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## **POLICY SYNTHESIS**

### **FOOD SECURITY RESEARCH PROJECT – ZAMBIA**

*Ministry of Agriculture and Cooperatives, Agricultural Consultative Forum, Michigan State University,  
and the Market Access, Trade, and Enabling Policies (MATEP) Programme, Lusaka, Zambia.*

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## **MARKETING POLICY OPTIONS FOR CONSUMER PRICE MITIGATION ACTIONS IN THE 2008/09 MAIZE MARKETING SEASON IN ZAMBIA**

**By Antony Chapoto, Steven Hagglblade, Julius Shawa, Thomas Jayne and Michael Weber**

### **Key Policy Points**

- Maize prices are rising rapidly in 2008 and are fast approaching import parity levels.
- Maize traders, millers and farmers all agree that Zambia will likely require imports by early 2009 in order to avoid domestic maize supply shortages.
- Official food balance sheets appear to have underestimated the demand for maize this year. They may also have slightly overestimated the size of the 2007/08 maize crop. Hence the slow government recognition of the need for maize imports.
- As of late September 2008, neither the Government of Zambia (GRZ) nor the private sector have arranged to import maize from South Africa. Trade sources suggest informal imports from Tanzania are helping to relieve the likely shortfall.
- Zambian policy makers face a delicate balancing act: they need to maintain remunerative prices for farmers, in order to stimulate maize supply response during the coming 2008/09 production season, while at the same time moderating maize meal price increases to protect urban consumers and the many rural households who are net buyers of maize.
- The time to respond to this balancing act challenge is now rather than later in the marketing season when costs of supplies and transport will increase.
- Several policy actions offer potential win/win options for balancing these twin concerns:
- Policy 1. The GRZ would allow private maize imports by issuing permits now or decontrol maize imports for this season so traders can lock in relatively lower grain and transport prices to be in a position to supply millers later in the season. Public sector (FRA) maize imports would not be needed if GRZ and private traders can work together to produce sustainable solutions.
- Policy 2. GRZ would reserve/dedicate a major part of FRA stocks to sell to local traders and custom milling clients with maize grain in the outlying provinces during the lean season. FRA could also contract with Zambian commercial farmers for “early maize”.
- Policy 3. GRZ and Donor partners would work together to create a workable special emergency fund to subsidize the cost of grain or perhaps roller meal in the months of November 2008 through March 2009 in order to allow millers to pay traders/importers market prices but not pass these full costs on to low income consumers in Zambia.

**Introduction:** Sharp rises in world cereal prices since 2007 are causing alarm among policy makers and consumers in Zambia. There is growing consensus that Zambia will face enormous maize price increases during the forthcoming lean season between

November 2008 and March 2009 due to demand outstripping available grain supplies on the market. This situation creates a delicate balancing act for Zambian policy makers: while not giving in to excessive budget overruns and compromising longer-run development plans, they need to maintain

high prices to farmers to produce enough maize in the upcoming 2008/2009 production season whilst keeping maize at tolerable prices for urban consumers and the many rural households who are net buyers of maize.

During Zambia's most recent production shortfall (the 2005/06 marketing season) the combination of low domestic maize production, government hesitation, and mixed signals on maize import policy produced a sharp spike in the 2006 lean season maize price (Mwanaumo et al. 2005). All would agree on the importance of not allowing the 2005/06 situation, which created great hardship for consumers, to repeat itself this year. Against this backdrop, there is an urgent need for information about how the current maize situation is unfolding in Zambia and immediate policy response options that GRZ in partnership with the private sector and others can implement to mitigate the problem.

#### **Objectives Of This Policy Brief:**

1. To compare current market price movements with maize price seasonality in "normal" years, in recent low-production years and in projected movements in the cost of maize imports from South Africa up to April 2009.
2. To present results from a simulation model on the price impacts of various maize supply and demand scenarios.
3. To outline immediate policy response options that the GRZ can implement in partnership with the private sector to deal with the problem.

**Are Maize Prices for the Current 2008/2009 Marketing Season Higher than "normal" -- or at Least Higher than Expected?** Comparison of current maize prices with a five-year average from normal harvest years suggests that, yes, current prices exceed "normal" levels when evaluated in US dollars (Figure 1). August 2008 prices are already almost equal to lean season highs attained during the 2005/06 marketing season. Looking forward, the SAFEX futures price and rising transport rates suggest that lean season prices will top \$400 per ton. While transport costs from South Africa to Lusaka were roughly \$100/ton of maize in June 2008,

they rose to \$145/ton by August and are now over \$200/ton as the huge demand for transport this year has strained capacity. What happened in the 2005/06 marketing season is perhaps the best indicator of what could happen to maize price if the decision to import or otherwise try to deal with rising maize prices is delayed.

Likewise, 2008 maize prices in nominal kwacha are reaching unprecedentedly high levels (Figure 2), providing warning signs about the risks of food insecurity to low-income households later in the season if the food situation is not addressed immediately.

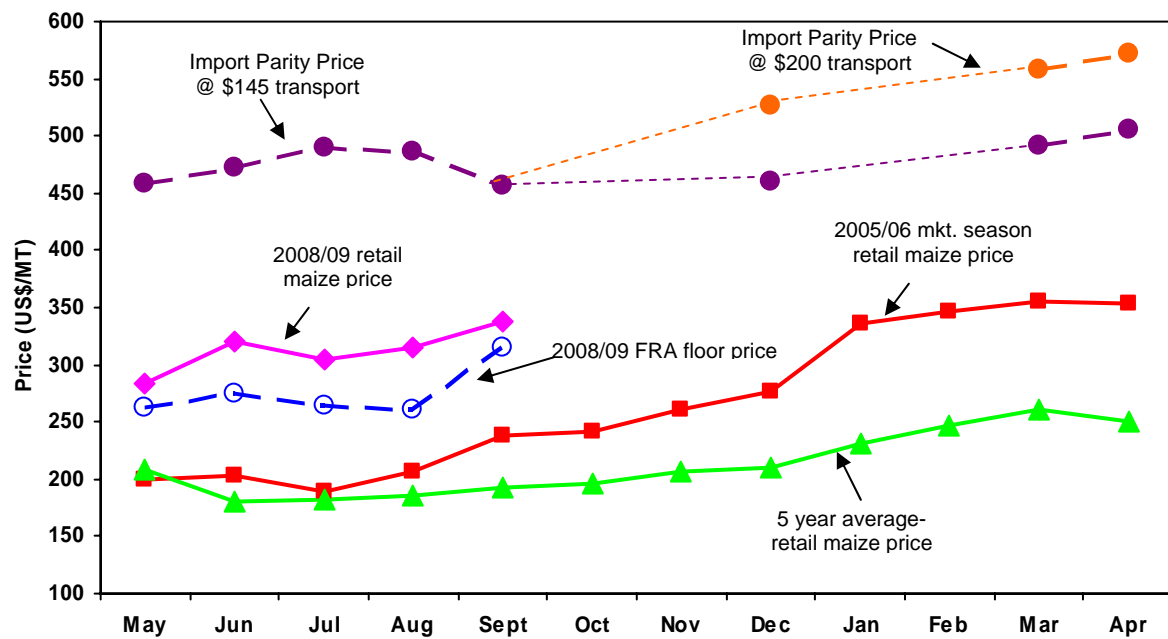
In contrast, 2008 maize prices in inflation-adjusted kwacha are not particularly high compared to the past decade (Figure 3). However, tracking food prices in meaningful inflation-adjusted terms is a significant challenge, and results in Figure 3 may underestimate the degree of vulnerability faced by low-income consumers, given the available price deflators. Given growing general inflation in Zambia, a low "real" maize may offer very little comfort to poor consumers. A low "real" maize price, defined as the nominal maize price divided by a general consumer price index, simply means that maize prices have grown no faster than fuel and other prices in the economy, some of which have grown very rapidly indeed. Unless formal as well as informal salaries and wages have risen as fast as the maize and other consumer prices, real income and household welfare will fall.<sup>1</sup>

Going forward into the lean season months of 2008 and 2009, real maize grain and maize meal prices could increase even more rapidly if maize demand continues to significantly outstrip supply, and very high price imports are required. The prices that Zambia faces for importing maize are also constrained by GMO grain issues in Zambia, and by the relatively short and highly sought after supply in South Africa of non-GMO maize.

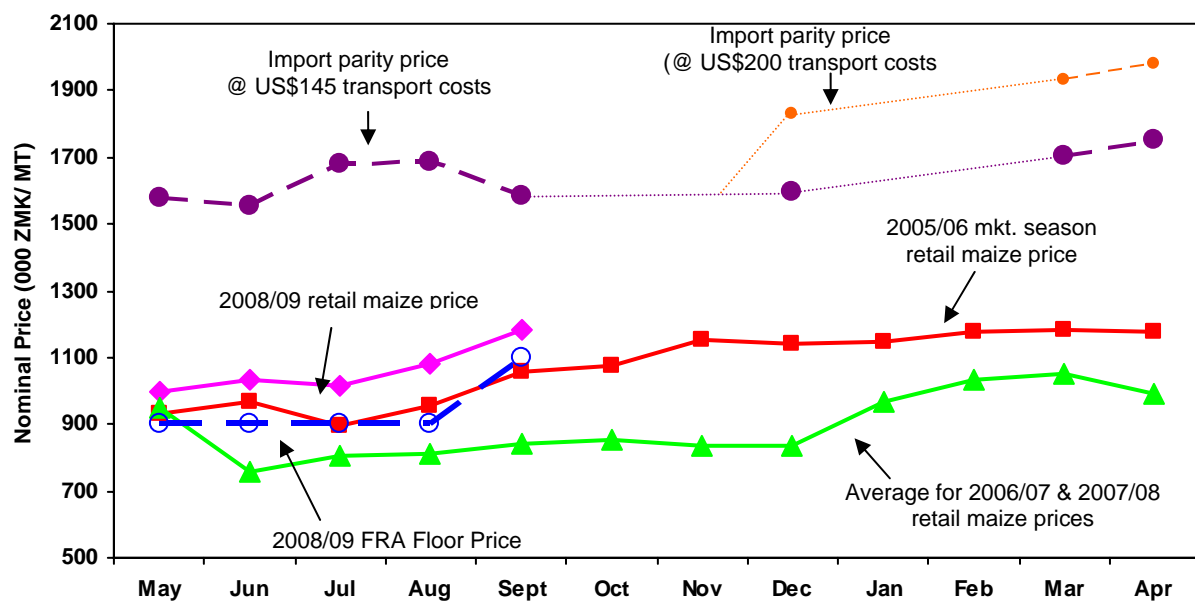
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<sup>1</sup> Ideally, it would be necessary to track food price trends against both formal and informal wage rates and returns to business income for both urban and rural households. Currently this is work in progress.

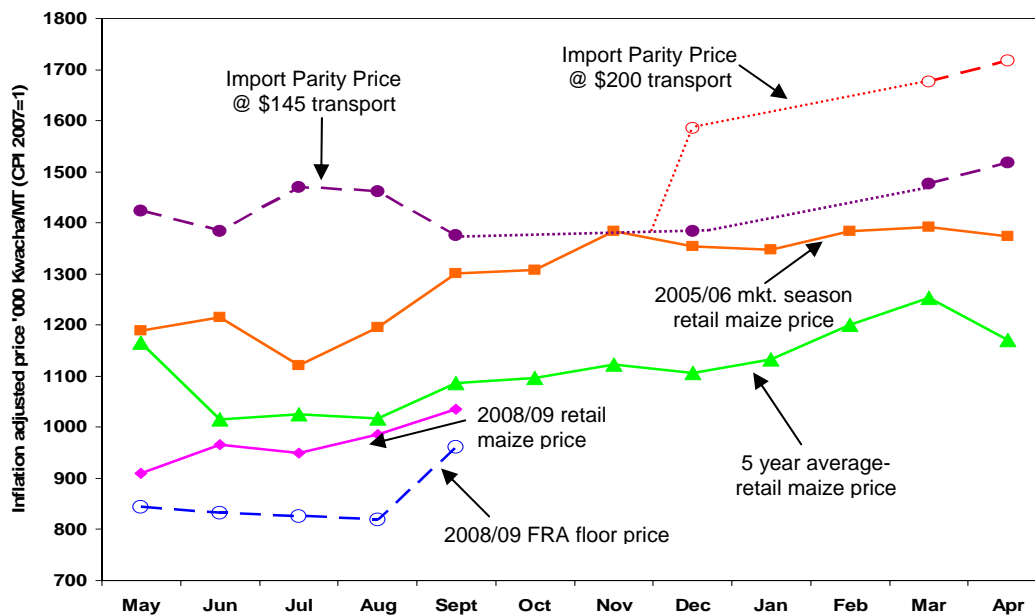
**Figure 1: Comparison of Nominal US\$ Maize Prices in Zambia and Import Parity Prices**



**Figure 2. Comparison of Zambian Nominal Kwacha Maize Prices and Import Parity Prices**



**Figure 3: Comparison of Inflation Adjusted Maize Prices and Import Parity Prices in Zambia Kwacha**



Notes for Figures 1, 2 and 3:

1. Current season price, 5 year average and 2005/6 marketing season maize prices are computed as an average of the maize grain prices collected by CSO and AMIC.
2. FRA floor price for the 2008/09 marketing season is based on the 45,000 Kwacha per 50 kg and adjusted by the average monthly exchange rate.
3. Import parity price is computed as the SAFEX futures prices plus transport cost, insurance plus 15% customs duty on CIF price plus 1% of total cost to cover handling and offloading. The dotted line indicates absence of any futures contracts for the months of October, November, January and February.
4. Transport costs of US\$145 and US\$200 per metric tonne is based on freight costs to haul grain by road from Randfontein to Lusaka (estimates obtained from the Grain Traders Association).

**What Price Level Would We Expect Based on Production Estimates Alone?** Zambia's Crop Forecast Survey (CFS) estimates the 2008 Zambian maize crop at 1.2 million tons, down some 12 % from the prior year, but this is still a 6.2% increase in per capita production compared to recent moderate to good harvest years. Of course, an above-average harvest would normally lead to a *fall* in price. Based purely on the CFS production estimate of 1.2 million tons, our simulation model suggests that Zambia's maize price should be about 15% *below* average prices (Table 1). Instead, Zambia's maize price in 2008 has been higher than normal (at least in nominal USD and nominal Kwacha terms).

#### What Could Explain a Pattern of Higher Than "Expected" Prices Between the 2008 Harvest and Lean Season to March 2009?

**Lower production than estimated.** If Zambian farmers produced closer to 1.1 million tons during 2008, or 100 thousand

tons less than the CFS estimate, this would represent a 2.6% supply *reduction* compared to recent "normal" year (Table 1). Lower production would in turn lead to a price *increase* on the order of 7%. A harvest closer to 1 million tons would result in an 11.5% production fall and a 39% increase in maize price. So, in the absence of any other changes, a maize harvest in the range of 1.05 million tons would result in the observed 20% price increase. But other factors may well have changed, contributing to the observed maize price increase.

**Increased demand for maize.** Since 2000, growing livestock consumption and feed demand, higher per capita incomes in urban Zambia (fueled by the revived copper sector and booms in other primary commodities) would lead to more meat and maize consumption, directly by consumers and indirectly in the form of feedstock. Real income increases of 15% (roughly half the

level of real increases in per capita GDP between 2000 and 2008), coupled with a 1.2 million ton harvest, would lead to roughly an 11% increase in the domestic maize price (Table 1).

Growing demand in the Democratic Republic of Congo (DRC), fueled by population growth and a similar mining boom there, may have contributed to increased informal exports. Likewise, higher maize prices in Malawi, due to an apparent production shortfall there, will tend to attract informal maize exports from Zambia. Indeed, traders indicate that Zambian maize has been flowing into both Malawi and DRC during this marketing season.

**Market uncertainty:** World food markets are currently volatile and nervous. This may have triggered aggressive purchasing by private grain traders in Zambia, aimed at acquiring stocks early in the buying season, which may have put upward pressure on food prices. Our interviews with the farming and trading community suggest that traders have had to bid up their price to try to get more supplies from farmers, but with little success. Despite the fact that traders have acquired their stocks early, it is likely that prices will continue to rise because they have locked in

to more costs in terms of purchasing price, storage and financing.

**FRA's high floor price:** In 2008 the FRA has set a floor price of ZK 45,000 per 50kg bag, roughly \$264 per ton, substantially higher than the mean Lusaka retail maize price of \$146 per ton over the 2000-2006 period. But it is believed that this high FRA floor price did not influence private traders, millers and stockfeeders to move aggressively to outbid the FRA in order to procure needed supplies. Given the size of the crop, market prices started the 2008 season above the FRA price and have remained above throughout the 2008 season so far, even after the FRA increased its buying price to ZK 55,000/50kgs in September (Figure 1).

**Rising world prices.** Since millers and traders expect Zambia to require imports this season, the import parity price may already be influencing the market price for maize in Zambia. Given production shortfalls in Zimbabwe and possibly Malawi, competition for regional transport will put upward pressure on transport rates over the coming six months. Interviews of traders in September 2008 indicate that transport costs have now risen to \$220 per ton of maize.

**Table 1. Simulating the Impact of Production and Income Changes on Maize Price**

Maize Production		Expected change in maize price due to:	
2008 production estimates (metric tons)	Change from "normal"*	Production Change	plus rising real incomes**
1,200,000	6.2%	-15.0%	11.0%
1,100,000	-2.6%	7.0%	39.0%
1,000,000	-11.5%	39.0%	80.0%

Source: simulations using the model developed by Dorosh, Dradri and Hagglade (2007).

Notes:

\* Change in per capita production from the base (average of 8 good to moderate years between 1994 and 2004) to 2008.

\*\* Projects the impact of a 15% increase in real income per capita between 2000 and 2008 for all household groups.

**Import/Marketing Policy Options: Challenges and Opportunities:** There are four broad objectives that any policy response to the current food situation should seek to achieve:

- Avoid the very high costs to GRZ and consumers of delayed imports. Decisions

to import late would involve greater competition for transport with other countries and thereby entail higher transport costs. Late importation could produce the more extreme result of widespread hunger if local scarcity starts to manifest before needed imports arrive.

- Maintain incentive prices for farmers to stimulate supply response in the 2008/2009 production season.
- Keep maize grain supplies available in rural markets during the lean season for rural grain consumers and traders, and thereby help protect urban/rural net buyers of maize against much greater than normal seasonal price increases for maize meal.
- Find options for positive roles for both GRZ and private traders/importers.

**Specific Policy Options:** To effectively deal with the impending maize price increases, we outline three policy options. These options are not mutually exclusive but can be used together to effectively deal with the situation.

**Policy 1:** GRZ would cooperate with traders to develop effective incentives for private maize imports, eg., decontrolling custom duties on maize imports for this season and/or undertaking other reliable trust creating measures so that traders can lock in relatively lower grain and transport prices to be in a position to supply millers at market prices later in the season. Leaving GMO issues aside, a hitch here is that traders have insisted that if they do arrange imports, the government would need to commit itself to not arranging its own importation to sell to mills at subsidized prices thus leaving the traders unable to sell their maize.

**Policy 2:** GRZ would reserve a major part of FRA stocks to sell in small unit lots to consumers and local traders in provincial and district markets during the lean season, so that low-income consumers would have the option of acquiring maize for processing by relatively inexpensive small-scale mills in addition to the more expensive options of purchasing packaged breakfast and roller meal. This option would relieve some of the food price pressure on low-income consumers. As a part of this option, it is now getting late, but it may still be possible for FRA, acting on behalf of GRZ, to contract immediately for production in Zambia of at least a 6 weeks' supply of early maize at a price sufficient to make this option attractive to commercial farmers as long as this could be done without exceeding the import parity

price. Early maize is normally planted in October and becomes available in March. The availability of at least 6 weeks' supply could help the country get through the major lean season before the first of the 2009 harvest comes in around May.

**Policy 3:** GRZ and Donor partners would cooperate to establish a special emergency fund, if needed, to partially subsidize maize grain and/or roller meal in the months of Jan-Mar 2009 in order to allow millers to pay traders/importers open market prices but not have all of these costs passed on to maize grain and maize meal consumers in Zambia.

**Conclusion:** There is evidence that maize prices in the 2008 /2009 marketing season in Zambia are already higher than normal. And given SAFEX prices, demand for grain in the region and the revealed need for Zambian imports, domestic maize prices seem to be headed much higher during the forthcoming lean season. To avoid a repeat of what happened during the 2005/06 maize marketing season as a result of mixed signals and delayed action, the time to respond is now rather than later in the marketing season when costs of supplies and transport will increase. Dealing with this looming problem without compromising longer-run growth efforts requires rapid and concerted efforts by both GRZ and the private sector.

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