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**IMPLICATIONS OF THE WORLD FOOD CRISES ON TRENDS OF
LOCAL FOOD
PRICES IN THE UPPER EAST REGION OF GHANA**

By

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PRICES IN THE UPPER EAST REGION OF GHANA**

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Abstract

The global food crisis led to upward trends in food prices across the world. The millions of impoverished people living in developing countries including Ghana were the worst affected by the phenomenal increases in world food prices. This paper examines the implications of the global food crisis on the trends of food prices in the Upper East Region of Ghana. The data used for the analyses were average monthly prices of some selected grain cereals, grain legumes, vegetables, and root and tuber food items consumed in the region. The data were gathered from the Upper East Regional Directorate of the Ministry of Food and Agriculture. The analyses revealed that on the average, the prices of food items grew over 200 percent during the last twenty years. However, the all time record high increase in food prices in the Upper East Region of Ghana was recorded in 2008 which is estimated as over 100 percent. It is concluded that the global food crisis among other things translated positively in terms of prices in the Upper East Region of Ghana. This has had negative effects on the attainment of the Millennium Development Goals especially on the reduction of extreme poverty and hunger in the area where over 80 percent of the people are said to be poor. It is recommended that farmers in the area should be supplied with subsidized farm inputs and credit facilities to help boost their production levels to help mitigate the effects of hunger, malnutrition and poverty on the vulnerable – women, children and the physically challenged.

Key Words: Developing Countries, Food Crises, Ghana, Spiral Food Prices, Upper East

Introduction

Hunger is on the forward march throughout the world and is fueled by record high food prices. During 2007 and 2008, about 115 million people were added to the ranks of the urgently hungry. It is estimated that almost 1 billion people struggle to find their next meal and a child dies every six seconds from hunger-related causes (WFP, 2009). A great proportion of the world poorest people especially the vulnerable groups (women and children) are facing starvation as food shortages loom and prices continue to assume upward trends. Socio-economic and politico-cultural analysts as well as researchers and development practitioners across the world have viewed the food crises resulting in phenomenal increases in food prices as the new face of world hunger. The storm of scarcity, global warming, financial crises and the explosion in world population is gradually plunging humanity into the biggest crisis of the 21st century. Food prices

are being pushed up with hunger and poverty spreading from continent to continent, country to country, region to region and surprisingly enough from rural to urban areas.

Available statistics indicate that there were about 848 million hungry and undernourished people during the period from 2003 to 2005 (FAO, 2008c). The hungry and undernourished population in developing countries increased from 824 million in 1990 to 1992 to 832 million in 2003 to 2005. Although this was a relatively small increase, the long-term trend is very worrying as high food prices increased the number of hungry and undernourished people by about 75 million in 2007 and 40 million in 2008 when it reached 963 million (Ibid). This poses as a serious threat to the prospects of reaching the Millennium Development Goal (MDG) of halving the proportion of hungry people worldwide by 2015. Though these statistics are important in analysing the issues of hunger, poverty and undernourishment, the World Food Programme (2009) is of the view that no statistics can embody the sheer terror of hunger in that for hundreds of millions of people, hunger is a fact of life that imperils their health, reduces their productivity and diminishes their educational attainment. The situation is more worrying particularly in developing countries including Ghana where malnutrition and child mortality in particular and food insecurity in general are already endemic.

What makes this food crisis unique is the fact that it is the first time in history that the impact of food shortages is spreading from the developing to the developed world. Since the incidence of the food crisis, more than 73 million people in 78 countries worldwide that depend on food aid from the United Nations' Food and Agriculture Organization (FAO, 2008b) have had their rations reduced. As a consequence, it is predicted that rising food prices will trigger astronomical rise in malnutrition particularly in developing countries. According to the World Food Programme (2008b), global food prices rose by 75 per cent since 2000 with wheat recording the highest increase in prices of 200 per cent thereby making malnutrition the world's biggest problem which demands urgent action. It pointed out that the costs of staples such as rice and soybean have hit record highs with corn at its most expensive in 12 years (Ibid). The increasing cost of grains is also pushing up the prices of meat, poultry, eggs and dairy products. According to UN predictions, there is the likelihood that food prices will continue their relentless rise especially in developing countries. This will lead to social unrest and political instability. For instance, the high food prices prompted a number of protests around the world including

protests over grain prices in Senegal, Mauritania, Egypt and La Cote D'Ivoire resulting in violent clashes and deaths. It is evident that if enough is not done about the rising food prices, more people around the globe will be unable to afford the food they need to stay alive and without help they will become desperate and more food riots will flare up. Also, governments will become unstable and millions could die from the riots and from hunger and malnutrition. The situation requires more urgent attention in that the global demand for food, according to the World Food Programme (2008c), will double by 2030. This is partly because the world's population is expected to grow by three billion by 2050 which is only one of the many interlocking causes of increasing demands for food and food products.

Hunger is the bottom-line of poverty, and food is central to poor people's concerns (Narayan *et al*, 2000). The impact of hunger on health, education and productivity is long-term, which reinforces the hunger-poverty trap (Behrman, Alderman and Hoddinott, 2004; Victora *et al*, 2008). The damage done by malnutrition before the age of 24 months is irreversible, making escape from the hunger-poverty trap difficult. This does not only hamper individuals but also imposes a crushing economic burden on the developing world. Economists estimate that the cost of child hunger and under nutrition can amount to as much as 11 percent of a country's gross domestic product (GDP) (CEPAL and WFP, 2007). Several factors can contribute to a hunger-poverty trap (Collier, 2007; United Nations, 2000), including shocks related to diseases or weather, lack of assets and institutions, risks, small-scale and physical isolation all of which affect access to markets and transaction costs. Lack of access to markets, assets, technology, infrastructure, health facilities and schools breeds hunger. So does women's exclusion from land, education, decision-making and mobility – a situation that is reinforced by laws and/or cultural norms in many places. Higher malnutrition tends to be concentrated in remote, resource-poor rural areas. This indicates that visible and invisible barriers to access to productive assets or “asset poverty” are important drivers of high hunger and poverty levels (Ahmed *et al*, 2007; Carter and Barrett, 2005). An uneven initial distribution of assets is important in generating and perpetuating poverty and hunger traps. The initial distribution of assets and the asset base of households matter because households use their assets to increase their wealth and well-being (Williamson, 2003b).

What is more challenging about the world food crises is the fact that age-old spatial patterns of famine are changing. One of the major changes is the fact that communities that were

not relying on food aid to feed themselves are now been fed. The face of the new hungry-poor is that it has become urban which is new. One dimension of the hunger is that in some cases food is available in the markets and shops but people cannot afford to buy it. According to the World Food Programme (2008a), out of the 36 countries seriously hurt by the food crisis, 21 of them come from Africa. Countries such as Lesotho, Swaziland and Sierra Leone lack widespread access to food markets because of low incomes and high prices. Also, people in Ghana, Kenya and Chad among others endured severe localized food insecurity due the phenomenal increases in food prices. This paper therefore examines the implications of the world food crisis on the trends of food prices in the Upper East region of Ghana where about 88 per cent of the people are poor (GLSS, 2007).

Global and Contextual Perspectives of the Food Crisis

To start with, Climate Change (CC) and Climate Variability (CV) as well as the changing demands for food products across the world (Baethgen *et al*, 2003) have had some implications on the world food crises. Climate change and climate variability have explicit effects on the food crises in that it disrupts food production systems in many countries. According to the United Nations, fertile soils are lost every year because of droughts, floods, deforestation and climate instability. It is reported that Australia experienced its worst drought for over a century in 2007 in which its wheat crop shrunk by 60 per cent (FAO, 2008b). Also, China had its grain harvest fallen by 10 per cent over the past seven years (Ibid). Some parts of Ghana especially the Northern, Upper West, Upper East and Western regions experienced serious floods in 2007 in which valuable lives and property were lost. The United Nations Intergovernmental Panel on Climate Change (IPCC) has predicted that, over the next 100 years, a one-metre rise in sea level would flood almost a third of the world's crop-growing land.

The increasing demand for meat by the world population is another global issue of concern because meat production is one of the inefficient ways of utilizing land to produce food in that meat delivers far fewer calories (acre for acre) than grains and this is set to fuel the spiraling food prices. For instance, it has been estimated that the amount of meat eaten by the average Chinese consumer has increased from 20 kilogrammes a year in 1985 to over 50 kilogrammes in 2008. The demand for meat across all developing countries has also doubled

since 1980. Another key issue of the food crisis is the soaring cost of crude oil and petroleum products which is responsible for the increasing transport costs and costs of production. It has made crop fertilizers and other farm inputs more expensive. According to the World Bank, fertilizer prices have risen by 150 per cent in the past five years. This has had a major impact on food prices as the cost of fertilizer contributes for instance over a quarter of the overall cost of grain production in the United States, which is responsible for 40 per cent of world grains supply.

In addition, the increasing global drive for bio-fuel to power automobiles is worsening world food shortages and threatening to make billions go hungry. This paradigm shift to bio-fuels as the solution to global warming which is strongly spearheaded by the United States, United Kingdom and other European governments is of great concern. Making fuels from growing crops has been marketed as the way to cut down climate pollution while continuing to pursue industrialization. Experts are warning that this could all be a disastrous mistake. Converting large quantities of land to crops for bio-fuels is reducing food production for human consumption at a time that the world needs to increase it to meet the demands of the increasing population. In 2007, a quarter of the United States maize crop was turned into ethanol to fuel vehicles. There are plans by more than 20 countries to boost production of bio-fuels over the next decade. The United States is said to have plan of tripling maize production for ethanol while the European Union is aiming to make bio-fuels 10 per cent of all transport fuels by 2020. It is very hard to imagine how the world can produce enough crops to generate renewable energy and at the same time meet the enormous demand for food by humanity. This is more incomprehensible when it is established that the quantity of grains required to produce just one tank of fuel for a sports utility vehicle (SUV) could feed a person for a whole year.

Contextually, effective functioning of food markets is a critical key in tackling world hunger and other consequences of the world food crises. Sustainable hunger reduction hinges on helping growing numbers of the hungry poor to participate in the process of economic growth with food markets playing a major role by performing two inherently opposing functions (WFP, 2009). These functions are that first, the food markets must help keep food affordable especially for the poor and second, they must also promote efficiency in resource allocation especially through the signals they send to food producers who favour high prices. To contribute to hunger

reduction, food markets must therefore help raise incomes for farmers and returns to food traders, processors, transporters, wholesalers and retailers sufficient to induce these groups to perform services that keep nutritious food affordable to consumers. Experience suggests that this is an extremely complex challenge. As such, strategies are required to provide significant price incentives to create rural purchasing power that in turn stimulates the rural growth needed to support broader economic growth. History shows that when implemented in the context of large-scale investments in rural infrastructure, human capital and agricultural research, such strategies can spur rapid income growth (Ibid).

The proportion of a household's budget devoted to food declines as the family's income increases, as does the share of food expenditure on staples. Markets can confer benefits on the hungry poor by first lowering the costs of basic staples, and thus also the costs of meeting fundamental calorie requirements and second by making available an expanded range of the non-staple food items that supply key nutrient needs. These lead to reduction in expenditures on basic staples thereby making such food items affordable to all households particularly the poor. There is considerable evidence that because poor households spend large shares of their incomes on food and because staples loom large in their food expenditures, lower prices of staple foods significantly increase their purchasing power and real incomes. Higher real incomes allow greater purchases of non-staples leading to substantial short- and long-term nutritional benefits. On the contrary, high prices for staple foods lead to reduced consumption of nutritious foods with long-term negative effects on health, education and productivity. In much of the developing world, no more than 40 percent of the total output of any food item produced is marketed and less than one-third of farmers sell food. Also, most of the smallholder farmers who produce the bulk of the world's food are said to be themselves net food buyers. More efficient markets would benefit both net sellers and net buyers of food. This is because net sellers would face lower barriers to market entry and have greater incentives to produce and sell surpluses and net buyers on the other hand would face lower food prices and thus greater access to food supplies. Experience from Asia's green revolution suggests that with sufficient support and correct incentives, net food buyers can become net sellers raising their own incomes, driving down food costs in urban areas and thereby pulling not only themselves but also millions of urban consumers out of the ranks of the hungry poor (WFP, 2009).

At the national levels, the different nation states and governments responded swiftly to the food crisis. For instance, in response to the food crisis the government of Ghana as a first step decided to remove tariffs on the importation of grains particularly rice and cooking oil into the country. This was followed by subsidies on fertilizers for farmers during the 2008 cropping season to mitigate the high costs of production. These policies however, in the researcher's view had little or no effects on the vulnerable because in the first place they did not consider the subsidies as food and secondly they could not afford imported food commodities and fertilizers for farming. As a result, those interventions to a large extent benefited the not so poor and urban dwellers at the expense of the most vulnerable and rural inhabitants particularly women and children who have lesser access to productive resources (Akudugu *et al*, 2009a; Akudugu *et al*, 2009b).

From the foregoing, the implications of the global trends in the demand for food and food products on food production and prices of food and food products especially for Sub-Saharan Africa are breathtaking. This therefore calls for conscious efforts by policy makers and researchers in this area to find out what the exact effects of the food crises have been on poor communities in developing countries such as Ghana. This is critical for the development of policies that aimed at mitigating the devastating effects of the spiraling world food prices on the attainment of the Millennium Development Goals in particularly Ghana and the developing world as a whole.

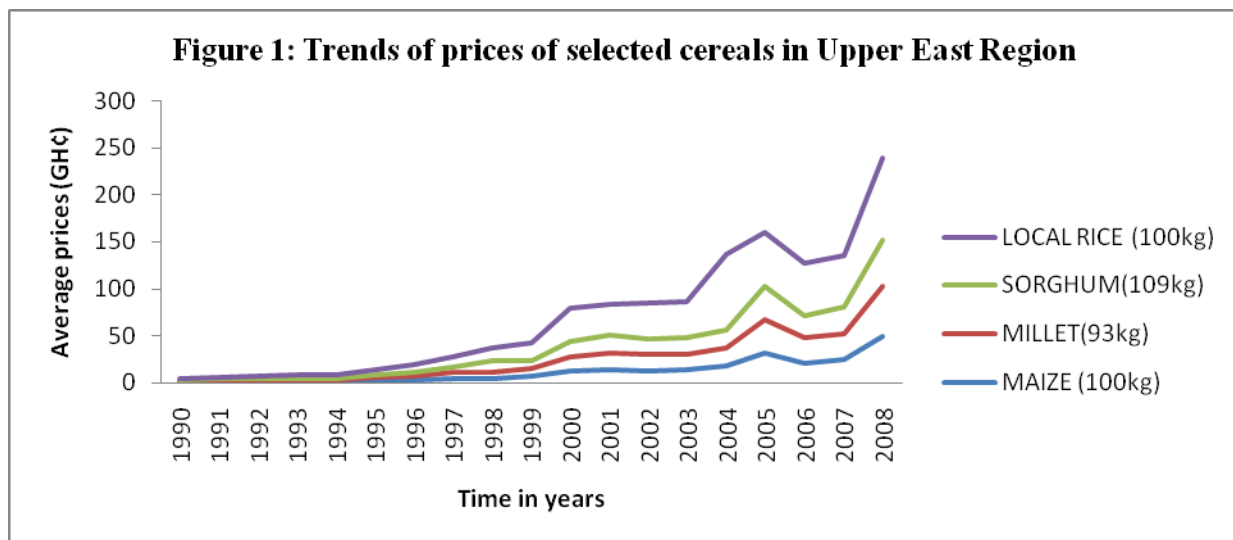
Methods

The survey was conducted in the Upper East Region of Ghana which covers a total land area of about 8,848 square kilometers (km²) and this forms about three per cent (3%) of Ghana's land area. The Upper East region lies within 10° 45'N and 0° 45'W. The region is bordered to the North by Burkina Faso, to the East by the Republic of Togo, to the South by Northern and to the West by the Upper West regions of the Republic of Ghana and has its capital at Bolgatanga. Demographically, the region has a total population of 914,016 (GSS, 2000). Out of this, 484, 428 representing about 53 per cent are females with the remaining 47 per cent being males. Given the total land area and population size, the population density of the region is about 103 persons per one squared kilometre. It is made up of nine (9) administrative districts and municipalities.

Secondary data collected from the Upper East regional directorate of the Ministry of Food and Agriculture (MoFA) were the basic inputs for analyses. The data collected include prices of staple food items consumed by the people of the region. These staple food products included selected cereals such as rice, maize, millet and sorghum. Besides, the prices of selected roots and tubers food items such as cassava/gari and yam as well as prices of selected grain legumes including groundnut and cowpea were also gathered for the study. The other category of foods selected for the analyses includes vegetables such as onions, tomatoes and pepper. Prices of these selected food items from 1990 to 2008 were collected. In terms of data analyses, trend analyses were carried out and growth rates of the prices of the various selected food items estimated. The results were graphically presented using line graphs.

Results and Discussions

The analyses revealed that over the period from 1990 to 2008, the prices of foods and food products in the Upper East region of Ghana recorded general upward trends. Prices of cereal grains including maize, rice, sorghum and millet have been on the increase. From 1990 to 1993, prices of the selected cereals were somehow stable with very gradual increases (Figure 1). From 1994 however, prices of the selected cereals started going up at a higher pace than the previous years. This trend continued up to 1998.

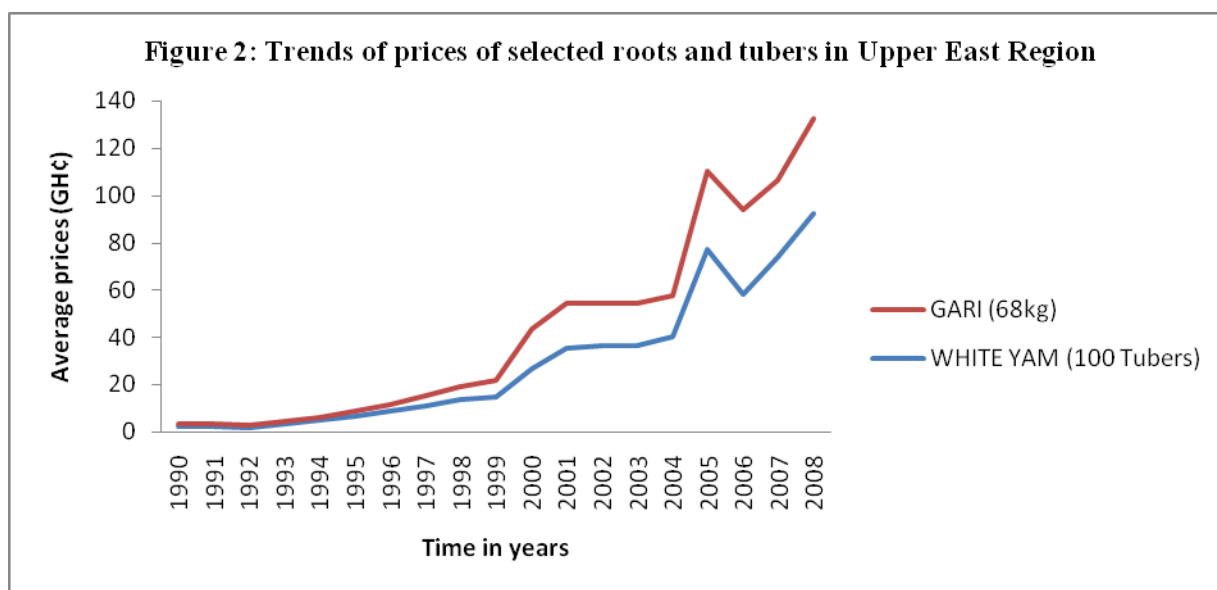


Source: Archives of Regional MoFA, Upper East

However, between 1999 and 2001, there was a sudden surge in the prices of the selected cereals which could be attributed to the astronomical increases in world oil prices and bad climatic conditions

coupled with the general elections and change in government during the period. Prices became stable again from 2002 to 2004 peaking in 2005 which once again could be attributed to the general elections and formation of new government that year. Prices felt sharply in 2006 and started a gently rise in 2007. An all time price hike in the Upper East region was recorded in 2008 which could be attributed to the unprecedented high fuel prices preceding the global financial downturn. It is important to note that, consistently, the prices of rice have been higher than sorghum which is also higher than millet with maize being the lowest (Figure 1).

Also, the analyses showed that over the period from 1990 to 2008, the prices of root and tuber food items including cassava/gari and yam have been on the increase. From 1990 to 1992, prices of the selected root and tuber foodstuffs were stable (Figure 2). From 1992 however, prices of the selected food items in this category started going up at a higher rate than the previous years. This trend continued up to 1999 with a sudden surge in prices occurring in 2000 and this could be attributed to the astronomical increases in world oil prices and bad climatic conditions coupled with the general elections and change in government that year.

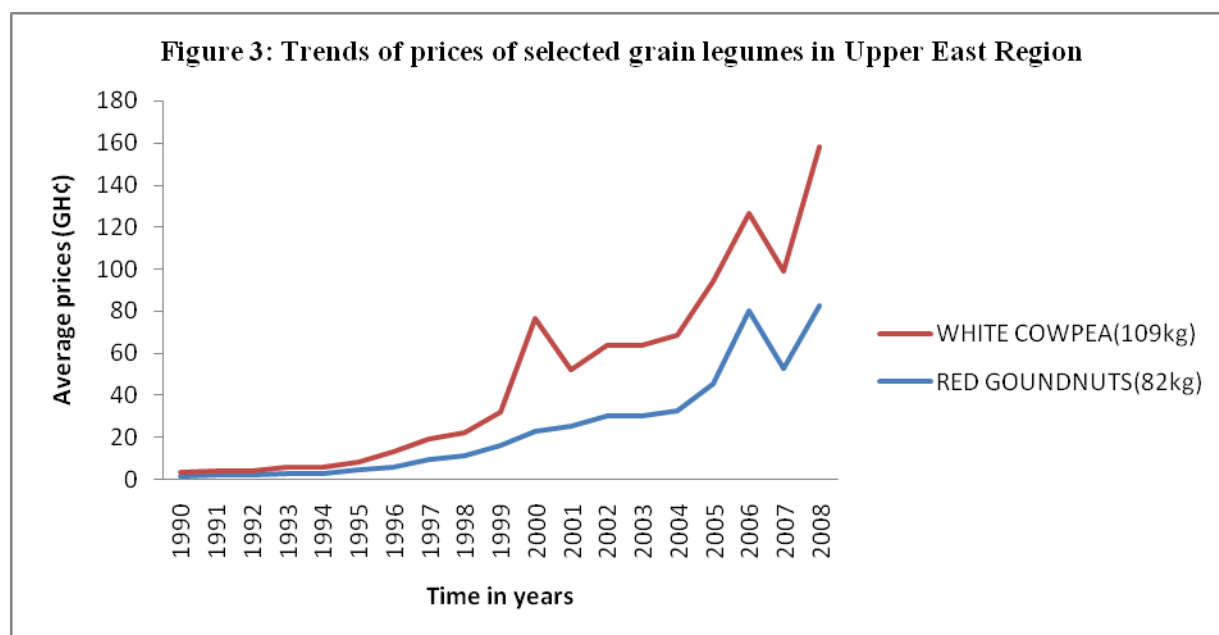


Source: Archives of Regional MoFA, Upper East

Just as in the case of the selected cereals, prices were stabilized between 2001 and 2003 with gradual increase in 2004 peaking in 2005 which once again could be attributed to the general elections and formation of new government that year. Prices felt sharply in 2006 similar to the selected cereals as shown in Figure 1 and started rising in 2007 hitting an all time record high in terms of prices in the Upper East region in 2008. The skyrocketing prices recorded during the period (2007 and 2008) are viewed as

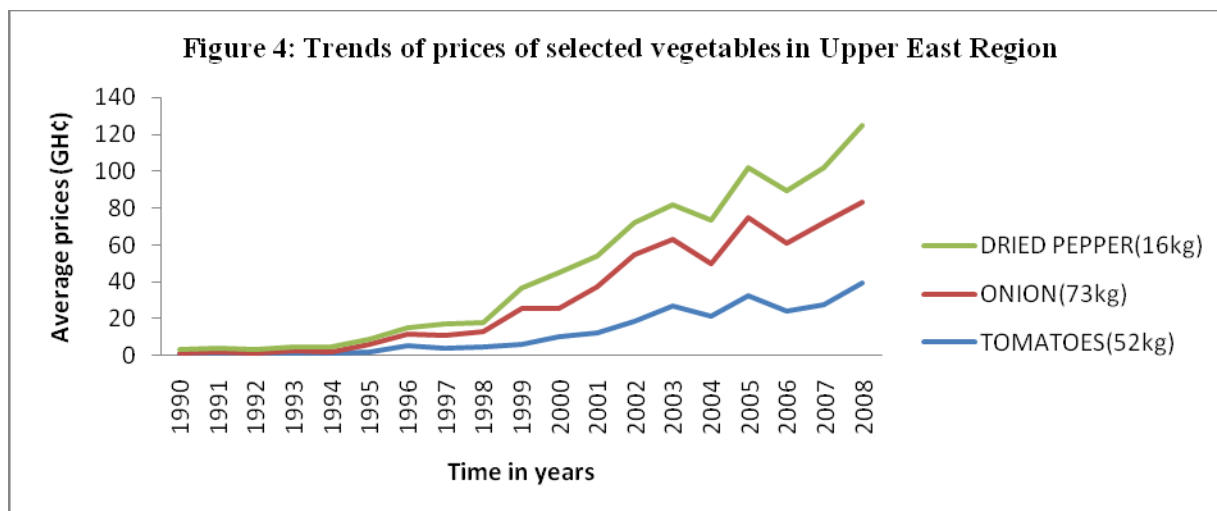
being in response to the unprecedented high fuel prices preceding the global financial crunch. It is important to note that, consistently, the prices of gari have been higher than that of yam throughout the period from 1990 to 2008 (Figure 2) at the given units of measurement.

The analyses further showed that from 1990 to 2008, the prices of grain legumes including groundnut and cowpea have been on the increase. The prices of these food items experienced a gradual increase from 1990 to 1999 (Figure 3). However, from 2000, cowpea experienced a sharp increase in its price whilst the price of groundnut continued to increase gradually. The price of cowpea declined sharply in 2001 and that of groundnut continued its gradual increase until in 2006 when both food items experienced simultaneous hike in their prices. The prices of both cowpea and groundnut once again declined sharply in 2007 and another astronomical increase in 2008. The skyrocketing prices recorded during the year (2008) are viewed as being in response to the all time record high fuel prices preceding the global financial crunch and bad weather conditions such as the torrential floods recorded in the region (Upper East) in 2007. It is important to note that, consistently, the prices of cowpea have been higher than that of groundnut throughout the period between 1990 and 2008 (Figure 3) in their respective units of measurements.



Source: Archives of Regional MoFA, Upper East

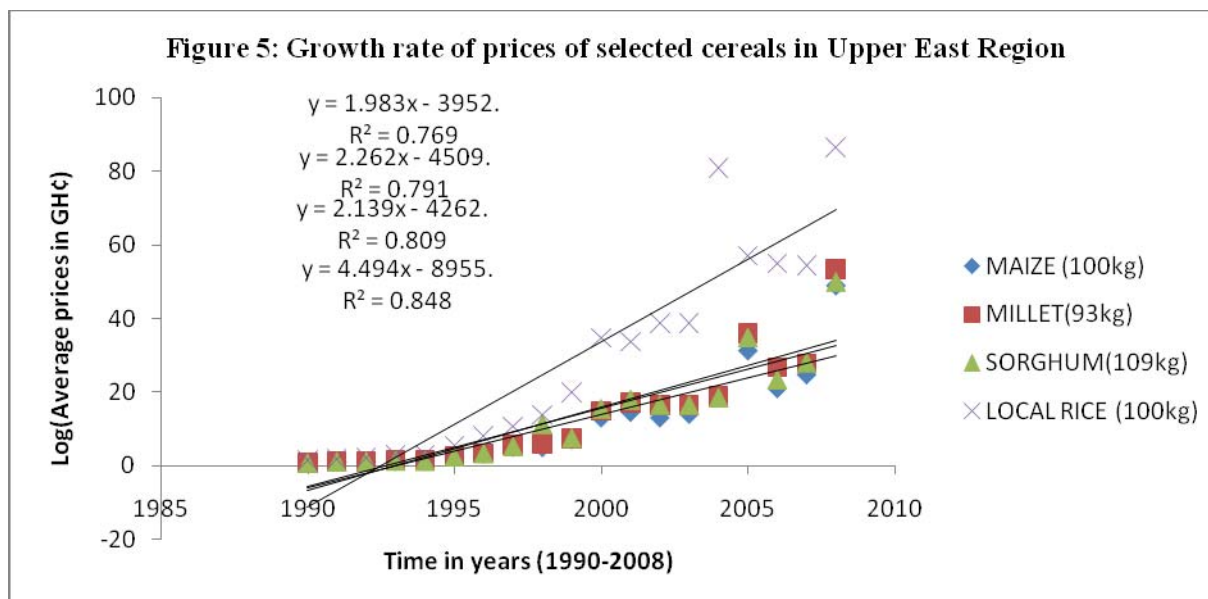
Furthermore, the analyses also revealed that over the period from 1990 to 2008, the prices of vegetables including pepper, onions and tomatoes have been on the increase in general terms (Figure 4) just as grain cereals, root and tuber food items as well as grain legumes.



Source: Archives of Regional MoFA, Upper East

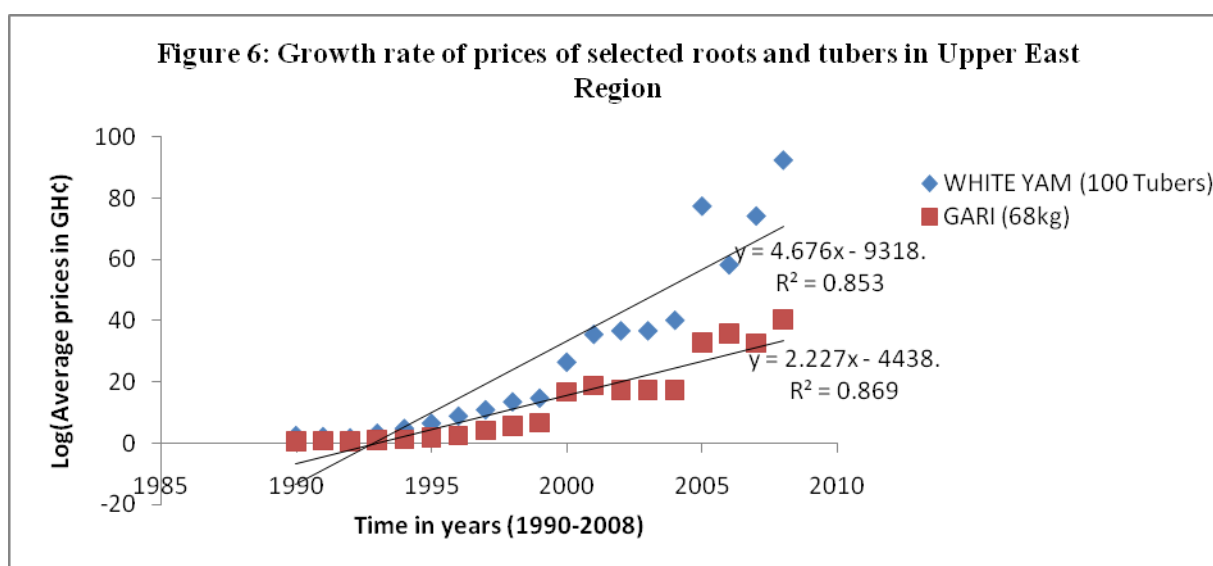
One thing that is clear is the fact that prices of all the food items selected for analyses in this paper have largely moved in the same direction. This assertion is confirmed by the trends of movement in prices as graphically portrayed in Figures 1 to 4.

Further analyses were carried out by estimating the growth rates of prices of the various selected food items consumed in the Upper East region of Ghana. From Figure 5, it could be seen that from 1990 to 2008, all the grain cereals examined in this paper recorded positive growth rates in their prices. In terms of individual grain cereals, the prices of maize grew at a rate of 1.983 which implies that prices of the commodity grew astronomically at about 198 per cent over the period covering 1990 to 2008. In the same vein, the prices of millet also grew at about 226 per cent and that of sorghum recorded a price growth rate of about 214 per cent with local rice recording the highest growth rate of about 449 per cent in the category (grain cereals). The astronomical positive growth rates in prices of grain cereals recorded in the region could be attributed to among other things increases in population size and climate change and variability which are accountable for the dwindling agricultural output in the area of concern.



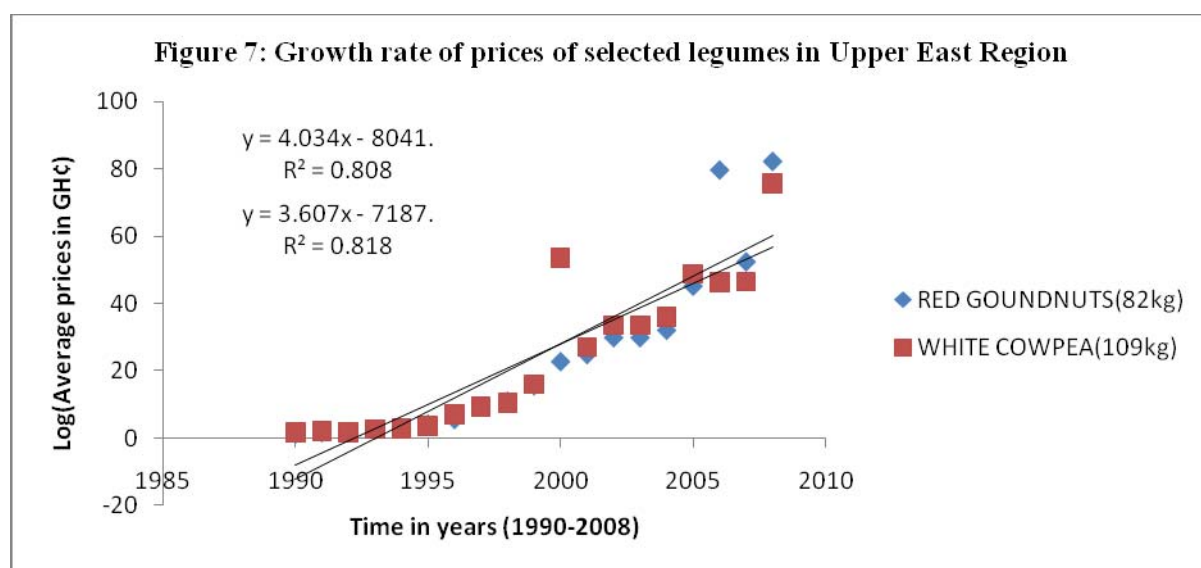
Source: Archives of Regional MoFA, Upper East

As can be seen in Figure 6, the prices of selected root and tuber food products analyzed in this paper also recorded positive growth rates. The prices of yam grew at a rate of about 468 per cent over the period from 1990 to 2008. On the other hand, the prices of cassava product (gari) grew at about 223 per cent within the same period (1990-2008). The positive growth rates in prices of the selected root and tuber food items recorded in the region just as in the grain cereals could be attributed to population increases and climate change and variability as explained earlier.



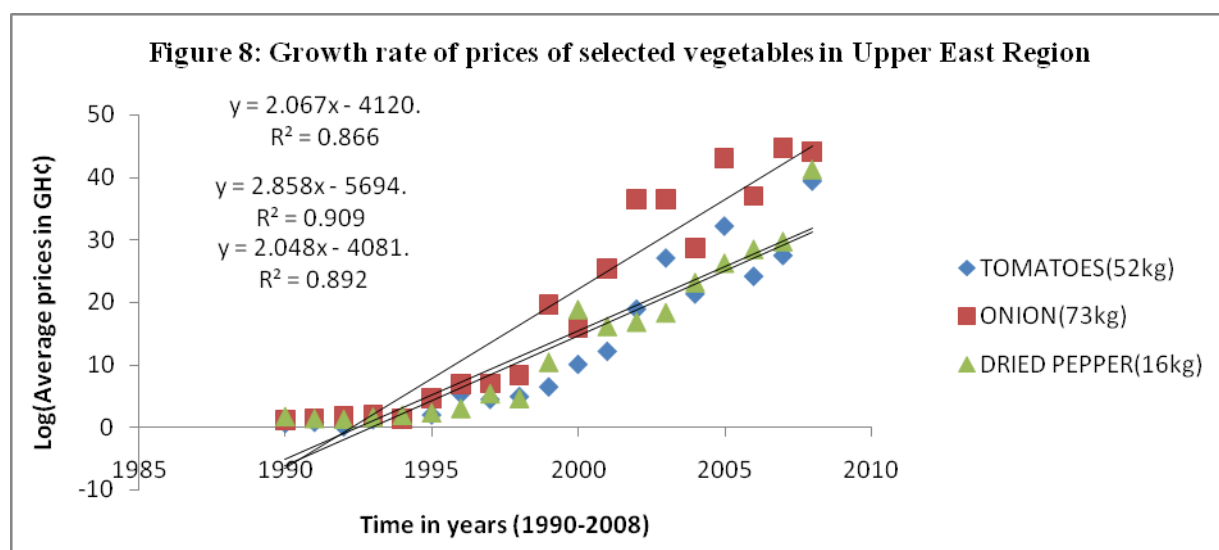
Source: Archives of Regional MoFA, Upper East

From Figure 7, it can be seen that from 1990 to 2008, all the grain legumes examined in this paper recorded positive growth rates. The prices of groundnut grew at a rate of 4.034 which implies that prices of the commodity grew at about 403 per cent over the period covering 1990 to 2008. Similarly, the price of cowpea grew at a rate of 3.607 implying that during the period, price of the commodity grew at about 361 per cent. The reasons accountable for the positive astronomical growth rates in prices of grain legumes recorded in the region are not different from those of the grain cereals and root and tuber foods stated above.



Source: Archives of Regional MoFA, Upper East

Figure 8 shows that from 1990 to 2008, all the selected vegetables examined in this paper recorded positive growth rates.



Source: Archives of Regional MoFA, Upper East

The prices of tomatoes grew at a rate of 2.067 which implies that prices of the commodity grew at about 207 per cent over the period covering 1990 to 2008. Also, the price of onions grew at a rate of 2.858 implying that during the period, price of the commodity grew at about 286 per cent and that of pepper grew at about 205 per cent during the same period (Figure 8). As indicated earlier, the reasons accountable for the positive astronomical growth rates in prices of the selected vegetables recorded in the region are not different from those of the grain cereals and root and tuber foods as well as the grain legumes.

Conclusion

Within the grain cereal category, the prices of rice consistently remain higher than sorghum which is also higher than millet with maize being the lowest in the group. In terms of the root and tuber food products, the prices of gari continued to be higher than yam in the respective units of measurement during the period. Also, within the category of grain legumes, the prices of cowpea during the period under consideration (1990-2008) have been higher than that of groundnut in the given units of measurement. Besides, the prices of pepper during the period (1990-2008) were also found to be the highest in that category (vegetables) followed by onions with tomatoes being the lowest within the group in their respective units of measurements.

In terms of growth rates in prices, all the selected commodities experienced positive growths during the period (1990-2008). Within grain cereal category, rice recorded the highest growth rate of about 449 per cent during the period (1990-2008) followed by millet with about 226 per cent. Also, sorghum followed in the group with a growth rate of about 214 per cent with maize recording the lowest growth rate in the category with about 198 percent during the same period. In the root and tuber category, yam recorded the highest price growth rate of about 468 per cent over the period (1990-2008) with gari experiencing a growth rate of about 223 per cent during the same period. Within the grain legumes category, groundnut recorded the highest growth rate of about 403 per cent in its prices over the period followed by cowpea at about 361 per cent during the same period. Also, onions had the highest growth rate in prices of about 286 per cent during the period in the category of vegetables. This is followed by tomatoes with about 207 per cent growth rate in prices during the period with pepper being the lowest in the group with about 205 per cent during the same period.

It is therefore concluded that the global food crisis had some serious implications on the trends of food prices in the Upper East region of Ghana. This is confirmed by the foregoing analyses which indicated the astronomical increases in food prices during the food crisis in 2008.

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