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Where Do Urban Households in Zambia Buy their Livestock Products?

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Key Points/Summary

- 1) Livestock products and fish form an important component of urban consumers' diet accounting for about one third of the total monthly budgetary expenditure on food. The budgetary share of livestock products increases with affluence or household income while the opposite is true for fish;
- 2) The informal market sector plays a significant role in supplying low priced meat to poor urban households with a market share only second to butcheries. Its market share is highest with regard to chicken and other poultry, and fish. Purchases from this sector tend to be small and more frequent. The middle and high income households are 10% and 15% respectively less likely to purchase fresh livestock products from the informal sector;
- 3) Butcheries are predominantly more frequented by the middle income households who are 8% more likely to use this channel for meat, poultry, and fresh fish than the poor households. Purchases from these outlets tend to be significantly larger in size. Rich households are only 3% more likely to purchase these products from butcheries than their poor counterparts;
- 4) The supermarket share of livestock products and fish is quite low at less than 10% in any of the study cities. Even among rich households, the market share only ranges from 14% to 22% depending on the type of product. Analysis has shown that the likelihood of rich households purchasing meats, chicken/poultry and fresh fish from supermarkets is higher than that of poor ones by only 3% to 8%; and
- 5) These findings suggests that private investment in modern, integrated supply (supermarket) chains cannot be relied upon to meet the ever increasing challenges of supplying quality and healthy perishable food to cities. This calls for increased investment in small butcheries and supermarkets and/or minimarts which require relatively smaller investment outlays and incur less overhead running costs and can profitably sell to the poorer consumers at relatively lower prices in public market areas as well as neighbourhood business centres but well linked to rural and/or production supply chains.

INTRODUCTION: Rapid urbanization in Zambia means that increasingly heavy demands are being placed on urban food marketing systems. Investment in these systems has been woefully inadequate for many decades, creating supply bottlenecks and health hazards that work against the interests of both farmers and consumers. Understanding urban food expenditure patterns is a first step in addressing these problems. This study seeks to understand urban consumption and purchasing patterns of livestock products and how these vary by income level and

across key cities of the country. Key questions that it addresses are:

- 1) What is the share of livestock products in urban consumer budgets, and how does it vary by income level? and
- 2) What is the importance of various retail channels in satisfying the livestock products purchases of urban consumers?

Answers to first question are fundamental to designing investment programs that improve marketing capacity in cities and better link

these cities with key rural production zones while those to the second set of questions are fundamental to understanding the rate and direction of change in Zambia's food system. Such understanding is a pre-requisite to designing policies and investment programs to ensure smallholder access to dynamic markets and a steady supply of quality food at affordable prices to consumers.

This policy brief brings to the fore highlights on urban consumption patterns of livestock products in Zambia and implications for policy, and it is based on Working Paper No 65 on the subject by the same author.

DATA AND METHODS: The primary source of data for this study is the Urban Consumption Survey (UCS) of 2007/8 which was carried out by the Central Statistical Office (CSO) and the Ministry of Agriculture and Livestock (MAL) in collaboration with the then Food Security Research Project (FSRP). The survey was conducted in four cities of Zambia: Lusaka, Kitwe, Kasama, and Mansa. These four cities were purposively selected to be representative of most consumers in the heavily populated cities of Zambia, and also of two cities in the northern area of the country where cassava is a key staple. In total, 140 urban Standard Enumeration Areas (SEAs) with were enumerated and the total number of households interviewed in August 2007 and re-interviewed/or replaced in February 2008 to capture seasonality effects was 2,160.

During the survey, the households were asked how much of each item, out of list of 118 items if consumed, they consumed in the past 30 days, how much of the consumption came from gifts, own production and purchases. For the food purchases, households were further asked from which type of retail outlet they mostly purchased the item as well as how many times they purchased it within the past 30 days, and the distance from the household to the retail outlet. The survey was conducted in August 2008 and February 2008 in order to capture seasonality.

Most of the analysis is disaggregated by both city of residence, in order to discern city differences, and household income group. The household income group was derived by ranking total annual household expenditure per adult equivalent into terciles resulting into the low expenditure tercile or low income group, the middle expenditure tercile or middle income group and the high expenditure tercile or high income group.

Livestock products an important component of urban diets: Livestock products and fish form an important component of urban households' diet together accounting for almost one third of households' monthly budgetary expenditure on food (Table 1).

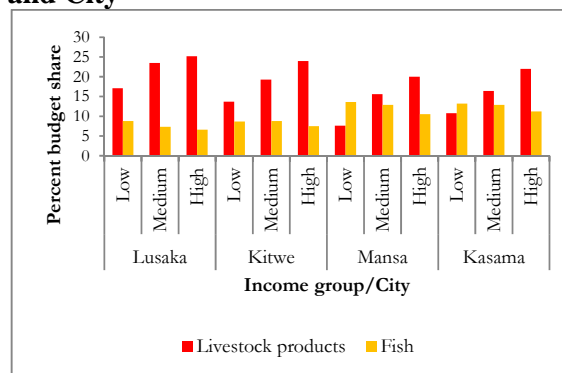
Table 1. Food Items Budget Shares by City

Food Items	% of Total Monthly Food Expenditure by City			
	Lusaka	Kitwe	Mansa	Kasama
Cereals & staples	24.0	27.2	27.9	27.1
Livestock/fish prod	29.5	27.3	26.7	28.8
Fruits/vegetables	17.2	18.9	15.1	18.2
Total	70.7	73.4	69.7	74.1

Source: CSO/MAL/IAPRI Urban Consumption Survey, 2007-8 and author's computations.

The share of food budgets on livestock products increases with affluence as measured by both household income and level of urbanisation of city of residence. The opposite is true for fish (Figure 1).

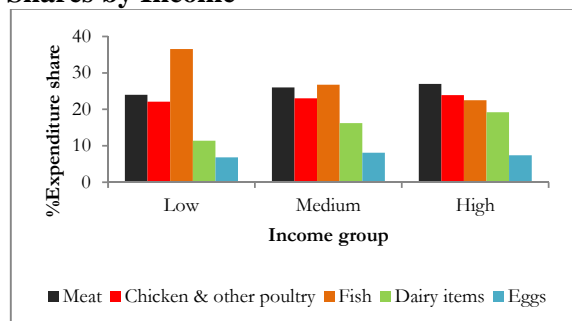
Figure 1. Relative Budget Shares by Income and City



Source: CSO/MAL/IAPRI Urban Consumption Survey, 2007-8 and author's computations.

While rich households consume relatively well balanced shares of the different types of livestock products (including fish) ranging from 27% for meats to 19% for dairy items, poorer households predominantly consume fish (37% share) and much smaller shares of meats, poultry (24% and 22% respectively), and especially dairy items (11%) as shown in Figure 2.

Figure 2. Livestock Products Expenditure Shares by Income



Source: CSO/MAL/IAPRI Urban Consumption Survey, 2007-8 and author's computations.

Informal market sector plays a significant role: Table 2 shows that butcheries and the informal market, with market share of 66% and 22% respectively, are the major retail outlets for meats while supermarkets account for only 8% market share. The butcheries have the largest market share regardless of household income group but the share tends to be smaller among poorer households whose

Table 2. Retail Market Shares of Meats by Income and City

City	Household income group	% market share by outlet		
		Informal	Butchery	Supermarket
Lusaka	Low	41.1	55.8	1.1
	Medium	24.6	69.6	3.1
	High	13.4	64.4	18.4
Kitwe	Low	17.1	69.1	3.7
	Medium	9.2	81.4	2.7
	High	4.5	77.0	10.6
Mansa	Low	30.8	40.7	10.0
	Medium	21.2	45.0	21.8
	High	9.2	51.8	22.0
Kasama	Low	30.9	46.6	0.3
	Medium	26.9	51.7	5.0
	High	15.7	69.9	6.3

Source: CSO/MAL/IAPRI Urban Consumption Survey, 2007-8 and author's computations.

market share for the informal sector tends to be much larger. The supermarket is more frequently used by the rich and its market share among rich households is 2 to 20 times more than among poor ones.

In addition, Table 3 shows that the informal market has the highest share for chicken and other poultry (73% in Lusaka and 48% to 51% in the other cities) and is followed by private households whose market share tends to more pronounced in the less urbanised cities of Mansa and Kasama. The supermarket share is only 6% to 12% across all cities. It is highest among rich households (11% to 19%) though its share still ranks second (in Lusaka) or third (other cities) after the informal sector and private households. The informal market share is largest among poor households.

Table 3. Retail Market Shares of Chicken by Income and City

City	Household income group	% market share by outlet		
		Informal	Butchery	Supermarket
Lusaka	Low	85.4	2.4	1.3
	Medium	81.5	4.7	3.0
	High	54.6	4.2	18.8
Kitwe	Low	58.9	13.5	2.2
	Medium	53.4	15.8	5.2
	High	39.3	12.9	10.6
Mansa	Low	56.9	2.4	9.8
	Medium	48.4	0.9	8.5
	High	50.4	0.5	15.3
Kasama	Low	52.0	0.0	5.6
	Medium	52.5	1.4	3.7
	High	42.9	1.7	9.0

Source: CSO/MAL/IAPRI Urban Consumption Survey, 2007-8 and author's computations.

Furthermore, Table 4 shows that the informal market accounts for almost all the retail market share of dry fish, and the largest share for fresh fish accounting for more than 90% in Kasama, 70% to 80% in Lusaka and Mansa and slightly below 50% in Kitwe. The informal market share of fresh fish is more pronounced among poor households where it is more than 90% in all cities except Kitwe where considerable amount is purchased through butcheries. The supermarket share is highest among rich households but still ranks second at 17%, 19%, and 5% market share in

Lusaka, Mansa, and Kasama respectively and fourth in Kitwe at 11%.

Table 4. Retail Market Shares of Fresh Fish by Income and City

City	Household income group	% market share by outlet		
		Informal	Butchery	Supermarket
Lusaka	Low	91.0	3.3	0.8
	Medium	80.2	8.9	4.8
	High	57.4	10.8	17.1
Kitwe	Low	55.7	17.4	1.8
	Medium	51.9	22.5	2.1
	High	41.3	23.5	10.5
Mansa	Low	94.4	0.0	2.8
	Medium	84.8	1.5	6.9
	High	66.9	0.5	18.7
Kasama	Low	98.1	0.0	0.0
	Medium	97.4	0.0	1.4
	High	86.5	0.5	5.3

Source: CSO/MAL/IAPRI Urban Consumption Survey, 2007-8 and author's computations.

Informal markets offer lower prices but can have significant health implications: Table 5 shows that the informal market offers poor urban consumers lower priced meat and fresh fish but the price of chicken though popular is highest in this retail channel for a number of varying reasons including locational convenience, preference for buying live birds, and dislike for meat that have been kept frozen for a long time. However, purchasing fresh livestock products and fish from the informal market poses health challenges as can be seen from Plate 1.

CONCLUSION: The supermarket share of livestock products and fish is quite low at less than 10% in any of the study cities. Even among rich households, the market share only ranges from 14% to 22% depending on the type of product. Quantitative analysis (probit model) has shown that the likelihood of rich households purchasing meats, chicken/poultry, and fresh fish from supermarkets is higher than that of poor ones by only 3% to 8%. This concurs with Tschirley et al. (2010) who found the overall food market shares of supermarkets to be low and sales heavily depending on upper income customers, and locational convenience as one of the key determinants of use. This means that the so-called traditional marketing system is likely to

be a dominant centre of livestock products marketing, though to a lesser extent than that of fresh produce, across the continent for decades to come.

This finding suggests that private investment in modern, integrated supply chains cannot be relied upon to meet the ever increasing challenges of supplying quality and healthy perishable food to cities. The rising urban population growth means that a rapidly rising share of the population will be subject to challenges of city food supply. This calls for increased investment in small butchereries and supermarkets and/or minimarts which require relatively smaller investment outlays and incur less overhead running costs and can profitably sell to the poorer consumers at relatively lower prices in public market areas as well as neighbourhood business centres but well linked to rural and/or production supply chains. Analysis has shown that the informal sector had the lowest market share in Kitwe because it has a relatively high concentration of butchereries in neighbourhood public market areas than the other cities (42% compared to 30% or less). The role of the government and/or indeed city authorities is that of ensuring that the design of these structures allow for proper handling of perishable food products according to recommended environmental and health standards.

Table 5. Relative Product Prices by Outlet

Retail outlet	Product mean price (Zmk/kg) of by retail outlet		
	Meat	Chicken	Fresh fish
Informal	14,749 ^b	18,661 ^a	11,982 ^b
Grocery shop	17,350 ^a	16,404 ^b	12,467 ^b
Supermarket	18,224 ^a	15,944 ^{bc}	12,956 ^{ab}
Butchery	15,546 ^b	14,500 ^c	13,871 ^a
Total	15,942	16,356	12,865

Source: CSO/MAL/IAPRI Urban Consumption Survey, 2007-8 and author's computations.

Note: the superscripts a, b, and c denote ranking of means; means with the same letter are not significantly different at the 0.01 level of probability

ACKNOWLEDGEMENTS:

The Indaba Agricultural Policy Research Institute (IAPRI) is a non-profit company limited by guarantee and collaboratively works with public and private stakeholders. IAPRI exists to carry out agricultural policy research and outreach, serving the agricultural sector in Zambia so as to contribute to sustainable pro-poor agricultural development. Financial and substantive support of the Swedish International Development Agency (Sida) and the United States Agency for International Development (USAID) in Lusaka are greatly appreciated. Technical and capacity building support from Michigan State University and its Researchers is also acknowledged.

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Plate 1. Informal Retailing of Meat, Chicken, and Fish in Lusaka

