



RISING GLOBAL FOOD PRICES: CAUSES AND IMPLICATIONS FOR BOTSWANA

ISSN 1560-5817

September 2008

Introduction

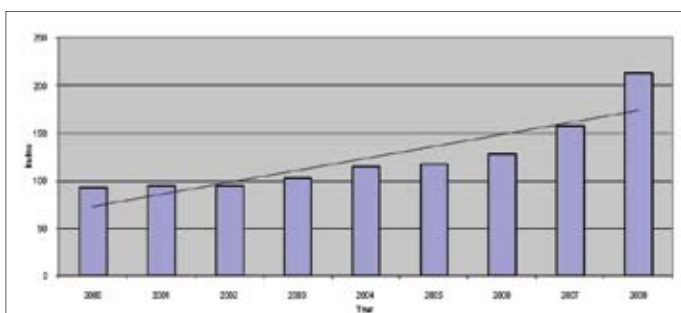
International prices of basic food commodities such as rice and wheat have increased rapidly since 2006. Data from the Food and Agriculture Organisation (FAO) indicate that the global food price index rose by 9 percent in 2006 and by 23 percent in 2007. In 2008 alone, prices of wheat and maize were 130 and 30 percent, respectively, higher than the previous year. Drastic food price surges may cause political and economic instability as well as social unrest in certain countries as food becomes unaffordable to consumers, particularly poor and vulnerable segments of the population. The effects of food price increases may be more pronounced for food importing countries that depend on external markets to cover for their national food requirements.

This Special BIDPA Briefing is motivated by the recurrent global price hikes in basic foodstuffs. The situation, which is commonly known as the “global food crisis”, is a cause for concern, given that Botswana is a net food importing country. One of the developmental objectives of the country is food security and therefore there is need to assess whether rising global food prices would have any direct effect on the food security situation in the country. The intention of the Briefing is therefore to outline the causes of the current global food crisis as well as its implications for Botswana as a net food importing country.

Global Outlook

Chart 1 shows that global food prices have been increasing since 2000, with rapid increases witnessed between 2006 and 2008. According to the FAO, the global food price index in April 2008 averaged 218.2 and was 54 percent more than that for the same period in 2007 (141.7), reflecting either changes in the supply or demand side of the food equation. In the first 4 months of 2008, food prices increased by about 35% on average.

Chart 1: FAO Food Price Index (1998-2000=100)



Source: Food and Agriculture Organisation (2008).

The causes of the current global food crisis can be classified into demand and supply side factors.

Demand side factors include the following:

Increased demand for grain from the bio-fuels sector: Increasing volumes (quantities) of grain are being used for bio-fuels (in the wake of high fuel prices), leaving less food grains available for human consumption. The resultant limited supply of grains is one of the driving forces of high cereal prices. Although, there has been an increase in maize production, data from FAO show that in 2007, the distribution of maize utilization was more biased to bio-fuel production than to human consumption. Out of the increased global maize utilization of about 40 million tonnes, 30 million tonnes of these were used for bio-fuel production while the remaining 10 million tonnes were for human consumption.

Increased demand for food as a result of economic growth in some large developing countries such as China and changes in eating habits in these countries: High demand for food associated with economic growth has shifted demand for food away from staples to high value foods such as meat and dairy products. Meat consumption in most developing countries, for example China, has more than doubled over the past decade. The dietary shift is leading to increased demand for grains used to feed livestock, ultimately leading to higher cereal prices. Data from the International Monetary Fund show that in 1985, the average Chinese consumer ate 20kg of meat a year whereas he now eats more than 50kg.

Supply (production) side factors include the following:

Food supply constraints due to export bans: Reduced food exports from major exporters also fuel food prices, particularly when matched by increased demand for food by importers. Data from the World Bank indicate that 28 countries have imposed export bans.

Increased prices of petroleum products which are pushing up the cost of food production and distribution: The increasing prices of petroleum products have a direct linkage with food production and distribution. For example, prices of agricultural inputs such as fertilizers (which are produced from fuel) are also increasing worldwide. FAO data show that prices of some fertilizers such as triple superphosphate have increased by more than 160% in the first 2 months of 2008. The cost of food distribution from exporting to importing countries has also increased due to fuel price hikes, making food more expensive.

Climate change: It is evident that climate change will increase the number of people vulnerable to hunger as it directly influences food production. Once a certain threshold of temperature levels is exceeded, then food production levels will be affected adversely. For example, FAO data show that weather-related cereal production shortfalls were experienced in major exporting countries, registering an annual decline of 4% and 7% in 2005 and 2006, respectively.

Depletion in food stocks: While food prices continue to increase, world food stocks, on the other hand, continue to decline. According to FAO statistics, world food stocks are at their lowest level since the 1980s. Low stock levels in conjunction with food supply constraints have the negative effect of increasing food prices. Data by the International Monetary Fund indicate that global stock levels have decreased by 3.4% per year, on average since 1995.

Domestic Outlook

1. Policy Framework

At independence, the agricultural sector was the mainstay of the economy of Botswana contributing a significant share of 40 percent to the country's Gross Domestic Product (GDP). However, as the years went by, and the other economic sectors gained economic importance in the country, the agricultural sector witnessed a downward performance. As at 2005/2006 financial year, the agricultural sector contributed less than 2 percent to GDP. Amidst the poor performance of the sector, the Government continued to invest heavily on it, in terms of financial support so as to, amongst others, promote output and productivity growth.

Prior to 1991, the agricultural sector was driven by the Food Self-Sufficiency strategy which was accompanied by high social costs at the expense of food security in the country. In 1991, the Government adopted the Food Security strategy after realizing that the country was not able to meet its national food requirements. Hence, beyond 1991, food deficits are met through imports. Food security led to the removal of (the adoption of) trade restricting border measures in the grain industry. However, such measures still remain in the case of non-traditional agriculture (poultry, piggyery, dairy and horticulture).

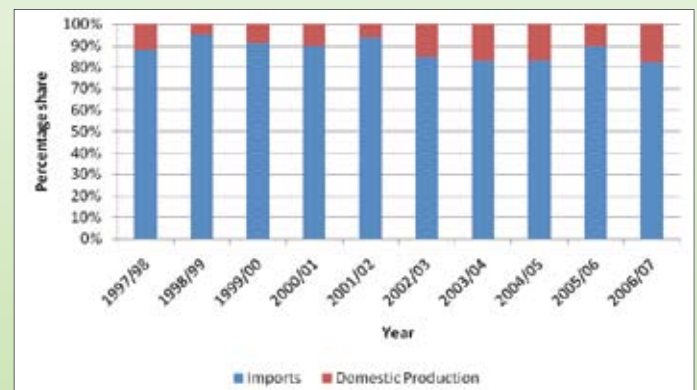
2. Food Availability

With the current global food crisis, food prices in Botswana will continue to increase, with more devastating impact on the poor. The 2002/2003 Household Income and Expenditure

Survey (HIES) revealed that households in the country spend the highest proportion of their income on food (23.7%). The food security situation of the households as well as that of the country is thus jeopardized as availability and accessibility of food pose difficulties to the consumers. In the process, progress made by the country on poverty reduction may be under threat. As Botswana is already a food deficit country, cereal grain (in particular, sorghum and maize) shortage in the country would be worsened.

To demonstrate the severity of the grain shortage in the country, Chart 2 plots imports as a share of national cereal requirements from 1997/98 to 2006/07. During the review period, there was no particular year in which domestic production exceeded imports, indicating the country's apparent dependence on the external market for food. The proportion of imports to national cereal requirements in any given year had consistently exceeded 80 percent. Thus, increasing global food prices would have a negative impact on food security in Botswana.

Chart 2: Imports as a Share of National Requirements (1997/98 – 2006/07)



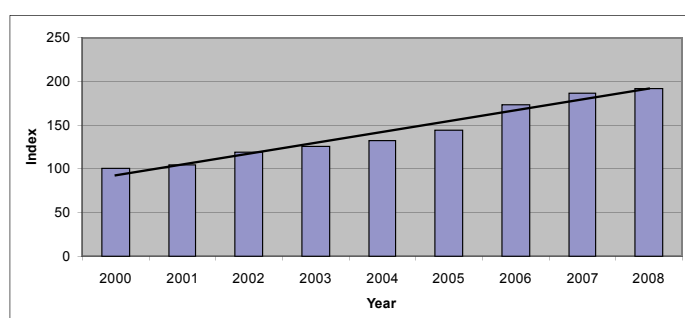
Source: Early Warning Unit (Ministry of Agriculture).

Although one may expect increased food prices to translate into higher farm gate prices which would stimulate producers to produce more food in the medium term, this is unlikely since most subsistence farmers do not participate in the market (they are net food buyers).

3. Food Price Changes Over Time

Chart 3 below attempts to assess changes in food prices from 2000 to date in the country. As seen, food prices have been increasing, indicating that the country is being affected by the global food crisis, with drastic price increases between 2005 and 2006.

Chart 3: Food Price Index (2000=100)



Source: Extracted from the Cost of Living Index from CSO.

Note: 2008 figure is the average of the first 4 months of a calendar year whereas figures for the other years are for December.

To show the extent of price variations in the various selected basic food items across the country, we present below a table showing the average real retail prices in Pula of selected commodities in Gaborone and rural areas. Just like the trend for global food prices, domestic food prices have been increasing over time. In particular, is the significant increase registered between 2006 and 2007. Noteworthy is also the price disparities between Gaborone and the rural areas, where it is evident that the rural dwellers have to pay more for their food items as compared to their urban and rural urban counterparts. This is of particular concern as most poor people in the country are rural dwellers and therefore there may be a reversal of the gains already realized in poverty reduction in the country.

Table 1: Real prices of Selected Food Items (Pula) in 2008 prices

	City and Towns				Urban Villages				Rural Villages			
	2003	2006	2007	2008	2003	2006	2007	2008	2003	2006	2007	2008
Maize-meal, 5kg	20.34	19.19	25.33	23.06	22.23	20.10	26.22	24.33	23.82	22.08	28.19	26.42
Sorghum meal, 5kg	20.56	21.99	29.67	27.88	24.44	21.80	28.69	27.84	26.89	23.89	30.24	29.74
White bread flour, 5kg	28.97	22.84	29.66	29.46	29.15	24.51	30.38	30.75	29.94	28.00	32.54	31.11
Rice, 1kg	8.90	9.34	9.50	9.20	9.85	9.72	9.92	9.68	9.85	10.51	11.18	10.84
TOTAL	78.77	73.36	94.16	89.60	85.67	76.13	95.21	92.6	90.50	84.48	102.15	98.11

Source: CSO

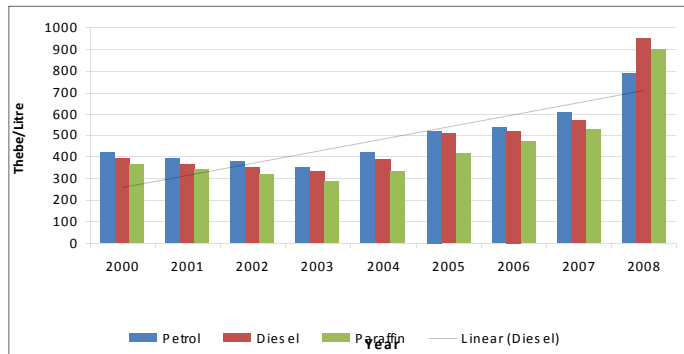
- Notes:
- (1) Data for year 2008 is average for May and the other years represent average for December.
 - (2) CPI figures were obtained from the International Financial Statistics Yearbook 2007. However, the 2007 and 2008 figures are provisional.

4. Impact of Fuel Price Changes on Food Production and Distribution

Fuel is one of the inputs in agricultural production and distribution such that increases in fuel prices will lead to rising food prices. Firstly, fuel price hikes can increase food prices through increasing distribution costs of inputs and the final products. Secondly, food production becomes costly since the price of fuel will lead to a rise in the price of fertilizers which is one of products of the petroleum industry. Thirdly, the cost of farm operations that depend on fuel, such as running a tractor, could rise. Finally, rural areas would be the most affected because they are far from food and input distribution centres.

Chart 4 plots trends in prices of petrol, diesel and paraffin since 2000 at 2008 prices. Although prices have been increasing for all the three petroleum products since 2004, drastic increases were registered between 2007 and 2008. Between 2007 and June 2008, prices of petrol, diesel and paraffin had increased by 30%, 66% and 71 % respectively. Thus, these trends have had an adverse impact on food prices and food availability. Given that Botswana is a net food importer, the high fuel price is more a food distribution than production problem. Fuel prices affect the poor directly as well. For example, paraffin is mostly used by the poor for cooking and lighting. Therefore, high paraffin prices have a negative impact on food affordability.

Chart 4: Trends in Real Fuel Prices (Thebe Per Litre) in 2008 prices



Source: Department of Energy Affairs (Botswana) and IMF (International Financial Statistics Yearbook 2007).

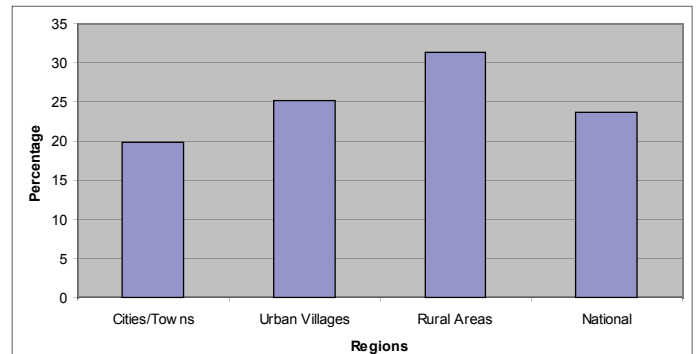
Note: Consumer Price Index (CPI) figures were used to derive real prices. The CPI figures for 2007 and 2008 are provisional.

5. Implications of Higher Food Prices for Botswana

This section attempts to assess the likely consequences of increased food prices in the economy in general. We are however aware that we cannot exhaust all the impacts in this one document, given that the food price problem is not fully reflected in the available data.

Rise in Income Poverty: Firstly, income poverty will increase due to reduced purchasing power caused by rising food prices. Poor people spend a higher proportion of their income on food leaving less for other basic items. Chart 5 shows food consumption expenditure patterns by region in the country. By far, rural dwellers spend a large share of their income on food (31.3%). Thus, food price hikes can have devastating impact on the welfare of rural dwellers, who have limited employment opportunities.

Chart 5: Food Consumption Expenditure Patterns by Regions (Percentage)



Source: Household Income and Expenditure Survey (HIES) 2002/2003.

Rise in Government Expenditure: The Government provides a number of food-based social safety nets programmes to assist the very poor and vulnerable segments of society. These programmes include Destitute, Vulnerable Group Feeding, Orphan Care, Community Home Based Care and Primary School Feeding. The programmes provide fixed food baskets to the beneficiaries. Food price increases will lead to increased government expenditure on social safety nets programmes. Government spent P146,242,621 on the Destitution and Needy student programmes in 2007/2008. It is anticipated that during 2008/2009, government expenditure on these programmes will increase to P201,907,370. When viewed using 2008 prices, table 2 shows that the cost of a food basket of an adult destitute person in Gaborone, with two dependents, registered drastic increases between 2006 and 2007.

Furthermore, the provision of some of these food baskets is done through tenders. The impending food price inflation would mean that suppliers who tendered before the recent food price increases may not be able to honour their tenders, impacting negatively on the provision of social safety nets and leading to food insecurity.

Table 2: Real Cost of Selected Food Items (Pula) in 2008 prices

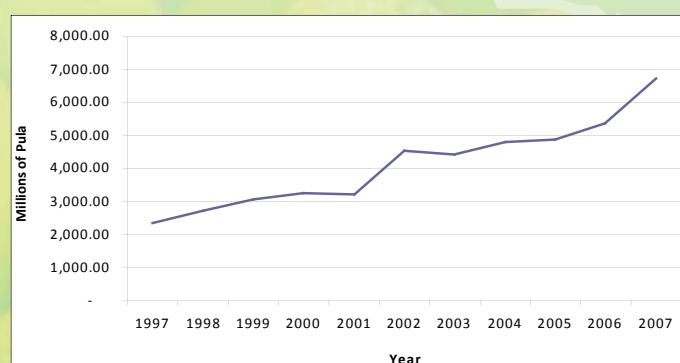
Food Type	Quantity Per Month	2000	2003	2006	2007	May 2008
Maize meal	2 x 12.5kg	83.47	81.52	95.96	126.63	115.30
Sorghum meal	1 x 12.5kg	53.92	61.41	54.99	74.17	55.70
Bread flour	1 x 2.5kg	12.45	14.48	11.42	14.83	16.95
Vegetables	3.5kg	38.82	33.12	26.56	30.03	27.79
Greens	2 x 1.5kg cabbage	5.64	6.77	13.11	16.17	12.00
Pulses	1 x 1.0kg beans	15.12	14.65	12.55	15.00	14.14
Meat	1 x 2.4kg	57.15	55.98	49.11	57.98	58.70
Milk	8 x 500ml (1 x 500g Nespray)	32.34	37.78	37.46	48.58	45.44
Sugar	1 x 1.0kg	6.96	6.81	7.14	7.49	6.96
Cooking oil	1 x 750ml	9.64	9.13	9.40	14.20	14.50
Salt	1 x 500g	2.26	2.35	2.20	2.26	2.21
Tea	1 x 250mg	13.57	14.53	12.02	12.19	11.36
TOTAL		P331.34	P338.53	P331.92	P419.53	P381.05

Source: Social Welfare Division – Ministry of Local Government (2002) for the food basket and the price statistics were obtained from the CSO.

Note: CPI figures were obtained from the International Financial Statistics Yearbook 2007. However, the 2007 and 2008 figures are provisional.

Increase in Import Bill: The country may be faced with an increasing import bill emanating from increased food prices. This will ultimately put pressure on the already declining foreign exchange reserves, which now stand at 26 months of import cover as at December 2007. To justify this argument, below is a Chart that indicates real values of food, beverages and tobacco imports in millions of Pula. The Chart shows that the total value of real food imports has been characterized by both upwards and downwards movements over the years. However, the real food imports had consistently followed an upward trend since 2004, with marked increases registered in 2007, possibly explaining global food price increases experienced since 2006.

Chart 6: Real Total Value of Food Imports ('000 Pula) at 2007 prices



Source: CSO and IMF (International Financial Statistics Yearbook 2007).

Note: Import values were obtained from the CSO whilst the CPI data were obtained from the International Financial Statistics Yearbook 2007. The CPI figures were used to derive real values and the figure for 2007 is provisional.

Conclusions

From this Briefing, it is apparent that the agricultural sector is not able to meet the total national food requirements in any given year. The food deficits in any particular year are met through imports. The poor yields from the agricultural sector may be attributable to the domestic climatic conditions, low agricultural productivity and poor farming methods practiced, in particular, by subsistence farmers.

The Briefing has also shown that rural dwellers spend a disproportionate amount of their income on food compared to urban and urban village dwellers. In addition, it is shown that food prices continue to increase in the country, with the degree of price increases varying across the regions of the country. Food prices are the highest in rural areas compared to other areas of the country. The implication is that external developments relating to the global food crisis will hit hardest the poor in the country, who mainly reside in rural areas.

Data also show that, over time, prices of petrol, diesel and paraffin have been increasing in the country. The Briefing concludes that although increases in fuel prices affect the agricultural sector in terms of costs associated with both food production and distribution, for Botswana, the food distribution impact will be the most adverse since Botswana is a net food importing country.

Policy Implications

There are several measures that public policy can be used to address the current food crisis:

(1) **Reduction in trade restrictions:** Tariffs (border taxes on imports) and non-tariff barriers (import quotas, import licensing, imports permits, etc) may be removed to make imported food cheaper as Botswana is a net food importing country. Currently, all the other cereal grains, including wheat, maize and rice are duty free whilst sorghum attracts a 3 percent import duty if imported from the rest of the world,

other than the European Union, SADC and SACU. Removing this duty may lower prices of imports and help in alleviating the impacts of recent food price changes.

(2) **Introduction of production incentives as an interim measure:** The Government has recently introduced an agricultural development programme called Integrated Support Programme for Arable Agriculture Development (ISPAAD) to enhance food production locally to address food shortages in the country. The programme will provide assistance to farmers in the form of free seeds for planting up to a maximum of 16 hectares, fertilizers for a maximum of 5 hectares per farmer, ploughing and planting subsidy for a maximum of five hectares during the next planting season, provision of cluster fencing and the establishment of 15 agricultural service centres. In the long run, it is anticipated that the new programme would enhance production efficiency and comparative advantage in food production. As indicated above, farmers, in particular, subsistence farmers are net buyers of food because only 10-12 percent of them sell their produce in the market. Most of them produce for home consumption and buy from the market to meet excess home consumption requirement. Therefore, high food retail prices will hurt them. Therefore, production subsidies like the newly introduced programme will in future reduce their purchases as they produce more and buy less of finished products from the market. However, it should be noted that the programme will come at a high cost to Government because of efficiency considerations.

(3) **Revision of cash transfer benefits:** Given high food prices, the affordability of food to vulnerable segments of the population, particularly those who benefit from social safety nets programmes that offer cash transfers such as the Old Age Pension Scheme, is threatened.

This edition of the BIDPA Briefing was written by Pinkie Kebakile
e-mail: pkebakile@bidpa.bw
Published by BIDPA, Private Bag BR 29, Gaborone, Botswana

Tel: (+267) 3971750, Fax: (+267) 3971748.
Website: <http://www.bidpa.bw>

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