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**Empirical Paper** 

### Effect of Increase in Food Prices Resulting from Boarder Closure, Rural Banditry And Economic Downturn on Households Food Security in Kebbi State, Nigeria

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Abstract: The study assessed the effect of increase in food prices resulting from boarder closure, rural banditry and economic downturn on household's food security in kebbi state, Nigeria. Multi stage sampling procedure was used to select the sample for the study. Data for the research were obtained from sixty (60) respondents who were mainly affected by the scourge of rising food prices in the state. Sixty household heads were systematically selected and interviewed with the aid of structured questionnaires. The results showed that 47% of the respondents were married, while 35% were single. It was also indicated that greater percentage of the respondents (18%) had only primary education which shows lack of knowledge and skills for improved farming practices to avert the scourge of rising food prices. More than half (53%) of the participants were unemployed which indicated that that they received salary thus making them more vulnerable and more impactful to the effect of increase in food prices. More than half (53%) of the participants earned a household income ranging from 1000-20, 000 per month which may not be enough to cater for the balanced nutritional needs of the households making them undernourished. Majority of the respondents (48%) described rising food prices as resulting from boarder closure", while 47% said increase in food prices resulted from banditry activities, While 12% regarded it as arising from economic downturn of the country which may mean a forceful/deliberate increase in food prices as a result of removal of subsidy and skyrocated dollar increase. The various coping strategies adopted by the households to mitigate their food insecurity indicated that (45.9%) changed their food pattern to mitigate their food insecurity, with 32.6% resorted to obtaining loans for food from various financial source, 55.0% relied on help from relatives/friends. It is concluded that Increase in food prices negatively affected participants in kebbi state because households were forced to change their eating or dietary patterns. In addition, spending half of their income on food restricted them from affording other basic necessities, such as education and health. Poor-quality food has poor nutritive value that is vital for the well-being of many communities in rural areas, and inferior products make it impossible for many households to meet their daily recommended intake of nutrients. Rural farming communities need to be made aware of the need for family planning to be able to reduce their family sizes in order to sustain their families, specifically in difficult times, such as that of the ongoing increase in food prices, Farmers should be encouraged to increase their household's income sources to promote sustainable crop and livestock management practices.

Keywords: Effect, Increase in Food Prices, Boarder Closure, Rural Banditry, Economic Downturn, Households Food Security, Kebbi State

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#### **INTRODUCTION**

Food provision for households is a daily necessity, with approximately 820 million individuals globally being faced with the challenge of hunger, while over two-thirds of the world population were lacking essential nutrients, thus influencing their diet, wellbeing and life expectancy. It was projected by the United Nations (UN) World Food Programme that by the end of 2030, approximately 300 million people could face food insecurity (WHO 2008). The ability of poor households to meet other important non-food expenses, such as education and health care, are limited by rising food prices. FAO (2022) stated that about 19.4 million people will face food insecurity across Nigeria between June and August 2022, a report by the United Nations Food and Agriculture Organisation has said. The report, processed in collaboration with the Federal Ministry of Agriculture and Rural Development -FMARD and other stakeholders, analyses acute food and nutrition insecurity in the Sahel and West African region. The report said the food crisis will affect Nigerians in 21 states and FCT including, 416,000 Internally Displaced Persons (IDPs). It noted that about 14.4 million people including 385,000 IDPs in 21 States and FCT of Nigeria are already in the food crisis till May 2022. The analysis for the month of March covered Abia, Adamawa, Benue, Borno, Cross-River, Edo, Enugu, Gombe, Jigawa, Kaduna, Kano, Katsina, Kebbi, Lagos, Niger, Plateau, Sokoto, Taraba, Yobe, and Zamfara, and the Federal Capital Territory (FCT). Last year, the FAO estimated that 12.8 million Nigerians will go into famine between June and August 2021.

IFAD (2010) report identified insecurity especially insurgency in the North-east states, mostly in Borno, Adamawa and Yobe, armed banditry and banditry in some North-west states such as Sokoto, Katsina, Zamfara and Kaduna States, as well as Northcentral states of Benue and Niger as key drivers to the upcoming food crisis. World Bank (2011) said that high inflation in soaring food commodity prices, which could be associated with an economic downturn, will contribute to the hunger crisis. Loss of employment and reduction in household income due to the long-term effect of COVID-19 pandemic and displacement arising from conflict and armed banditry as evident in the crisisemergency livelihood coping strategies adopted by most households. FAO, (2013) posits that among the principal reasons for the increase in the number of people in critical need as against the March, 2021 Cycle could be the objective analysis of inaccessible/hard-toreach areas (Borno and Adamawa), internally displaced persons (Borno), the increased number of displaced (vulnerable populations) due to banditry, and finally the inclusion of five new states (FAO, 2022).

Although studies relating to rising food prices on household food security have been conducted in Nigeria, little is known of the effects of rising food prices on household food security at local level. Therefore, the aim of this paper was to investigate the effects of increase in food prices resulting from boarder closure, banditry and economic downturn on the household food security in Northern Nigeria (UNDP, 2013)



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#### METHODOLOGY

#### Study Area

The research study was conducted in Kebbi State. The choice of the study area was premised on the fact that it is among the Zones experiencing rapid increase in prices of commodities in the country. Kebbi State was created out of the then Sokoto State in 1991. The state lies in Northwestern region of Nigeria and Republic of Benin to the west. Kebbi State has a total land Area of about 37,698,685 square kilometer.

Based on projections from 2006 census figure, Kebbi

State is estimated to have a population of 4,629,880 (NPC, 2006: projected to 2022). Kebbi State is made up of 21 Local Government Areas (LGAs). It has four emirate councils (Gwandu

, Argungu, Yauri and Zuru) and has four Agricultural Zones namely Argungu, Bunza, Yauri and Zuru zones respectively, for ease of administration. Kebbi State falls between latitude 12046N and 120.27N and longitude 4019E and 4011E (NPC, 2006). Agriculture is the main occupation of the people of the state especially in rural areas. Crops produced are mainly grains like Rice, Millet, Sorghum etc; animal rearing and fishing are also common agricultural activities that feature prominently in the State. The weather of the State is often dry with lots of sunshine. The wet season last from May to October while the dry season lasts for the remaining period of the year. Mean annual rainfall is about 800mm-1000mm. Temperature is generally high with mean annual temperature of about 26°C and above in all locations of the state. This climatic peculiarity allows for meaningful investment in agriculture.

#### Sample Size and Sampling Procedure

A multi-stage sampling technique was employed to obtain data for the study. In the first stage, six (6) Local Government Areas (LGAs) were selected. In the second stage, two Villages from each of the six (6) LGAs were selected giving a total of (12) Villages. In the third stage, five (5) randomly selected household heads were drawn from the villages, thus making 60 respondents for the study.

#### **Data collection**

Both primary and secondary data were used for the study. Primary data were obtained through field survey. The questionnaire included sections on socio demographic data, the effects of increase in food prices resulting from boarder closure, banditry and economic downturn on household food security, coping strategies and people's perceptions on rising food prices. The questionnaire was completed during a structured interview to ensure that illiterate participants were not excluded. The interviews were conducted and were held outdoors because participants were not comfortable welcoming researchers into their homes because of security reasons.

#### **Statistical analysis**

Data collected were analyzed using descriptive statistics comprising of frequency distribution count and percentages. The frequencies of the categories were determined and represented in tables as appropriate. Data on the effect of increase in food prices were arranged into themes.

#### RESULTS

Variables n (%) Age Distribution of the respondents (Years) 20-29 7 (12) 30-39 18 (30) 40-49 13 (22) 50-59 14 (23) > 60 8 (13) **Marital Status** Single 28 (47) Married 21 (35) Divorced 11 (18) **Educational Level** Never attended School 9 (15) Primary 5 (8) Secondary 10 (17) Quranic 3 (5) Tertiary 22 (37) **Employment Status** Unemployed 32 (53) Employed 27 (47) Source of income per month Self 1 (2) Pensioner 21 (35) Old age grant 7 (12) Child grant 16 (27) Salarv 9 (15) Medical grant 6 (10)

**Table 1:** Demographic Characteristics of the Respondents n=60

Source: Field Survey, 2022 \*Multiple Reponses were recorded

#### Table 2: Factors /Effects of increase in food prices on household food security n=60

Factor resulting in increase in food prices	n (%)
Boarder closure	48 (80)
Economic downturn	12 (20)
Banditry	47 (78)
Shortage of rain	12 (20)
Drought	3 (5)
Effect of increase in food prices	
Hunger/ Starvation	16 (27)
Eating unbalanced diet	36 (60)
Low productivity	18 (30)
Child mortality	22 (37)
Nutrients Deficiency	32 (53)
Begging	7 (12)
Malnutrition	9 (15)
Poor standard of living	21 (35)
Poor housing condition	1 (2)
Inability to save	32 (53)
Vulnerability to diseases	24 (40)

Source: Field Survey, 2022 \*Multiple Reponses were recorded

#### Table 3: Usual food purchased by participants n=60

Variables	n (%)
Usual ingredients purchased by households (n = 60)	
Cereals e.g. Maize, oil, salt, teabags, milk, bread and sugar	60 (100)
Other ingredients purchased by households (n = 60)	
Chicken, frozen fish, tinned fish, tomatoes, onions and cabbage	36 (60)
tomato sauce, carrots, eggs, butternut, potatoes, beef, onions, green peppers,	18 (30)
apples, bananas, pawpaw, soft drinks, spaghetti, fresh milk, spinach and flour	0 (10)
peanut and butter  europeanut and butter  eur	6 (10)

Source: Field Survey, 2022 \*Multiple Reponses were recorded

#### Table 4: Aggregate households in Nigeria expenditure by type of commodity: National 2019.

Group	Expenditure (\$)	Share in Food Expenditure (%)	Share in Total Expenditure (%)
Food consumed away from home	10,946,694,398	20.19	11.43
Food consumed at home			
Starchy roots, tubers and plantain	610,114,603	11.09	6.28
Rice	4,710,641,878	8.69	4.92
Vegetables	4,191,860,922	7.73	4.38
Fish and seafood	3,176,789,938	5.86	3.32
Grains and flours	3,056,092,445	5.64	3.19
Meat	2,835,564,411	5.23	2.97
Coffee, tea, cocoa, other beverages	706,181,167	1.30	0.74
Other miscellaneous foods	12,991,594,738	22.90	13.02
Non-food consumed both at home Transport	and away from home 6,164,050,083	14.85	6.44
Health	5,857,776,520	14.12	6.12
Education	5,783,316,793	13.94	6.04
Fuel/Light	4,800,437,573	11.57	5.01
Other miscellaneous non-food 16,373	3,251,029	25.87	11.71

**Source:** NBS = consumption expenditure pattern in Nigeria—2019.

Coping Strategies	Percentage
Change dietary food pattern	45.9
Relied on savings/thrift	22.4
Obtained loan	32.6
Unconditional help provided by relatives/friends	20.0
Sold households assets	43.3
Sent household members to live elsewhere	21.9
Distress sale of livestock	14.6
Unconditional help from religious centers	15.7
	Change dietary food pattern Relied on savings/thrift Obtained Ioan Unconditional help provided by relatives/friends Sold households assets Sent household members to live elsewhere Distress sale of livestock

Table 5. Distribution of responde	nts based of coping strategies	adopted against food insecurity (%).

**Source:** Field Survey, 2022 \*Multiple Reponses were recorded

#### DISCUSSION

#### **Demographic Characteristics of the households**

Table 1 shows the demographic characteristics of the participating households. Of the entire group (n =60), 30% fell within the age range of 30– 39 years, with 22% and 23% in the age ranges of 40-49 years and 50-59 years, respectively. With regard to marital status, 47% of the participants were married, and 35% were single. The participants' educational level ranged from never having attended school to tertiary education. Thirty-seven per cent of the participants had a tertiary education, 17% had secondary education, and 18% had primary education. More than half (53%) of the participants were unemployed, and the remaining 47% were employed. Of the employed, 30% indicated that they received a salary. More than half (53%) of the participants earned a household income ranging from1000-20, 000 per month. When the amount of money spent on food was assessed, the results revealed that 55% spent less than ₩500 per month, and 32% between ₩1000 and ₩20 000. In addition, 80% of the participants purchased food from supermarkets, while 20% sourced it from local shops. Of all the participants, 78% purchased food once a month, while 20% did so twice a month. Fifty-three per cent of the participants ate two meals per day, while 40% ate three.

## Factors/Effects of rising food prices on household food security

Table 2 assessed the factors/effect of food prices on household food security. When assessing the knowledge and understanding of participants of the concept of "rising food prices", the majority (48%) of the participants described it as "resulting from boarder closure", while 47% said increase in food prices resulted from banditry activities which meant "buying less for more money". While 12% regarded it as "resulting from economic downturn of the country which may mean a forceful/deliberate increase in food prices as a result of removal of subsidy". A further 12% and 3% respectively of the participants reported that increase in food prices were as a result of shortage of rainfall and drought conditions during rainy seasons. A whopping 32% said lamented that increase in food prices lead to their inability to save because all their income goes to food purchase. Participants indicated that rising food prices had a mixed effect on their households, and that many difficulties were experienced owing to rising food prices. The participants indicated that they spent almost 50% of their money on food. This impeded their ability to access other important commodities required in the household. Another 1% respondents indicated that they could not build proper houses nor save money.

#### Usual food purchased by the participants

Table 3 indicated the usual food purchased by the participants. Thus, 15% borrowed money from micro lenders. With regard to the usual food purchased by participants, all of them (100%) purchased Cereals e.g maize, oil, salt, teabags, milk and sugar. Chicken and frozen fish, tinned fish, tomatoes, onions and cabbage were purchased by 60% of the participants. In addition, 30% indicated that they purchased tomato sauce, carrots, a chicken, eggs, butternuts, potatoes, beef, green peppers, apples, bananas, pawpaw, soft drinks, spaghetti, fresh milk, spinach and flour. Ten per cent (10) indicated that they purchased peanut and butter

#### Household's Food Expenditure Pattern in Nigeria

Table 4 shows the Household's Food Expenditure Pattern in Kebbi State Income and consumption are the main determinant of living standards, the former being the earning obtained from productive activities by an individual, group or organization(s). Consumption measurements over a week or month give an indication of household's habits over time, as they are regarded as being in a steady state over time. Jacobs (2010) believed that household's food expenditure pattern are a function acts to qualify the community's use of resources for comfort, survival and enjoyment. The expenditure patterns within a household contributes to the economic, social and fiscal policies of the country.

Babalola and Ositor (2014) observed that in developing countries such as Nigeria, the households tend to spend large amounts of their disposable income on food, while in many developed countries, which are characterized with more disposable income. household's expenditure patterns are skewed towards non-food items. The amount a society spends on nonfood items is a function of how developed they are, examples being found in the city of Lagos, Nigeria, which is a state with an emerging economy that accounted for about one tenth of the total household's expenditure in Nigeria. Table 4 shows that Nigeria's total household's expenditure on food and non-food for 2019 \$95,731,877,284.21 compared was to \$51,477,622,722.89 in year 2009/10. Of this, 56.65% of total household's expenditure in 2019 (60.2% in 2009/10) was on food, with the balance of approximately 43.35% (39.80% in 2009/10) being spent on non-food items. Furthermore, the monetary value of food consumed away from home, transportation costs as well as starchy food, tubers and plantains were responsible for the largest proportion of household expenditure, representing a combined 24.16% in 2019.

Bagarani et al., (2019) revealed that analysis of food expenditure within the households in 2019 reveals that various food items, such as starchy food, tubers, plantains, rice, vegetables, fish and sea food, grains and flours, in that order were the top food items households spent their disposable income on in 2019, accounting for a combined 59.19% of food expenditure. Household expenditure on non-food items was directed at transport, health, education and services, rent, fueling as well as electricity, which accounted for about 79.40% of amount spent on non-food expenditure.

# Coping Strategies against Food Insecurity by the Households

The various coping strategies adopted by the households to mitigate their food insecurity are

presented in Table 5. The majority (85.90%) changed their food pattern to mitigate their food insecurity, with 72.60% obtaining a loan for food from various financial source, 55.00% relying on help from relatives/friends, 61.90% sending some of their household members to live with someone else, and 34.60% engaging in the distress sale of livestock.

#### Other Coping strategies

The other coping strategies discussed herein are divided into short and long-term.

#### Short-term strategies

Participants were asked to report the strategies that they used to cope with rising food prices. In their statements, 60% of the participants indicated that they bought food in bulk in order to ensure that food was available throughout the month. Another strategy was to send children to neighbours and relatives in order for them to have meals more often. Composing a shopping list with basic or usual food items was another coping strategy mentioned by 23% of the participants, while 17% indicated that they ate indigenous, traditional foods that grew in the wild.

#### Long-term strategies

Approximately 50% of the participants indicated that they started planting vegetable gardens for food availability and subsistence. They also indicated that the small amount of money that they received from the sale of these vegetables assisted them to purchase other commodities required on a daily basis. Social grants also brought some relief to 43% of the study participants, with 7% stating that they resorted to selling their livestock when their money to buy food and other commodities was exhausted.

The majority (58%) of the participants indicated that their way of eating had changed owing to rising food prices. The majority (77%) were short of food before the month end, and reported their coping strategies to be eating less preferred food, borrowing food from neighbours, borrowing money to buy food, going without food, eating indigenous, traditional food that grew in the wild, and omitting important meals, such as breakfast. In addition, only 23% of the participants indicated that the food that was purchased lasted for the entire month. In other words, they were never short of food.

#### Changing purchasing and eating behaviour

The majority of the study participants (57%) indicated that their purchasing patterns had changed. They had stopped buying food items such as rice, mayonnaise, tomato sauce, soft drinks, flour, snacks (potato chips, sweets and cakes), red meat, tuna fish and cereal. These participants now bought cheaper brands, such as generic store brands, while 20% of the participants purchased food in Asian or Foreign owned shops because they believed that the prices were cheaper. The last coping strategy mentioned was reducing the portion sizes. This was cited by 70% of the study participants.

#### People's perceptions of increase in food prices

The majority (55%) of the participants perceived rising food prices as "an enemy of progress, which makes poor people become poorer, and pushes many households into debt from which it is difficult to recover". Approximately 30% of the participants perceived rising food prices to be a way of maintaining a high currency rate and increasing value-added tax (VAT) income for the state. Only 15% of the participants reported that they did not know what rising food prices entailed. The following responses were provided by some of the participants The interaction of food, health and care as: "Rising food prices make it hard for us to mobilize savings" (5%), "Rising food prices are a way of keeping the currency high and getting more tax through VAT" (7%) and "It affects one's way of eating because people are forced to eat food from the same groups, and in turn, this can lead to micronutrient deficiencies" (3%).

### General Effects of increase in food prices on household food security

Baker (2008) and Bovis (2008) highlighted the effects of increase in food prices as shown below:

> The participants indicated that because of rising food prices, they could no longer buy other brands, and instead purchased generic store brands, which they regarded as cheaper. The nutrition of the poor is at risk if they are not cushioned from rises in food prices since this can result in households not having enough to feed everybody, which, in turn, forces them to accept lower priced food options.

Higher food prices lead poor people to limit their food consumption and adjust to an increasingly unbalanced diet, which has a harmful effect on health in the shortterm (hunger) and long-term (food insecurity).

> To avoid the increase in debt to acquire food, households change to primarily sourcing less costly, less preferred and less nutritious foods.

determinants of nutritional status extend beyond

income alone.

> Women are more likely to work in farming areas, possibly resulting in less time and increased difficulty in caring for their children. These constraints can lead to suboptimal child feeding practices, which often leave their children poorly nourished and lacking in immunity to disease Brinkham et al., (2010)

> Undernourishment increases child mortality, lowers productivity and can have severe lifelong effects, particularly on women and children. In the current study, the change in eating patterns caused participants to consume a monotonous diet. A monotonous diet, poorquality food and the lack of choice can lead to micronutrient deficiencies and disorders.

Alterations owing to rising food prices may include changing to lower-quality and less nutritious foods, a reduction in consumption by certain members of the family, a reduction in the frequency of consumption and/or size of the portion, as well as reduction in diet diversity, leading people to become trapped in poverty at household level. This results in a malnourished community, and more likely, in the cycle of malnutrition.
 In recent years, the increase in hunger in developing countries can be attributed to the financial meltdowns of 2008 and 2009.23 Our findings also revealed that food supplies for some participants were depleted before the end of the month.

➤ These caused participants to eat less preferred food, and to either borrow food from neighbours or borrow money to buy food. This resulted in indebtedness, and caused participants to miss some meals in order to cope. The majority (53%) of the participants in the current study indicated that they ate two meals a day. An increase in extreme poverty owing to rising food prices leads to higher malnutrition because poorer people eat less.

> These changes in consumption patterns, brought on by higher food prices, generate increased micronutrient deficiency disorders and a higher incidence of diseases, thereby increasing child and maternal mortality.24

> Under these poverty-induced circumstances, poor households often cut back on non-food necessities, such as health and education, resulting in poorer school performance and reduced worker productivity, while possibly depleting assets and savings.24 When nutritional needs are not met, people become prone to acute malnutrition and high mortality rates. An increase in the price of staple foods can lead to a substantial reduction in energy intake and the inability to purchase other needed goods.

Rising food prices can have multiple, negative, longterm impact on a household's well-being and future human capital.

> Families also adjust food distribution within their households to cope with rising food prices.

> It is common for mothers to forgo food when it is scarce, while boys frequently receive larger portions than girls

#### CONCLUSION/RECOMMENDATIONS

Increase in food prices negatively affected participants in kebbi state because households were forced to change their eating or dietary patterns. In addition, spending half of their income on food restricted them from affording other basic necessities, such as education and health. Poor-quality food has poor nutritive value that is vital for the well-being of many communities in rural areas, and inferior products make it impossible for many households to meet their daily recommended intake of nutrients. Participants in the current study bought their food in bulk as a short-term strategy to cope with rising food prices. In addition, participants harvested vegetables from their home gardens for food security and availability. As a long-term strategy to address food insecurity, participants sold the produce in order to earn money for commodities. Furthermore, participants perceived rising food prices to be an enemy of progress, making poor people poorer, and pushing many households into debt, from which it was difficult to recover. Subsidizing all food prices, not only the price of staple foods, is recommended in order for the poor to afford adequate food. Job creation should be improved to reduce unemployment in families. Lastly, investment in agricultural education for small farmers should be made. Help and agricultural knowledge regarding better food production should be provided to small farmers and people who have home gardens. Rural farming communities need to be made aware of the need for family planning to be able to reduce their family sizes in order to sustain their families, specifically in difficult times, such as that of the ongoing increase in food prices. Farmers should be encouraged to increase their household's income sources to promote sustainable crop and livestock management practices, commercialization and diversification of farm products; Providing subsidies on basic household food items should be explored by the government as part of the measures to eradicate hunger; Accessible and affordable education needs to be provided with subjects relevant to ensuring food security and income generation in rural areas; More flexible and rural focused policies on the rural food expenditure analysis needs to be encouraged by government and private sectors so as to address the factors affecting food expenditure pattern in rural areas of Nigeria; Promoting and enabling saving and borrowing capacity, especially for low-income earners and rural households, would provide opportunities for borrowing and mitigating the problems experienced by households and businesses during food crisis,

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