Arable Crop Farmers' Perception of Rising Food Prices in Bayelsa State, Nigeria

Ominikari, A. G., Jimmy, S. P. and Wasini, D. A.*

Department of Agricultural Economics, Extension and Rural Development, Niger Delta University, Wilberforce Island, Bayelsa State, Nigeria

KEYWORDS

Arable crop farmers,
Food prices,
Perception

***CORRESPONDING AUTHOR**

oyienpreyejimmy@gmail.com
+2348060916974

ABSTRACT

The study examined arable crop farmers' perception of rising food prices in Bayelsa State. The objectives were factors causing high cost of food prices, effect of food price hike and farmers' perception of rising food prices in the study area. Multi-stage random sampling technique was used to select 110 respondents from 11 communities. Data were collected using structured questionnaire. The objectives were achieved using frequency, percentages, mean and analysis of variance (ANOVA). The hypotheses were tested at 5% level of significance. Findings showed that transportation cost ($\bar{x}$ = 4.68), high cost of inputs ($\bar{x}$ = 4.36), climate change ($\bar{x}$ = 4.35), reduction in currency value ($\bar{x}$ = 4.24) and insufficient storage facilities ($\bar{x}$ = 3.93) were the factors causing high cost of food prices in the study area. The result also revealed that food insecurity ($\bar{x}$ = 4.25), increased debt ($\bar{x}$ = 4.11), hunger and malnutrition ($\bar{x}$ = 4.06) and reduced profit ($\bar{x}$ = 3.45) were the effect of food price hike on the living conditions of arable crop farm households. Majority of the respondents had a very negative perception ($\bar{x}$ = 4.44) of rising food prices. It was concluded that majority of the respondents had a very negative perception of rising food prices. Hence, the study recommends that government should provide adequate infrastructure such as good roads in order to reduce the high transportation costs that constituted a major cause of high food prices in the study area.

INTRODUCTION

Nigeria has experienced a historically unprecedented increase in food prices recently. Several factors are attributed to the recent price shock by arable crop farmers which combined effect has led to an upward price movement (Food and Agriculture Organisation (FAO, 2019). Several studies have highlighted the negative impact of food price hike on households such as reduced food access and consumption, increased food insecurity, and reduced purchasing power (Nkegbe, Kuunibe and Abdul-Rahim, 2020; Ayinde, Otekunrin, Akinbode and Otekunrin 2020; Chen, Bowen and Nelson, 2019).

The cost of transporting the materials and commodities from the point of purchase to the place of business has increased; the increase in prices has made the patronage of food to dwindle. Increase in the price of fuel has made transport operators all over Nigeria to increase the cost of transporting goods and passengers in order to meet up with their operational and maintenance cost (Abimbola, 2022; Bolaji, 2022). This leads to poor distribution of food items all over the country; thus, compelling food vendors to increase the prices of available food items.

Moreover, most of the roads connecting rural to urban or rural to rural areas are in poor conditions. Farmers and food item vendors find it very difficult to get their goods to the markets and other destinations. For

instance, almost all major roads in the South-East, South-South and Southwest of Nigeria are in very poor conditions. Food vendors find it difficult to convey their goods from the Northern to the Southern part of the country. This has discouraged the smooth movement and distribution of food items to places where their demand is high, and thus has led to limited supply of food and therefore a corresponding increase in prices.

Price fluctuations are not new in the global and local food markets. In 2015 and 2016, there was an upsurge of food prices and what distinguished it from the upsurge of 2003 and 2004, and 2007 and 2008 was that the hike in prices was not only for a selected crops but nearly all major food including livestock feed commodities (World Food Program -WFP, 2017). Several factors are attributed to the recent price shocks whose combined effect has led to an upward price movement (FAO, 2017). Firstly, low stock levels to complement food consumption and secondly, oil prices and food prices are highly correlated (Ahmadi, Behmiri, and Manera 2020).

The negative consequences of the continuous rise in food prices in recent years have become increasingly important, particularly for the poor who spend a considerable portion of their income on food. Food price volatility has resulted in increased hunger and food insecurity among the poor, low investment, and the potential for social upheaval in most emerging countries (Ahmadi, Behmiri, and Manera 2020). Individual factors such as the exchange rate, loan rate, money supply, real GDP per capita, stocks, and oil price have all been blamed for the sudden and substantial spikes in food prices. Studies have found a link between these individual elements and variations in food prices over the last few years (Ahmadi, 2015).

In Nigeria, arable farming is the dominant agricultural practice in rural areas, and it is the major source of livelihood for rural households in Bayelsa State. However, food price hike may limit the production capacity of arable farming households, leading to decreased income and poverty (Omobowale, Ogunniyi and Akintola, 2020). Furthermore, studies have also shown that food price hike affects agricultural productivity and income. For example, (Obalola, Likita, Abaoba and Olabode, 2020) find that high food prices reduce farmers' profitability and may lead to a decrease in their production. Similarly, another study observed that high food prices negatively affect the welfare of farming households and their ability to invest in their farms (Omobowale *et al*., 2020). These studies suggest that food price hike may have adverse effects on the arable farming household in Bayelsa State. Thus, there is a need to investigate the effect of food price hike on arable farming households in Bayelsa State. Against these backdrops, this study seeks to investigate the perception of arable crop farmers on the rising prices of food. The specific objectives are to:

i. ascertain the perception of rising food prices by arable farmers in the study area;
ii. ascertain the factors causing high cost of food prices in the study area
iii. examine the effect of food price hike on the living condition of arable farming household in Bayelsa State

This study was be guided by the following null hypotheses

HO_1. There is no significant difference in the causes of the rising food prices by arable farmers

HO_2. There is no significant effect of food price hike on the living conditions of arable crop farming household in the study area.

MATERIALS AND METHODS

Study Area

The study was carried out in Bayelsa State. Bayelsa is geographically located approximately within Latitude $4°15^1$ South and $5°23^1$ North, and Longitude 5°West and 6°45 East (NPC, 2006). . It is bordered by Delta State to the West, Rivers State to the East, the Atlantic Ocean to the South and both Rivers and Delta States to the North. The State is made up of eight Local Government Areas, namely: Brass, Ekeremor, Kolokuma/Opokuma, Nembe, Ogbia, Sagbama, Southern Ijaw and Yenagoa. The major occupation of the people is farming and fishing, Olaniyi, Nwokocha and Anyaegbunam ,(2020).

The main language is Izon, with other dialects such as Nembe, Ogbia and Epie/Atissa. ~~B~~ayelsa State has one of the largest crude oil and natural gas deposits in Nigeria. Bayelsa is often described as the cradle of Ijaw culture and tradition because of its rich culture and tradition that dates back to so many centuries.

Food crops grown in the state include yam, cocoyam, banana, pineapple and plantain. Cash crops grown in the state include coconut, pears, oil palm and raffia palm. The potentials for the development of these crops

to feed local industries are very good. Technologies are being developed to reclaim land from mangrove swamps in order to cultivate food, especially lowland rice and the cash crops identified above on a large, commercial scale.

Method of Sampling Technique

The study adopted a multi stage random sampling technique. The first stage involved the random selection of three Local Government Areas (LGAs) out of the eight LGAs in the State. These LGAs were Sagbama, Yenagoa and Southern Ijaw LGA. The second stage involved the random selection of five communities from each of the three LGAs making a total of 15 communities. Thereafter, eight crop farmers were randomly selected from each of the 15 communities making a total of 120 respondents for the study.

Method of Data Analysis

Data generated from this study was analysed by the use of descriptive tools such as percentage, and mean rating. ANOVA was employed to test the hypotheses. The objectives were achieved using five points' likert-type scale

RESULTS AND DISCUSSIONS

Factors Causing High Cost of Food Prices

The result in Table 1 reveals that transportation cost ($\bar{x}$ = 4.68), high cost of inputs ($\bar{x}$ = 4.36), climate change ($\bar{x}$ = 4.35), reduction in currency value ($\bar{x}$ = 4.24) and insufficient storage facilities ($\bar{x}$ = 3.93) were the factors causing high cost of food prices in the study area. These mean ratings were above the bench mark mean score of 3.00. This implies that transportation cost, high cost of inputs, climate change, reduced profit, reduction in currency value and insufficient storage facilities were the factors causing high cost of food prices in the study area. High transportation costs of agricultural commodities will likely lead to high cost of food prices which in turn leads to less profit for farm households due to the high cost of the transportation of agricultural produce. High costs of farm inputs will also lead to the high cost of crop production and subsequently, high food prices. Agbarevo and Ukagha (2018) noted that rural farmers in Nigeria usually find it difficult to purchase farm inputs and obtain the required quantities at the right time which grossly affect their productivity and income, this is in consonance with this result which stated that cost of inputs is one of the causes of hike in food prices

Table 1: Factors causing high cost of food prices

S/N	Factors	SA	A	U	D	SD	Mean	Remarks
1	Transportation cost	83	20	6	1	-	4.68	Agree
2	High cost of inputs	59	39	5	7	-	4.36	Agree
3	Insufficient storage facilities	47	28	17	16	2	3.93	Agree
4	Climate change	66	24	13	7	-	4.35	Agree
5	Reduction in currency value	57	28	21	2	2	4.24	Agree
	Grand mean score						4.31	Agree

Source: Field survey data, 2023

Note: SA = Strongly agree; A = Agree; U = Undecided; D = Disagree; SD = Strongly disagree

Effect of Food Price Hike on the Living Conditions of Arable Crop Farm Households

The result in Table 2 reveals that food insecurity ($\bar{x}$ = 4.25), increased debt ($\bar{x}$ = 4.11), hunger and malnutrition ($\bar{x}$ = 4.06) and reduced profit ($\bar{x}$ = 3.45) were the effect of food price hike on the living conditions of arable crop farm households in the study area. These mean ratings were above the bench mark mean score of 3.00. This implies that food insecurity, increased debt, hunger and malnutrition and reduced profit were the negative effect of food price hike on the living conditions of arable crop farm households in the study area. This is in conformity with those of Nkegbe, Kuunibe and Abdul-Rahim (2020) and Omobowale, Ogunniyi and Akintola (2020) who reported that reduced food access and consumption, increased food insecurity, and reduced purchasing power were the negative impact of food price hike on households.

Table 2: Effect of food price hike on the living conditions of arable crop farm households

S/N	Effect of food price hike	SA	A	U	D	SD	Mean	Remarks
1	Increased debt	55	32	4	18	1	4.11	Agree
2	Reduced profit	34	30	9	25	12	3.45	Agree
3	Reduced crop production	15	26	24	25	20	2.92	Disagree
4	Food insecurity	54	38	10	8	-	4.25	Agree
5	Hunger and malnutrition	53	33	9	8	7	4.06	Agree
	Grand mean score						3.76	Agree

Source: Field survey data, 2023

Note: SA = strongly agree; A = agree; U = undecided; D = Disagree; SD = strongly disagree

Perception of Rising Food Prices by the Respondents

The result in Table 3 indicates that the majority of the respondents had a very negative perception ($\bar{x}$ = 4.44) of rising food prices in the study area. This is because the mean response was greater than the bench mark mean score of 3.00. This is expected as rising food prices have huge implications for the livelihood of arable crop farm households. The majority of rural farm households who still operate on subsistent basis would aside coping with low food production have to deal with the negative effects of rising food prices on their households. Rising food prices could also reduce farmers' profitability and may lead to a decrease in their production.

Table 3: Perception of rising food prices by the respondents in the study area

S/N	Perception	VSE	A	U	D	SD	Mean	Remarks
1	Very positive	6	4	7	36	57	1.78	Disagree
2	Positive	4	7	11	47	41	2.75	Disagree
3	Very negative	72	23	8	5	2	4.44	Agree
4	Negative	54	42	6	5	3	4.26	Agree
	Grand mean score						3.31	Agree

Source: Field survey data, 2023

Note:VGE =Very Great Extent (5); Great Extent = (4); U = Moderate Extent (3); D = Small Extent (2); NE = No Extent (1).

Result of hypothesis test 1

Test of significant difference in the effect of food price hike on the living conditions of arable crop farm households

The result of the Analysis of Variance (ANOVA) f-test used to test for significant difference in the effect of food price hike on the living conditions of arable crop farm households in the study area is presented in Table 4. The result in Table 4 shows that the calculated Anova f-value of 2.08 was significantly higher than the tabulated Anova f-value of 1.97 at $P \leq 0.05$, suggesting that there was significant difference in the effect of food price hike on the living conditions of arable crop farm households across the selected communities in the study area. This implies that the hike of food prices is significantly affecting living conditions of arable crop farm households across the sampled communities in the study area. This also has an impact on the cost of house rents, cost of transportation and general cost of living.

Table 4: Analysis of variance results showing difference in the effect of food price hike on the living conditions of arable crop farm households across the selected communities

Variable		Sum of Squares	Df	Mean Square	F-cal	F-tab
Effect of food price hike	Between Groups	8.473	9	.941	2.08	1.97
	Within Groups	55.135	100	.551		
	Total	63.608	109			

Source: Field survey data, 2023

Ho_1: accepted at 5% level

Result of hypothesis test 2

Test of significant difference in the perception of arable crop farmers on the causes of rising food prices

The result of the Analysis of Variance (ANOVA) f-test used to test for significant difference in the perception of arable crop farm households on the causes of rising food prices in the study area is presented in Table 5. The result in Table 5 shows that the calculated Anova f-value was lower than the tabulated Anova f-value of 1.97 at ($P \leq 0.05$), for high cost of input, cost of transportation and currency devaluation. Suggesting that there was no significant difference in the causes of rising food prices by arable crop farm households across the selected communities in the study area. This implies that the causes of rising food prices by arable crop farm households did not differ significantly across the sampled communities in the study area.

Table 5: Analysis of variance results showing difference in the perception of rising food prices by arable crop farm households across the selected communities in the study area

Variable		Sum of Squares	Df	Mean Square	F-cal	F-tab
High cost of inputs	Between Groups	2.119	9	.235	1.817	1.97
	Within Groups	12.955	100	.130		
Cost of transportation	Between Groups	6.846	9		1.689	1.97
	Within Groups	16.222	100			
Devaluation of currency	Between Groups	4.134	9		1.628	1.97
	Within Groups	19.202	100			

Source: Field survey data, 2023

Ho_2: accepted at 5% level

CONCLUSION

The study concluded that arable crop farmers perceived that the rising prices of food stuffs is caused by high cost of inputs (seeds, fertilizers, agro chemicals, land and labour etc), general rise in the cost of transportation due to the removal of fuel subsidy and the low exchange value of the Nigerian Naira. Arable farmers incur high cost of production and as a result there is a reduction in production activities. The high demand for food amidst low production explains the hike in food prices.

RECOMMENDATIONS

i. The study recommends that government should provide adequate infrastructure such as good roads and also an efficient transport system in order to reduce the high transportation costs that constituted a major cause of high food prices in the study area.
ii. Government and other stakeholders should provide subsidies to farmers to reduce the cost of inputs.
iii. A stable exchange rate should be maintained to reduce the general rise in prices of commodities.

REFERENCES

Abimbola, J. (2020) Six factors responsible for high cost of food items in Nigeria and recommendation

Agbarevo, M.N.B. and Ukagha O. (2018). Determinants of Participation of Farmers in the E-wallet Agricultural Input Delivery System in Abia State Nigeria. *Journal of Agricultural Extension*, *22*(3), 109-116.

Ahmadi, M, Behmiri, N.B, and Manera M. (2015) How is volatility in commodity markets linked to oil price shocks? Nota Di Lavoro 101. 2015

Aminu, F.O. Mohammed, H.A. and Iheagwam, C.I. (2020). Determinants of labour use among Ofada rice farmers in Ewekoro Local Government Area, Ogun State, Nigeria. *Agricultural Economics and Extension Research Studies*, *8*(2), 11-20.

Bolaji, A. (2020) Transportation costs fueling high prices of food. The guardian http://guardian.ng/features/transportaton -costs-fuel-hgh prices -of-food/

Chen, B., Villolia, N.B. "climate shocks, food price stability and international trade:evidence from 76 maize markets in 27 net-importing countries." Environmental Research letters. 14014007

FAO. FAOSTAT (2019) statistical data base statistical division –Rome Retrieved from http://ww.fao.org/faostat/en/data/

Henri-Ukoha, A., Ukoha, I.I. and Veloh, M. (2021). Factors affecting arable crop farmers' willingness to pay for climate information services in Etche Local Government Area, Rivers State, Nigeria. *Agricultural Economics and Extension Research Studies, 9*(2), 42-54.

Obalola T.O, Likita K, Abaola K.O, and Olabode E.J (2020) Drivers of cassava and rice consumption in Nigeria. A vector error correction model approach AE 7(1):01-11

Olaniyi A.I, Nwokocha, I.N, and Ayaegbunam H.N (2020). Effects of farmers socioeconomic factors on production of staple food crops in oil polluted and non-oil polluted areas of Bayelsa State, Nigerian Journal of community and communication research 5(1):

Mgbada, J.U., Ohajianya, D.O., Nzeh E.C., Unaeze, H.C., Nwibo, S.U. and Nwachukwu, E.U. (2021). Multinomial logit analysis of determinants of choice of credit source among women arable crop farmers in Imo State, Nigeria. *Agricultural Economics and Extension Research Studies, 9*(2), 1-10.

Nkegbe, P.K., Kuunibe, N., and Abdul-Rahim, A. (2020). Food price volatility and household welfare in Ghana. *Journal of African Business*, *21*(2), 271-294.

Nwaiwu, I.U.O., Obasi, P.C., Maduike, I.A. and Iwejuo, R.I. (2020). Cutting edge technology: a risk management strategy in poultry production in Imo State, Nigeria. *Agricultural Economics and Extension Research Studies, 8*(2), 107-118.

Omobowale, A.O., Ogunniyi, L. T. andAkintola, S. L. (2020). Agricultural production and food price inflation nexus in Nigeria: An autoregressive distributed lag (ARDL) analysis. *African Development Review*, *32*(2), 241-255.

Uche, C., Familusi, L.C. and Kirikiri, L.S. (2021). Technical and allocative efficiency in catfish farming in Khana government local government areas of Rivers State, Nigeria. *Agricultural Economics and Extension Research Studies*, *9*(2), 103-109.