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AGRICULTURAL PRICE POLICY, CONSUMER DEMAND AND IMPLICATIONS FOR HOUSEHOLD FOOD SECURITY IN NIGERIA

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Abstract

There is persistent instability of consumer prices for most agricultural commodities in Nigeria. This is occasioned by factors such as season, input price changes, production and marketing technologies and consumer taste, among others. The market price variations often affect the level of consumer demand and food security status of the households. This study therefore examined the synergy between the agricultural commodity prices, consumer demand and food security status of the consuming households in Nigeria. A total of 360 foodgrains consumers were randomly sampled for this study from the 6 geo-political zones in the country. Results indicated that despite the various policies on agricultural prices, the market prices of foodgrains remain unstable. Specifically, the level of consumer demand and satisfaction got reduced while a large proportion of the consumers were food insecure. Major factors that are responsible for unstable consumer demand and household insecurity in the consumption of foodgrains among Nigerians include insufficient household income, increasing household size, consumer preference, market price and lack of standard measurement. With increased discipline in the style of implementation of the various price policies on agricultural commodities, it is hoped that the level of consumer demand and foodgrains security status of Nigerians will improve.

Keywords: *Agricultural price policy, consumer demand, foodgrain, food security, Nigeria*

1. Introduction

In Nigeria, the rate of increase in human population which, according to the National Population commission, stood at 88.6 million people in 2006, (and is projected to hit 160 million within the next one decade) does not enjoy a corresponding rate of increase in food supply (Okuneye, 2008). This thus creates a huge food supply deficit among Nigerians as food demand far outstripped the level of supply, creating an immense pressure on the available food items with the attendant increases in market prices. This study therefore examines the agricultural price fluctuations, the policies on food prices, consumer demand and the implications on food security among Nigerian households.Specifically, the study x-rayed the various price policy frameworks of government and their effects on food

production with special emphasis on the activities of the farm producers. It also examined the how the persistent variations in the prices of foodgrains affect the consumer demands for food items. The challenges of attaining a sustainable food security status were equally examined. Different analytical tools such as the regression models, household food security index and behavioural equation theory (BET) were used for the analysis of data.

2. Historical Background

Food supply deficit in Nigeria has been a source of worry for the major stakeholders (including the farm producers, government, marketers/distributors and consumers) in agricultural production and distribution chain over the past decades. One of the most disturbing problems is that there is a yield gap; the gap between actual yields on farmers' fields and potential yields realizable from available agricultural research results. In maize,for instance, Idachaba (2000b) reported that while the potential yield is at least two tonnes/ha,the actual yields average around 1.191 tonnes/ha,giving a yield gap of at least 0.809 tonnes/ha.It was added that in rice, while the potential yield is up to 2.919 tonnes/ha,the actual yields average around 1.351 tonnes/ha,giving a yield gap of at least 0.648 tonnes/ha.It must be noted that policy constraint is at the centre of the yield gap in most of the staple and industrial crops. For example, while the technology portfolio may be full of viable new varieties, agricultural extension has been weak, or agricultural pricing policies have been unfavourable.

Again,Nigeria has crashed from the leading exporter of groundnuts with the popular groundnut pyramids of the 1950s and 1960s to become a net importer of vegetable oil. This was as a result of harsh policy environment that subjected palm oil, groundnut and other agricultural export to a heavy and crippling marketing board taxation in the past decades. On the other side of the rump is the problem of the design and implementation of unworkable agricultural policies. Examples of such unworkable policies include, but not limited to Producer price support scheme for grains in 1976 and Fertilizer subsidy schemes in 1976.These two policies turned out to be unworkable at the end of the day.

The third aspect of the problem is the set of forces in the external and domestic environment that require prompt and effective responses of the Nigerian agricultural sector. Developments in the external and domestic environments requiring appropriate policy responses include the following, among others;

- Globalization of agricultural input and product markets
- Globalization of food cultures and consumption habits
- Trade liberalization policy ,lowering of import and export tariffs and the removal or drastic reduction of agricultural subsidies
- Deregulation of the domestic economy and the disengagement of government from direct involvement in agricultural production and distribution,etc.

All these, and many others, affect the fortune of the farm producers and eventually their production capacities and ultimately, the market supply of food items. It is therefore important to critically examine and possibly overhaul some of the existing government policies on agricultural production and marketing with a view to making them implementable and sustainable.

2.1. Agricultural Policies and Food Security in Nigeria

Generally speaking, policies are plans or courses of action in directing affairs, especially as chosen by government. In agriculture, they are often statements of constitutional frameworks put in place to guide the government in handling all issues relating to animal husbandry, fish and crop production, farm inputs procurement, produce marketing, extension services and all others. Over the past decades, the Nigerian agriculture had been influenced (positively and otherwise) by the various policy frameworks of government. This revelation has therefore had an over-bearing effect on food security status of the Nigerian nation, the lives of the farm producers and those of their household members. On the side of commodity prices, incessant variations have been experienced over time. This has often negatively affected the level of consumer demand and derivable level of satisfaction among members of the consuming households in Nigeria. Many causes have been advanced for these price variations for agricultural commodities.Olukosi and Isitor (1990) noted that speculative activities of the middlemen, divergence between planned output and realized output and seasonality in production and marketing and changes in demand and supply were the major causes of fluctuations for agricultural commodity prices in Nigeria. The variability in commodity prices often has serious implications on food security status of the households. In an attempt to mitigate the effects of price fluctuations on the level of consumer demand (purchasing power) and household food security the government had put in place some policy control measures/policies. These are minimum price control (price floor) and maximum price control (price ceiling).The minimum price control is usually fixed above the market prices with the objective of helping the farmers get a good price for their produce in the face of low demand. On the other hand, the aim of the maximum price for a commodity is basically to increase consumers' purchasing power. This is usually done when the government feels that the prices of commodities are too high probably above the reach of the average consumer. Successive governments in Nigeria have at one time or the other attempted to fix prices of commodities with little success. Usually a maximum price is fixed below the equilibrium (or market) price.

As part of the efforts towards ensuring that price control was achieved for the agricultural commodities, government often came up regulations specifying the types of measures to be used in the retailing of grains such as maize, soybeans, millet, sorghum and rice (Gilbert,1988). This exercise became necessary because the unit of measure was generally not standard. For example, in the southern parts of the country,foodgrains are sold in basins, tins or bags,whereas,in the northern parts grains are sold in *mudu,tiya*,or bags[1]. Even when bags are used in all the markets the sizes vary from one market to another and from one seller to another. In many markets in the southern parts, especially in the south west, cases of 'beating outer parts of *kongo*', ' spreading/lining candle inside of *kongo*', 'trimming of *kongo* upper edges', 'dropping of *kongo* inside hot water' , are some of the common sharp practices being adopted by the sellers to cheat the unsuspecting buyers of foodgrains (Adekanye,1988; Hays,1976).In the northern parts, where metal bowls called *mudu* and *tiya* are used the actual capacities of these units of measure usually vary from one seller to another.Hence,some local government councils introduced standard ' *kongo*' (in the southern parts) and *mudu* and *tiya* measures (in the northern parts) which all traders must use. In the same vein, it will be recalled that rising food prices in 1966 led to the formation of price committees at the local, provincial and regional levels of government in northern Nigeria. The regional committee under the chairmanship of the Emir of Katsina held several meetings with the market stakeholders all in an attempt to moderate market prices.

In Kano province, for instance, a food price committee was formed under the chairmanship of the Provincial Secretary. This Committee made several appeals to the public calling for prices to be lowered, and in some instances, put direct pressure upon traders in the main markets to ensure that commodity prices were kept at affordable price levels. Unfortunately however, these appeals and actions had little effects as prices were only lowered for a short time before they became hiked again. But there were not enough grains in the reserve to have a significant impact on market prices.Generally; the enforcement of the requirement to lower prices was limited to the arrest and early release of a few erring traders in the metropolitan markets. In this paper therefore, the researcher examined the agricultural price policies, consumer demands and the implications for food security among the consuming households in Nigeria.

2.2. Challenges of Sustainable Food Security Among Households In Nigeria

There is persistent manifestation of hunger and poverty in many parts of Nigeria, particularly in the rural areas. This situation is usually worsened by the problem of food insecurity. The Food and Agriculture Organization, FAO,(2002) observed that this condition arises when people lack sustainable physical or economic access to enough safe, nutritious and socially acceptable food for a healthy and productive life. Nwajuiba (2013) however noted that food insecurity situation could be chronic, seasonal,or temporal. It could occur at the household, regional or eve at the national level. It had however, been established that the majority of the undernourished people reside in developing economies, including Nigeria. To overcome food insecurity challenges, there is therefore the need for food availability, food accessibility and food utilization.Unfortunately,however, despite the huge investment by Nigerian government in food production through the agricultural transformation agenda of the present regime, the dream of achieving food security status for all citizens remains a mirage. The implication of this is that, there are repeated cases of social, psychological and behavioural breakdown in the polity. These often arise from individuals' feelings of alienation/marginalization, stress, helplessness, anxiety, reduced household income and general frustration among others. It has however been noted,(Idiku *et al*,2012),that food insecurity in Nigeria had often been linked to poverty,corruption,environmental degradation, barriers to trade and commerce and low level of education, among others.

Similarly, the FAO (1996) observed that the most vulnerable groups include, internally displaced people due to war and tribal conflicts, marginalized populations (such as unemployed people, homeless and orphans),and dependant populations (such as the elderly people, children under ten years and disabled and ill people).There is, therefore, the need to put in place robust policy frameworks such as credible social security and national health insurance schemes that will properly take care of the interests of these less privileged groups of Nigeria so that they too can be lifted out of poverty.

2.3. Effect of Price Changes on Households' Food Demand

Generally, food prices in Nigeria exhibit some behaviour through time. Olukosi and Isitor (1990) and Okuneye (2008) noted that such behavior included seasonal patterns of change, yearly variations, trends and cycles. But of all these changes, seasonal price changes stand out as the most distinct feature of agricultural commodities. It is common to see highly reduced market prices of foodcrops particularly during harvest time and skyrocketed prices off seasons. This scenario is quite common with foodgrains and vegetables. These price variations often determine the level of access and consumption of these foodcrops by

households. Lack of or complete absence of reliable storage facilities for harvested foodcrops coupled with poor and crude processing methods again limit the market supply of foods.

Unfortunately however, the problems of food price fluctuations may sometimes not be adequately resolved through the maintenance of large silos of grains (for example) across the country. This position was supported by Idiku *et al* (2012) and who observed that, despite the release of several thousand metric tonnes of foodgrains from the National Strategic Foodgrains Reserves in 2011 and 2012 to cushion the effects of climate change on agricultural production, the market prices of most of these foodgrains remained largely unchanged (high).This situation keeps on limiting the level of access of the consumers to the desired food items. High incidence of poverty again worsened the situation as many households could not afford to buy the food items in the open markets due to high prices.

3.   Methodology

Samples for this study were collected through multi-stage sampling technique. A total of 60 food grains sellers were randomly selected from each of the six (6) geo-political zones in Nigeria. The selected markets were Giwa market,Zaria,Kaduna state(North Central region), Bida market, Niger state(North-west region), Bodija market,Ibadan,Oyo state (South western region),Monde market,Maiduguri,Borno state (North Eastern region),Umuahia market,Abia state (South Eastern region),Elele market, Rivers state (South-South region).Thus, there are 360 foodgrains marketers for this study. The food grains captured in the study were maize and rice.Again, 120 rice consumers/buyers and 120 maize consumers/buyers were sampled from the markets. Data/information were collected on the types of measuring apparatus being used for each of the foodgrains,the market price per measure, sources of supply, market demand structure, supply portfolio, household consumption levels and so on. The study was conducted between January and December 2012.

3.1. Seasonal Price Changes/Fluctuations

Estimation of seasonal price changes or fluctuations is often captured by collating time series data on price over some specified periods usually weeks, months, quarter, year etc.Time series data has four components: seasonal variations, trend variations, cyclical variations and random variations. In this study, regression model was used to estimate the relationship between the unit price of foodcrop and the quantities marketed over the months(January to December 2012).This relationship is further stated thus;

$$P_t = \alpha + \beta Q + \varepsilon \tag{1}$$

Where,P_t =Average seasonal price at time t
Q=Quantities of foodgrains marketed at a given time over the period of study.ie January to December 2012.
The prices of most foodgrains do not remain stable throughout the season [2]
α,β are constants
ε= error term
This exercise was repeated for each of the foodgrains being handled: rice and maize.

3.2. Price Differential and Household Food security

Again, the relationship between price differentials for foodgrains and household food security status of the consumers was determined by regression model. Weekly retail prices were used to find the average monthly retail prices for the selected markets. The price differential between any two markets in any month is the difference between these average prices. Price differentials were obtained for pairs of markets that traded with each other. The regressions estimated for each month were of the general form stated thus:

$$P_{ij}=\alpha+\beta S_{ij} +\varepsilon \qquad\qquad (2)$$
Where
P_{ij}=Price differential between markets i and j
S_{ij}=Household food security status which was captured by a measure of difference between quantities of foodgrains required and the quantities supplied per household
α,β=constant terms
ε=error term
*This exercise was repeated for each of the two foodgrains being handled.
Again,the household foodgrains security index was calculated for rice and maize thus;

$$Household\ foodgrains\ security\ index=\frac{Quantity\ supplied}{Quantity\ Required}\ X\ 100\% \qquad (3)$$

3.3. Household Foodgrains consumption

The consumption of foodgrains by households was captured by behavioral equation theory (BET) which is an integral part of sales theories. It uses a stimulus-response model i.e.it explains buying behavior in terms of the purchasing decision process. It will be noted the labour market consists of four major behavioural equations: one describing aggregate employment, one describing average hours worked per week, one describing the average wage rate and describing labour force participation rate. The behavioral equation measured the relationship between the quantities of foodgrains consumed by households and the determining factors. The relationship is stated below:

$$C_t=f(Y,P_e,P_s,H,G,A,E,U) \qquad\qquad (4)$$
Where,
C_t=Household foodgrains consumption (kg)
Y=Household Income of the consumer (Naira,₦)[3]
P_e=Price of Foodgrains (Naira,₦)
P_s=Prices of close substitutes (Naira,₦)
H=Household size of the consumer (No)
G=Consumer taste/preference (Dummy =1 if consumer is well-disposed towards consuming foodgrains,but =0 if otherwise)
A=Age of the consumer (years)
E=Level of Education of the consumer (years)
U=Residual
This exercise was repeated for each of the two (2) foodgrains: rice and maize.

4. Results and Discussion

4.1. Seasonal Price Changes/Fluctuations

The changing retail prices for foodgrains, market to market and season to season, were illustrated for rice and maize in Table 1 below. For all the six (6) markets that were captured, except for Monde market, Maiduguri, Borno state, the slopes were between 3.8 and 7.9 for rice and between 3.1 and 7.8 for maize. This indicated a steady rise in retail prices of foodgrains in the all the markets. The slopes have been expressed as percentages of the intercepts assuming the intercepts represent the average prices at the start of each season (Ejiga,1988).Thus, it was observed that foodgrains retail prices generally increased across the nation and was worse for Monde market,Maiduguri,Borno state, probably due to incessant cases of insecurity ,civil unrest and flood disaster that ravaged most parts of the northern parts of the country last year (2012)[4]. It was again noted that, except for Monde market, the percentage increases in retail prices were relatively smaller in the foodgrains markets in the northern parts than in the southern parts of the country.

Table 1. Regression Results showing the upward sloping portions of average seasonal retail prices for foodgrains

Market	Month	Intercept R	Intercept M	Slope R	Slope M	Co-efficient of Determination R	Co-efficient of Determination M	Ratio of slope to Intercept R (100%)	Ratio of slope to Intercept M (100%)
Giwa,Zaria	Sept-Dec.	47.2	68.1	1.8	2.1	0.85	0.96	3.8	3.1
Bida	Jan.-April	38.8	44.4	2.5	2.9	0.86	0.91	6.4	6.5
Monde, Maiduguri	Mar-.Aug.	23.7	28.0	2.7	2.9	0.76	0.83	11.4	10.4
Umuahia	Feb.-July	39.2	30.4	2.8	2.2	0.69	0.97	7.1	7.2
Elele,Port Harcourt	Jan.-April	26.5	29.3	2.1	2.3	0.74	0.81	7.9	7.8
Bodija, Ibadan	Jan.-April	38.3	37.7	2.8	2.7	0.68	0.88	7.3	7.2

Source: Computed from survey data,2012

Legend: Intercept R=The intercept of the Seasonal Retail Price –Time curve for Rice; Intercept M=The intercept of the Seasonal Retail Price-Time curve for Maize; Slope R=The slope of Seasonal Retail Price/Time relationship for Rice; Slope M=The slope of Seasonal Retail Price/Time relationship for Maize; Co-efficient of Determination R is the Co-efficient of Determination for Rice; Co-efficient of Determination M is the Co-efficient of Determination for Maize; Ratio of Slope to Intercept R is the Ratio of the slope to intercept for Rice (expressed as a percentage); Ratio of Slope to Intercept M is the Ratio of the slope to intercept for Maize (expressed as a percentage)

4.2. Price Differentials and Household Food security

The weekly retail prices for the foodgrains were used to find the average monthly retail prices for the markets under investigation. The price differential between any two markets in any month is the difference between these average prices. Price differentials were obtained for pairs of markets that trade with each other and the implications on household food security status of the consuming households. Food security status of the consuming households was captured by measuring the differences in the quantities of foodgrains that were required by the consumers and the actual quantities that they could afford to buy within the period under investigation. Ten (10) pairs of foodgrains markets were used between January and December 2012.The pairs of foodgrains markets that were investigated are:

Giwa/Bodija;Giwa/Bida;Bodija/Bida;Bodija/Monde;Bodija/Umuahia;Umuahia/Elele; Monde/Umuahia;Monde/Elele;Bida/Umuahia and Giwa/Elele.

Table 2. Regression Results for the Price Differentials and Quantities of marketed foodgrains

Month	C_1	C_2	CE_1	CE_2	R_1^2	R_2^2
Jan.	3.070 (1.191)	2.117 (1.003)	3.882* (1.321)	2.996** (2.117)	0.458	0.556
Feb.	0.215 (0.122)	3.991 (2.007)	2.001 (0.992)	3.715** (2.110)	0.711	0.682
March	4.452 (2.111)	3.991 (2.662)	4.556 (1.194)	3.515 (1.223)	0.485	0.532
April	2.944 (1.335)	3.882 (2.511)	5.881** (1.893)	6.211 (0.632)	0.688	0.832
May	0.553 (0.124)	11.883 (3.884)	12.673 (1.083)	7.321** (3.221)	0.395	0.621
June	11.456 (1.807)	6.993 (2.883)	2.007* (1.396)	7.291 (1.111)	0.559	0.596
July	9.144 (4.375)	23.882 (2.449)	6.317** (2.001)	2.119 (0.124)	0.772	0.683
Aug.	2.247 (1.064)	23.995 (1.816)	2.995** (1.832)	9.627** (2.320)	0.448	0.702
Sept.	3.424 (1.221)	28.998 (63.868)	1.812 (.106)	8.991** (1.931)	0.892	0.885
Oct.	4.555 (1.208)	16.342 (3.905)	5.991 (0.881)	7.883 (0.998)	0.746	0.838
Nov.	1.352 (1.377)	24.006 (2.818)	3.995** (1.873)	2.994** (2.002)	0.586	0.737
Dec.	2.341 (1.121)	7.973 (3.001)	6.892 (1.002)	3.991** (1.933)	0.834	0.755

Source: Computed from survey data,2012
Legend: C_1=Constant term for rice; C_2=Constant term for maize; CE_1=Co-efficient for rice; CE_2= Co-efficient for maize; R_1^2 = Square of multiple correlation co-efficient for rice; R_2^2=Square of multiple correlation co-efficient for maize;
 *means significant at 10% level; ** means significant at 5% level
Note: Figures in parentheses are t-values,

Results indicated that for both foodgrains (rice and maize), there was a strong relationship between retail prices and the quantities of marketed foodgrains over the period of study. Specifically, for rice, the R-square values ranged between 0.395 and 0.892 and between 0.532 and 0.885 for maize (Table 2).Similarly, the parameter co-efficients for rice and maize were positive and many of them were significant either at 5% or 10 % levels. For the months of March and October the parameter co-efficients were not significant determinants of the quantities of foodgrains that were marketed.

Foodgrains security status of the consuming households differed progressively as the family sizes increased. Families with less than 5 members had foodgrains security indices of 1.53 and 1.24 for rice and maize respectively (Table 3).Foodgrains security indices then continued to decline progressively for both foodgrains as the household sizes of the consumers increased.Thus,this finding agrees with the earlier position maintained by Adekanye (1988) who noted that most large families could not afford to purchase the required quantities of foodstuffs mainly because of inadequate household income and limited supports from external sources. This often accounts for cases of under-nutrition and malnutrition, particularly in the rural areas.Again, only 23.33% of rice consumers and 35.0% of maize consumers were foodgrains secure. These groups of consumers were found only among those households with less than 5 members. To further increase their foodgrains security status, other sources should be opened up to complement those grains bought from the organized markets. These alternative sources could include sourcing from private farms and possibly buying other food crops that are considered as close substitutes for foodgrains to support the homes.

Table 3. Measurement of Household Foodgrains Security Status

HHS	A	B	C	D	E	F	G	H	I	J
	Rice	Maize	Rice	Maize	Rice	Maize	Rice	Maize	Rice	Maize
<5	28 (23.33)	42 (35.0)	23	26	15	21	+8.0	+5.0	1.53	1.24
5 ≤10	43 (35.83)	30 (25.0)	22	24	27	30	-5.0	-6.0	0.81	0.80
11≤ 15	30 (25)	27 (22.5)	28.8	32	40	45	-11.2	-13.0	0.72	0.71
>15	19 (15.83)	21 (17.5)	35	48	50	70	-15.0	-22.0	0.70	0.69

Source: Computed from survey data,2012
Legend: HHS=Household size (number); A= Number of Households in the group;
B= Number of Households in the group; C= Average monthly foodgrains supply (rice) Kg; D= Average monthly foodgrains supply (maize) Kg; E=Average monthly foodgrains requirement (rice) Kg; F= Average monthly foodgrains requirement (maize) Kg; G=Average monthly foodgrains supply deficit (rice) Kg; H= Average monthly foodgrains supply deficit (maize)   Kg; I=Household foodgrains security index (Rice); J= Household foodgrains security index (Maize)
Note: Figures in parentheses are percentage (%) composition

4.3. Household Foodgrains consumption

The household foodgrains consumption was captured by using behavioral model. This model examined the relationship that existed between the quantities of foodgrains that were consumed and the determinant factors. For rice, household income, retail price, household size, age and level of education of the heads of households were the significant determinants of the quantities consumed. These factors were significant at 5% and 10% levels (Table 4).The adjusted R-square value of 0.6745 and F-statistic value of 2.117 again confirmed that the identified independent variables were quite relevant parameters in the consumption model. Similarly, for maize, only price of close substitute,P_s was not significant out of the seven (7) identified determinant factors (Table 5). The remaining factors were significant at either 5% or 10 % level. The values of adjusted R –square (0.7112) and F- statistics (3.109) again confirmed that the identified factors were truly relevant parameters for the consumption model.

Table 4. OLS Results of the Behavioural Equation on Household Consumption of Foodgrains

Variable	Co-efficient	Std.Error	t-Statistic
Constant	1291.8212	332.99	3.8794
Household Income,Y	3.8852**	0.1243	31.2566
Price of foodgrains,P_e	1.8921*	1.4420	1.3121
Price of close substitute,P_s	0.2110	2.4431	0.0864
Household size,H	4.5628*	2.8852	1.5815
Consumer Taste/Preference,G	0.8823	2.6643	0.3312
Age of Consumer,A	2.2882**	0.8853	2.5847
Level of Education,E	3.2818**	1.6632	1.973

Source: Computed from survey data,2013
Note: Dependent Variable is Household Foodgrains consumption (Ct); Sample (adjusted) is January- December,2012; Included Observations are 120 rice consumers;
 *means significant at 10% level; **means significant at 5% level;
Adjusted R-square value=0.6745;   F-statistic.= 2.117;Durbin –Watson stat.=1.3429

Table 5. Ordinary Least Square Results of the Behavioral Equation on Household Consumption of Foodgrains

Variable	Co-efficient	Std. Error	t-Statistic
Constant	89.2672	23.2910	3.8327
Household Income,Y	4.2970**	0.4442	9.6736
Price of foodgrains, P_e	2.0761**	1.4488	1.4329
Price of close substitute, P_s	0.6849	0.8855	0.7735
Household size ,H	8.3392**	2.9975	2.7821
Consumer Taste/Preference,G	1.3820*	1.0650	1.2977
Age of Consumer, A	3.9901**	1.2291	3.2464
Level of Education,E	2.9973**	2.1903	1.3684

Source: Computed from survey data,2013
Note: Dependent Variable is Household Foodgrains consumption (Ct); Sample (adjusted) is January- December,2012; Included Observations are 120 Maize consumers;
 *means significant at 10% level; **means significant at 5% level;
 Adjusted R-square value=0.7112;   F-sta.= 3.109;Durbin –Watson stat.=1.311

It should therefore be noted that, for both commodities, consumption increased with retail prices. This further confirms the level of popularity and acceptability of rice and maize as staples among the people of the study area. In effect, they are both regarded as 'essential foodgrains' across the six geo-political zones in Nigeria. These two commodities have a long standing acceptability among the sampled families in the preparation of their diets. They also feature prominently in the making of special delicacies at social gatherings like burial and chieftaincy ceremonies, birthday celebrations, naming of new babies, house warming,etc. Therefore, the levels of consumption of both commodities shot up even with increasing market prices over time.

5. Conclusion and Recommendations

This study examined the agricultural price policies, consumer demands and the implications for food security among Nigerian households. Sellers and consumers of rice and maize constituted the respondents for the study. Descriptive statistics, regression and behavioral models were used for the analysis of data. Generally, there was a steady rise in the market prices for foodgrains across the six geo-political zones in the country. Higher percentage increases in retail prices were however recorded in the southern parts of the country probably because foodgrains naturally have agro-ecological/ production advantages in the northern parts of the country. This position is well supported by Ejiga (1988) and Okuneye (2008).Again, the majority of the consumers was food insecure and therefore needed supports possibly from government, private individuals and corporate organizations through private-public partnership initiatives. This call becomes necessary in view of the fact that government alone cannot successfully combat the food security challenges currently facing the country. This position is well supported by Idiku *et al* (2012) and Nwajuiba (2013) in their separate studies on the subject matter. It is therefore recommended that there should be a credible policy framework towards encouraging younger people to actively participate in food crop production. This could be achieved by further strengthening the various youth empowerment schemes of the present government in Nigeria (such as Subsidy Re-Investment and Empowerment Programme, (SURE-P) and You –Win programme) to ensure that the primary aim of increasing food production through the participation of the youths in agricultural activities is attained. The number and the distribution of storage facilities for foodgrains should also be improved upon. This call becomes more relevant in view of the recent climate change challenges and the attendant huge foodgrains wastages occasioned by excessive flooding and drought/desertification in many foodgrains producing areas. These occurrences and many more, have hindered the attainment of food security status by Nigerians. This therefore imposes a huge challenge on both the government and other stakeholders in their effort at attaining vision 2020, which is, achieving food security status for every Nigerian within the next seven years.

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Footnotes

[1] *Kongo/mudu* and *tiya* are the local names for measuring cans and bags among theYoruba and Hausa tribes of Nigeria respectively.

[2] For computational purposes, the months of January,February,March,.. ,October, November and December were represented by 1,2,3,…10,11,and 12 respectively.

[3] Naira (N̶) is the unit of Nigerian currency. Presently (i.e. November, 2013), it is N̶155.72 to $1.00.More facts about the exchange rate of Nigeria to other foreign currencies could be found on:http://www.cenbank.org/Rates/ExchangeRateBy Currency.asp (of the CBN,2013)

[4] Incessant security threats, coupled with the impact of climate change such as excessive flooding and desertification, grossly reduced the quantities of available farm labour as many local/peasant farmers were killed while many others relocated from their farming communities for fear of being attacked. Invariably, farming activities suffered a devastating neglect between 2011 and 2012.Thus, the general market supply level for rice and maize immensely declined during the period.