

Trends of staple food and input prices: Global and regional overview, 2007-2011

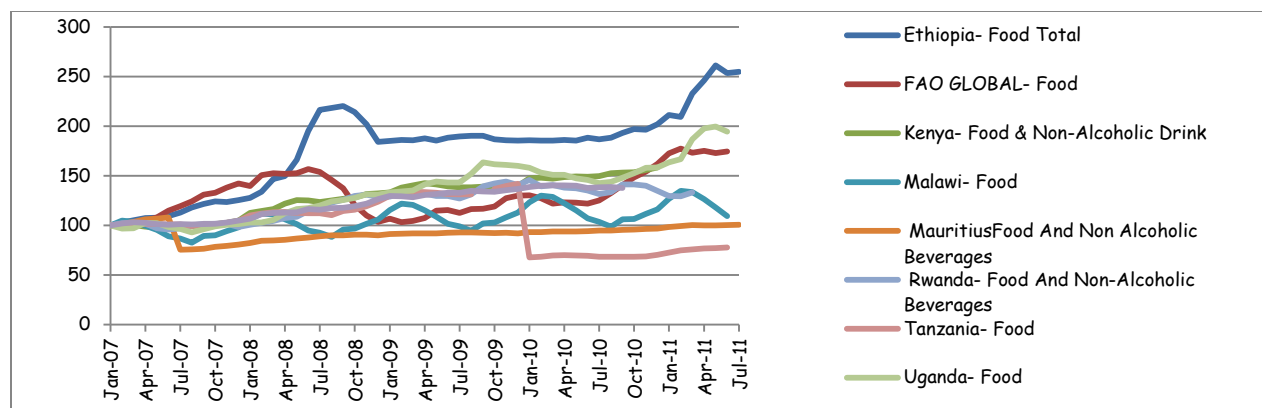
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This policy brief is the fifth in a series of quarterly briefs that provide updates on the food price situation in the Eastern and Southern Africa (ESA) region. The briefs are a follow up of an earlier study on the impact of rising food prices in the ESA region that was carried out by the Association for Strengthening Agricultural Research in East and Central Africa (ASARECA) in collaboration with the Regional Strategic Analysis and Knowledge Support System for Eastern and Central Africa (ReSAKSS-ECA) and the Consultative Group on International Agricultural Research (CGIAR) Alliance. The first update focused on the food price trends in ESA and their relationship with global food prices. The second update discussed policy responses to the food price crisis in ESA region. The third update focused on the relationships between the prices of staple foods and those of non-tradable foods (orphan crops), while the fourth brief discussed the linkages between the prices of agricultural inputs and output. The current brief looks at the trend of the staple food prices, both global and national, over the period 2007-2011 and presents the price trends of inputs (fertilizer and fuel) over the same period. The brief discusses the status of food prices before and after the food price crisis of 2008. Have the food prices continued to soar after the 2008 food price crisis? What are the policy implications?

A comparison of global and country food price indices

In the recent past, the global and domestic prices of many food commodities have increased substantially. The Food and Agriculture Organization of United Nations (FAO) global food price index (FPI) generally rose in 2007

through the first quarter of 2008 and peaked in June 2008. Then it dropped and remained low and stable in 2009 but took an upward trend in 2010 and the first half of 2011 increasing at an average rate of 1 percent per month between January and May 2010 and 5 percent between July and December 2010 (Figure 1). The global food prices have continued to increase at an average rate of 1.3 percent per month between January and May 2011. FAO reported that the sudden sharp rise in global wheat prices following drought in the Russian Federation and the country's subsequent restrictions on wheat sales in the year 2010 was likely to drive an increase in global FPI. Further, the drought in Thailand in year 2010 may have contributed to increased global food prices considering that Thailand is the world's largest rice exporter. The noted decline in global food prices after 2008 was primarily due to a strong supply response; bumper harvests in many parts of the world and a fall in demand as the world economy slowed down following the financial crunch of 2008. However, end of 2010 and the first quarter of 2011 reported increasing global FPI due to change in weather conditions and depletion of previous production stocks. Food prices have reached historic highs beginning January 2011. The global FPI averaged 177 points in February 2011, higher than the peak of 167 points witnessed during the 2008 global food crisis. Domestic FPI in ESA region on the other hand continued to increase after the food price crisis in Kenya, Zambia, Tanzania, Uganda, Ethiopia and Madagascar until the first half of 2009. Malawi, Uganda, and Tanzania FPI declined during the first half of 2010 while over the same period Madagascar and Zambia FPI remained steady (Figure 1).



Authors' computation based on data from: Central Statistical Agency (Ethiopia); FAOSTAT (FAO global); Central Bank of Kenya (Kenya); National Institute of Statistics (Rwanda); Bank of Tanzania (Tanzania); Uganda Bureau of statistics (Uganda); Central Statistical Office (Zambia); Malawi National Statistical Office (Malawi); Mauritius government (Mauritius).

Figure 1: Food price indices (January 2007=100).

A similar trend of stable or declining food prices in the ESA region during the first half of 2010 was reported by World Food program (WFP 2010)¹ Famine Early Warning Systems Network (FEWS NET 2010)² and FAO Global Information and early warning system on food and agriculture (FAO-GIEWS 2010)³. The decline in food prices in the region in 2010 according to FAO and FEWS NET was due to increased production attributed to good weather conditions. This trend however changed towards the end of 2010 as staple food prices were observed to persistently go high in the first half of 2011.

Ethiopia FPI has remained highest, above the other countries in ESA and above the global FPI since the first quarter of 2008. According to the FEWS NET and WFP reports, the primary causes for high food prices in Ethiopia are increased demand for food from urban population and climatic factors such as successive years of below average rainfall, and low agricultural production. In majority of countries in the ESA region, the first half of 2011 witnessed an upward trend in domestic food prices above the highest reported peak experienced during the global food crisis in year 2008.

Evolution of staple food prices

The main staple foods considered in this brief include maize, rice, beans, wheat, milk and meat.

Evolution of maize prices

Global maize prices shot up in the first half of 2008, which was followed by a continued decline in the first quarter of 2009. However, the period between March and July 2010 witnessed an average increase in global maize price of 3.4 percent per month. On the other hand, maize prices fell in most ESA countries in the last half of 2009 and the first half of 2010. Between March and July 2010, maize prices dropped on average by 9 percent in Kenya, 7 percent in Zambia, 2 percent in Rwanda and 6 percent in Uganda, while in Tanzania the maize prices dropped by 12 percent over the same period. The declining maize prices was probably due to the government's intervention efforts to boost food supplies through duty free maize imports (Kenya) and export bans (Kenya and Tanzania) in addition to increased production attributed to good weather conditions and agricultural programs (for example use of price subsidies for fertilizers and maize seeds in Kenya in year 2009/2010 and Crop Intensification Program in Rwanda). However, first half of 2011 shows increasing maize prices, both locally and globally (Figure 2). The increase in maize prices in ESA region in the first half of 2011 is associated with supply shortages as a result of

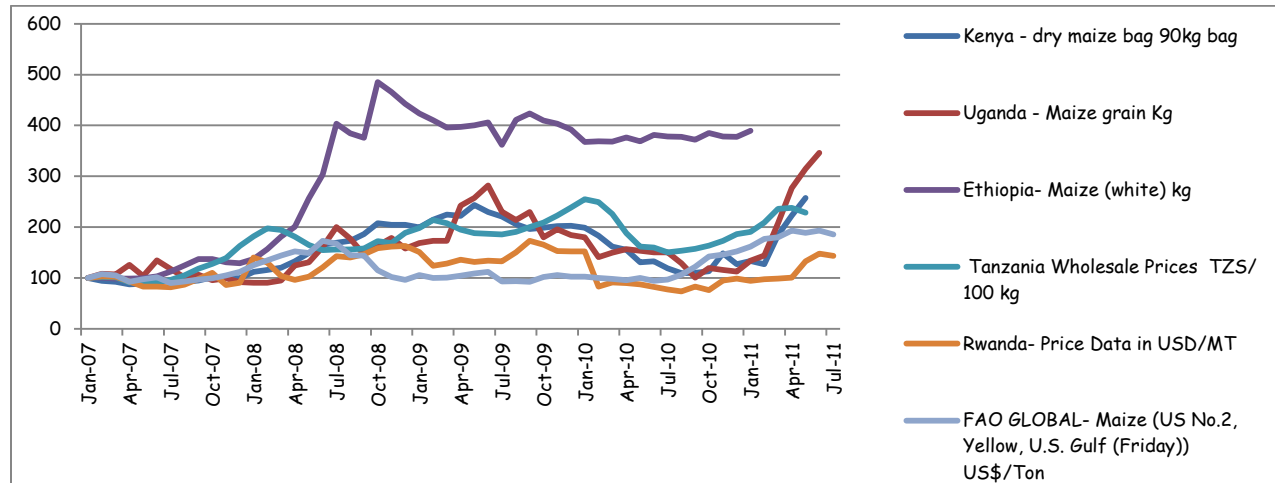
¹World Food program (2010). The market monitor: trends of staple food prices in vulnerable countries. Issue No. 8.

²FEWS NET (2010). PRICE WATCH: June Food Prices, 31 July 2010

³FAO global information and early warning system on food and agriculture (GIEWS)(2010)

poor rains experienced towards the end of 2010 and at the beginning of 2011 especially in the

eastern Africa region (mainly in Ethiopia, Tanzania, Uganda and Kenya).



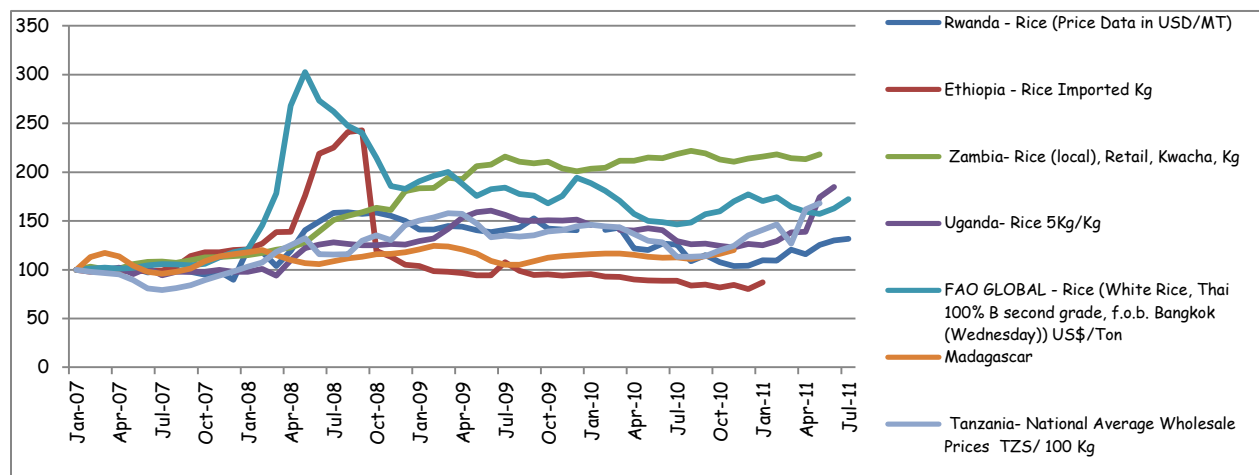
Authors' computation based on data from: FAOSTAT (FAO global); Ministry of Agriculture (Kenya); Central Statistics Agency (Ethiopia); RATIN (Rwanda); Uganda Bureau of Statistics (Uganda); Bank of Tanzania (Tanzania)

Figure 2: Maize price indices (January 2007=100).

Evolution of rice prices

The 2010 global rice production was 3.5 percent higher than the 2009 production despite the drought experienced in several important rice-producing Asian countries. This resulted in the steady decline in global rice prices since January 2010. However, Figure 3 shows the global rice prices regaining some strength in June, July and August 2010 and the slight price increase noted

was due to drought in Thailand (the world's largest rice exporter) and flooding in Pakistan. First quarter of 2011 reports stable global rice price due to increased rice production from the major producing countries (China, India, Indonesia, Bangladesh and Vietnam) and the increased stocks from year 2010.



Authors' computation based on data from: FAOSTAT (FAO global); Central Statistics Agency (Ethiopia); RATIN (Rwanda); Uganda Bureau of Statistics (Uganda); Bank of Tanzania (Tanzania); Central Statistical Office (Zambia); Institut National de la Statistique (Madagascar)

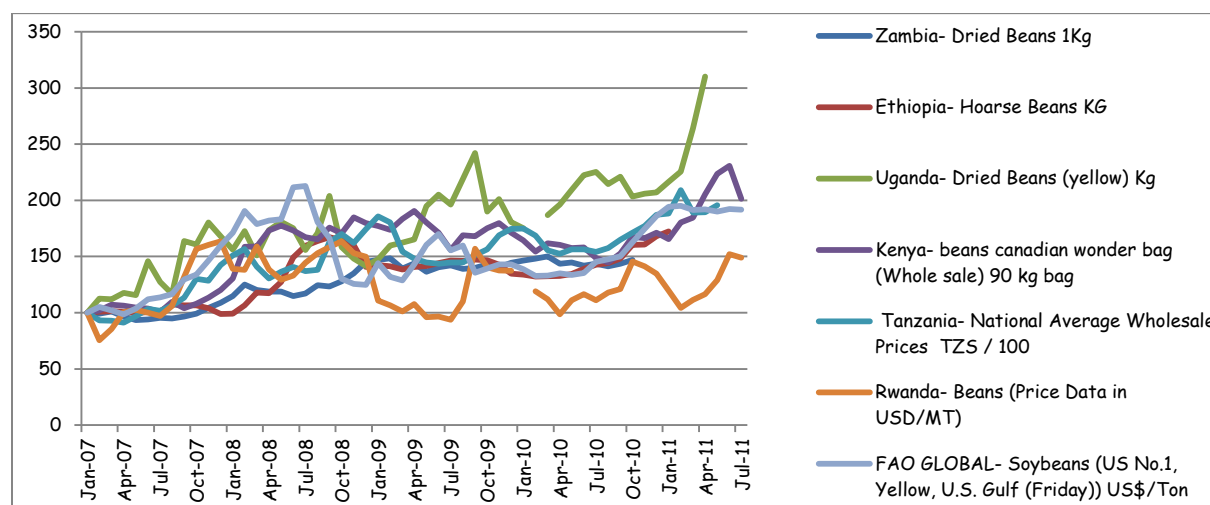
Figure 3: Rice price indices (January 2007=100).

Domestic rice prices in ESA region were on an increasing trend in the years 2007 and 2008 (Figure 3). In Uganda and Tanzania, rice prices in 2009, though higher than the January 2007 levels, were lower than the 2009 global prices. On average, rice prices declined in Uganda and Tanzania by about 5 percent and 3 percent respectively between May and July 2010, while in Djibouti the prices declined by less than 2 percent per month over the same period. However in Eastern Africa countries, domestic rice prices have increased for the period January-May 2011 on average by 3 percent per

month in Rwanda, 9 percent in Ethiopia, 2 percent in Uganda and by 4 percent in Tanzania.

Evolution of bean prices

Both global and domestic bean prices have been increasing since January 2007, during the first half of 2008 and first quarter of 2011 (Figure 4). The second half of 2008 depicted declining bean prices globally and in the selected countries in ESA. Though global bean prices were low in comparison to the prices recorded during the food crisis, they were on an upward trend during the first quarter of 2011 increasing at an average monthly rate of 1 percent.



Authors' computation based on data from: FAOSTAT (FAO global); Central Statistics Agency (Ethiopia); RATIN (Rwanda); Uganda Bureau of statistics (Uganda); Bank of Tanzania (Tanzania); Central Statistical Office (Zambia); Ministry of Agriculture (Kenya)

Figure 4: Bean price indices (January 2007=100).

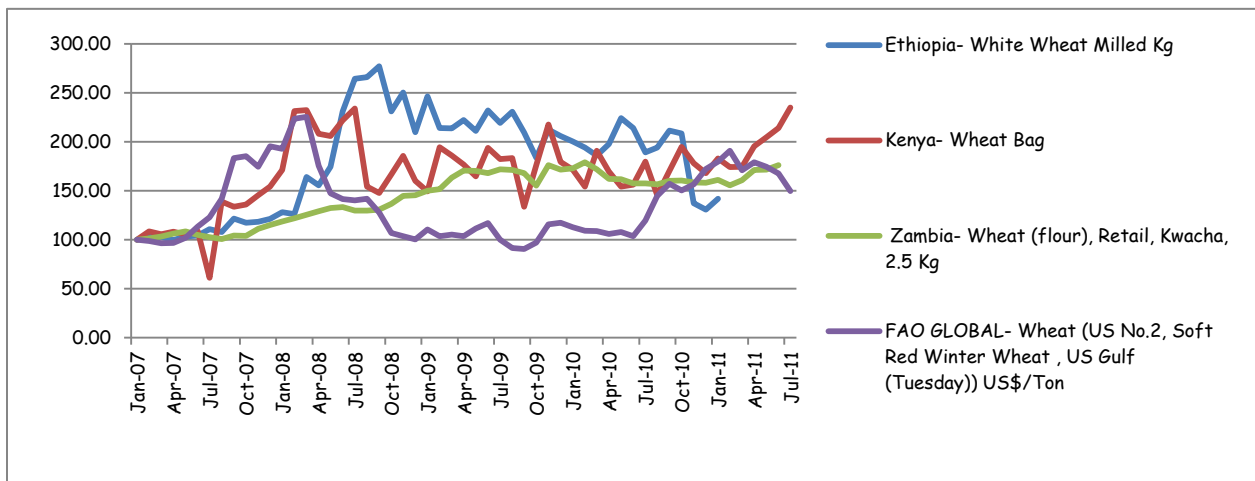
In Tanzania, bean prices declined between March and August 2010 while in Uganda they dropped by 10 percent per month between May and June 2010, which, in Uganda, is usually the harvest season for pulses, thus increasing market supplies. However, bean prices in Uganda increased between July and August 2010 by 6 percent monthly depicting depletion of production stocks. The first quarter of 2011 depicted an increasing trend for the bean prices increasing at monthly rate of 11 percent in Uganda, 7 percent in Kenya, and 1 percent in Tanzania and globally.

Evolution of wheat prices

Both global and domestic wheat prices were stable in the first half of 2007 (Figure 5). Just like the other food prices, wheat prices were on an increasing trend in year 2008 with a decline in prices being observed in year 2009. Kenya showed very erratic wheat prices over the period 2007- 09 (Figure 5) but in May, June and July 2010, Djibouti and Kenya wheat prices remained relatively steady, while Sudan wheat prices increased over the three months period. Global wheat prices on the other hand stabilized during the first half of 2010 but took an upward trend in July and August increasing at a monthly rate of 16 and 21 percent, respectively. The increase in global wheat prices observed in August 2010

was the largest month on month increase since January 2008, even higher than at the peak of the global food crisis in 2008 which was at its highest at 16 percent in the month of February 2008. The sudden sharp rise in global wheat prices between July and August 2010 was due to a severe drought in the Russian Federation and the country's subsequent restrictions on wheat sales through a ban on all grain exports in response to the widespread crop failures. Internationally, wheat prices were reported to

have increased between June and August 2010. In September 2010, residents of Maputo, Mozambique's capital went on a food riot over higher bread and fuel prices. Protests began after the government announced plans to raise the price of bread by 25 percent on 6 September 2010. The government blamed the bread price increase on the relative shortage of wheat in the world market due to the imposed export ban by the Russian government.



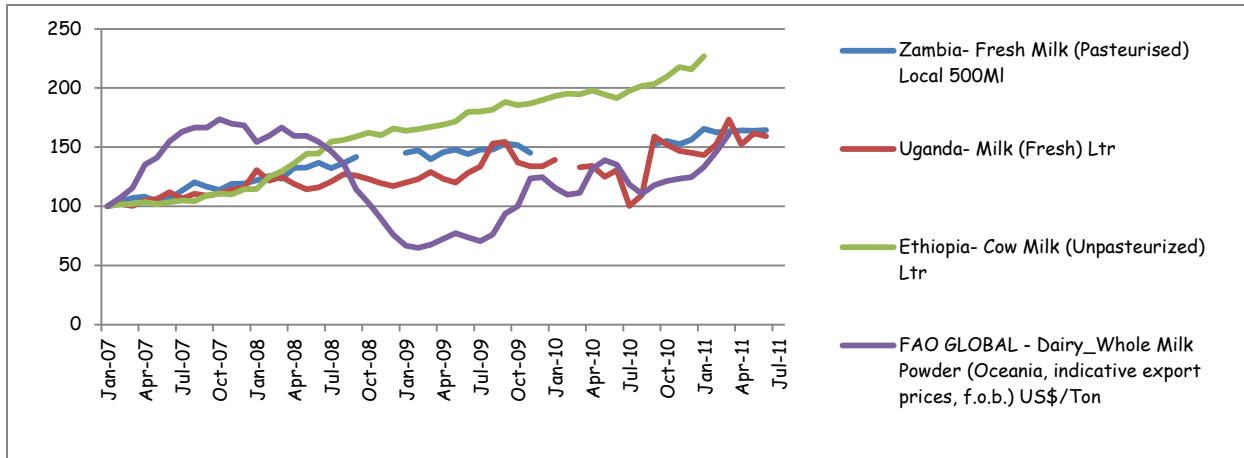
Authors' computation based on data from: FAOSTAT (FAO global); Central Statistics Agency (Ethiopia); Central Statistical Office (Zambia); Ministry of Agriculture (Kenya)

Figure 5: Wheat price indices (January 2007=100).

Evolution of milk prices

Global milk prices were on the rise in the year 2007 but drastically dropped in 2008 (Figure 6), and stabilizing and remained low in the year 2009. The global milk prices strengthened in October, November and December 2009 though at a lower level than in 2007. The global milk price increase in the last quarter of 2009 was largely caused by reduced export supplies, particularly from the European Union, which retained stocks in an effort to minimize export subsidies, and by a sustained import demand,

notably from Asia. The first quarter of 2010 shows a drop in global milk prices with a minimal increase in April 2010. On the other hand, domestic milk prices increased in the years 2007 and 2008 in Uganda, Djibouti and Ethiopia. However, the first quarter of 2010 showed a decline of milk prices in Djibouti and Uganda (Figure 6) with increasing milk prices being reported in Uganda in June and July 2010. First quarter of 2011 reports increasing milk prices in Ethiopia and also globally.



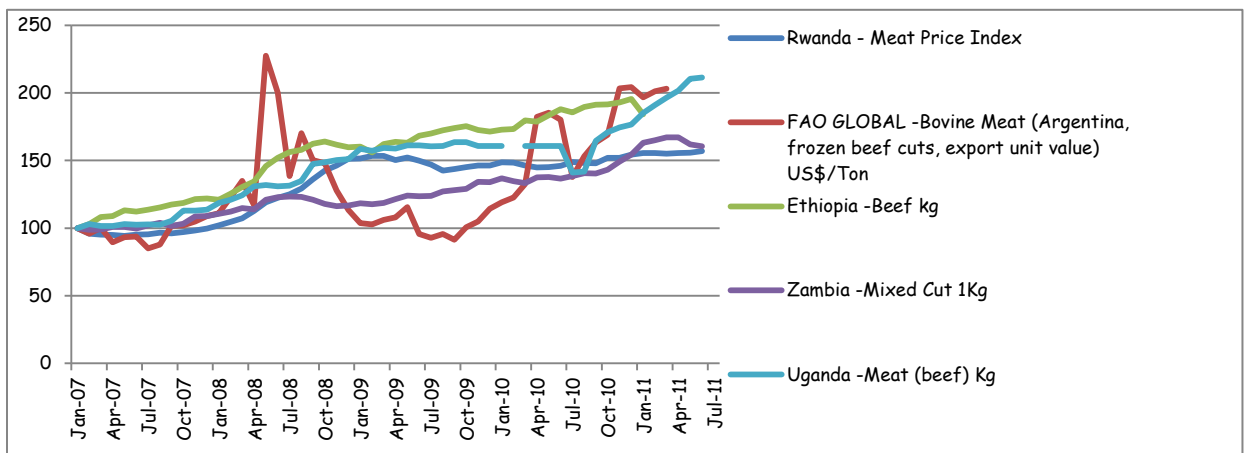
Authors' computation based on data from: FAOSTAT (FAO global); Central Statistics Agency (Ethiopia); Uganda Bureau of Statistics (Uganda); Central Statistical Office (Zambia)

Figure 6: Milk price indices (January 2007=100).

Evolution of meat prices

Global and domestic meat prices in Kenya, Zambia and Uganda were fairly low and stable in the year 2007 but started to increase thereafter until the end of 2008 when global meat prices took a declining trend throughout year 2009. According to FAO, the year 2009 was characterized by a marginal increase in global meat production, a fall in the volume of world trade and thus the fall in prices. However, Figure 7 shows the global prices gained some strength increasing in the last quarter of 2009. The year 2010 saw global and domestic meat prices in selected ESA countries continue to increase. The

increasing global prices of meat observed from January to May 2010 are as a result of tight supply in large exporting countries; Australia, Argentina and Uruguay where there was a drought in year 2009, which resulted in herd liquidation, that is, reduction of herd inventory through sale or slaughter. The drought has caused a slump in beef production and exports restrictions. However, the global meat prices declined in June and July 2010. Between April and July 2010, Uganda meat prices stabilized. Early months of 2011 reported meat price increasing globally and locally especially in Uganda and Rwanda.



Authors' computation based on data from: FAOSTAT (FAO global); Central Statistics Agency (Ethiopia); National Statistical Institute (Rwanda); Central Statistical Office (Zambia); Uganda Bureau of Statistics (Uganda)

Figure 7: Meat price indices (January 2007=100).

Commodity prices verses per capita income increases

If commodity prices rise at a higher rate than the growth in income, the purchasing power and welfare of consumers is affected negatively as they will not afford to acquire the same amount

of goods and services and vice versa. Table 1 compares the growth trends in income per capita and the growth in food price index for selected countries.

Table 1: Percentage change in per capita income relative to Food price index, 2008-2010

Year	Kenya	Uganda	Ethiopia	Tanzania	Rwanda
2008	8(23)	17(20)	33(60)	20(13)	22(16)
2009	-5(13)	6(25)	17(3)	0.2(18)	8(15)
2010	4.(9)	4(2)	-9(2)	5(6)	4 (2)

Annual change in FPI in parentheses

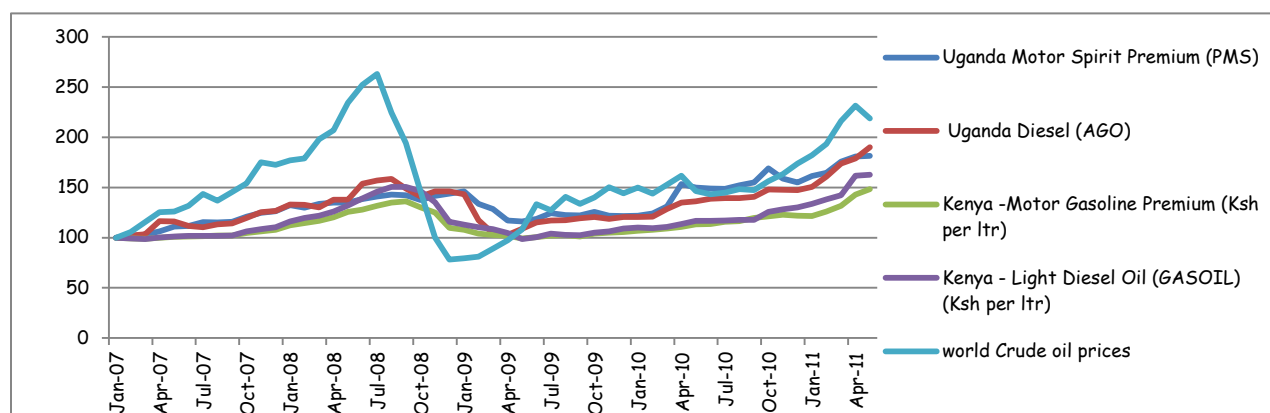
Author computation based on data from World Bank; Central statistical agency (Ethiopia); Central Bank of Kenya (Kenya); National Institute of Statistics (Rwanda); Bank of Tanzania (Tanzania); Uganda Bureau of statistics (Uganda).

Table 1 show that prices of food commodities increased faster than income over the period 2008-2010 in most of the countries under study. This means that as prices were rising from 2008 onwards, per capita income of most countries had been shrinking, affecting negatively the consumers' purchasing power. However, there are a few observed differing trends. For example in 2008, Tanzania reports per capita growing at a higher rate than the food prices. In Ethiopia, 2009 reported increased growth in per capita income than the food prices. However Rwanda and Uganda on the other hand experienced higher growth in per capita income than the growth in food prices in the year 2010.

of 2009, subsequently increasing in the second half of 2009 (Figure 8). Year 2010 reflects stable, low world fuel prices. The low oil prices contribute to price decreases for most agricultural crops as it translates to lower input costs and vice versa. Most oil products in ESA are normally imported thus the price trends within the ESA region somehow reflect those of global crude oil fuel prices. While fuel prices remained stable in Zambia, Uganda and Kenya in year 2009, they increased in the year 2010 (Figure 8). First quarter of 2011 depicts an increase in both domestic and world fuel prices: Uganda and Kenya fuel prices in first quarter of 2011 increased at an average monthly rate of 5 percent, while world fuel prices increased at an average monthly rate of 7 percent. The increased fuel costs increases agricultural production cost consequently increasing food prices.

Evolution of fuel prices

World fuel prices peaked in July 2008, after which they fell and stabilized in the first quarter



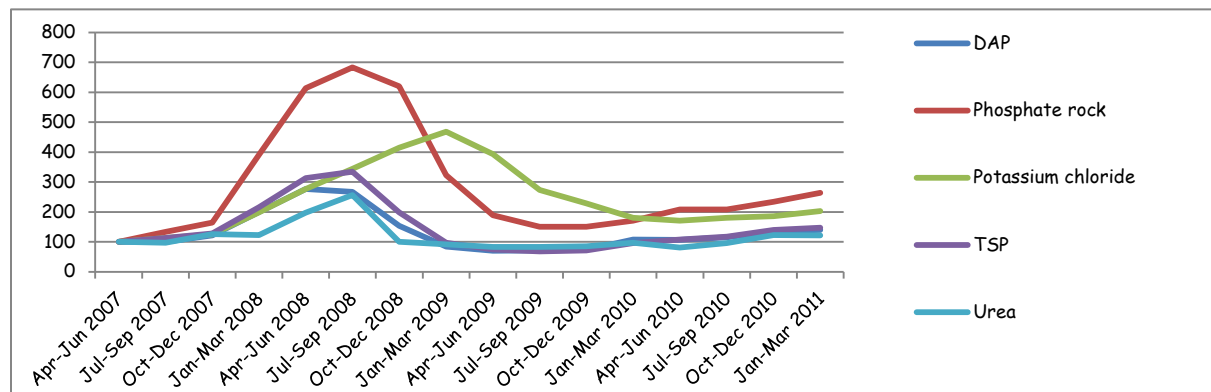
Authors' computation based on data from: US energy information administration independent statistics and analysis (World); Bank of Uganda (Uganda); Kenya National Bureau of statistics (Kenya)

Figure 8: Fuel price indices (January 2007=100).

Evolution of fertilizer prices

The prices of DAP, phosphate rock, potassium chloride, TSP and urea were relatively stable in the year 2007 (Figure 9). In 2008, world fertilizer markets experienced a period of great volatility reporting the highest recorded prices in mid-2008 followed by a rapid fall in the second half of 2008. In 2009, fertilizer prices stabilized while year 2010 reports a slight increase in world fertilizer prices followed by stabilization

in the second quarter of 2010 mainly of DAP and phosphate rock. High fertilizer prices in year 2008 were probably offset by the increased government interventions in various countries including removal of fertilizer taxes, tariffs, levies and subsidies. Given that fertilizers are a major agricultural input, the low fertilizer prices translate to a relatively low cost of staple food production. Year 2011 reports world fertilizer prices assuming an upward trend.



Authors' computation based on data from World Bank

Figure 9: World fertilizer prices.

Conclusion

The global food prices declined after 2008 food price crisis. The decline in global food price after the 2008 food price crisis was primarily due to a strong supply response including bumper harvests. Further, global food prices remained low and stable in the year 2009 but took an upward trend in the first half of 2010 though at a lower rate than in June 2008 when global food prices skyrocketed. Individual staple food global prices mainly maize, beans, rice and milk generally remained low and stable after the 2008 food crisis even though the prices were observed to increase during the first half of 2010. While global dairy markets remain stable, global meat prices have been on the rise mainly due to declining production. Global wheat prices showed the highest increase in July and August 2010, which is partially attributed to the drought in Russia and the floods in Pakistan.

Domestic prices of major staple foods in the ESA region on the other hand have seen a downward trend after the 2008 food price crises.

Most countries in ESA region experienced a decline in food prices during the first half of 2010. Over the same period, the maize prices in most ESA countries were on a downward trend, with beans and rice too reporting decreasing prices especially in EA region. The decline in individual staple food prices in the region during the first half of 2010 was as a result of increased production, which was attributed to good weather conditions. The situation continued in September 2010 with staple food domestic prices declining in most markets in the EA region especially in Ethiopia, Kenya, Tanzania, and Uganda with improved supplies following the harvests in July and August across the region. However, the October to December 2010 short rains in eastern Africa were below normal due to a reported *La Niña* event which seems to negatively impact crop production for the early 2011 harvests. The fuel and fertilizer price trends follows suit those of the staple food prices. The world and regional fuel and fertilizer prices were relatively stable in year 2009 after

the food (and also fuel) price crisis of year 2008, but were observed to increase at a relatively low rate in year 2010. First half of 2011 reports upward pressure on both world and domestic fuel and fertilizer prices.

The trend of food and input price analysis shows that the pattern of price changes is very different across countries, commodities and times of the year. This shows that regional response offers opportunities to address the food price crisis

rather than the individual country isolated approach. Consumers in countries with high food prices could take advantage of low prices from the neighboring countries. Areas with surplus and low prices could trade in deficit areas with high prices which exploits regional diversity as seen in differences in various countries consequently facilitating regional trade.

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<p>This bulletin is one in a series of updates based on an October 2008 report which is available online at http://www.asareca.org/resources/reports/resp2food_pr_main.pdf. For further information, please email Dr. Joseph Karugia (j.karugia@cgiar.org)</p>
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