

## Adopted Coping Mechanism in Combating Food Insecurity by Farming Household in Kano State Nigeria

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### Abstract

The study examines strategies employed in combating food insecurity among farming household in Kano State, Nigeria. A total of 240 respondents were selected using a multistage sampling technique. Data were collected and analyzed using a schedule questionnaire and descriptive statistics respectively. The result showed that Majority are male (91.3 %) and 52.5 % with education attainment below secondary school education. The mean age of the respondents is 44years with an average of household number of 6people and an average income of 100, 708 Naira on a monthly basis. The study revealed an insignificant percentage (5%) of respondents as food secured while 95% were food insecure. According to ranking of coping mechanism adopted by the farming household, the most widely use include fasting and praying, withdrawal from personal savings, reduction in meal intake, reduced spending on non-food items and borrowing from friends and families. It is thereby recommended that more effort should be made towards increasing the farmer's productivity through availability of farm input at

reduced cost, effective training on improved farming techniques and proper post-harvest handling.

## Introduction

The report on extent of hunger in the world began in 1974 by FAO, a series of changes has occurred since then in terms of Population growth, food production, distribution and consumption worldwide. Hunger is an uncomfortable or painful physical sensation caused by insufficient consumption of dietary energy. According to United nation hunger is defined as the period when people experience severe food insecurity which might be due to lack of money, access to food or otherwise (FAO 2024) It is the distress associated with lack of food .The chance to have consistent and adequate access to enough safe and nutritious food to maintain an active and healthy life is termed as being food secured. Recently food security is defined as a situation where everyone at all times have physical and economic access to sufficient, safe and nutritious food that meet their dietary needs and food preference for an active healthy life

( Ibukun and Adebayo 2021) thereby making them free from hunger

Globally, one (1) in every eleven (11) people around the world faces hunger. This global hunger crisis is majorly a resultant of conflict, climate change and inequality. Majority of the world's hungry people resides in the developing world where extreme poverty and lack of access to nutritious food often lead to malnutrition.

In Sub-Saharan Africa, the number of underweight children increased from 29 million to 37million between 1990 and 2003(UN 2005) while more than 800 million people have too little to eat in order to meet their daily energy needs ( Attah 2012). It was reported that prices of staple food in Sub-Saharan Africa have surged by an average of 23.9percent between 2020 and 2021 while the house hold survey of expenditure using September 2018 to October 2019 showed that about 40 percent of the Nigerian population is identified as food insecured .There has been a great impact of global prices on rural food inflation as a result of the reliance of rural dwellers on home production .

The concept of food security is hinged on four pillars namely availability of supply, accessibility, stability regardless of seasonal fluctuation and utility (Mabrouk and Mekni 2018, Nsiah and Fayissa 2019). Also the world bank (2001) identified three pillars underpinning food security as food availability, food accessibility and food utilization. Many efforts made by the government towards agriculture elude a lot of the small and medium scale farmers as they do not have access to credit facilities coupled with the poor road, high cost of transportation and the transportation network as a whole. Agriculture is a key economic sector in Nigeria, representing about 23 percent of real GDP. It provides employment opportunity for more than 50% of the populace (2023). Although Nigeria has the manpower and large favourable arable land required for the advancement of food production and boosting of livestock, but there exist limited modern technology, infrastructure, training and education necessary to increase agriculture yield in order to meet natural demands (Blessing Adedotun 2021).

The primary aim of this study is to discover the coping strategies employed by farming household in Kura LGA of the state in combating food insecurity. Specifically the study will describe the socio-demographic characteristics of the respondents, examine their food security status and find out those measures adopted by the farming households in coping with the situation.

## **Methodology**

### **Study area**

The study was carried out in Kano State. This is one of the 36 states of Nigeria, located in the Northern region of the Country. According to 2006 population census Kano state is the most populous state in Nigeria. It is located at 12°3'N, 8°32'E, and 1550ft. It borders on Katsina state to the northwest for about 210km (130miles), Jigawa state to the northeast for 355km(221miles), Bauchi state to the southeast for 131km (82miles) and Kaduna state to the southwest for 255m. It has a total area of 20,131km<sup>2</sup>. The average annual temperature fluctuates between 26.3°C/79.4°F. The region is characterized by temperate climate. The main crops grown on the state light sandy soils are excellent for

growing groundnut, onions cotton, tobacco, wheat, sorghum, vegetables, cowpeas and maize vegetables and cowpeas.

### **Sampling procedure and data collection**

A multistage sampling technique was used to select 240 respondents for the study. Kano state comprises of three agricultural zones (Zone I, II and III) managed by the Kano State Agricultural and Development Authority (KNARDA). Three (3) local government areas were randomly selected; each from the three zones. This process resulted in Kura, Ungogo and Dawaki kudu local government areas. Two (2) villages were randomly selected from each of the local government areas resulting in Karfi and Imawa from Kura LGA,. Kansuwa and Bacirawa from Ungogo LGA while Tanburawa and Dawakin kudu were selected from Dawai kudu LGA. The final stage witnessed collection of data from each village by staff of KNARDA from extension and monitoring unit using the list frame of the farmers in the area. Random selection of 40 farming household each from the areas resulted in 240 farming household.

### **Measurement of Variables**

The household food security status was measured using USDA (United State Department of Agriculture) approach. A three point rating scale comprising of often true, sometimes true and never true was used. Responses of often true and sometimes true were considered to be positive (affirmative) and are thereby coded as 1 while those of never true were considered as negative and were coded as 0. In classifying the respondents, the total attainable score is 16 (16 questions were asked in the section) and an average score is 8 with a minimum score of 0. Household with a score below the average were classified as food secure household while those with average score and above were considered as being food insecure. The factors responsible for food insecurity in the household were measured with three point rating scale of major factor, minor factor and not a factor coded as 3, 2 and 1 respectively.

The Coping Strategy Use Index was measured using a four –point scale with scoring order 3,2,1 and 0 for frequently used, occasionally used, rarely used and not used respectively. The CSUI was calculated using

$$CSUI = n_1 \times 3 + n_2 \times 2 + n_3 \times 1 + n_4 \times 0$$

Where  $n_1$ = number of household using a particular CS frequently

$n_2$  =number of household using a particular CS occasionally

$n_3$ = number of household using a particular CS rarely

$n_4$ = number of household not using a particular CS

The CSUI is used to reflect the extent of use of the coping strategy index.

### Data Analysis

Data were analyzed using descriptive statistics such as frequency count, percentages, mean and ranking.

### Result and Discussion

#### Socio economic characteristics of Respondents

Table 1 showed the socio- economic characteristics of the respondents. It revealed that 91.3% of the respondents were male. This is in agreement with Olagunju (2022) which stated that majority of the household head in the rural area are male which might be due to limited access to resources and decision making power of female compared to their male counterpart while the hereditary system allows men more access to farmland by the male gender. More than half of the household head; 52.5% have below secondary school while only 20.8% have secondary school education and 26.7% with post-secondary school education. Education is a positive driving factor towards acceptance and use of improve farming technique. It is a social capital which enhances positive attitudinal change in farmers. Lower educational level impede access to better job opportunity in the labour market and hamper more profitable entrepreneurship (FAO 2012) Majority are married; 89.2% with a large proportion 78.4% between 30 and 59years of age. The mean age was found to be 44years. This implies that the study area has able men who can still participate actively in farming activities. Age is

expected to affect labour supply for food production while it determines the ability to seek and obtain off-farm jobs and income. The study area is predominantly occupied by Muslims 96.7% with an average monthly income of N100, 708. It was discovered that the average household size of 6 people with majority 45.4% having between 1-4 acre of farmland. In the present economic situation of the country the average income will hardly take care of an average household of six (6) people on a monthly basis coupled with their subsistence production. The farming household can be referred to as low income earner and well experienced. Income is an important indicator of food security and better living standard. The level of income of a household enhances purchasing power and good quality of life, the higher the income, the greater the chance of being food secure.

**TABLE 1: Socio-economic characteristics of the respondents (n=120)**

Variables	Frequency	Percentage (%)	Mean
<b>Sex</b>			
Male	219	91.3	
Female	21	8.7	
<b>Educational Background</b>			
Arabic/Islamic Education	70	29.2	
Primary Education	56	23.3	
Secondary Education	50	20.8	
Tertiary Education	64	26.7	
<b>Marital Status</b>			
Single	18	7.5	
Married	214	89.2	
Widow	8	3.3	
<b>Age</b>			
< than 30yrs	19	7.9	
30-39yrs	62	25.8	43.9

40-49yrs	67	28.0
50-59yrs	59	24.6
60-69yrs	26	10.8
70yrs+	7	2.9

### Religion

Islam	232	96.7
Christianity	8	3.3

### Monthly Income (Naira)

< 50,000	76	31.7
51,000-100,000	77	32.1
100,708		
>100,000	87	36.2

### Household Size

1-5 persons	82	34.2
6-10persons	93	38.8
5.5(6)		
10person+	65	27.0

### Farm Size

<1acre	78	32.5
1-4acre	109	45.4
>4acre	53	22.1

### Farm Experience

<10yrs	60	25.0
11-20yrs	83	34.6
>20yrs	97	40.4

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Source: Field Survey 2024

### Food security Status of Respondents

Table 2 revealed that majority of respondents 78.3% reported going hungry some of the time without eating while about two-third 60.8% claimed to have taken only one meal per day due to absence of food in the house. Almost all respondents 92.1% could not boast of having enough resources to get enough food for his household. The farming household 91.3% do worry about getting food stuff as the members of their household are exhausting available food items. These are signs of unavailability of good reserve as they are mainly into subsistence farming and household production. Large percentage of respondents supplement their children's food with low cost ones (83.8%) while 72.5% claimed their children are not eating well due to drastic cut 70.4% of meal size. Most of the farming household 77.5% could not feed their household with balance diet while 85% of them reported constant experience of inadequate food supply in their household.

**Table 2: Food Security Status of the respondents (n=240)**

Variables Mean	Positive response		Negative response
	Freq(%)	Freq(%)	
There are times i was hungry but did not eat	188(78.3)	52(21.7)	0.61
I took only one meal per day	146(60.8)	94(39.2)	0.78
I don't have enough resources to get enough food for my family	221(92.1)	19(7.9)	0.92
I do worry about food stuck finishing before i get another to eat	219(91.3)	21(8.7)	0.91
I cant afford to feed my household with balance diet	186(77.5)	54(22.5)	0.78
I often experience inadequate food supply in my household	204(85.0)	36(15.0)	0.85
Adult in my household skip meals or cut the size of their usual meals.	143(59.6)	97(40.4)	0.60
I lose weight because there was not enough food to eat	162(67.5)	78(32.5)	0.68
I supplement my children food with low cost foods	201(83.8)	39(16.3)	0.84
I and other adults in my household did not eat for a whole day because there was not enough money to buy food	145((60.4)	95(39.6)	0.60



My children were not eating enough food because i could not afford to purchase the right quantity of required food items	174(72.5)	66(27.5)	0.73
I cut the size of any of my children's meal because there was not enough money for food.	169(70.4)	71(29.6)	0.70
The children skip meal because there as not enough food to eat.	175(72.9)	65(27.1)	0.73
Children were ever hungry but i could not afford more.	150 (62.5)	90(37.5)	0.63
I cant afford to eat balance diet.	181(75.4)	59(24.6)	0.75
There are times the children don't eat for a whole day	109(45.4)	131(54.6)	0.45

Source: Field Survey 2024

### Category of Food Security Status in the study area

Tale 3 showed that 95% of the farming household were food insecure while an insignificant 5% were found to be food secure. There is an alarming rate of food insecurity in the study area. Food insecurity can lead to malnutrition and leaves children weak, vulnerable and unable to fight childhood ailments like malaria, measles, infection and so on. According to Nafees et al (2021) food insecurity can result in reduced life expectancy, low birth weight among pregnant women, feeling of alienation and anger

Table 3: Distribution of Food Security Status among the Respondents

Variables	Range of Score	Frequency (%)
Food Secure	0-7	12(5.0)
Food Insecure	8-16	228(95.0)

Source: Field Survey 2024

### Ranking of Adopted Coping Strategy in Combating Food Insecurity By Respondents.

The study revealed that (Table 4) fasting and praying is the most widely used strategy by farming household in the study area closely followed by reduction in meals taken by the respondents household members. It was noticed that majority adopted withdrawal from savings as well as borrowing from friends and relatives. A lot of mechanisms are used by farmers to combat food insecurity in times of food scarcity. Among the strategies use

are buying from market (2.42), less preferred foods (2.30) reducing quality and quantity of food consume and increase reliance in wild food from hunting, sales of livestock and borrowing of food and money from friends and relatives.(Danmagoro et al 2020) while some farming households goes as far as having the mothers reducing or sipping food to ensure that the children ( dependant ) feed( Danmaigora and Gona 2022). Other studies discovered withdrawal from personal savings, reducing intake of food and cutting down expenditure on non-food items. The study clearly showed that respondents are not financially buoyant and their low level of income is affecting the food security status adversely.

**Table 4: Distribution of the Coping Strategy adopted by the respondents in combating food insecurity (n=240)**

Variables	Frequently Used (3)	Occasionally used (2)	Rarely used (1)	Not used(0)	CSUI	% of Household	Ranking
-Reduce meals taken	65	79	84	12	437	13.6	3
-Withdraw from Personal savings	50	119	63	8	451	14.0	2
-Borrowing from friends/relatives	32	104	79	25	383	11.9	5
-Alms begging	19	43	46	132	189	5.9	8
-Selling of assets	25	49	121	45	294	9.2	6
-Reduce spending on non -food items	42	93	79	26	391	12.1	4
-Withdraw children from school.	13	38	34	155	149	4.6	10
-Send out children for paid job	19	38	45	138	178	5.5	9
-Praying and fasting	141	33	48	18	537	16.7	1
Migrate to the cities	21	43	62	114	211	6.6	7
<b>TOTAL</b>					<b>3220</b>		

Source: Field Survey 2024

The study revealed from ranking of food insecurity coping strategy (Table 4) that praying and fasting (16.7%) was a widely used coping strategy to combat food insecurity by the farming household. Reduction of meal intake (13.0%) and withdrawal from personal savings (11.9%) were reported by the respondents. A good number of the farming household adopted borrowing from friends and relatives as well as reduction of spending on nonfood items. This is in line with past research which have looked into strategies used by farming household to combat food insecurity during food scarcity period (Danmaigoro2020, Danmaigoro and Gona 2022).

### **Conclusion**

The findings have shown that the farming household is dominated by male household head having an average productive age and falls within the low income level with low formal educational background. The farming household in the study area are food insecure. The factors identified as leading to their food security status include unavailability of local production of foods consumed by community members, lack of storage of food during surplus harvest, variability in weather, poor household income, poor diet quality among others. Majority of the respondents could not afford to eat feed their household members with balanced diet. They often substitute their children's food with low cost food which are poor in nutritional value and adults often go hungry, reduce or skip their meals in order to feed the younger ones. This is a clear indication of poverty level among the farming household. Most of them are subsistence farmers whose left over after stocking the house cannot generate enough income to restock when food items are not in season. The inability to secure more lucrative side job probably as a result of their inexperience on entrepreneurship has further affected their source of income which resulted in their unfavourable food security status.

Furthermore, they were found to adopt fasting and praying, withdrawal from personal savings, borrowing from friends and families as well as reduction in spending on non-food items. This implies that all other aspect of their life including that of the children will be adversely affected as almost all resources are being directed towards feeding the household members.

## RECOMMENDATIONS

The government should assist the farmers by providing food aids in times of scarcity. A long run measure of moving them from subsistence farming should be put in place by concerned stakeholders so as to prevent only household production by farming household and encourage them towards large scale production. Assistance should be given to the low income farmers in terms of subsidized farming input such as seedlings, fertilizer and extension services to access improved farming techniques. More training should be given on post-harvest handling of food produce to increase their shelf life in order to have reserved produce to fall back on during food scarcity period. These will enhance their income as well as raised their dietary intake. Judicious execution of these will leads to improved productivity, increased income, food security and a favourable standard of living by the food producers.

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