

Ghanaian Journal of Economics, Vol. 1, Dec 2013

©The Author(s)

Journal compilation ©2013 African Finance and Economics Consult.

Political Economy of Food Prices in Ghana

Emmanuel Ganidekam

Department of Development Studies, School of Oriental and African Studies,
University of London, UK. Email: eganidekam1@yahoo.co.uk

Abstract

This paper analysed the factors that influence food prices and the appropriate policy interventions. Using data on recent developments in local and global food prices, the paper argues that local food price increases are driven by adverse weather conditions, poor storage and transport facilities, and policy failures. Furthermore, the evidence from the data analysed showed that, with the exception of imported rice, global food price spikes do not have direct impact on domestic food prices in Ghana. The research also found that both urban and rural dwellers spend more of their income on basic food crops, thus rising domestic food prices tends to deepen the woes of low income earners. Investment in irrigation, good transport and storage facilities, trade reform among others are suggested as policies to ameliorate the situation.

1. Introduction

The food market has recently faced price increases in many parts of the world and this has become a major concern to consumers and policy makers. This study therefore tends to bring to attention the minds of policy makers and all stake holders the nature and evolution of food prices and the challenges this bring to inhabitants in Ghana. Increase in food prices has resulted in deepening poverty and malnourishment since most households tend to depend on less nutritious food crops or are not able to adequately feed themselves.

The most recent debate on causes of food price spikes on the global level revolves around the effect of the financial crisis and increasing demand and use of bio fuels. Other causes also include adverse weather conditions and poor agricultural policies or policy neglect. This paper argues that food price increases in Ghana are largely dependent on low production which is caused by adverse weather conditions, poor storage and transport systems and policy failures. Furthermore, it considers the impact of high food prices on the population and also food price policy control interventions by the government. It also establishes the fact that world food price

increases does not directly affect domestic food prices in Ghana except imported food crops like rice.

The study analyzes government support for agriculture and policies like subsidies on fertilizer, incentives and protectionism system like ban on export to ensure food security (Wolter, 2008).

The rest of the article is organized as follows: section 2 considers the area under study and methodology. Related literature and trends in food prices constitute section 3. Poverty, food insecurity and its impacts would be examined in section 4. Section 5 looks at policy and programmes related to food prices in Ghana. Data analysis and interpretation form section 6 and finally the conclusion is section 7.

2. Description of area under study and methodology

The focus of this study is the agricultural production and prices of food crops in Ghana. There are two belts of production - the northern belt made up of Upper East region, Upper West region as well as Northern region. The southern belt comprises seven other regions namely Brong Ahafo, Ashanti, Eastern, Western, Central, Volta and Greater Accra with benefits from heavy rainfall and government's development agendas. Unlike the southern sector, the northern sector suffers from adverse weather conditions like floods and droughts (OECD, 2008).

Ghana is surrounded by the Atlantic Ocean on the coast of West Africa, and shares eastern border with Togo, Cote d'Ivoire in the west side and Burkina Faso in the north. The capital town is Accra with 10 administrative regions which are further divided into 170 districts. Ghana has total land area of 239,460 square kilometres and is characterised by tropical climate. Ghana's agro-ecological zones include coastal, forest and savannah which cuts across all the 10 regions (Comprehensive Food Security and Vulnerability Analysis (CFSVA) 2009).

This research drew information from journals, published and unpublished works, text books and newspapers. However most data used in this paper came from reports of Ministry of Food and Agriculture (MoFA), Ghana. Data on staple food crops like cassava, yam, cocoyam, plantain, maize, millet, sorghum and rice were gathered extensively from Statistics, Research and Information Directorate of MoFA. Other forms of data were gathered from International Monetary Fund (IMF) database and World Food Programme (WFP) for analysis. MoFA was the major source of data obtained for this dissertation.

A critical analysis of the data points out the quantity of total domestic production of major staple food crops, production available for human consumption and national consumption and surpluses. It further points out the factors which influence food prices in Ghana at a particular period. Lastly, it shows budget allocation for food for both the smallholder farmers in the north and the urban poor.

This work has its limits – it was not always possible to access all the data. The fieldwork where the author would collect his own data samples was not possible and the topic is not well researched as one would think, hence the existing literature is scarce. However, the work is based on the extensive knowledge of food production and the food price increase trends in Ghana closely observed by the author for the past years.

3. Related literature

In the last two decades, prices for corn, wheat and rice has increased with annual average of 13 percent in nominal terms. From 2000 to 2007, prices of corn, wheat and rice rose by 85 percent, 124% and 63% respectively (Elliot, 2008). Ghosh (2010) argued that the 2007/2008 global food crisis had a strong connection with the global financial crisis. This was because of the speculations in the global commodity market which occurred due to the removal of financial regulations in United States and other countries. The speculations predicted future market price patterns so as to reduce intensity and volatility of price changes and its effect was a short-term one. Some developing countries suffered the world food crisis more than others because of their dependence on food importation which recorded high purchase prices during that period.

The impact of oil prices and its influence on government policies in the United States, Europe, Brazil and other countries have promoted production of bio-fuel as an alternative to petroleum (Ghosh, 2010). Due to this, there has been a shift from food crop cultivation to crops that can produce bio-fuels. For instance, US in 2007 used 30% of its maize production for bio-fuel. Similarly, about half of Brazil's sugar cane production is into bio-fuel production (Ghosh, 2010; Fleshman, 2008; Elliot, 2008; FAPDRRD, 2008). As long as fuel prices keep increasing in the world, bio-fuel is one of the immediate considerations as an alternative to crude oil despite its impact on climate change. In the same way, increase in oil prices on the international commodity market affects highly developing countries by increasing costs of all commodities including food crops. Sometimes oil price increases are passed unto consumers. Nevertheless, some governments either absorb the price changes or subsidize it so that consumers could pay part of the cost.

Added to this, the adverse weather conditions that hit some parts of the world like Australia and the USA affected wheat and maize production, with repercussions for global food prices. (Ghosh, 2010). Furthermore, most developing countries' governments over the past years have neglected or inadequately invested in agriculture especially in the area of research and extension in relation to food production (Fleshman, 2008). Quite apart from that, the high demand for meat and dairy products across the world especially in China, India and parts of Latin America

due to improved living standards has also affected food crop production and hence the prices of cereal food crops. What it means is that large quantities of grains like corn will be needed to produce the meat (Elliot, 2008; Fleshman, 2008).

Most developing countries have neglected agricultural policies for over two decades and now serious attention is given to agriculture because of the impact food insecurity has had on some in developing countries. For instance, most developing countries had governments invest poorly in agriculture and research. This however has led to poor yield and reduction in food crop production as well (Ghosh, 2010; Fleshman, 2008). Lack of research in agriculture has denied farmers some knowledge which could be helpful in production and this has also resulted in problems like inadequate attention to preserving land and soil quality and over use of chemical inputs that have long-term effect on production and safety of consumers (Ghosh, 2010).

Ghana is currently known as food secured country, however, factors like low production due to adverse weather conditions, poor storage and transport facilities, poor agricultural policies and rise in fuel prices are some factors which influence food prices.

In 1950s and the 1960s, commodity boards and international commodity agreements were established to stabilise global prices but with the onset of new form of financial deregulation and innovation in the 1980s new forms of commodity futures markets emerged. As the world financial crisis and the US housing finance market began to lose, investors including banks looked out for other investment opportunities which could yield them profits. This however led investors into investing in commodities including food crops and minerals (Ghosh, 2010).

Evidence from FAO estimated that commercial investment in farm commodities has increased to about \$ 150 billion in the past years and this has helped inflate food prices as investors seek for agricultural commodities which promise high returns during the period of the global economic crisis (Fleshman, 2008). As a result, international commodity markets continually began to develop many features of financial markets including information asymmetries among others. This finally resulted in excessive volatility displaced by important commodities like food grains, minerals and oil around 2008. Volatility has adverse impact on cultivators and consumers of food because it affects food crop production leading to cultivating more or less which could affect demand and supply (Ghosh, 2010).

The sharp increase in the prices of food crops have affected retail prices especially in developing countries and this is most obvious in countries where majority of the people spend large part of their income on food. For example, a household budget allocation among the urban poor in Ghana showed that 26% of their income was spent

on food in 2009 and 24% in 2010 (WFP, 2010). Food riots and political instability have also been the result of high food prices in some developing countries like Haiti, Mauritania, Mexico, Egypt, Senegal and Philippines. Until today, the social peace of some countries is threatened because of rising food prices and increase in the spread of hunger among social groups (Bush, 2010; Ghosh, 2010).

The literature on the topic under study focused more on factors like the global financial crisis and bio-fuel production as important factors affecting food prices globally. This view neglects some other causes of food price increases in developing countries such as poor storage and transport systems. Having said that, most of the research conducted on the global level on food price increases concentrated on developed countries like the US and Australia. The bad weather conditions in these countries are believed to have led to global reduction in maize and wheat production since they are the major producers. This makes the literature on food prices incomplete since research into food prices in developing countries has not been considered thoroughly.

3.1. Trends in food prices

The 2000 census showed that half or more of Ghana's workforce is involved in agricultural activities and they cultivate staple food crops including yam, cassava, plantain, maize and rice. The southern sector which has better climatic conditions predominantly grows and consumes roots and tubers like cassava, yam, cocoyam and plantain. This has been the reason for roots and tubers crops being the highest on the production data as will be discussed later. Roots and tubers increased with about 21 million metric tons in 2008 which shows 9% increase compared to 2007 (CFSVA, 2009). The increase is due to the favourable weather conditions in the southern part which characterizes high yield. Cassava recorded the highest production among the roots and tubers in Ghana.

Unlike the southern belt, the northern sector cultivates grains like maize, millet, sorghum, rice and legumes such as cowpeas and soybeans. Cereal production also recorded an increase in 2008 with 2.3 million metric tons after it last reached its peak in 2002. In the 2007 agricultural season, poor harvest due to bad weather conditions characterised production in the northern regions. Maize is the predominant cereal crop in Ghana grown both in the south and northern belts with about 45% increase since 2000. Rice, sorghum and millet follow with 40%, 18% and 14% increase respectively (CFSVA, 2009: 36). The three northern regions contribute 39% of Ghana's annual cereal production in the past years until now.

Ghanaians consume food crops mainly from cereals, roots and tubers, fish and vegetables. Brong Ahafo region, Eastern and Ashanti regions are the leading producers of roots and tubers as well as plantain. Over the last 5 years, vegetables

and fruits have also received expansion, especially, in the areas of pineapple, citrus, banana, cashew, pawpaw, pepper, and tomatoes. However, within the country itself, prices of food crops vary across regions with some areas purchasing the same commodities higher than others. For instance, prices of maize are higher in the northern regions compared to the southern parts. Prices of roots and tubers were quite stable in the producing southern regions until in 2007/2008 when the prices of yam and cassava in Accra and Mankessim increased (CFSVA, 2009: 44).

4. Poverty and food insecurity in Ghana

Poverty and food insecurity are interconnected, and since 1991 the poverty rate in Ghana has dropped from 51% to 28.5% in 2005/2006, but nonetheless about 18.2% of Ghanaians still live in extreme poverty, with 54% of them from the northern regions. It has also been maintained that Ghana is one of the countries reaching food sufficiency with roots and tubers like cassava, yam, cocoyam and plantain as the main staple crops. Despite food availability, the challenge had to do with its accessibility. Several reasons account for food insecurity and increase in food crops prices.

According to the World Food Summit in 1996, there is food security if 'all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life' (CFSVA, 2009: 19). A study by the Comprehensive Food Security and Vulnerability Analysis (CFSVA) in Ghana pointed out that 5% of people in the world comprising 1.2 million people have limited access to sufficient and nutritious food for active and healthy life. These groups of people suffer from food insecurity and majority of them are located in poor regions of the country which mostly has its food production affected by adverse weather conditions like floods and droughts.

In Ghana, the three northern regions suffer mostly from food insecurity accounting for 59%. Out of the total, Upper West region food insecurity was 34%, Upper East region recorded 15% and Northern region 10%. Similarly, people living in rural areas are most affected with food insecurity compared to their urban counterparts. This notwithstanding, the trend is currently changing with the urban areas now facing major food insecurities due to increase in urban population as migration. The unemployed, unskilled labourers, menial workers, contract workers, among others are exposed to food insecurity in the urban centres. In the rural areas, food insecure and vulnerable groups include food crop farmers, cash crop farmers, agro-pastoralists, food processors and unskilled labourers (CFSVA, 2009).

Food insecurity and vulnerability is caused by high food prices. This is so because high food prices affect the household budget by increasing their expenditure on food consumption. For instance, in July 2008 when prices of maize increased by 88%

as compared to the previous year, it had effect on household income budget since major part of the incomes went into purchasing food crops (CFSVA, 2009). Since food insecurity could be caused by high food prices, the next section looks at are the causes of high food crops prices and their impact.

4.1. *Impact of rising food prices*

One of the key challenges to food access is high food crops prices. First and foremost, low production of food crops is one of the main contributors to increase in food prices in Ghana. Low production comes mainly as a result of adverse weather conditions mostly in the form of floods and droughts. Situation of adverse weather conditions like floods, droughts and bush fires are not new to Ghana. In 1981 and 1983, incidents of severe droughts and bush fires occurred and the results were food hunger and famine in the early 1980s. Again, 2007 recorded poor harvest of cereal food crops in the northern regions due to the floods.

Similarly, lack of storage facilities and transport infrastructure are a major cause of low food production. Government had faced challenges fixing food crop prices for the last three decades because of poor transport systems and lack of good storage facilities. This is because traders transport food crops from the rural areas to the urban centres paying more transportation cost due to bad roads. Lack of good transport systems affect farmers' income since they are unable to access markets to sell their produce. The Ghana Food Distribution Corporation established in 1990s to buy cereal food crops was unsuccessful because of the challenges of transport and storage facilities (Puplampu, 1999; Pearce, 1992).

Apart from that, Ghana's agricultural sector is 'nature dependent'- meaning agricultural production depends on rainfall and production is affected during seasons with poor rainfall. The use of traditional farming tools like hoes and cutlasses have also contributed to low productivity since majority of farmers are small holders. Maize and rice could be cultivated in large quantities but lack of modern farm machinery and irrigation makes it a big challenge (OECD, 2008).

Furthermore, during peak seasons, farmers harvest so much food crops but are unable to store them for off peak seasons to sell. This, however, affects prices since during off peak seasons food crops prices are high as compared to low prices during peak seasons. Currently less than 30% of Ghana's food crop production is processed and the government removed taxes for private entities who were interested in food processing. This policy was unsuccessful because of infrastructural and financial challenges on the part of these private companies and it again affected production since a lot of perishable food crops which could be processed perished (OECD, 2008). Having considered some natural and social causes of high food prices, we now consider policy interventions which have also affected food crop production.

Ghana's agriculture policies have placed more emphasis on export crops like cocoa, oil palm, cotton, timber and kola with great interest in support of cocoa since it generates high revenue. Ghana is the second largest exporter of cocoa in the world after Cote d'Ivoire. For instance in 2005/2006, Ghana sold about 740 million metric tons of cocoa beans in the global market. Ghana is trying to increase its production to about 50% (OECD, 2008). Government's immense support for the cocoa sector vis-à-vis provision of new technologies and fertilizers, modern farm inputs, and increase in producers' prices among other incentives has led to governmental economic gains in this sector. For instance, Government of Ghana budget on agriculture increased from 2.8% in 2001 to 9.7% in 2006 with the largest budget allocated to the cocoa production sector (CFSVA, 2009: 37). While food production remained at the same level or even below its potential, cocoa production increased by 55% between 2000 and 2008.

Food imports and increase in fuel prices are other factors affecting food prices in Ghana. Food imports makes a country become susceptible to global food price changes. As maintained in OECD (2008), the Ministry of Food and Agriculture (MoFA) admits that cereal production only meets half of the domestic production. Rice for instance is the major imported cereal food crop in Ghana to substitute the supply deficit with an average of 400,000 metric tons each year (JICA, 2009).

Fuel price increase domestically can affect prices of goods and services including food crops. Increases in transport fares are mostly due to increases in fuel prices which indirectly increase prices of food crops because of the major role transport plays in getting food crops from farming areas to the market. Research done in Ghana, Senegal, Bolivia and other countries demonstrated that fuel price increase indirectly affect the prices of goods and services and the effect is progressive (D. Coady et al, "The Magnitude and Distribution of fuel subsidies: Evidence from Bolivia, Ghana, Jordan, Mali and Sri Lanka" IMF Working Paper No. 06/247; FAPDRRD, 2008).

The impact of high food prices in developing countries cannot be underestimated. Food price increase has affected directly the lives of the poor. Although, the rural poor at least have some access to food crops through farming they nonetheless spend some part of their income on food as well. A household budget allocation among smallholder farmers in the north showed that 35% and 38% were spent on food during the periods 2009 and 2012 respectively (WFP, 2010). In the urban areas, increase in food prices lead to urban dwellers adopting different surviving strategies like cutting down the number of meals they have a day, purchasing food crops which are cheaper and of low quality while others resort to backyard gardens or urban agriculture (Obosu-Mensah, 1999). Some of these strategies have influenced the malnutrition rate in Ghana since most households depend on less nutritious food crops. Food price increase has also raised the number of undernourished people

in the world especially in developing countries beyond 40% (FAPDRRD, 2008). Finally, increase in food prices has deepened the poverty level of people who spend most of their income on food. High food prices has also led to violence and conflicts as has been in countries like Egypt, Haiti and others. As a result of the impacts of high food prices, many policy makers and stakeholders try to implement policies and programme to curb the situation.

5. Policy and programmes in response to food price increase in Ghana

Governments find it challenging to mostly pass price increases of goods and services to consumers because of its effect on household income. It even becomes more challenging in terms of policies when the country relies on imported food. Maintaining economic efficiency and stability and at the same time ensuring majority of the vulnerable population is not affected negatively by government policies concerning food and fuel price increases are of major concern (FAPDRRD, 2008).

Governments try to achieve this balance through various strategies like reviewing food taxes and tariffs and food price subsidies as well. Other forms used also include targeted transfers and multifaceted approaches involving donors and international organisations. In low and middle income countries, report shows that food taxes and tariff have reduced since 2006 especially in African countries that depend highly on food importation. For example, food import taxes were decreased in 76 countries and Value Added Tax (VAT) reduced in 22 countries. Recently, a research showed that food import taxes have been reduced drastically in middle and low income countries and about 45 countries have decreased food taxes in 2008 (FAPDRRD, 2008: 27).

The Government of Ghana has put some measures in place to control the effect of high food and fuel prices in 2008, notable among such policies included subsidies. Subsidies were provided to farmers in different ways. For example, a 50% subsidy was given on fertilizers, and in 2009 a 20% subsidy was given on farm tractors. In addition, in June 2008, the Government announced a detailed fertilizer subsidy. This detail revealed how fertilizer subsidies were distributed to farmers in all the regions. The aim of the subsidy was to encourage fertilizer use so that food crop output in 2008 would increase above that of 2007 and also to enable small holder farmers to have access to fertilizers to boost production although their prices were high. For instance, the price of nitrogen-phosphorous-potassium (NPK) which cost 35 Ghana Cedis was subsidized to 26 Ghana Cedis (Banful, 2009).

The government used agricultural extension officers to distribute vouchers to farmers based on fertilizer type and region specifics and farmers were free to purchase the fertilizers from retail shops which agree to receive the vouchers. These

vouchers were then handed back to the government by the private importers for payment which was guaranteed within a week. This approach was unique because of government's involvement of the private sector. However, the approach encountered challenges since not all retailers wanted to accept the vouchers because of the belief that the government bureaucratic system would delay payment. In addition to this challenge is the hoarding of fertilizers by distributing agencies so they could sell them out to farmers at exorbitant prices.

Similarly, farmers had subsidies on electricity for their production. Import duties on rice, wheat, vegetable oil and yellow corn were removed as well as that of gas oil and kerosene to enable more imports of such products to help control prices of food. Finally, the government banned export of maize and other commodities to ensure there was sufficient food for the domestic market (CFSVA, 2009).

Targeted transfers have the potential to reach the poor more efficiently and effectively than the tax decrease and the subsidies. This kind of policy is most preferred because it is pro-poor in nature but its challenge is that a lot of time and cost go into its planning and doing significant administrative work. The Livelihood Empowerment Against Poverty (LEAP) is a National Social Protection Strategy (NSPS) established to protect people living in extreme poverty and vulnerable to all forms of livelihood threats including hunger. For instance in 2008, the rise in food prices caused the government to provide some support to 15,000 household under the emergency LEAP. Households who benefited were selected from small scale crop producers, female headed households without productive income, malnourished pregnant women and lactating women and families with malnourished children under 5 years.

Apart from that, government of Ghana is also committed to commercial farming. Government faces the challenge of trying to increase supply without providing incentives for producers. So in attempt to increase supplies without increasing prices, government tries to invest directly in food production sectors as well as provide public subsidies for farm inputs (Bates, 1981). The recent is the engagement of national service personnel in state farming institutions to help improve production.

Furthermore, under the Ghana Poverty Reduction Strategy II (GPRS II), emphasis was placed on private sector competitiveness through private and financial sector reforms, agricultural modernisation and infrastructural development. The second aspect of the policy looked at human resource development through access to education and health, water and sanitation and finally good governance.

On paper, the intentions were to allocate more of the budget to the private sector competitiveness with about 41 percent, followed by human resource development with 36 percent and the rest for good governance. Contrary to the proposed agenda,

human resource development received more attention by allocating more funds from both the government and donors recording 43 percent and then private sector development with 36 percent and finally 20 percent for good governance. Ghana attaining a middle-income status by 2015 as stated in the GPRS II policy demands that the agricultural sector grows by 6 percent or more each year as well as modernising agriculture (OECD, 2008).

The new agricultural sector strategy which was brought into fruition was to amend the challenges of the previous policy which was the GPRS II. The new Food and Agriculture Sector Development Policy II (FASDEP II) adopted the value chain approach to agriculture development by trying to add value to agricultural produce and also make markets more accessible. Food security also received strong attention since concerns rose pointed at limited attention to food crops production as well as export crops promotion. Under FASDEP II, Ministry of Food and Agriculture (MoFA) was supposed to oversee the development of agriculture in Ghana by engaging all departments and agencies who are linked one way or the other to agriculture. However, this was not successful because MoFA could not function effectively because of lack of abilities to engage with some Ministries, Departments, and Agencies (MDAs) (MoFA, 2011).

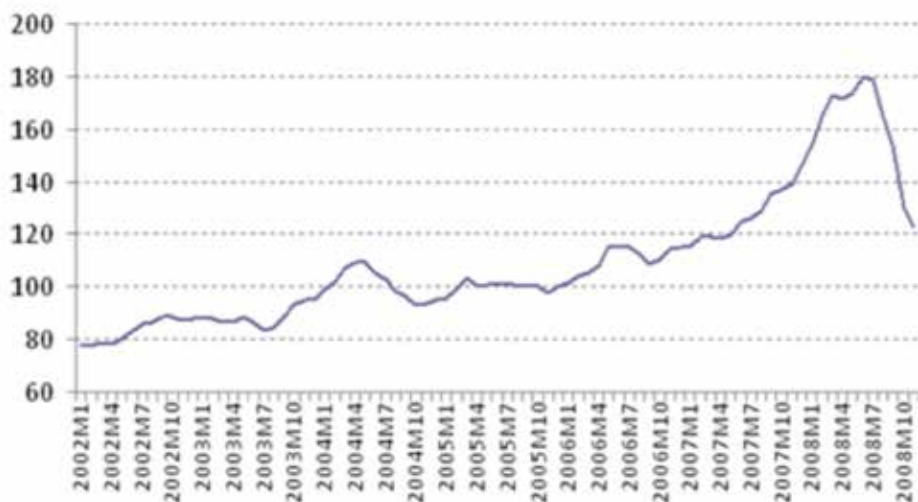
To mitigate this effect, a strong partnership was encouraged between the MDAs (RoG, 2007; OECD, 2008). FASDEP II was also responsible for food security, agricultural modernisation and international competitiveness. FASDEP II identified loopholes in the past agricultural policies and also analysed their successes and failures but it did not provide alternative policies to help improve government's interventions. For example, FASDEP I, failed to impact upon poverty meanwhile FASDEP II did not propose alternative strategy to deal with it (OECD, 2008: 18). However, the strategic plan of FASDEP II was still under development and was expected to address most of the challenges in the agriculture sector when it is completed. The agricultural sector also lacks consistency and sustainability since different governments who came to power had different policies for the sector and hence did not ensure continuity with previous projects of past governments (OECD, 2008).

Quite apart from that, the latest policy to help improve food security and employment is the Youth in Agriculture Programme (YIAP) which is the Government of Ghana's agricultural sector initiative with objective of motivating the youth to pick up agricultural activities as life time jobs which started in 2009. Having identified issues like the ageing farmer population and increase in imports of rice, meat, frozen chicken and cooking oil, it has been realised if these issues are not addressed, the country would be led into vulnerability and future catastrophes which can impact negatively on Ghana's food production (MoFA, 2011).

6. Data analysis and interpretation

This section analyses data regarding commodity prices from January 2002 to November 2008 from IMF. Furthermore, it analyses food crop production and consumption published by the SRID of MoFA, Ghana. Quite apart from that, it considers household budget for both rural dwellers in the north and the urban poor, showing how much household incomes are spent on food and factors which affect food accessibility. The main aim of this section is to show the trends of food price increases in the world. It will further show the trends and type of food crops production and consumption in Ghana to help analyse whether world food price increases has impact on domestic food crop prices in Ghana. Tables and figures were used to illustrate the changing patterns of prices of food crops on the world market and figures for major food crops in Ghana.

Figure 1: Food Commodity Price Index (2005=100) for January 2002 to November 2008



Source: IMF Primary Commodity Prices Database (2008c).

The IMF food commodity price index shows a steady increase of world commodity prices since April 2002 with fluctuations until January 2007. The commodity prices then recorded a sharp increase up to 180 dollars in July 2008 where it drastically decreased again to around 120 dollars in October 2008. The sharp changes to the commodity prices around July 2007 to July 2008 were largely influenced by the global financial crisis which created a lot of speculations in the world food price market leading to increases in prices. Another factor which could also account for

the sharp increase had to do with poor weather conditions (floods) in Australia and the US which affected wheat and maize production respectively. The use of some food crops like maize and vegetable oils in bio-fuel production could also account for the changes in commodity prices. This shows that the effects of these causalities were short term in nature.

Table 1: Annual Average cereal, roots, tubers and plantain production by region from 2000 - 2008

	Total annual average staple food production (MT)	Cereals (MT)	Roots/Tubers/ Plantain (MT)
Brong-Ahafo	5,124.778	327.440	4,797.338
Eastern	4,515.276	260.923	4,254.353
Ashanti	3,019.845	197.649	2,822.196
Central	2,004.307	192.848	1,811.458
Western	1,675.111	101.122	1,573.988
Volta	1,576.357	103.676	1,472.680
Northern	1,511.653	297.144	1,214.509
Upper West	469.810	208.593	261.217
Upper East	245.983	245.983	-
Gt. Accra	65.657	8.014	57.643
Total	20,208.777	1,943.393	18,265.383

Source: MoFA SRID

The annual average cereals, roots, tubers and plantain production by regions from 2000 to 2008 indicates that the southern part of the country has majority of food crop production with Brong Ahafo recording the highest with 5,124,778 metric tons and Greater Accra recording the lowest with total of 65,657 metric tons. Brong Ahafo also recorded the highest figure for cereal production which predominantly is maize. The southern belt is mostly forest areas with relatively stable rainfall patterns which accounts for the high food production especially roots, tubers and plantain. It is also the zone where cash crops like cocoa are also cultivated because of the favourable climatic conditions. In addition, the data also points out that there is a wide production gap between roots, tubers and plantains and cereals production. Roots, tubers and plantain accounted for 18,265,383 metric tons compared 1,943,393 metric tons for cereals which means cereal production is low in Ghana. The northern regions dominated the cultivation of cereal food crops with cereal crops such as millet, sorghum and maize. Upper East is the only region which has no records on roots and tubers because they are not cultivated there due to unfavourable weather conditions.

Table 2: Major Food Supply and Demand Analysis for 2007/2008

COMMODITY	Total domestic production (MT)	Production available for human consumption (MT)	% for human consumption from domestic production*	Per capita consumption (kg/annum)	Estimated national consumption (MT)	Deficit/Surplus (MT)
MAIZE**	1,470,100	1,090,100	74%	43.80	1,024,500	65,600
RICE (MILLED)	181,100	150,600	83%	24.00	561,400	403,800
MILLET	193,800	168,600	87%	1.00	23,400	145,200
SORGHUM	330,900	287,900	87%	0.50	11,700	276,200
CASSAVA	11,351,000	7,945,700	70%	152.90	3,576,300	4,369,400
YAM	4,894,800	3,915,800	80%	41.90	980,000	2,935,800
PLANTAIN	3,337,700	2,837,000	85%	84.80	1,983,500	853,600
COCYAM	1,688,300	1,603,900	95%	57.10	1,335,600	268,300
Groundnut	470,000	423,000	90%	12.00	280,700	142,300
Cowpea	179,700	152,700	85%	5.00	117,000	35,800
TOTAL	24,097,400	18,582,300	77%	423.00	9,894,100	8,688,400

*remaining accounts for livestock feed and wastage.
 ** available production of maize includes a 5% carry over from 2007 domestic production (61,000 MT)

Source: MoFA, SRID

The table above shows major food supply and demand analysis for 2007/2008. The roots and tubers recorded high domestic production of 21,271,800 metric tons with cassava being the highest with total of 11,351,000 metric ton. Similarly, maize production which happens to be the highest among the cereal food crops with 1,470,100 metric tons also had a deficit of 65,600 metric tons. Cassava and maize dramatic increase could be attributed to government interventions to increase food production through fertilizer subsidies and other measures like the National Service Personnel's involvement in agriculture likewise the YIAP initiative by government.

To add, these two crops are also exported and as a result it has received investment support to increase its yield and quality in order to meet international standards. Maize particularly is a food crop which is grown on every farm in Ghana regardless of what the farmer plants. Rice is the only crop which shows a deficit of 403,600 metric tons – meaning rice importation is necessary to make up the shortage for the period.

Table 3: Food Balance Sheet 2009/2010

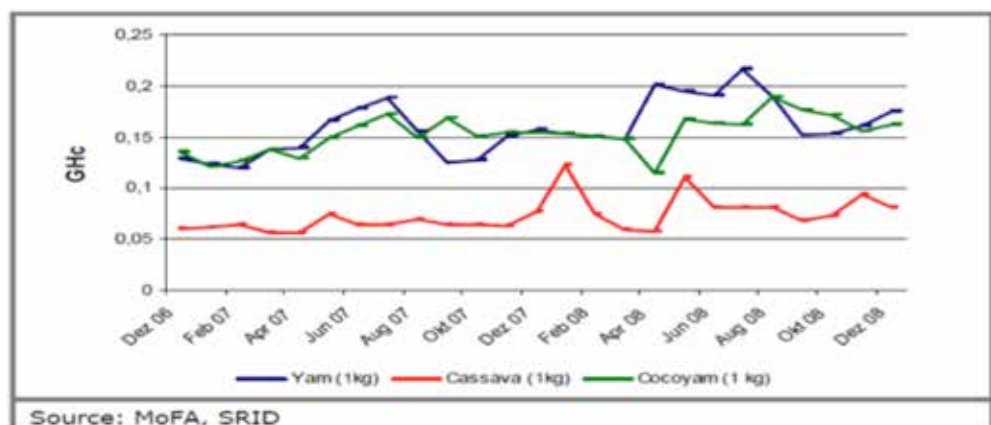
Commodity	Gross Biological Production (MT)	Total Domestic Production Available for Human Consumption (MT)	Total Supply of Commodities (MT)	Estimated Net Consumption (MT)	Net Deficit Surplus (MT)
Maize	1,620,000	1,134,000	1,167,850	1,062,000	115,750
Rice (milled)	234,000	204,000	587,860	576,480	11380
Millet	246,000	214,000	217,295	24,020	193,275
Sorghum	351,000	305,400	305,350	12,010	293,340

Cassava	12,231,000	8,561,700	8,562,087	3,673,000	4,889,087
Yam	5,778,000	4,622,400	4,608,758	1,006,000	602,758
Plantain	3,563,000	3,028,558	3,028,515	2,087,000	991,515
Cocoyam	1,504,000	1,428,800	1,428,800	960,000	468,000
Groundnuts	485,000	436,500	436,448	288,000	148,448
Cowpea	205,000	174,250	177,620	120,000	57,620
Total	26,217,000	20,109,608	20,520,583	9,808,510	7,771,173

Source: SRID, MOFA

The table above shows the food balance sheet for 2009/2010. Roots and tubers crops production has recorded an increase and cassava is still the major root crop increasing from 11,351,000 metric tons in 2008/2009 to 12,231,000 metric tons in 2009/2010. Other roots and tuber crops like yam, plantain and cocoyam have all recorded increase in production in 2009/2010 compared to the previous year. Cassava among other roots and tubers have surpluses over 400,000 metric tons for each with cassava alone having surplus of 4,889,087 metric tons. Similarly, maize which is also a major cereal crop in Ghana has increased in production with 1,620,000 metric tons in 2009/2010 compared to 1,470,000 metric tons in 2008/2009. Improvement in production across most of the staple food crops show effort from government and stakeholders in subsidies and farm input provisions, advice to farmers and involvement of the YIAP and National Service Personnel in agriculture have supported the production increase. However, rice is the only commodity recording a deficit of 11380 metric tons.

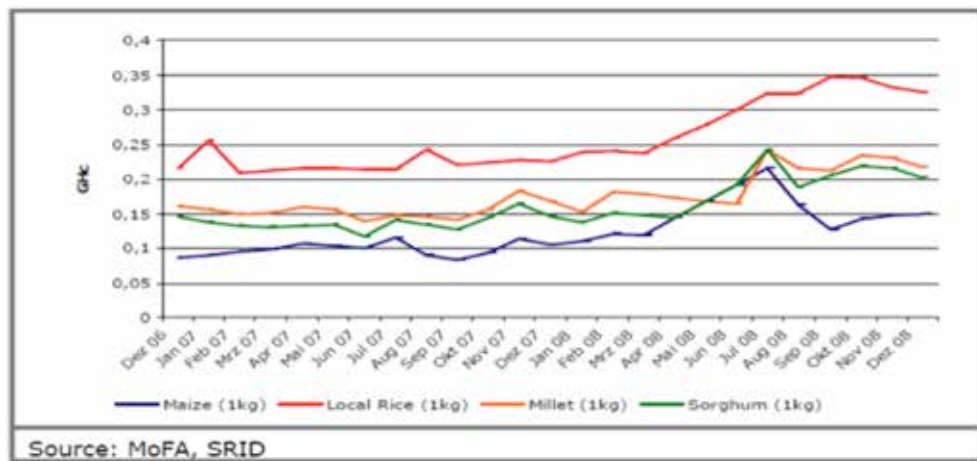
Figure 2: National Average Monthly Real Retail Prices (Ghc) of roots and tubers crops, December 2006/2008



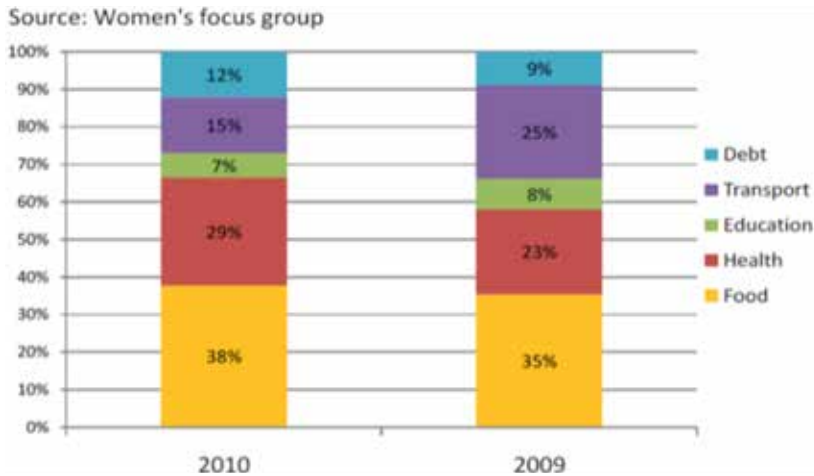
The figure above shows the national average monthly retail prices (GHc) of roots and tubers crops for a period of two years that is from December 2006 to December 2008. Cassava experienced more relatively stable price with sharp fluctuation in prices around December 2007 to August 2008. The increase in prices could be explained when cassava production was low in the lean season. Other interventions like the Export Marketing and Quality Awareness Project and other Roots and Tuber Improvement and Marketing Programme (RTIMP) have all aided roots and tubers food crops production to help maintain food security and raise farmers' income.

Though prices of yam and cocoyam were slightly higher than cassava, similarly cocoyam and yam also experienced price fluctuations between April 2007 to December 2007 as well as April 2008 till around August 2008. Factors affecting prices around that time could also be of higher demand for the food crops since prices of cereals were high on the market partly due to the global food crisis around that time. Again, in lean seasons, production is low and prices of these food crops soared high.

Figure 3: National Average monthly Real Retail Prices (GHc) of Staple Cereal crops, December 2006/2008

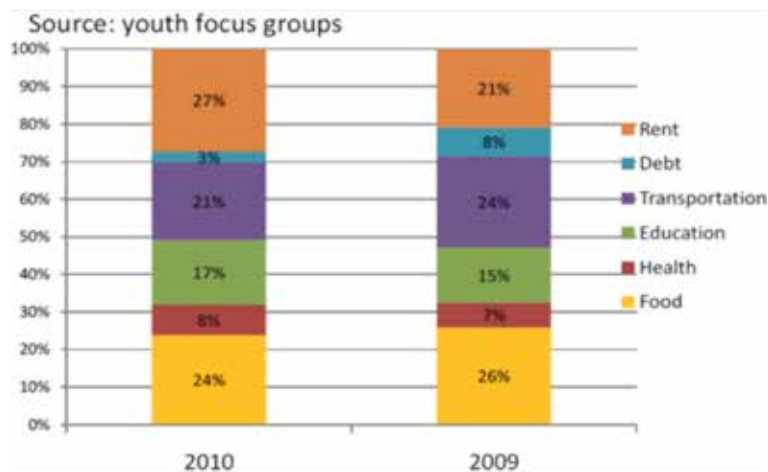


Prices of staple cereals like maize, local rice, millet and sorghum in Ghana from December 2006 experienced some fluctuations until around April/May 2008 which recorded dramatic increase and decrease for the cereals and recorded minimum increase from October 2008 to December 2008. Staple cereals food crops prices begun to increase as a result of adverse weather conditions which affected the northern part of Ghana where cereals are the major food crops cultivated. This floods which occurred in 2007 led to poor harvest resulting into low supply. Therefore, more demand for cereals especially maize and rice means their prices will increase.

Figure 4: Household Budget Allocations for Smallholders in the North

Source: WFP, 2010.

The budget allocation for small farm holders in the north showed majority of their income was spent on food. For instance in 2009 and 2010, 35 percent and 38 percent of small farmers income was spend on food respectively. 2010 therefore recorded an increase of 2 percent on food budget compared to 2009. Having considered the figure above, rural folks spend greater portion of their income on food more than on health and transport. This could be explained because of low incomes in the area and also limited access to various food crops to depend on since cereal crops are the main staple food crops in the area. The coping mechanism to the increasing food price by many people in Ghana is to reduce the number of food intake or reduce the quantity and quality of food (WFP, 2010).

Figure 5: Household Budget Allocations, Urban Poor

Source: WFP, 2010.

Budget for food was high in 2009 accounting for 26 percent. This later dropped to 24 percent in 2010 and income spent on rent rose up from 21 percent in 2009 to 27 percent in 2010. This change could be attributed to high prices of accommodation in the urban centres. As a result of this urban dwellers resort to coping strategies like cutting down the number of meals they should have in a day or purchase food crops which are less expensive. The impact of these strategies includes malnourishment, diseases and possibly death. Apart from rent, other factors which affected household budget allocation for urban poor included transportation and education. The youth focus groups in Accra attributed the rise in food prices to transport cost, high demands exceeding supply and the redenomination of the Cedis (WFP, 2010).

7. Conclusion

Although studies done on food price increases mostly focused on the global factors, this research found that Ghana is self-sufficient in terms of food crop production especially in tubers and root crops. Global food crop price changes only affected prices of cereals like rice and wheat in Ghana. The question now has to do with why the rise in prices of food crops? The paper argued that food crops price increases in Ghana is attributed to low productivity, which in turn is fed by bad weather condition, poor transport and storage facilities and lack of farm technologies. The paper also argued that beside these inherent factors are some policy failures, with rice importation and fuel price increase as the main culprits.

A plethora of policy options are proposed for consideration. What Key subsidies for farmers, transfers and removal of tariffs and ban on exporting crops like maize, could be tackled and government and stake holders interested in food security should invest in areas like irrigation, good transport and storage facilities to aid all year round farming and thereby controlling the prices.

References

- Assuming-Brempong, S. (2003). *Economics and Agricultural Policy Reforms and their Effectson the Role of Agriculture in Ghana*. Roles of Agriculture International Conference Paper. (<ftp://ftp.fao.org>). 3rd August, 2012.
- Banful, B.A. (2009). *Operational Details of the 2008 Fertilizer Subsidy in Ghana-Preliminary Report*. Ghana Strategy Support Program (GSSP Background paper 18), International Food Policy Research Institute (IFPRI). (www.ifpri.org/sites/default/files/publications/gsspwp18.pdf). 29th June, 2012.
- Bates, H.R. (1981). *Food Policy in Africa: Political causes and Social effects*. IPC Business Press.
- Biederlack, L., and Rivers, J. (2009). *Comprehensive Food Security and Vulnerability Analysis (CFSVA) Ghana*. World Food Programme, VAM Food Security Analysis. (www.wfp.org/food-security). 26th May, 2012.
- Elliot, K. (2008). Biofuels and the Food Price Crisis: A Survey of the Issues. *Journal*

- of Centre for Global Development, Working paper No. 151, (www.cgdev.org). 27th May, 2012.
- FAO. (2010). *Value Production Data*. (faostat.fao.org/site/339/default.aspx2010). 26th May, 2012.
- FAO/IFAD. (2005). *A Review of Cassava in Africa with country case studies on Nigeria, Ghana, United Republic of Tanzania, Uganda and Benin*. Proceedings of the Validation Forum on the Global Cassava Development Strategy. Vol. 2, (www.fao.org). 25th June, 2012.
- FAPDRD, (2008). *Food and Fuel Prices-Recent Developments, Macroeconomic Impact and Policy Responses*. (www.imf.org/external/np/pp/2008/091908.pdf). 26th May, 2012.
- Fleshman, M. (2008). *Africa Struggles with Soaring Food Prices, African Renewal*, Vol. 22, No. 2, pp. 12. (www.un.org/en/africarenewal/vol22no2/africa-renewal-22-2-en.pdf)
- Ghosh, J. (2010). The Unnatural Coupling: Food and Global Finance. *Journal of Agrarian Change*, Vol. 10, No. 1, pp. 72-86.
- GSS (Ghana Statistical Service). (2008). *Ghana Living Standard Survey Report of the Fifth Round (GLSS 5)*. (www.statsghana.gov.gh/docfiles/glss5_report.pdf). 7th July, 2012.
- Headey, D. and Fan, S. (2008). *Anatomy of a Crisis: The Causes and Consequences of Surging Food Prices*, *International Association of Agricultural Economists*, Vol. 39, Supplement S1, pp. 375-391. (www.onlinelibrary.wiley.com). 12th August, 2012.
- IFPRI (International Food Policy Research Institute), (December, 2008). *Local Impacts of Global Crisis: Food Price Transmission and Poverty Impacts in Ghana*. Discussion Paper 00842, (www.ifpri.org/sites/default/files/publications/ifpridp00842.pdf). 27th May, 2012.
- IFPRI (1997). *Ghana: Accra Urban Food and Nutrition Security*, 1997. Washington, D.C.: International Food Policy Research Institute (IFPRI) (datasets). (<http://www.ifpri.org/dataset/ghana-0>). 18th May, 2012.
- Ivanic, M., and Martin, W. (2008). Implications of Higher Global Food Prices for Poverty in Low-income Countries, *Agricultural Economics*, Vol. 39, pp. 405-416, (www.onlinelibrary.wiley.com). 12th August, 2012.
- JICA (2009). *National Rice Development Strategy (NRDS)*. DRAFT, (www.jica.go.jp/english/operations/thematic_issues/.../ghana_en.pdf). 12th August, 2012.
- Joachim von Braun. (April, 2008). *Rising Food Prices: What should Be Done?*, International Food Policy Research Institute (IFPRI). (www.Ifpri.org/pubs/bp/bp001.pdf). 25th June, 2012.
- Joachim von Braun, et al. (May, 2008). *High Food Prices: The What, Who and How of Proposed Policy actions*. IFPRI Policy Brief. (www.ifpri.org/sites/default/files/.../foodpricespolicyaction.pdf). 30th June, 2012.
- Jorge, N., Valero-Gil, and Magali Valero. (2008). The Effects of Rising Food Prices on Poverty in Mexico, *Agricultural Economics* 39, supplement 485-496, (www.onlinelibrary.wiley.com). 7th June, 2012.

- Kuwornu, J.K.M, Mensah-Bonsu, A., and Ibrahim, H. (2011). Analysis of Foodstuff Price Volatility in Ghana: Implications for Food Security, *European Journal of Business and Management*, Vol.3, No.4, www.iiste.org/journals.index.php/ESBM/article/download/299/186 (retrieved: 25th June, 2012).
- Lustig, N. (March, 2009). *Coping with Rising Food Prices: Policy Dilemmas in the Developing Worl.*, Centre for Global Development, (www.cgdev.org). 28th June, 2012.
- Maxwell, D. et al. (2000). *Urban Livelihoods and Food and Nutrition Security in Greater Accra, Ghana*, IFPRI, (www.who.int/nutrition/publications/foodsecurity/livelihoods_foodsecurity_ghana.pdf) 7th July, 2012.
- Mitchell, D. (2008). *A note on Rising Food Prices*. Policy Research Working Paper Series 4682, The World Bank. (www.wds.worldbank.org/servlet/.../WDSP/IB/.../WP4682.pdf). 26th June 2012.
- MoFA, (2011). *FASDEP II*. (http://mofa.gov.gh/site/?page_id=598). 18th May, 2012.
- MoFA, (2011). *Ghana Irrigation Development Policy*. (http://mofa.gov.gh/site/?page_id=2176). 18th May, 2012.
- Obosu-Mensah, K. (1999). *Food Production in Urban Areas: A Study of Urban Agriculture in Accra, Ghana*. Ashgate Publishing Limited.
- Puplampu, K.P. (1999). The State, Agricultural Policies and Food Security in Ghana (1983 – 1994), *Canadian Journal of Development Studies*, Vol.20, No.2, pp.337-359.
- Quaye, W. (2008). Food Security Situation in northern Ghana, Coping Strategies and Related Constraints, *African Journal of Agricultural Research*, Vol. 3, No. 5, pp. 334-342, (www.academicjournals.org). 3rd August, 2012.
- Rashid, S. (April, 2011). *Intercommodity Price Transmission and Food Price Policies: An Analysis of Ethiopian Cereal Markets*, IFPRI Discussion Paper 01079, (www.ifpri.org) (retrieved: 7th July, 2012).
- Sarris, A., and Shams, H. (1991). *Ghana Under Structural Adjustment: The Impact on Agricultural and the Rural Poor*. New York Press.
- WFP (World Food Programme), (2011). *Prices and Security: Special Issue*, documents.wfp.org/stellent/groups/public/.../ena/wfp234060.pdf (retrieved: 29th May, 2012).
- WFP, (2010). *Assessing the Impacts of the Global Economic and Financial Crisis on Vulnerable Households in Ghana: A Sequel*. (documents.wfp.org/stellent/groups/...) 11th July, 2012.
- Wolter, D. (2008), *Ghana: Agriculture is becoming a business*, OECD Development Centre, (www.oecd.org/dev/publications/businessfordevelopment). 26th May, 2012.
- World Bank, (2011). *Ghana Third Agriculture Development Policy Operation*, (web.worldbank.org/external/projects/main). 25th June, 2012.
- Zahoor ul Haq, Hina Nazli and Karl Meilke. (2008). Implications of High Food Prices for Poverty in Pakistan, *Agricultural Economics, International Association of Agricultural Economists*, Vol. 39 (s1) pp.477-484, (onlinelibrary.wiley.com/doi/10.1111). 25th June, 2012.