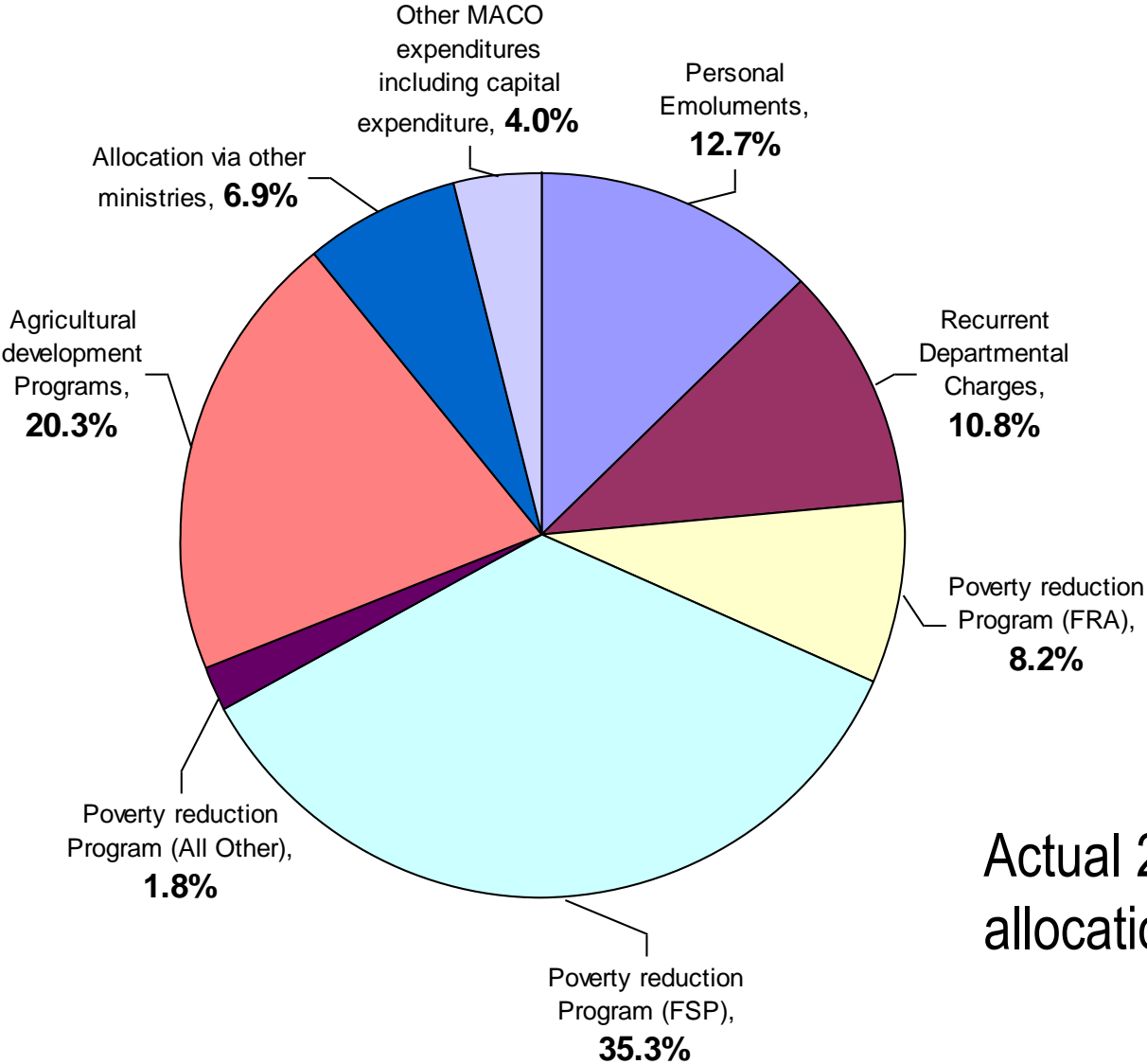
# Losers

- Urban consumers (38% of total population)
- Rural grain-deficit consumers ( ~ 41% of rural farm population)
- the Treasury: estimated financial loss on 2010/11 FRA maize trading account: \$1.2 trillion

# 2010 Allocation of Public Budget to Agriculture



# 2010 Allocation of Public Budget to Agriculture



Actual 2010 FRA allocation: 57%

## Distributional Effects of the 2010 GRZ Maize Marketing Policies

<i>Stakeholder group:</i>	Immediate	Dynamic
Large-scale farmers	+	+
<i>Smallholders:</i>		
Net maize sellers	+	+
Neither buy nor sell maize	0	0
Net maize buyers	-	-
Urban consumers	-	-
Millers	+	
Traders	--	--
Government	+	~

+ : positively affected

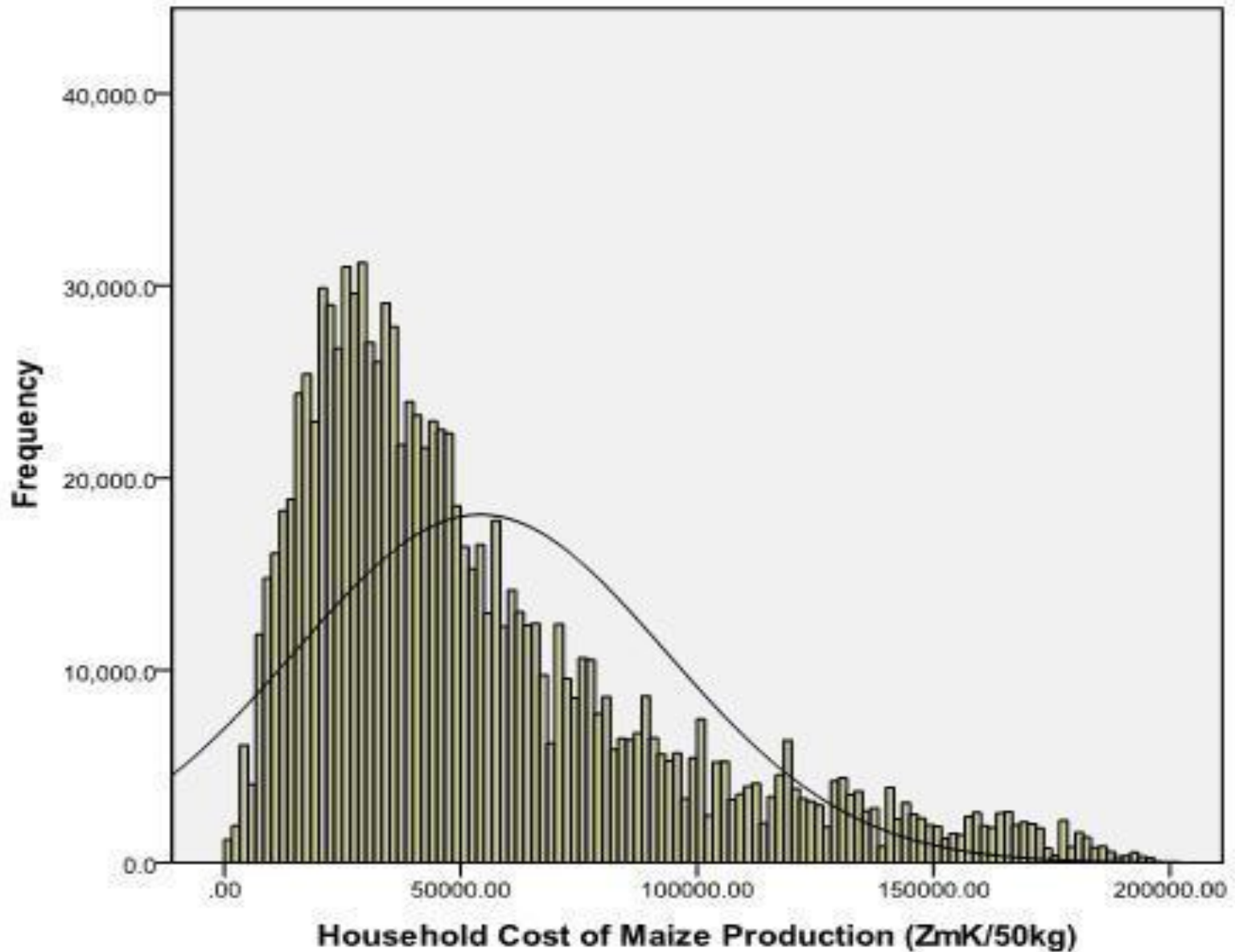
- : adversely affected

~ : neutral effect

# Alternative proposals for dealing with future bumper crop seasons:

1. FRA maize purchases and sales to be triggered when market prices fall below and rise above pre-established floor and ceiling prices
2. FRA prices to be set with reference to production and cost of production estimates
  - Requires capacity building at MACO and CSO

# Results from MACO/CSO 2010 Cost of Production Exercise



# Results (3)

**Table 2: Cost and Share of Total Production by Province and AEZ**

<i>Province</i>	Share of Total Production	Total Cash Expenditures	Expenditures plus household labor and assets (exl. land)	Total Cost of Production
		-----ZMK per 50 kg bag-----		
Central	0.21	23,237	43,958	47,785
Copperbelt	0.07	26,099	53,143	58,500
Eastern	0.22	13,925	34,096	38,569
Luapula	0.03	16,203	38,531	41,374
Lusaka	0.04	22,174	44,279	50,470
Northern	0.13	20,370	34,197	37,615
North Western	0.05	17,833	42,801	48,166
Southern	0.22	16,243	41,320	46,630
Western	0.03	12,654	53,018	63,688
All Zambia	1.00	18,630	40,739	45,459
<i>Agro-ecological Zone</i>				
I -Marginally Suitable	0.06	17,145	51,128	59,454
IIa -Suitable	0.64	17,893	39,305	43,682
IIb -Marginally Suitable	0.02	14,835	47,279	57,702
III -Moderately Suitable	0.28	20,956	41,129	45,357
All Zambia	1.00	18,630	40,739	45,459

Source: CSO/MACO Crop Forecast Survey, 2010

**Table: Costs of production by 2009 Market Position and Expected 2010 Market Position**

	Production Costs		
	Cash expenditures	All non-land costs	Total Cost
<i>Market Position 2009</i>			
	Household mean (ZMK/50kg)		
Did not sell	13,991	57,155	66,076
Sold to FRA only	22,935	43,245	47,403
Sold to private buyer only	18,745	50,568	57,006
Sold to FRA and Private buyer	24,919	44,942	48,734
<i>Expected Market Position 2010</i>			
Do not expect to sell	13,714	62,875	73,075
Expect to Sell	18,624	45,551	50,943
All Zambia	16,139	54,318	62,143

Source: MACO/CSO Crop Forecast Survey, 2010

# What's different in 2011 than in 2010?

- Another bumper harvest is on its way
- Roughly 700,000 mt from last year's harvest are still in FRA storage → reduces capacity for FRA to buy and store in 2011 like it did in 2010
- Transport capacity limits private exportation to 80,000 mt between now and June
- Bottom line: prices will be lower in 2011 than in 2010

# Alternative proposals for dealing with future bumper crop seasons:

1. FRA purchase price to be set with reference to production and cost of production estimates
  - MACO/CSO are now institutionalizing the capacity to do this on annual basis
2. Facilitate private sector exports
3. Enter into storage contracts early with private sector (bunkers can be put up quickly)
4. Re-allocating public funds on proven measures to promote on-farm productivity
5. Creating a more predictable, rules-based policy environment

# Competing models of the role of state and private sector in food markets:

## Model 1

### **Rely on markets; state role limited to:**

- Public goods investment
- Regulatory framework
- Strengthening of institutions / property rights

## Model 2

### **Primary reliance on markets**

#### **- but role for *rules-based* state operations**

- e.g., buffer stock release to defend stated ceiling price
- Marketing board purchases at stated price announced in advance
- Transparent rules for initiating state imports

## Model 3

### **Role for markets and *discretionary* state intervention**

- Trade policies and marketing board activities change unpredictably
- Justification for unconstrained role for state interventions to correct for market failures

- 
- Ultimately, Zambian farmers should be congratulated for their accomplishments this year.
  - There are alternative strategies that government could use to ensure that Zambians reap the full benefits of bumper crops in the future.

# Thank You

