



GLOBAL FOOD PRICE INCREASES AND NUTRITIONAL STATUS OF NIGERIANS: THE DETERMINANTS, COPING STRATEGIES, POLICY RESPONSES AND IMPLICATIONS

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ABSTRACT

Nigeria was already in a serious food insecure situation prior to increases in the basic food prices that started in 2006. The increases in food prices has been a major source of worry and concern especially by the poor and vulnerable compared with other price shocks like high electricity, fuel and transport prices. The soaring food price is undermining government efforts on poverty reduction, food and nutrition security. It poses threat to humanitarian crisis, socio-economic, environmental, developmental, political and security-related challenges of millions of people. This study examines the severity of food price increases and articulates its immediate and remote causes on nutritional status of Nigerians. Two main approaches were used to generate information. The first approach was the use of primary data from 396 households in North Central Nigeria for empirical evidence. The second approach was the collection of secondary information from the United Nations Development Programme (UNDP) report, World Bank (WB), International Food Policy Research Institute (IFPRI), Food Insecurity and Vulnerability Information Mapping System (FIVIMS), Famine Early Warning Systems Network (FEWSN), Food and Agriculture Organization (FAO), World Food Programme (WFP), United Nations Children's Fund (UNICEF) food security assessment. The results of the analysis show that, the food price increases affect nearly every agricultural product in Nigeria without corresponding increase in disposable income of families and population groups (especially the vulnerable groups). Households in Nigeria spend between 70 to 80% of their income on food, leaving about 60% people to food difficulty problem. Although government had intervened through distribution of 65,000 metric tons of assorted food from the Strategic Food Reserve, release of ₦80 billion for the importation of 500,000 metric tons of rice and 11,000 metric tons of grains to complement the local output, six months waiver on import duties on rice, much concentration on grain alone seen not to have significantly improved the nutritional status of Nigerians. To cope, majority of people are forced to reduce their nutritional intake, consume more carbohydrate food at the neglect of protein, pulling out of children from school for work and sale of key productive assets. There is the need for safety net programmes, provisions of critical community services to enhance households' nutritional status.

Keywords: Global food price, food crisis, nutritional status, food security, Nigeria.

1. INTRODUCTION

Unlike food insecurity, hunger and poverty which are old problems, high food price is a new crisis with anecdotal evidence emerging from all developing regions about its effects on people. High food prices have serious implications for food and nutrition security, macroeconomic stability and political security of any nation. Except clothing and shelter as the basic necessities of life, food remains the most vital item in the hierarchy of need because of its centrality to human existence. Ruthless expedition for food has shaped human history, provoked wars, migration and undermined the growth of nations. Lack of access to food influences food intake and consequently impact on the health and nutritional status of households (WHO, 2008a). People at lower income levels want to satisfy their physiological needs for food based on the food preferences of their culture. When income levels increase, consumers move higher on the pyramid (see Figure-1). As consumers gain affluence, their attention turns to the quality of food they eat. People then demand foods that are safe or that promote good health and become more concerned about food safety, like pathogens and disease risks (Senauer, 2001).

Food and nutrition security are the fundamental challenges to human welfare and economic growth in Africa (Benson, 2008) especially with the recent escalation of food prices, a situation that is making the globe to be facing a worsening food crisis unseen in the last 30 years and having the potential of leading to catastrophe (Ikeokwu, 2008). The recent food price increases is not coming out of blue, but the outcome of deep-seated contradictions within the structure of global economic system. The current soaring food prices are not a 'failure' of the system, but central to the mode of functioning of the system itself. It is not the result of some 'mistakes' or 'deviations', but rather it is inherent to the logic of the system. Access to nutritionally adequate and safe food should be a right of every individual. However, lack of households' access to food leading to hunger and undernutrition have been recognized as the number one threat to public health, killing more people than HIV/AIDS, malaria and tuberculosis combined in most countries (WHO, 2008b; High-Level Task Force on the Global Food Crisis, 2008). Every ten days, the world loses 250,000 people to hunger related deaths, the equivalence of the casualties from the Asian tsunami (Sheeran, 2008). According to Food and Agriculture Organization (FAO),



about 854 million people were undernourished worldwide in 2001-2003 and the number keeps on increasing at a rate of almost four million per year since the second half of the 1990s (Grember, *et al.*, 2009). The recent hike in food prices has however increased the number of

undernourished people from 854 million to 925 million in 2008. While most of the world's hungry live in Asia (over 500 million), hunger is most intractable in Africa with one in three people deprived of access to sufficient food (FAO, 2006).

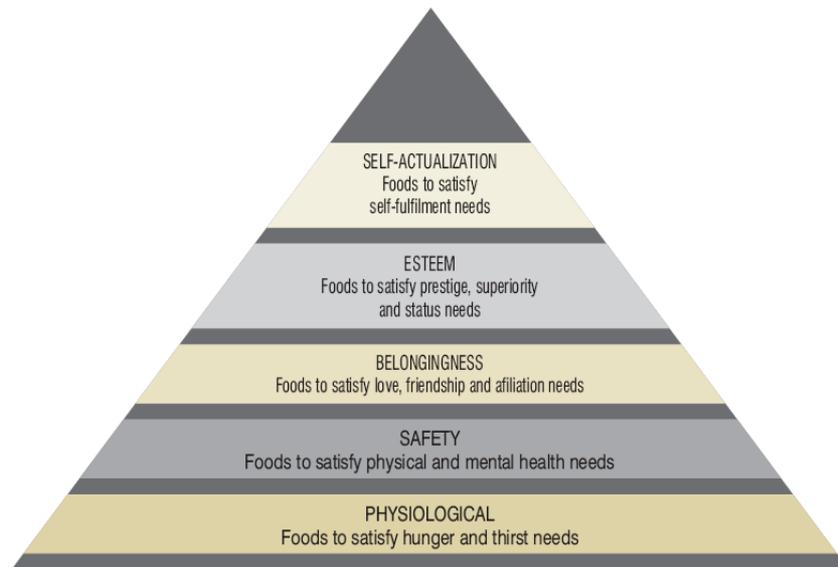


Figure-1. Maslow's hierarchy of needs and food.

Source: Senauer (2001).

An assessment of the worsening food insecurity and nutritional problem reveals that the global food price increases and the current financial crisis is an added burden on poor nations as their economies are affected directly or indirectly (Dike, 2008). Both nominal, as well as real international prices of all major food commodities are on increase (Figure-2). The World food prices increased by 50% from 2002 to 2006 and then doubled between the beginning of 2006 and the summer of 2008 (Belka, 2008). Africa especially is worst hit with the problems of food and nutrition insecurity with too many people in the continent unable to acquire and effectively utilize at all times the food they need for a healthy life.

Africa had reversed from being a key exporter of agricultural commodities into being a net importer¹ with the highest percentage of undernourished people in the past 30 years (Clover, 2003) and the numbers keeps increasing annually by almost 20 percent since the early 1990s (Benson, 2004).

This study is on Nigeria because despite the country's abundant human and material resources, research findings have shown about 65% households as food insecure. An average household after the price increase spends as high as 75% of their income on food compared with an average of 65% before food crisis (Zoellick, 2008). This study becomes very important by the fact that the Millennium Development Goals (MDGs) adopt nutritional status as one of the key indicators of poverty and hunger. It serves as the first step in recognizing that policies, programmes and processes to improve nutritional outcomes have a role to play in global development. Nutritional assessment in the community is essential for accurate planning and implementation of intervention programmes to reduce morbidity and mortality associated with under-nutrition (Standing Committee on Nutrition (SCN), 2004).

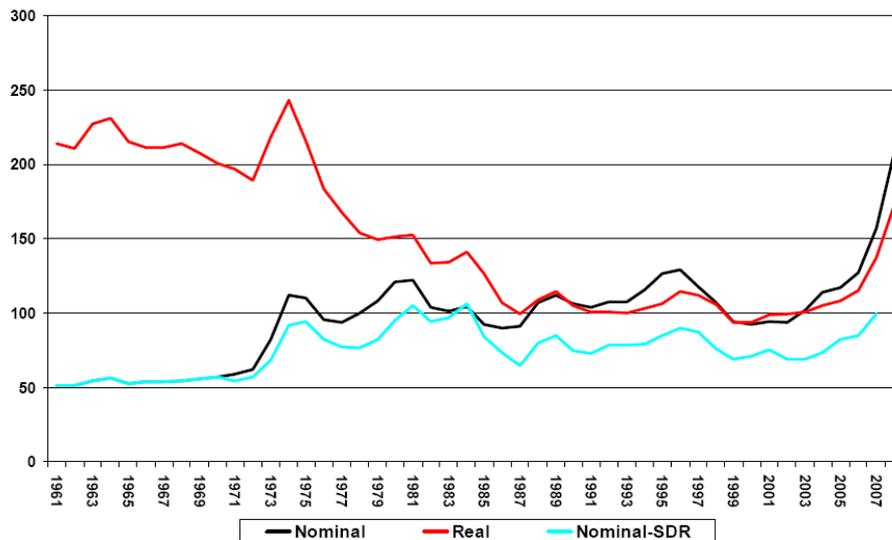


Figure-2. Real and nominal rate of international food price.

Source: FAO, IFAD and WFP (2008)

2. CONCEPTUAL FRAMEWORK AND BRIEF LITERATURE REVIEW

2.1 Link between food and financial crises

The world is currently experiencing both food and financial crisis. Both are linked in complex ways

through their implications for food security, financial and economic stability, and political security (Grebmer, *et al.*, 2009). Food deprivation leads to malnutrition and ultimately starvation. Food price problem has become a security problem in Nigeria (Figure-3).

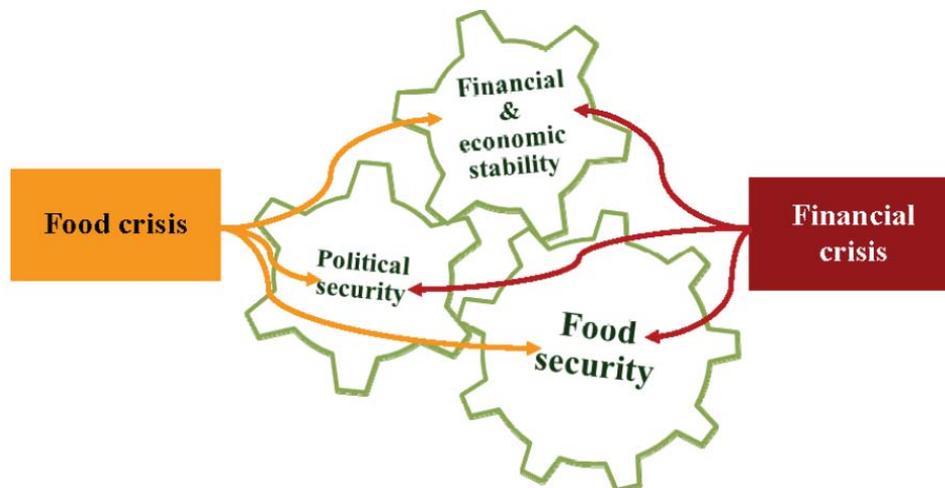


Figure-3. Relationship between food security, food crisis and financial crisis.

Source: Adapted from von Braun (2008)

2.2 Nutrition and malnutrition

Nutrition is the study of the body and the study of food and how food affects the body (FAO, 2000). Better nutrition is a prime entry point to ending poverty and a milestone to achieving better quality of life (WHO, 2008). Nutrition starts with eating food and drinking. For a person to be healthy, a person must eat enough food to get a good supply of all the key nutrients. Individual nutritional status depends on the interaction between food that is eaten, the overall state of health and the physical

environment. Clinically, malnutrition is characterized by inadequate or excess intake of protein, energy, and micronutrients such as vitamins, and the frequent infections and disorders that result. People are malnourished if they are unable to utilize fully the food they eat, for example due to diarrhoea or other illnesses (secondary malnutrition), if they consume too many calories (over nutrition), or if their diet does not provide adequate calories and protein for growth and maintenance (undernutrition or protein-energy malnutrition).



Malnutrition is both a medical and a social disorder, often rooted in poverty. Combined with poverty, malnutrition contributes to a downward spiral that is fuelled by an increased burden of disease, stunted development and reduced ability to work. Low dietary intake is the most important cause of under-nutrition. Low birth weight, poor infant feeding practices, infections due poor sanitation, lack of safe drinking water and poor access to health care are other major factors responsible for under-nutrition (Benson, 2008).

At the time of Independence (1960), Nigeria faced two major nutritional problems. One was the threat of famine and acute starvation due to low agricultural production and lack of appropriate food distribution system. The other was chronic energy deficiency due to poverty, low-literacy, poor access to safe-drinking water, sanitation and health care; these factors led to widespread prevalence of infections and ill health in children and adults. Kwashiorkor, marasmus, goitre, beri beri, blindness due to Vitamin-A deficiency and anaemia were major public health problems. The country adopted multi-sectoral, multipronged strategy to combat the major

nutritional problems and to improve nutritional status of the population.

2.3 Differences between food and nutritional security

Food security and nutrition security is not necessarily the same thing. A household is food secure if it can reliably gain access to food of a sufficient quality in quantities that allow all its members to enjoy a healthy and active life. But, individuals in food-secure households may still have deficient or unbalanced diets. Nutrition security is only achieved when secure access to food is coupled with a sanitary environment, adequate health services, and the knowledge and care needed to ensure the good health of all individuals in a household. Whether or not an individual attains his or her full personal and economic potential, however defined, depends to a large degree on the level of his or her nutrition security. The availability of nutrition resources and the degree to which an individual has access to such resources is a function of how a society is organized economically, politically, ideologically, and administratively (Benson, 2008) (Figure-4).

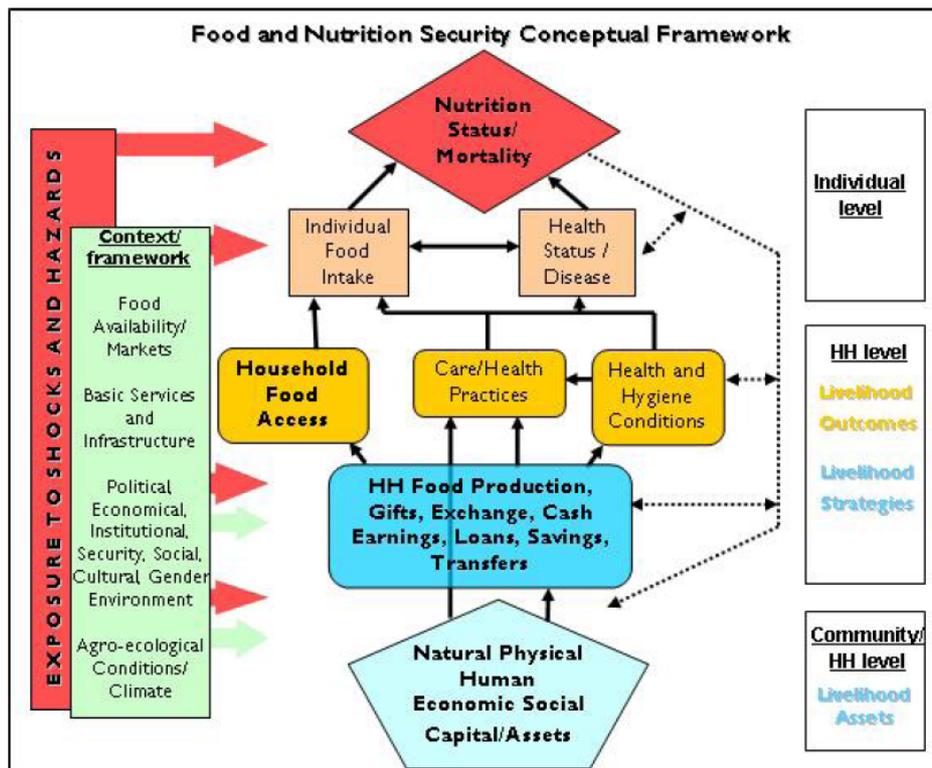


Figure-4. Relationship between food and nutrition security.

Source: Benson, 2008

3. MATERIALS AND METHODS

3.1 Nigeria and food situation

According to the World Development Report (2007/2008), Nigeria is the largest territorial unit in West Africa with an estimated population of 146.2 million

(based on 2006 headcount). Nigeria is agrarian, oil producing country with a gender population ratio of 51.2 and 48.8 per cent for male and female respectively The annual growth rate is about 3.2 per cent with a very low human development rating. The country was placed 158 among 177 countries in terms of Human Development



Index (HDI) as at 2005 and is considered poor with a life expectancy of about 54 years and per capita income of \$1,128 (US) or \$3.00 per day. The country has HIV/AIDS prevalence rate of 3.9 per cent, infant mortality at 100 per 1,000 births and mortality of 1,100 per 100,000 live births and Gross Domestic product of about \$142.2bn in 2007 (IMF, 2008). Over 90% of Nigeria's Agricultural output comes from peasant farmers who dwell in remote rural areas where 60% of 150 Million of total population lives. Nigeria has a high degree of inequality in income distribution with only a small fraction of the population earning the bulk of its national income. Agricultural landholdings are generally small and scattered, average number of farm plots per household ranges between 2 and 28 plots. Nigeria farmers cultivate over 25 Million hectares of land for various food crops. But despite all these obviously abundant human and natural resources, the country is still unable to feed her citizens producing about 500,000 tons of rice while the annual consumption is 2.5 million tons. Nigeria is now the world's second-largest rice importer after Singapore spending over \$350 Million on rice importation alone (Kazeem, 2008).

3.2 Methods of data collection

Two main approaches were used to generate information on the effects of higher food prices (HFP) on nutritional security in Nigeria. First, primary data were randomly collected through structured questionnaires from about 396 households from Kwara and Kogi States in the North Central Nigeria. The number from each state was proportionate to the population size. Secondary information from UNDP poverty report, World Bank (WB), International Food Policy Research Institute (IFPRI), Food Insecurity and Vulnerability Information Mapping System (FIVIMS), Famine Early Warning Systems Network (FEWSN), Food and Agriculture Organization (FAO), World food Programme (WFP), United Nations Children's Fund (UNICEF) food security assessment were also used and analyzed

4. RESULTS AND DISCUSSIONS OF MAJOR RESEARCH FINDINGS

4.1 Food consumption pattern in Nigeria

The nutrition status of individuals is to a large extent determined by the level of food consumption. Therefore, knowledge about consumption patterns after the global food crisis and how they change through exogenous shocks is important for food and nutrition

security. The share in total fat consumption in Nigeria for the period between 1990 to 2005 was 8% compared to other Africa countries like Kenya, Egypt (33%) South Africa (35%) in 2003 to 2005 (FOASTAT, 2008). This implies a very low contribution of animal products to total dietary fat consumption in Nigeria. Empirical findings from the North-Central Nigeria (NCN) in Table-1 also reveal that a large difference between the consumption patterns of rural and urban households exist in Nigeria. Households in NCN did not significantly change the consumption of food items they consumed before and after the food crisis but rather the frequency of consumption and the quality of some of the food items due to hike in price. Out of 396 households sampled, an average of 60.61% households who consumed food at least three times per day before the crisis dropped to just 15 percent. Relative to their counterparts in the rural areas, urban households in NCN consumed more rice, fat and oil, bread, soft drink, sugar and milk and less yam and cassava flour when compared with the rural households. Household purchases of more nutritious protein-rich foods were reduced in order to afford the main staple rice. This may have serious health implication on both mothers and children in the country. The effects are particularly severe for infants conceived and weaned during the crisis.

4.2 Analysis of global food price increases

The scale of food crisis is unparalleled, affecting about 47 countries in 2007 with 27 of these countries in Africa, 10 in Asia and the remaining 10 in other parts of the world (IFPRI/CGIAR, 2008). Between the start of 2006 and 2008, the average world price for rice rose by 217%, wheat by 136%, maize by 125% and soybeans by 107%. In late April 2008, rice prices hit 24 cents a pound, twice the price that it was seven months earlier (BBC News, 2008). A ton of wheat for instance moved from \$105 in January 2000 to \$167 in January 2006 and to \$481 in March 2008 (about 30 % higher than 2007) (IMF Primary Commodity Prices, 2008). As of March 2008 maize price was also 130% higher than 2007 period. Rice prices after recording relatively moderate increases of 9 percent in 2006 and 17 percent in 2007, gained 10 percent in February 2008 and another 10 percent in March (FAO, 2008a) (see Figures 5 to 6). The global food prices are still high particularly in the developing countries. Many food items such as dairy products, meat have become so expensive that majority of people only consume tiny amounts (see Table-1 for the case of Nigeria).

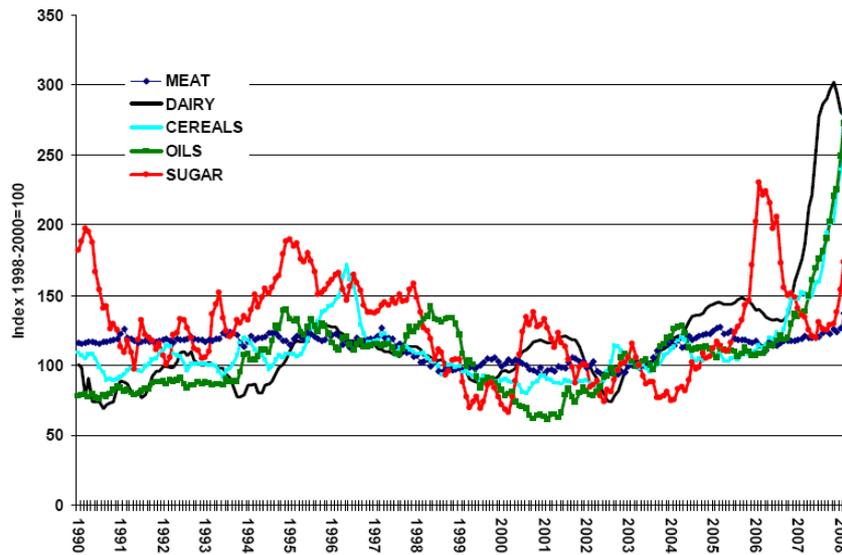


Figure-5. Monthly FAO price indices for basic food commodity groups (1998-2000=100).

Source: FAO, IFAD and WFP (2008)



Figure-6. International food prices projection.

Source: Data from FAO 2008 and IMF 2008

**Table-1.** Analysis of food consumption of major 15 commodities of the north central Nigeria.

Food items	Kogi state (215)				Kwara state (n = 181)				Pooled (n = 396)			
	Rural (n = 129 or 60% of total)		Urban (N = 86 and 40% of total)		Rural (N = 85 or 47% of total)		Urban (N = 96 or 53% of total)		Rural (N = 214 or 54% of total)		Urban (N = 182 or 46% of total)	
	C	Z.C	C	Z.C	C	Z.C	C	Z.C	C	Z.C	C	Z.C
Bread	22(17.1)	107(82.9)	35(40.7)	51(59.3)	7 (8.3)	78(91.1)	34(35.4)	62(64.6)	29(13.6)	185(86.4)	69(37.9)	132(67.6)
Rice	51(39.5)	78(60.5)	65(75.5)*	21(24.4)	35(41.2)*	73(85.9)	76(79.2)*	20(20.8)	86(40.2)	128(59.8)	141(77.5)*	97(53.3)
Beans	47(36.4)	62(63.6)	57(66.3)*	29(33.7)	24(28.2)	61(71.8)	49(51.0)	47(49)	71(33.1)	123(57.5)	106(58.2)	76(41.8)
Beverages	13(10.1)	116(89.9)	32(37.2)	54(52.8)	13(15.3)	72(84.7)	14(14.6)	82(85.4)	26(12.1)	188(87.9)	46(25.3)	136(74.7)
Fruits	21(16.3)	108(83.7)	28(32.6)	58(67.4)	17(20)	68(80)	24(25)	72(75)	38(17.6)	176(82.2)	52(28.6)	130(71.4)
Fat and oils	102(79.1)*	27(20.9)	79(91.9)*	7(8.1)	33(38.8)	52(61.2)	55(57.3)	41(42.7)	135(63.1)*	59(36.9)	134(73.6)*	48(26.4)
Soft drinks	29(22.5)	100(77.5)	53(61.6)	33(38.4)	17(20)	68(80)	57(59.4)*	39(40.6)	46(21.5)	168(78.5)	110(60.4)	72(39.6)
Wheats	3(2.3)	126(97.7)	27(31.4)	59(68.6)	0 (0.0)	85(100)	2(2.4)	94(97.6)	3(1.4)	211(98.6)	29(15.9)	153(84.1)
Milk	22(17.1)	107(82.9)	34(39.5)	52(60.5)	16(18.8)	69(81.2)	23(24)	73(76)	38(17.8)	176(82.2)	57(31.3)	125(68.7)
Eggs	26(20.2)	103(79.8)	36(41.9)	50(58.1)	14(16.5)	71(83.5)	27(28.1)	69(71.9)	40(18.7)	174(81.3)	63(34.6)	119(65.4)
Yams	114(88.4)*	15(11.6)	56(65.1)*	30(34.9)	65(76.5)*	20(23.5)	59(61.5)*	37(38.5)	179(83.6)*	15(7.0)	115(63.2)*	67(36.8)
Gari	64(49.6)*	65(50.4)	56(65.1)	30(34.9)	50(58.8)*	35(41.2)	64(66.7)*	32(33.3)	114(53.3)*	100(46.7)	120(65.9)*	62(34.1)
Sugar	40(31.0)	89(69.0)	40(46.5)	46(53.5)	17(20)	68(80)	37(38.5)	59(61.5)	57(26.6)	157(73.4)	77(42.3)	105(57.7)
Vegetables	100(77.5)*	29(22.5)	78(90.7)*	8(9.3)	60(70.6)*	25(29.4)	89(92.7)*	7(7.3)	160(74.8)*	54(25.2)	167(91.8)*	15(8.24)
Cassava flour	104(80.6)*	25(19.4)	50(58.1)	36(41.9)	63(74.1)*	22(25.9)	40(41.7)	56(58.3)	167(78.0)*	47(22.0)	90(49.5)	92(50.5)

Source: Estimates from field survey, 2006/2007

Note: C = food items consumed Z.C = zero-consumption (not consumed)

Values in parenthesis = % of frequency * = Most common types of foods consumed



4.2.1 Analysis of the existing evidence of rising food prices in Nigeria

Food price increases is real in Nigeria although the Lake Chad basin in Northeast Borno and in Adamawa State, appear to have significant stocks of maize and sorghum after the food price increases in the country. But, the supplies are too small to offset large deficits elsewhere in the country. Cereal supplies are equally low in most major southern markets (e.g., the International Mile 12 market of Lagos). Faced with high cereal prices nationwide, southern traders are turning to the Republic of Benin and Ghana for some of their cereal needs. Current wholesale prices of major grains in large northern markets (e.g., Dawanau in Kano and Saminaka in Kaduna) are higher than both their four-year averages and prices in 2007. Cowpea and sorghum prices are also higher than at this time in some of the Nigerian markets (Figure-7,

annex-1). In Dandume (Katsina), located in the far north and near the border with the Republic of Niger, prices of all commodities in 2008 were found to be higher than the four-year average and March 2005 prices. Retail prices for grains in the Southern State of Enugu in the eastern Nigeria reflect a similar trend, though prices for sorghum and cowpea were generally higher, reflecting higher demand for these crops in the south, where agro-climatic conditions are less favorable for their production. Following the rise in maize prices, local chicken prices were 17 percent higher in March 2008 when compared with 2007 period. Similarly, the cost of a crate of 30 eggs in Jos, Plateau state in northern part of the country rose from ₦400 to ₦500 in 2008. Meanwhile, high prices for basic non-food commodities are also being reported across the country (FEWSN, March 2008).

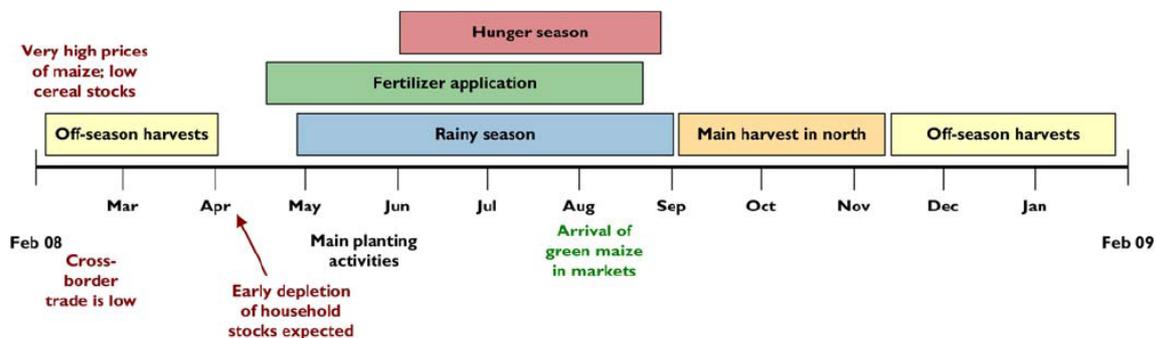


Figure-7. Critical calendar of major food security crops with price trends in Nigeria.

Source: Famine early warning systems network (FEWSN, March 2008).

4.3 Determinants of the world food price increases

There are five reasons given by FAO research findings as been responsible for the global increase in food prices. First, world cereal production fell by 3.6 percent in 2005 and 6.9 percent in 2006 due to bad weather in major producing countries (unseasonable droughts in grain-producing nations) otherwise refers to as the effect of climate change. Second, stock levels are very low, which magnifies the impact of production shortfalls as markets worry about the lack of a buffer. The ratio of world cereal ending stocks in 2007/08 to the trend in world cereal utilization is estimated at 18.7 percent, the lowest in three decades. Third, petroleum prices and food prices are highly correlated, with an estimated correlation coefficient of more than 0.6. The rapid rise in petroleum prices exerted an upwards pressure on food prices as fertilizer prices nearly tripled and transport costs doubled over a two-year period. Fourth, increased demand from the biofuels sector by the developed countries also tended to push prices upwards (Kazakhstan National Information Agency, 2008). It is estimated that about 100 million tonnes of grain (some 4.7 percent of global cereal production) are being used for biofuels in 2007/8. In 2007/8, the United States alone is expected to use about 80 million tonnes of maize to produce ethanol, a 37 percent

increase over the previous year. Fifth, economic growth in some large developing countries is leading to changes in diet and increased demand for food crops. Over the last 15 years, meat consumption more than doubled in China and grew by 70 percent in Brazil and 20 percent in India. Since it takes some 7 kg of cereals to produce 1 kg of meat, this shift in diet is also leading to higher cereal prices (FAO, 2008b).

Other observed causes of the increase in the global food price hike include increasing demand for a more varied diet across the expanding middle-class populations, structural changes in trade and agricultural production, agricultural price supports and subsidies in developed nations, diversions of food commodities to high input foods and fuel, commodity market speculation, problem of soil degradation leading reduction in agricultural production, According to the International Food Policy Research Institute, soil degradation had significantly impacted the productivity of about 16 percent of the globe's agricultural land: 75 percent of cropland in Central America, 20 percent in Africa (mostly pasture), and 11 percent in Asia were seriously degraded (IFPRI, 2000)

Available medium-term projections by the International Food Policy Research Institute (IFPRI) and



by Organization for Economic Cooperation and Development (OECD)/FAO indicate that food prices will remain above their previous trend level for the foreseeable future. Prices of food commodities for the next 10 years are likely to be higher than during the previous 10 years, even though a small decline is expected in 2009 or 2010. Those projections are explained by three factors. First, it is believed that the demand for biofuels will continue to rise rapidly. According to the International Energy Agency (IEA) the share of the world's arable land devoted to the growing of biomass for liquid biofuels could triple over the next 20 years. Second, developing country economic growth is expected to continue at about 6 percent a year with significant implications for food demand. Third, climate-change risks are likely to have adverse impacts on food production, compounding the challenge of meeting global food demand (FAO, 2008b).

4.3.1 Determinants of food price increases in Nigeria

The upward trend of food prices in Nigeria has been linked to high inflation rates, high international commodity prices and cereal supply shortages. For instance, Inflation rate Nigeria rose from the relatively low rate of 5.5 percent in 2007 to 8.6 percent in 2008 (CBN, 2008) thereby affecting agricultural production. The persistence of high food prices has also been attributed with the rising household and industrial demand and relatively low stocks, both in Nigeria and in some neighboring countries like Niger. Private companies are buying more sorghum, maize and millet to support a growing poultry industry and an increasing number of food processing companies, while more households resort to market purchases for their food needs at higher prices following the exhaustion of grain reserves.

4.4 Who bears the nutritional effects of rising global food price in Nigeria?

Because the global food crisis is not too long, few data are available on the varying effects. The high food prices affect households differently, depending on their production and consumption patterns and what commodities are produced and consumed, the share of household income dedicated to food, and the degree to which world prices are transmitted to local markets. In all, women and children are particularly vulnerable to the nutritional effects of high food prices, as they suffer from micronutrient deficiencies when driven to consume less diversified daily diets.

4.5 Analysis of nutritional status of Nigeria

Hunger and malnutrition have been found as the underlying causes of death of over 3.5 million children every year, a rate of more than 10,000 children every day (High-Level Task Force on the global food crisis, 2008). Food crisis is a dual threat to health: under-nutrition, mainly in young children, pregnant and lactating mothers, and chronic diseases (heart disease, diabetes, and some cancers) that are strongly linked to improper diet. Reduction in nutritional intake of many Nigerians as a

result of rising food prices have increased the rate of malnutrition with a worsened health status and reduction in resilience to disease and shocks. Worst hit are pregnant and lactating mothers who are at risk of food insecurity and poor nutrition induced by food crisis, with implications

High food prices (of internationally traded commodities) had led to an increase in various forms of malnutrition, with potentially negative outcomes on child growth, measured by increasing prevalence of stunting, underweight and wasting in children under the age of five as well as an increase in prevalence of low body mass index among adults and an increase in micronutrient deficiencies due to a decreased consumption of micronutrient rich foods. The impact would be expected to be most marked in countries where dietary diversity is already low and where prevalence of food insecurity was high prior to the raise in food prices.

Lack of access to food influences food intake, and consequently impacting the health and nutritional status of households. Report has shown that out of the world's undernourished children, 80% live in 20 countries; nine of these are in sub-Saharan Africa, 29% of Nigerian children under five years are considered underweight (National Demographic and Health Survey (NDHS), 2003). Today Nigeria is among the ten countries in the world with the largest number of underweight children (UNICEF, 2006).

The analysis of limited available data on the levels of inequality in access to food and income of Nigeria shows the coefficient of variation of dietary energy requirement 28% or composite of the coefficient of variation of dietary energy consumption due to income 15 in 1995 and income inequality² of about 44% in 2003. Analysis of adult nutritional status shows that the proportion of adult between 15-49 years in 2003 overweight as measured by the Body Mass Index (BMI)³ was 20.5% (national), 16.6% (rural) and 27.7% (urban) while 5.9% (national) was reported as been obese, 3.6% (rural) and 9.6% (urban) (see Table-2 for detail) (FAOSTAT, 2008). The prevalent of under-nutrition in children under the age of five years moderately and severely underweight⁴ in 2003 were 28.7% and 8.9% respectively. Those with moderate and severe stunting⁵ were 38.3% and 19.2% respectively and the percentage of those wasting⁶ were respectively 9.3 and 2.2%. The percentage of children of between 0-59 months overweight⁷ was 6.2 (UNICEF, 2008 and WHO, 2008a). The average life expectancy at birth⁸ (year) in 1990 to 1995 was 47 with male 46 and that of female 49. In 2000 male was 46 and that of female 48 and in 2006 male was 47 with further decrease for that of female to 46 (World Bank, 2008). Child mortality rate of under-five (per 1000 live births) (That is, probability of dying between birth and exactly five year of age, expressed per 1000 live births) was 230 in 1990-1995, 207 in 2000 and 191 in 2006 (UNICEF, 2008). This is an evidence of a decrease.

Statistics in recent time on Nigeria shows that, about 71% of the population still lives with less than 1% a



day and over 1 Million children die annually in Africa of malaria. "Between" 26,500 - 30,000 children have also been reported to die each day due to poverty (Kazeem, 2008). In Rimia Sokoto, Nigeria, the rates of malnutrition after the global food price increases were found to be unacceptably high reflecting a generally poor health and nutrition situation. The prevalence of global acute malnutrition, defined as WFH z-score < -2SD, was 8.8 percent (95% CI: 6.2-11.3). The prevalence of severe acute malnutrition (WFH z-score < -3 SD) was 2.6 percent (95% CI: 1.7-3.4). This suggests that about 51,000 children of 6-59 months are wasted, 15,000 severely, in this livelihood zone. About 43 percent of the children (6 - 59 months) were stunted, indicating chronic malnutrition, and 36 percent are underweight. Health conditions were also poor. A crude mortality rate of 0.27/10,000/day and an under-five mortality rate of 0.99/10,000/day were reported and about 43 percent of the children had suffered from diarrhoea, cough, or fever. Child feeding practices were generally poor, with an exclusive breastfeeding rate of only 7 percent.

Table-2: The International classification of adult underweight, overweight and obesity according to BMI.

Classification	BMI (kg/m ²)
	Cut-off points
Underweight	<18.50
Normal range	18.50 - 24.99
Overweight	≥25.00
Overweight (pre-obese)*	25.00 - 29.99

Obese	≥30.00
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Source: WHO (2008a): The WHO global database on body mass index (BMI).

4.5 Households coping strategies against the rising food prices in Nigeria

As food prices continue to rise around the world, poor households which were already struggling to afford basic foods are being pushed deeper into poverty, while many newly vulnerable groups are emerging particularly in urban areas (World Vision Food Crisis Global Report, 2008). The coping strategies that households employ to manage rising food prices have implications for nutritional status. In the short-term, households have few choices for coping with high food prices. One major coping strategy was the reduction in daily food consumption in terms of number of meals, the size of meals and reduction in expenditures on non-staple foods. These strategies however have significant consequences, especially for the most vulnerable groups (sick, elderly, children, pregnant women). Households are also reducing their expenditures on other basic needs and investments such as selling of their productive assets (distress sales), borrowing from family and friends, destocking of livestock and out-migration in search of labor opportunities, reduction in level of investment on education and health. All these have negative effects on current and future livelihoods. Some households sometime resorted to coping strategies that are indicative of extreme food insecurity, such as begging for food or skipping entire days of meals (Figure-8).

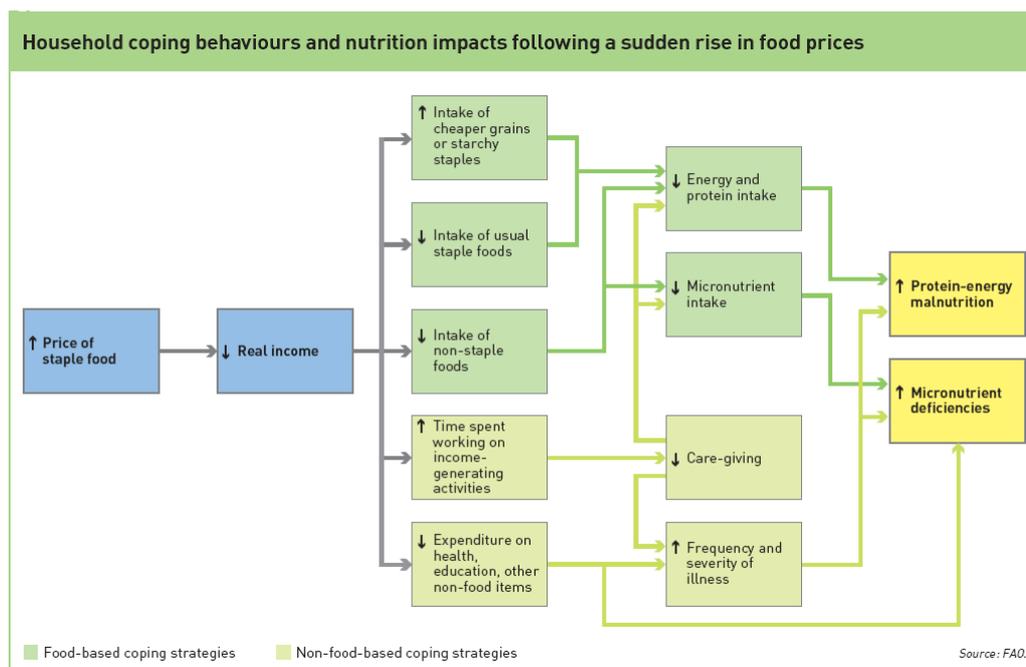


Figure-8. Households coping strategies following the sudden rise in food prices.

Source: FAO (2008)



4.7 Nigeria government responses to global food price increase and implications

The National Nutrition Policy adopted in 1993 advocates a comprehensive inter-sectoral strategy for alleviating the multi-faceted problem of malnutrition and achieving an optimal state of nutrition for all sections of the society. Several of the concerned sectors have since reviewed the progress achieved and have revised their targets for the Ninth Plan/2010. For instance the Family Welfare programme has undergone paradigm shift.

Federal Government of Nigeria in 2008 summoned a meeting of the National Economic Council and Federal Executive Council for practical and positive intervention towards eliminating hunger in the country as a result of the Global food price crisis. This led to the release of ₦80 billion for the importation of 500,000 metric tons of rice and 11,000 metric tons of grains to complement the local output. A six months waiver was introduced on import duties on rice, a sedative measure to encourage private partnership. Considering the fact that fertilizer is an essential input in Nigerian's agricultural system, the Federal Government has procured 650,000 metric tons of fertilizer in 2008 valued at ₦64,340,000.00 billion naira for distribution to all the states and FCT at 25% subsidy, with an efficient and effective procurement and distribution system to ensure non-diversion of the product.

As part of the palliative schemes to keep hunger at bay, Federal Government has approved the release and distribution of 65,000 metric tons of assorted food from the Strategic Food Reserve to cushion the effect of low yield during 2007 season while stocking food items in the Reserves to guarantee the required level of food security, which goes in line with a view to adopting a policy of Guaranteed Minimum Price (GMP) of major food commodities. This strategy is to enhance food security through preservation and storage of items in the rural areas nationwide. In the crop sector, government is refocusing on the production of major key crops in which the country has comparative advantage.

The Nigerian government had also observed access to credit facilities by farmers as one of the major constraints facing agricultural development food and nutritional security in Nigeria. The Federal ministry of Agriculture and Water Resources in 2008 secured approval for the sum of \$39.0 million for Rural Financing Project to provide credit facilities to small scale farmers. In addition, as a result of the importance of land as a factor of production, and lacks of organization in the existing land tenure system in the country in terms of documentation, thus rendering land illegally secure as a means of collaterals for credit facilities. The Nigeria Federal Minister of Agriculture recently informed the nation that government has designed templates for the implementation of Cadastral Survey of the country to ensure the certification of individual farm land for title deeds and to serve as bank collateral for access to credit and support services.

The Special Programme for Food Security (SPFS) has also been strengthened before the ongoing financial meltdown in Nigeria to also encourages investment in rural infrastructure, off-farm income generation, urban agriculture and safety nets. Policy and programs to increase agricultural production without making the products accessible to people by boosting their economic power and lowering the food prices not at the extent of discouraging farmers to expand areas of their farmland will worsen the nutritional status of households.

5. CONCLUSIONS AND RECOMMENDATIONS

The soaring food prices stem from the cumulative effects of long-term trends, more recent supply and demand dynamics, and responses. It has affected three groups of people in Nigeria. First, the poor whose ability to buy food is undermined. Second, government facing higher import bills, increasing costs for safety net programmes⁹ and political unrest. The third group is the aid agencies juggling to assist the country with increased demand for food, cash and technical advice. The rising global food price poses a threat to global food and nutrition security and creates a host of humanitarian crisis, socio-economic, environmental, developmental, political and security-related challenges of millions of people. A recent WHO survey on the impact of the food crisis on under-five nutritional status showed that most vulnerable countries like Nigeria do not have nutrition surveillance systems.

Promoting healthy diets and lifestyles to reduce the global burden of non-communicable diseases requires a multi-sectoral approach involving the various relevant sectors in the societies. The agriculture and food sector must be given due importance in any consideration of the promotion of healthy diets for individuals and population groups. Food strategies must not merely be directed at ensuring food security for all, but must also achieve the consumption of adequate quantities of safe and good quality foods at affordable prices that together make up a healthy diet.

Making food affordable for the poor though such things like provision of safety net program is capable at enhancing the nutritional status of households in Nigeria. As a result of the recent rise in global food price many households cannot afford essential health services from their own resources.

Social protection strategies should be designed to mitigate the current food price increases for the most vulnerable. Nutrition interventions, such as school feeding programs and programs for early childhood and maternal nutrition, should be introduced in the country, strengthened and expanded to ensure universal coverage.

End note

1) Net importer

The FAO has stated that Africa's annual food imports are the equivalent in hard currency of \$19 billion, while its agricultural exports are valued at \$14 billion.



SAPA, 9 December 2002, reporting on the Africa Food Security Conference in Nigeria

2) Income inequality

The inequality of income is measured with a Gini coefficient ranging from 0 (represents perfect equality) to 100 (implies perfect inequality). The Gini coefficient measures the area between the Lorenz curve and a hypothetical line of absolute equality, expressed as a percentage of the maximum area under the line

3) Body mass index (BMI)

BMI is an index of weight-for-height that is commonly used to classify underweight, overweight and obesity in adults. It is defined as the weight in kilograms divided by the square of the height in metres (kg/m²).

4) Moderately and severely underweight

Proportion of under-fives falling below minus 2 standard deviations (moderate and severe) and minus 3 standard deviations (severe) from the median weight-for-age of the reference population

5) Moderate and severe stunting

Proportion of under-fives falling below minus 2 standard deviations (moderate and severe) and minus 3 standard deviations (severe) from the median height-for-age of the reference population

6) Wasting

Proportion of under-fives falling below minus 2 standard deviations (moderate and severe) and minus 3 standard deviations (severe) from the median weight-for-height of the reference population

7) Overweight

Proportion of under-fives falling above plus 2 standard deviations from the median weight-for-height of the reference population

8) Life expectancy at birth

Indicates the number of years a newborn infant would live if prevailing patterns of mortality at the time of birth were to stay the same during the lifespan

9) Safety nets programs

Are targeted programs which address the most immediate food, nutrition and production needs of vulnerable households and prevent their further descent into poverty in times of crisis?

REFERENCES

Anon. 2008. Countdown to 2015: A report on maternal, newborn and child survival, Comment, *The Lancet* 371: 1217-1218.

Ban Ki-moon. 2007. Secretary General Ban Ki-moon, General Assembly 1 March, 2007. UN NEWS CENTRE, News Focus. Available <http://www.un.org/apps/news/>.

Benson T. 2008. Assessing Africa's Food and Nutrition Security Situation. IFPRI 2020 Africa Conference Brief 1.

Belka M. 2008. The Food Crisis: The Role of the Advanced Economies in Europe and North America. United Nations Economic Commission for Europe, available at <http://www.un.org/regionalcommissions/2ndcom08/unece.ppt>.

Benson T. 2004. Africa's Food and Nutrition Security Situation: Where Are We and How Did We Get Here? IFPRI 2020 Discussion Paper No. 37.

British Broadcasting Corporation (BBC, 2008): Cyclone fuels rice price increase. BBC News, May 7, 2008.

Clover J. 2003. Food Security in Sub-Saharan Africa. Published in *African Security Review*. 12(1).

Dike V. E. 2008. Nigeria and the New Global Economy. Nigerian news service.

FAO. 2008a. Growing demand on agriculture and rising prices of commodities, February 2008. <http://www.ifad.org/events/gc/31/roundtable/food.pdf>.

FAO. 2008b. Soaring Food Prices: the need for international action. In High-Level Conference on World Food Security: the challenges of climate change and bioenergy. Rome, 3-5 June.

FAO. 2000. The State of Food Insecurity in the World. Rome: Food and Agricultural Organization of the United Nations.

FAO, IFAD and WFP. 2008. High Food Prices: Impact and Recommendations for Actions.

Paper prepared by FAO, IFAD and WFP for the meeting of the Chief Executives Board for Coordination on 28-29 April 2008, Bern, Switzerland.

Grebmer K. V., B. Nestorova A. Quisumbing R. Fertziger H. Fritschel R. Pandya-Lorch Y. Yohannes. 2009. Global Hunger Index . The Challenge of Hunger: Focus on Financial Crisis and Gender Inequality. October.

High-Level Task Force on the Global Food Crisis. 2008. Comprehensive Framework for Action. [http://www.reliefweb.int/rw/RWFiles2008.nsf/File.sByRWDocUnidFilename/EGUA-7GSPD6-full_report.pdf/\\$File/full_report.pdf](http://www.reliefweb.int/rw/RWFiles2008.nsf/File.sByRWDocUnidFilename/EGUA-7GSPD6-full_report.pdf/$File/full_report.pdf)



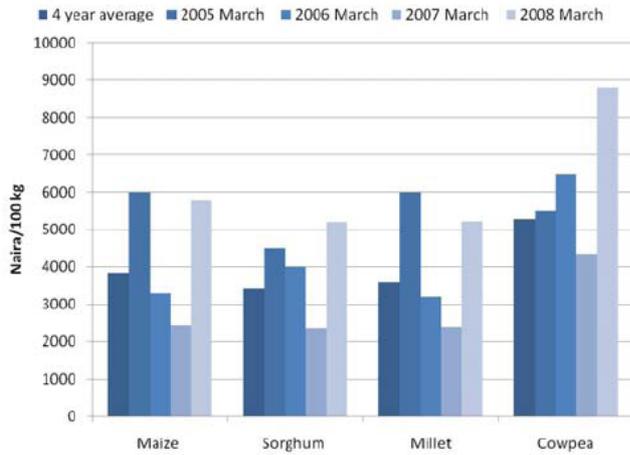
www.arpnjournals.com

- Kazeem O. 2008. Global Food Crisis: Any way out for Nigeria? Centre Tricontinental Wednesday, 10 September 2008. Available on www.centri.be.
- Kazinform (Kazakhstan National Information Agency) 2008. Biofuels major cause of global food riots, April 11.
- IFAD. 2008. Growing demand on agriculture and rising prices of commodities-an opportunity for smallholders in low-income agricultural-based countries? Briefing note for round Table at International Fund for Agricultural Development (IFAD) Governing Council, 14th February 2008.
- IFPRI/CGIAR. 2008. High Food Prices: The What, Who and How of Proposed Policy Actions. Last viewed on 18 September, 2008 at: <http://www.ifpri.org/PUBS/ib/foodprices.asp>.
- Ikeokwu N. 2008. The Global Food Crisis and The Challenge To Nigeria. The Nigerian Village Square, Tuesday, 27 May 2008. Available at <http://www.nigeriavillagesquare.com>.
- International Monetary Fund (IMF, 2008a): Primary Commodity Prices (www.imf.org/external/np/res/commod/index.asp).
- IMF. 2008b. IMF reports, EIU country forecasts. Bloomberg as at 14-Nov-2008 Millennium Development Goals (2004): Available online at http://www.developmentgoals.org/About_the_goals.htm
- Overseas Development Institute (Odi), 2008): Rising food prices: A global crisis. Odi briefing paper. No. 37.
- Senauer B. 2001. The food consumer in the 21st century: New research perspectives. Working paper: Department of Applied Economics, The Retail Food Industry Center, University of Minnesota.
- Standing Committee on Nutrition. 2004. 5th Report on the World Nutrition Situation. Nutrition for Improved Development Outcomes.
- Stern Review. 2007. The Economics of Climate Change. Available at www.hm-treasury.gov.uk/independent_reviews/sternreview_economics_climate_change/stern_review_report.cfm.
- UNICEF. 2008. ChildInfo - Monitoring the situation of Children and Women. June.
- UNICEF. 2006. Information Sheet on Nutrition. UNICEF Nigeria, June.
- WHO. 2008a. The global food crisis: implications for the health of people in the African region. An information note from the WHO Regional Office for Africa.
- WHO. 2008b. Global Database on Child Growth and Malnutrition. World Bank. Life expectancy at birth: World Development Indicators.
- World Vision Food Crisis Global Report. 2008. Food Insecurity and the Global Food Crisis. Available at www.wvi.org.
- Zoellick R. 2008. Food Crisis: How prepared is Nigeria? In Nigeria Sunday THISDAY Newspaper. April 27, 2008. p. 25.



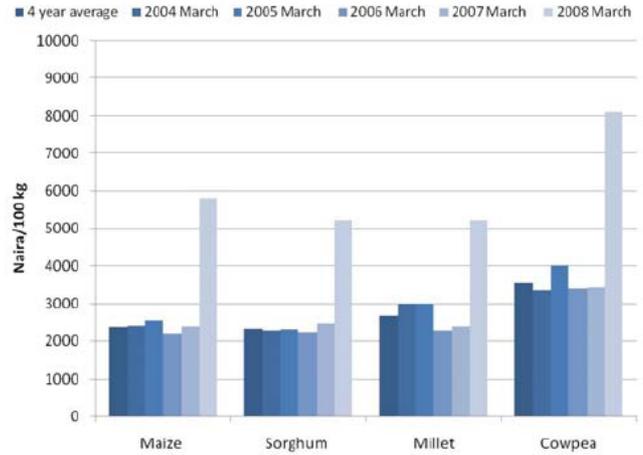
Annex I. Current nominal millet retail prices in 2007/08 compared to 2004/05 and the recent five-year average on markets in northern Nigeria near the border with Niger

Figure 1. Major grain prices in Dawanau Market, Kano



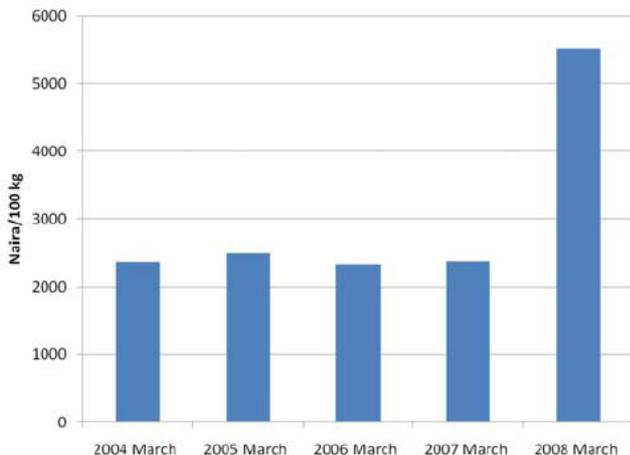
Source Dawanau ICT/FEWS NET

Figure 2: Major grain prices in Dandume Market, Katsina



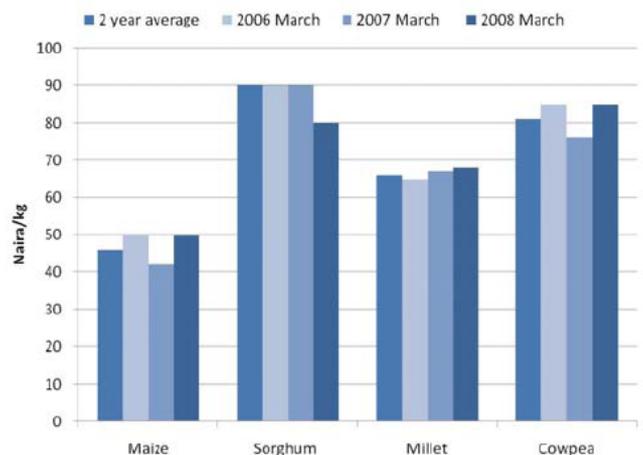
Source Dawanau ICT/FEWS NET

Figure 3. March maize prices in Saminaka Market, Kaduna State



Source Dawanau ICT/FEWS NET

Figure 4. March retail prices in Enugu, Enugu State



Source: NAMIS