Comments to Inform Discussion of Rural and Urban Food Security Issues in Zambia

Presentation at a Meeting To Introduce the EU Food Facility For Rapid Response the Soaring Food Crisis- Chrismar Hotel, 6 May, 2009

By The ACF/ FSRP Research/Outreach Team
Presented by Michael Weber & Hyde Haantuba

Research and Outreach Activities Supported By:

FSRP/MATEP

The Agricultural Consultative Forum

Overview of Presentation

- Selected results from various on-going ACF/FSRP studies
- Have too much to present it all today
- Two handouts will give more details
- Will select from the following slides to help inform/stimulate discussions in today's meeting

Sources: Written Materials Distributed & Work Underway

- Characteristics of Small and Medium-Scale Crop-Growing Households in Zambia: Preliminary Comparison of Results from CSO/MACO/FSRP National-Level Supplemental Surveys in 2003/04 and 2007/08 Crop Marketing Seasons. Lungu, et al. (Draft for Review)
- Are Staple Foods Becoming More Expensive for Urban Consumers in Eastern and Southern Africa? Trends in Food Prices, Marketing Margins, and Wage Rates in Kenya, Malawi, Mozambique and Zambia. Mason, et al. (Draft for Review)

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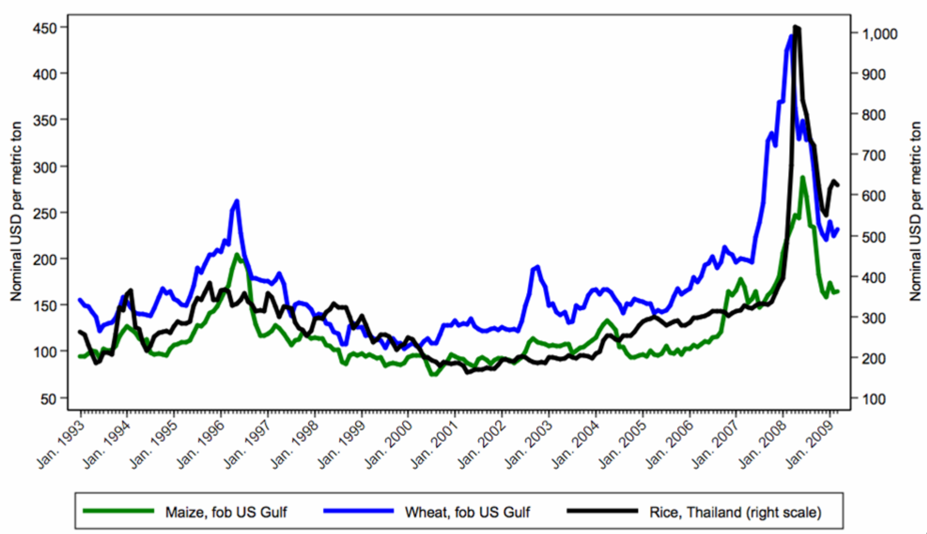
World Maize, Wheat, and Rice Prices, Nominal USD per metric ton



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The Food Price Crisis & Urban/Rural Consumers

- Concerns about urban consumers (and rural net food buyers) in developing countries being priced out of the market
- <u>Domestic</u> food prices in many urban centers in eastern and southern Africa (ESA) have continued to rise into 2009

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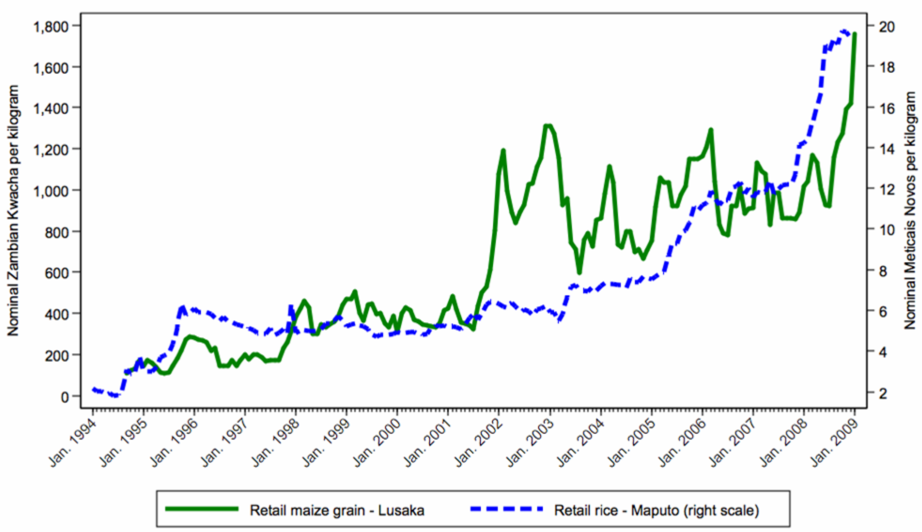
Lusaka retail Maize Grain and Maputo Retail Rice Prices



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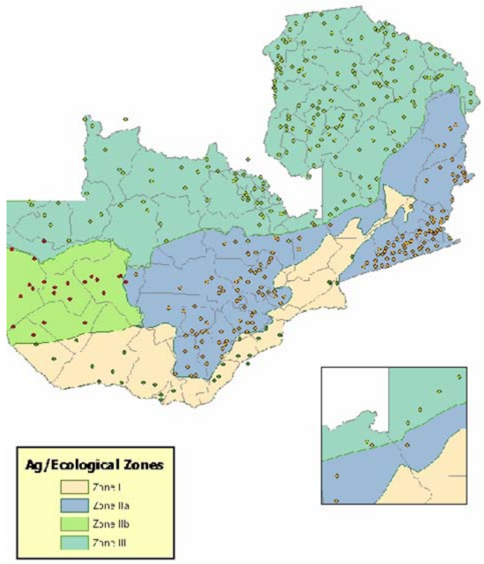
Empirical Data on Smallholders in Zambia – Nation Wide Random Surveys



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

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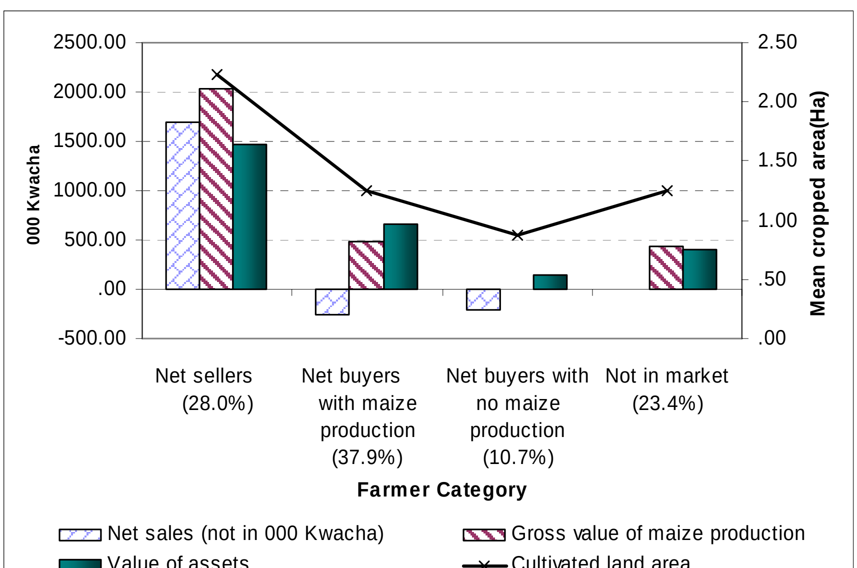
2008 SS - Big Picture Empirical Results – Characteristics of Small & Medium-Scale Farm Households (Maize Production, Sales and Assets all Linked)



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2008 (07/08 Crop Marketing Season)

Location in Zambia of Small and Medium-Scale Crop-Growing Households Ranked by Quintiles of Household Per Capita Land Use 2008

	2008 Ranked by Quintiles of CROP GROWING HHs Land Use Household Per Capita (Cultivated + Fallow)					2008 All Small-holders (0-20 ha)
	Low	2	Mid	4	High	
Land holding size household per capita -cultivated plus fallow. (ha/hh/pc)	0.08	0.16	0.26	0.41	1.01	0.38
Percent of all small households	18.72	21.9	19.36	20.01	20	100
% hhs in AEC Zone 1	21.37	19.7	18.72	22.29	25.5	21.5
% hhs in AEC Zone 2a	21.48	22.95	24.85	26.74	32.36	25.69
% hhs in AEC Zone 2b	12.76	15.27	14.95	12.61	9.97	13.15
% hhs in AEC Zone 3	44.39	42.08	41.47	38.36	32.16	39.67
% hhs in Northern	18.27	19.09	20	18.27	15.3	18.19
% hhs in Luapula	10.31	13.02	10.43	11.33	8.39	10.75
% hhs in Northwestern	10.8	9.13	9.42	7.02	5.74	8.4
% hhs in Copperbelt	7.34	4.43	5.87	4.58	5.51	5.5
% hhs in Central	12.15	10.65	10.91	12.43	13.86	11.98
% hhs in Eastern	10.47	18.33	21.05	21.89	22.95	19.02
% hhs in Lusaka	6.26	3.52	1.35	1.42	1.76	2.84
% hhs in Southern	9.62	9.01	10.37	13.59	19.62	12.43
% hhs in Western	14.79	12.81	10.59	9.47	6.87	10.89
TOTAL Households (Unweighted)	1,209	1,502	1,352	1,456	1,929	7,448
(Weighted)	279,581	326,945	289,117	298,862	298,692	1,493,197

Village Leader Indication of Maize Grain Shortages in Their Areas When HHs Want To Buy

	Northern	LUA	NW	CB	Central	Eastern	Lsaka	Southern	Western	National
Number of Village Leaders Interviewed	179	119	67	41	61	238	27	163	158	1,053
% of Leaders saying there are months of year when hhs in village who want to buy maize but none available	93	87	97	85	88	97	96	94	95	93
Most Common Month	12	1	11	10	12	1	12	12	10	12
2nd Month	1	2	12	11	1	2	1	1	11	1
3rd Month	2	3	1	12	2	3	2	2	12	2

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Selected Concepts

- Sustainable use of fertilisers & other cash inputs-depends on raising productivity (research & extension)
- For growth in overall input use, GRZ needs to encourage and especially avoid displacement of private purchases
- Which small and medium-scale farmers does GRZ wish to assist affects displacement as well as farmer dependency patterns
- Targeting to households who would not purchase anyway?
- Basic types of small and medium-scale farmers
- Who is using the current FSP, commercial markets, PAM & their household asset positions?

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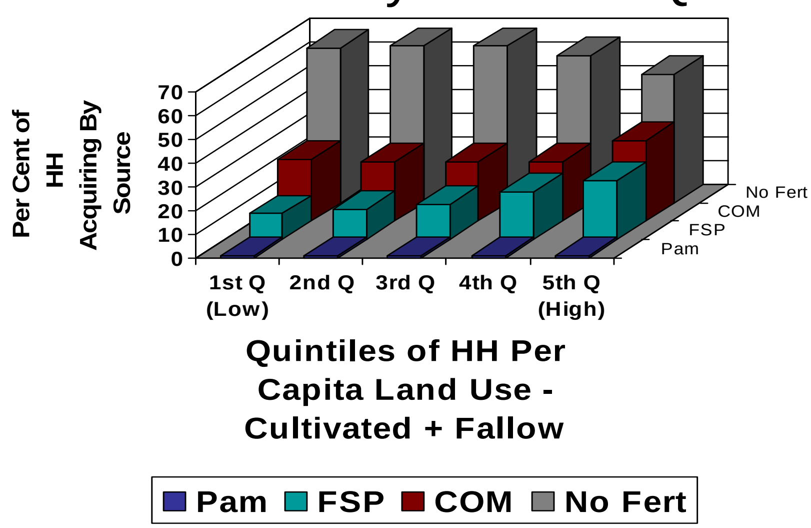
2008 SS - Percentage of Fertiliser Use/Nonuse By HH Land Quintile



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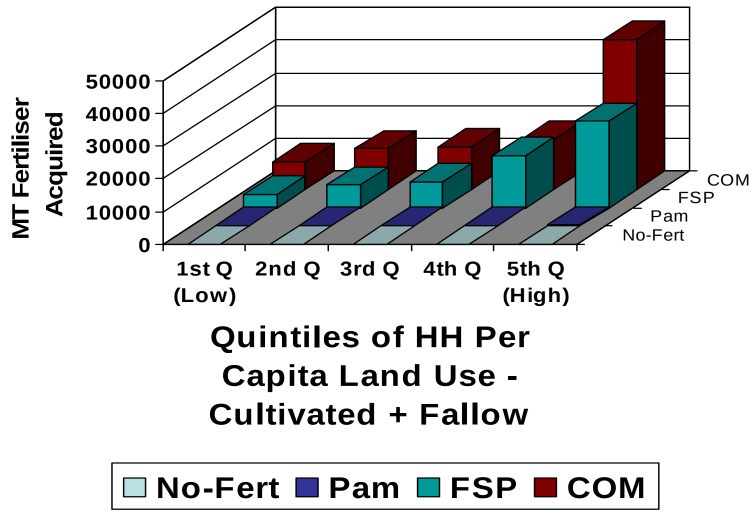
2008 SS - Sources & Quantities of Fertiliser Acquired By Land Quintile



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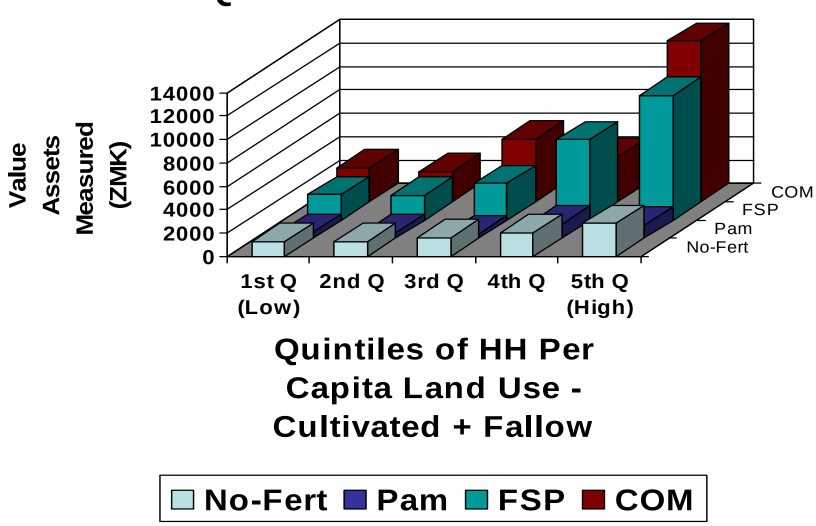
2008 SS - Asset Situation By HH Land Quintile & Fertiliser Source



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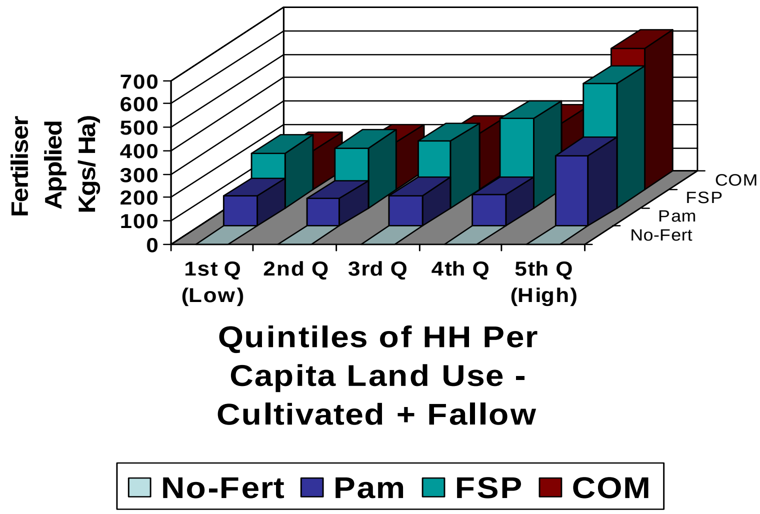
2008 SS – Fertiliser Use (Kgs/ha) By HH Land Quintile & Fertiliser Source



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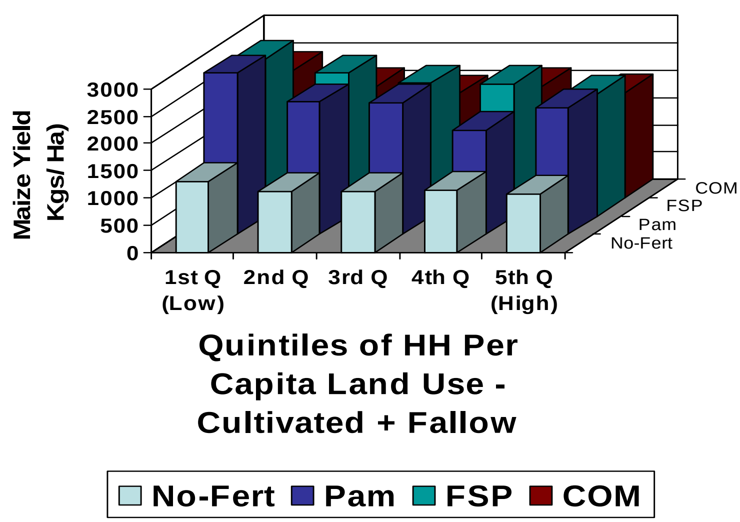
2008 SS – Maize Yield (Kgs/ha) By HH Land Quintile & Fertiliser Source



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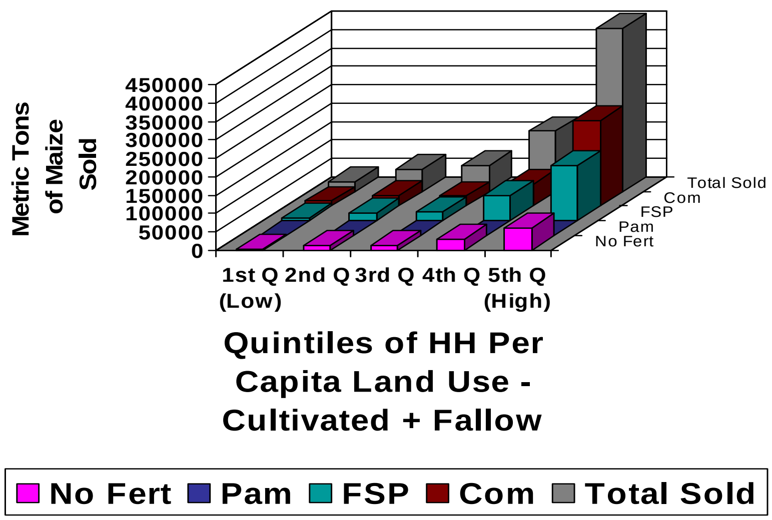
2008 SS – Metric Tons of Maize Sold By HH Land Quintile & Fertiliser Source



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CSO/FSRP Urban Food Consumption Survey Sites – Northern Cities to Understand Better Effects of Production Changes (eg cassava and sweet potato) in recent years

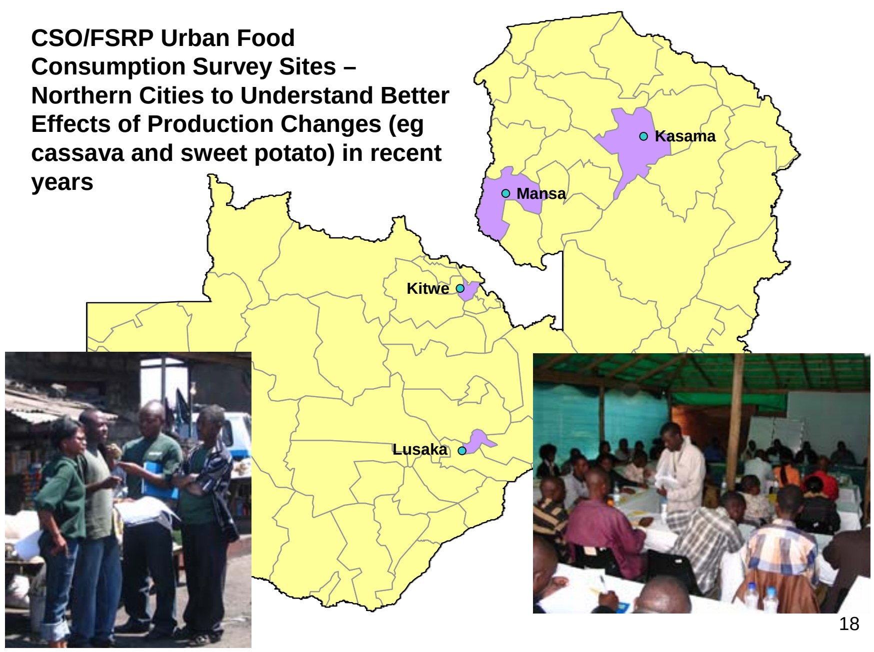

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Table 6: Household per adult equivalents expenditure shares by urban area (% of total monthly expenditure)

Expenditure items	Lusaka	Kitwe	Mansa	Kasama
N of households	267,934	78,398	9,305	20,769
Food share	49.1	52.4	56.4	61.8
Non-food share	50.9	47.6	43.6	38.2
Total	100	100	100	100
Food prepared at home	45.6	50.2	52.2	60.0
Food bought & consumed away from home	3.5	2.2	4.2	1.9
Housing (rent, electrical, water, sewage)	12.2	8.1	3.7	3.1
Gas, charcoal, firewood, paraffin, candles, batteries	4.8	6.4	6.4	7.6
Clothing and footwear	2.0	1.7	3.0	2.7
Transport and communication (telephone, cell phone, fares, fuel costs)	10.3	10.8	8.6	7.9
Education	3.4	3.8	4.2	2.9
Medical expenses	.4	.3	.3	.1
Health & beauty aids	2.4	2.6	2.9	2.2
Alcoholic beverages and tobacco	2.8	2.6	3.9	2.5
Social expenses (leisure, funeral, ceremonial, gifts)	2.4	1.8	2.6	1.7
Household furniture and appliances	1.7	2.5	1.2	1.0
Other large expenses (buying land or house, building materials, bicycle & motor vehicle purchases and maintenance)	1.2	1.0	1.7	1.7
All other expenses	7.4	5.9	5.1	4.7
Total	100	100	100	100

Source: CSO/MACO/FSRP Urban Consumption Survey, 2007-2008

Table 11: Household per adult equivalent shares of broad food categories by adult equivalent expenditure terciles

Food items	Lusaka				Kitwe				Mansa			
	Overall	low	medium	high	Overall	low	medium	high	Overall	low	medium	high
N of households	267,934	97,737	93,006	77,192	78,398	30,479	27,301	20,619	9,305	3,572	3,103	2,631
Cereals & staples	24.1	28.4	24.2	18.7	27.4	31.9	26.5	21.9	28.0	32.3	27.2	23.1
Dairy items	5.2	3.5	5.9	6.7	3.6	2.0	3.7	5.7	1.7	.3	1.8	3.5
Meat & eggs	16.8	14.1	18.0	18.6	15.6	11.9	17.0	19.2	12.7	7.9	15.0	16.5
Fish	7.6	8.8	7.3	6.5	8.4	8.9	8.5	7.4	12.4	13.6	12.6	10.3
Vegetables	13.7	17.6	12.9	9.8	15.0	18.6	14.4	10.5	11.4	13.1	11.2	9.5
Fruits	3.6	2.7	3.9	4.4	4.0	3.4	3.8	5.3	3.7	4.6	3.0	3.2
Legumes	3.7	4.7	3.4	2.8	3.4	3.7	3.4	2.9	3.7	4.6	3.4	2.9
Sugar & oils	7.9	10.1	7.5	5.6	8.9	10.2	9.0	7.1	8.5	8.1	9.0	8.7
Other foods	4.7	3.3	5.0	6.2	4.8	3.9	4.9	6.0	4.7	3.3	4.6	6.9
Tobacco & alcohol	5.3	3.0	5.6	7.8	4.6	3.6	4.4	6.5	6.3	6.6	5.0	7.3
Food away from home	7.3	3.8	6.3	12.9	4.3	2.0	4.3	7.5	6.9	5.7	7.2	8.1
	100	100	100	100	100	100	100	100	100	100	100	100

Source: CSO/MACO/FSRP Urban Consumption Survey, 2007-2008

Table 13: Household per Adult Equivalent Shares of Staples and Other Food by Adult Equivalent Expenditure Terciles

Food items	Lusaka				Kitwe				Mansa			
	Overall	low	medium	high	Overall	low	medium	high	Overall	low	medium	high
N of households	267,934	97,737	93,006	77,192	78,398	30,479	27,301	20,619	9,305	3,572	3,103	2,631
Maize	9.6	14.6	8.5	4.6	12.4	17.5	11.3	6.2	12.2	14.9	12.4	8.3
Rice	2.1	1.9	2.4	2.1	2.4	2.3	2.6	2.5	2.3	1.9	2.6	2.4
Wheat	9.8	9.2	10.7	9.6	9.9	9.1	10.0	10.8	5.0	2.0	5.6	8.4
Cassava	.2	.2	.2	.2	.5	.6	.6	.3	5.7	9.9	4.0	1.9
Other staples	2.4	2.5	2.4	2.2	2.2	2.3	2.1	2.2	2.8	3.4	2.6	2.0
Sugar	3.4	4.5	3.2	2.2	3.5	3.9	3.6	2.8	3.3	2.8	3.6	3.5
Dairy	5.2	3.5	5.9	6.7	3.6	2.0	3.7	5.7	1.7	.3	1.8	3.5
Animal protein	24.4	22.9	25.3	25.1	24.0	20.8	25.5	26.6	25.1	21.6	27.6	26.8
Fruits & vegetables	17.3	20.3	16.8	14.1	19.1	22.0	18.2	15.8	15.1	17.7	14.2	12.6
Other food prepared at home	18.3	16.7	18.3	20.2	18.3	17.4	18.1	19.7	20.0	19.7	18.4	22.4
Food away from home	7.3	3.8	6.3	12.9	4.3	2.0	4.3	7.5	6.9	5.7	7.2	8.1
	100	100	100	100	100	100	100	100	100	100	100	100

Source: CSO/MACO/FSRP Urban Consumption Survey, 2007-2008

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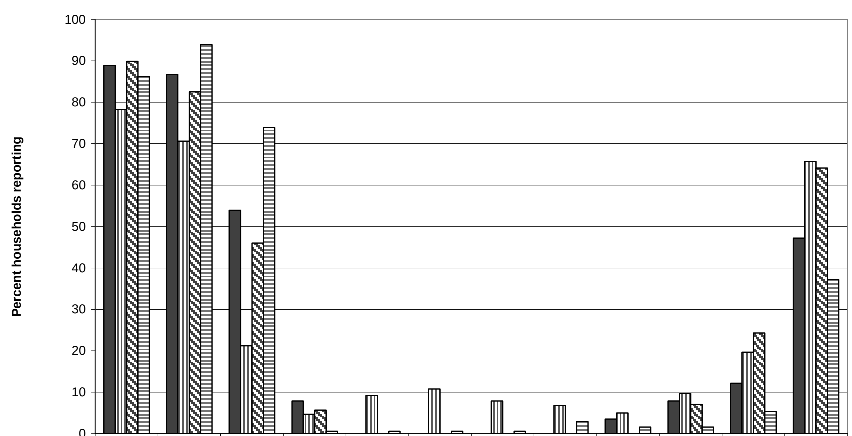
Figure 2: Percent of Households Indicating Maize Grain is not Available for Specific Months



	January	February	March	April	May	June	July	August	September	October	November	December
Lusaka	88.9	86.7	53.9	7.9	0	0	0	0	3.5	7.9	12.2	47.2
Kitwe	78.2	70.6	21.2	4.7	9.2	10.8	7.9	6.8	5	9.7	19.7	65.7
Mansa	89.9	82.5	46	5.7	0	0	0	0	0	7.1	24.3	64.1
Kasama	86.2	93.9	73.9	0.6	0.6	0.6	0.6	2.9	1.6	1.6	5.3	37.2

Month

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Table 32: Percent of Households Participating in Urban Agriculture – All Gardens/Fields

	Lusaka	Kitwe	Mansa	Kasama
HH growing field or horticultural crops	40.7	79.3	92.2	93.4
Households with a garden	86.0	91.6	94.6	89.2
Households with a field	39.0	48.0	70.4	83.3
Households growing....				
Maize	57.3	46.8	44.3	74.7
Sweet potatoes	7.3	20.4	18.0	47.9
Cassava	2.5	12.9	54.2	36.4
Vegetables	58.2	69.2	87.8	88.2
Fruit	57.1	73.0	71.8	73.2

Source: CSO/MACO/FSRP Urban Consumption Survey, 2007-2008

Methods

1. Compute quantities of various staple foods affordable per average daily wage (wage/retail price), Jan. 1993/4 through Jan. 2009
2. Graph over time and look for trends*
3. Econometric tests for statistically significant trends

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Data

- Monthly retail staple food prices from national statistical offices and market information systems

Urban center	Retail staple food prices
Kenya: Nairobi	-Maize grain (wholesale), maize meal, bread (urban Kenya)
Zambia:	
Lusaka	-Maize grain, breakfast meal, roller meal, bread
Kitwe	-Maize grain, breakfast meal, roller meal
Mansa	-Maize grain, breakfast meal, roller meal, cassava flour
Mozambique:	
Maputo	-Maize grain, maize meal, wheat flour, rice
Nampula	-Maize grain, maize meal, wheat flour, rice, cassava flour

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Data (cont.)

- **Wage data:**
  - Kenya & Zambia: average daily wage for formal sector workers (weighted average of private & public sector wages) (KCBS, ZCSO)
  - Mozambique: daily minimum wage for formal sector workers (GRM)

➔ **Caveat:** 2/3 to 3/4 of urban labor force is employed in the ***informal*** sector; conclusions based on analysis of formal sector wages may not hold for informal sector workers

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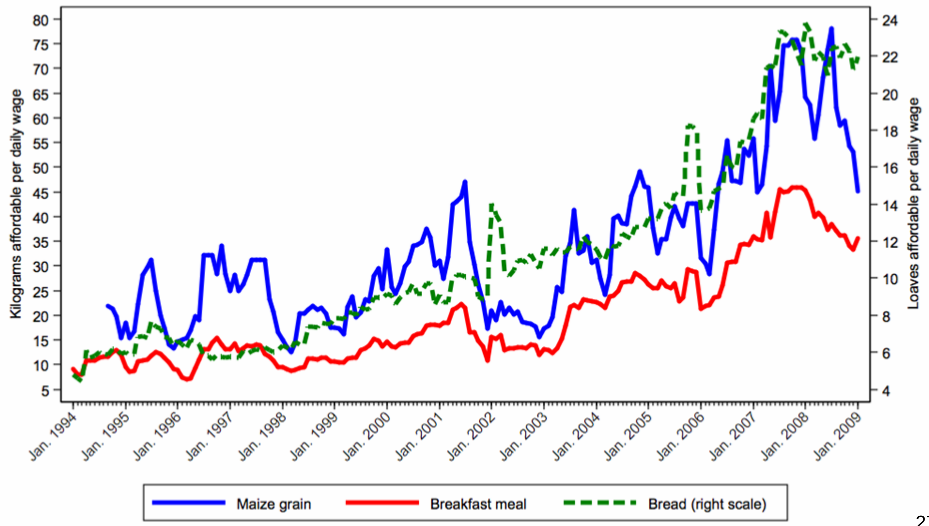
Lusaka, Zambia: Increases in maize and bread purchasing power until food price crisis



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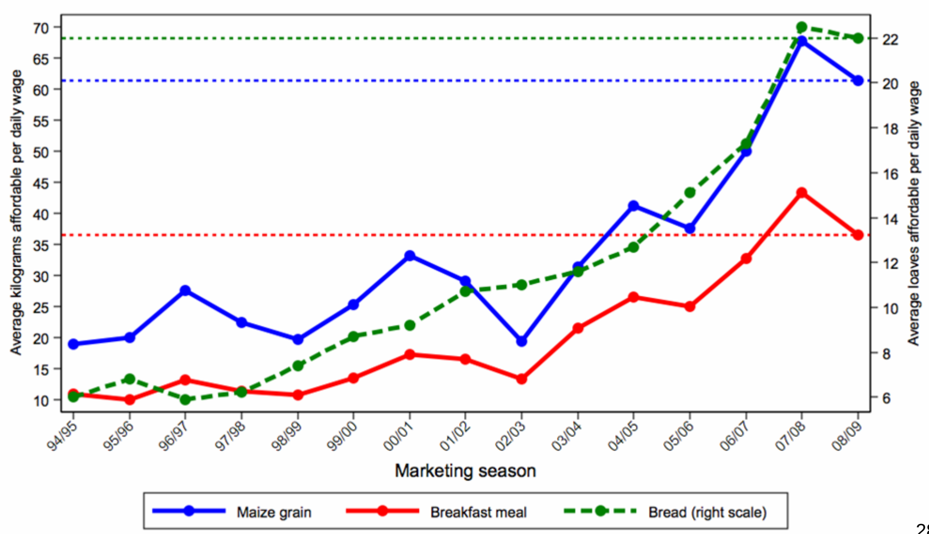
Lusaka, Zambia: Staple food affordability down in 08/09 marketing season but greater than 1994/5 – 2006/7



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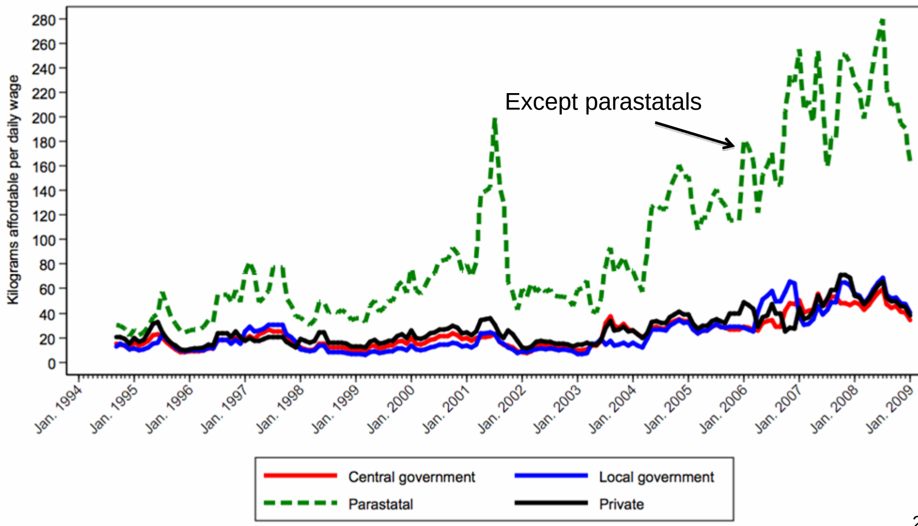
Lusaka, Zambia: Similar trends for various public and private sector wage series (ex: qty of maize grain/daily wage)



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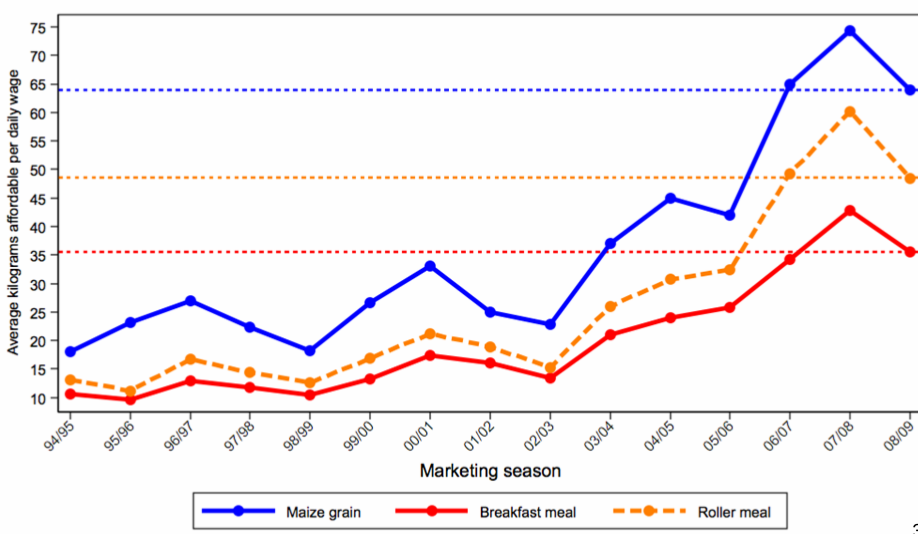
Kitwe, Zambia: Maize & maize meal affordable per daily wage down in 08/09 but greater than 1994/5-2005/6; similar to 06/07



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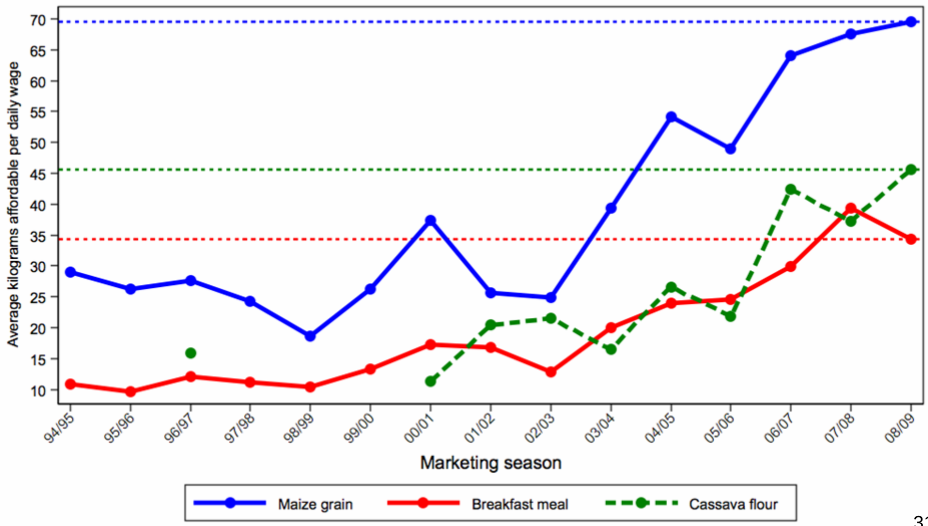
Mansa, Zambia: Maize, maize meal, & cassava flour purchasing power in 08/09 greater than 1994/5-2006/7, 2007/8



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Public sector policies to keep urban/rural staple food prices at tolerable levels

1. Increase the availability of maize grain and other foodstuffs in public markets during the lean season for net buyers in both urban and rural areas.
2. Expand staple food options available to urban consumers to facilitate substitution in consumption when some retail food prices increase
   - Keep grain available in public markets
   - Promote marketing of cassava, sweet potatoes, etc.
   - Promote urban agriculture

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Public sector policies to keep urban/rural staple food prices at tolerable levels (cont.)

3. Improved traditional storage for rural sellers and net buyer households – hold more maize grain supplies in rural areas?
4. Strengthen/improve crop forecasting and food balance sheet approach to determine need for imports/exports
5. <u>Facilitate</u> imports in a <u>timely</u> manner when needed

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Other elements of a comprehensive strategy to keep food prices at tolerable levels for urban consumers

1. Investment in agricultural public goods (e.g., research & extension, MIS, infrastructure) to stimulate supply response and ag. productivity growth
2. Facilitate regional trade – plan to supply these key markets
3. Improve incentives for staple food imports/exports by the private sector; engender trust between public and private sectors
4. Expand, strengthen, and improve targeting of safety net programs & social protection

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Zikomo Kwambili,
Natotela sana,
L'i tumezi ahulu,
Twalumba kapati,

Thank you to Zambian smallholders, traders, consumers and to policy makers for opportunities to obtain/share information and ideas – we welcome questions and comments

Targeting Findings – 2008 SS (07/08 Marketing Season)

Indicators/Attributes	Means for Household Quintile Categories Ranked by Household Per Capita Farm Size Cropping HHs (Cultivated + Fallow)					Overall Small-holders
	1 Low	2.	3. Mid	4.	5. High	
HH PC Land Hold Size ha/hh	.08	.16	.26	.41	1.01	.38 ha/hh
Number of smallholders	279,581	326,945	289,117	298,862	298,692	1,493,197
% smallholders	18.72	21.90	19.36	20.01	20	100 %
Average HH Assets 000 ZMK	1,362 k	1,378	2,227	2,763	6,008 k	2,749 (000 ZMK)
Land size per HH ha/hh	.54	1.03	1.53	2.18	4.21	1.90
FSP As Source of Fertiliser	4,026 mt	7,049 mt	7,907 mt	15,881 mt	26,385 mt	61,248 mt *
FSP HHs Value of HH Assets	2,176 k	2,104 k	3,122 k	6,857 k	10,622 k	6,077 (000 ZMK)
Commercial Purchase Source	8,521 mt	12,414 mt	13,106 mt	15,371 mt	45,626 mt	95,039 mt
Pur. HHs Value of HH Assets	2,876 k	2,558 k	5,345 k	3,891 k	13,725 k	6,290 (000 ZMK)
PAM Food Security Pk Source	209 mt	110 mt	228 mt	315 mt	432 mt	1,294 mt
PAM HH Value of HH Assets	547 k	503 k	353 k	1,220 k	1,124 k	797 (000 ZMK)
Non-Fertiliser Users Assets	1,269 k	1,314 k	1,640 k	2,071 k	2,830 k	1,808 (000 ZMK)
Zambia Total Smallholder Fertiliser Used mt	12,756 mt	19,573 mt	21,241mt	31,567 mt	72,443 mt	157,581 mt

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* FSP records show that 84,000 mt of fertiliser were distributed for this production year