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SOCIO-ECONOMIC DETERMINANTS OF FOOD SECURITY AMONG INTERNALLY DISPLACED PERSONS (IDPs) IN NORTH CENTRAL NIGERIA

Okeke, C. C., Ochie, F. O.*, Meludu, N. T. and Ezeano, C. I.
Department of Agricultural Economics and Extension, Nnamdi Azikiwe University, Awka, Anambra State Nigeria

*Corresponding Author's Email: ochiefrank85@gmail.com

Abstract

This study was carried out to assess the determinants and constraints of food security among internally displaced persons in North Central Nigeria. Primary data used for the study were derived by a survey of 137 residents of the IDP camps using a structured questionnaire. Data obtained were analyzed using simple descriptive statistics and binary logit regression. The result of the analysis showed that household size, children status, and religion are statistically significant at 5%. Poor health status, high cost of food in the camp, lack of steady income, limited access to farmland, and rapid population growth in the camp were identified among others as the constraints to food security with a high mean score of >2.4. The study recommended that government policy measures directed towards family planning in IDP camps should be given adequate attention and made a priority to reduce the number of persons in a household and ensure that every one is adequately taken care of.

Keywords: Internally displaced persons (IDPs), IDP camps, food security, determinants

Introduction

Food is unarguably the most basic necessity of all human needs as it accounts for a substantial part of the household budget (Omonona, and Agoi, 2007). The second goal of the United Nations Sustainable Development Goals (SDG) initiative which is to achieve zero hunger by the year 2030 underscores the importance of food security (United Nations Organization, 2019). Some countries have made significant progress in achieving this goal. However, many countries have not witnessed sustained growth as conflict and instability have increased making food security a difficult goal to attain. As a result, over 820 million people are hungry globally (Food and Agricultural Organization (FAO), International Fund for Agricultural Development (IFAD), World food program (WFP), World Health Organization (WHO), United Nations Children Emergency Fund (UNICEF, 2019).

Sub-Saharan Africa remains the region with the highest prevalence of hunger and Nigeria has been ranked 94th out of 113 nations on food security index (World Food Programme, 2017; Global food security index, 2019).

Migration despite being voluntary, has a possibility of being coerced. People are moved from one place to another unwillingly to save their lives or properties as a result of armed conflict, generalized violence, violation of human rights as well as natural and man-made disasters. These people are considered as internally displaced when they have not crossed any internationally recognized state border (Akuto, 2017).

In Africa, the history of human displacement involves more of internal displacement than refugees (Ejiofor et al., 2017). In Nigeria, the post-election violence of 2011, saw about 65, 000 people internally displaced in the northern part of the country. Between January 2013 and February 2014, about 470, 565, and 143,164 were also displaced in Nigeria as a result of internal conflict and natural disasters respectively (Osagioduwa and Oluwakorede, 2016).

The internal displacement monitoring center reports that in 2018, violence and conflict led to about 541,000 new movements while disasters caused about 613,000 displacements (Reliefweb, 2019).

Several factors have been implicated as risk factors for internal displacement ranging from; religious violence, communal conflicts over land and militancy in North East and Southern Nigeria to federal and State government activities such as demolitions and oil explorations leading to environmental degradation, pollution, and loss of people's source of livelihood (Akuto, 2017; Ejiofor et al., 2017).

In the northern region of Nigeria, the Boko Haram insurgence constitutes the major cause of human displacement (Alobo and Obaji, 2016). In north central, the conflict is multifaceted but mostly a result of land use contests between farmers and herders induced by climate degradation of pasture but diversified into dangerous religious and ethnic

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dimensions. Since the violence escalated in January 2018, an estimated 300,000 people have fled their homes. (International Crises Group, 2018).
More recently, the displacement tracking matrix (DTM) assessment by the International Organization for Migration (IOM) in their report of November (2019), identified 2,035,232 individuals as being displaced in Nigeria.

Internal displacement is not without consequences as large-scale displacement have hindered farming, driven up food prices, increased hunger, overcrowding, poor sanitation, joblessness, and even more insecurity (Itumo and Nwefuru, 2016).

The subject of food security has consistently been a major issue in Nigeria and the people in the internally displaced camps in Nigeria are vulnerable and severely affected (Uzobo and Akuthie, 2018; International Organization for Migration, 2018). Also, many studies have documented the food security status and its determinants in Nigeria mostly in rural farming households; They range from; Otunaiya and Ibudunni (2014) study on the determinants of food security among rural farming households in Ogun state, Agada and Igbokwe (2015) study on the constraints to achieving food security in north central Nigeria to Akukwe (2020) who studied the household food security and its determinants in agrarian communities of south eastern Nigeria and Aboaba et al. (2020) worked on determinants of food security among rural households in southwestern Nigeria but little attention has been given to the internally displaced persons north central Nigeria.

Hence, the fact that achieving the second goal of the sustainable development goals is still a far cry and achieving food security in the internally displaced camps would go a long way as well as the paucity of data on the internally displaced persons in North central Nigeria are significant gaps necessitating the need for this research.

This study aims to determine the socioeconomic determinants of food security and identify the constraints to food security among the residents of the IDP camps.

METHODOLOGY

Study Area

The study was conducted in north-central situated in the middle belt region of Nigeria. It lies between latitudes 9° 05' 78" N to 10° 20' 00" N and longitudes 06° 04' 46 " E to 7°49' 50". It has a total land mass of 226‟668 km2 and an estimated population figure of 28,069, 805 inhabitants spread across the 7 states Benue, Kogi, Kwara, Nassarawa, Niger, Plateau, and FCT-Abuja. (National Population Commission, 2006). The average annual rainfall varies between 2,000–2,500mm, the mean monthly temperature ranges from 22.2°C to 27.4°C and the mean annual relative humidity is 78% at 7.00 hours (Onyishi, 2016). The region is rich in natural land features and boasts of some of Nigeria's most exciting scenery. There are several ethnic groups such as; Nupe, Bariba, Fulani, Hausa, Kanuri, and Gwer.

The North Central region is situated in the southern guinea savannah agro-ecological zones and soil types found in the area vary from sandy clay loam and sandy loamy to sandy clay soil. Thus, the people are predominantly farmers producing groundnuts, cotton, sorghum, millet, yam, and rice. (Agada and Igbokwe, 2015; Onyishi, 2016).

Sampling Technique and Sample Size

A multi-stage sampling procedure was employed for the study; purposive and simple random sampling techniques. In the first instance, two (2) states including Benue and FCT Abuja were purposively selected out of the seven (7) states in North central Nigeria. The reason is based on the fact that the migrant camps in the selected states are actively in use and as such considered suitable for the study. The second stage involved the purposive selection of 2 migration camps in FCT Abuja (namely: Kuchinkworo and Area 1 IDP camps) and 2 migration camps in Benue state (Abagena and Daudu IDP camps); giving a total of 4 migration camps. The reason for the selection is based on the large number of IDPs in those camps. The third stage now involved the random selection of 35 IDPs each from the selected migration camps, giving a total of 140 respondents for the study.

Data Collection and Instrument Used

Primary data was used for the study. It was obtained using both key informant interviews (KIIs) guided by a questionnaire and personal observations for prudent knowledge on the matters raised in this study. These were achieved with the help of trained research assistants and interpreters where necessary. The data collection was mainly through a structured questionnaire validated from previous studies. At the end of the data collection, only 137 questionnaires were validly returned.

Data Analysis

Descriptive statistics (frequency, percentage, mean) were employed to describe the sociodemographic characteristics as well as identify constraints to food security while binary logistic regression was used to assess the determinants of food security.
Amaza et.al (2006) to determine and measure food insecurity in Nigeria employ the use of Binary choice modelling, specifically using Logit, and specify their model as;

$Yi = g(Ii)$ ---------- (1)
$Ii = b0 = \Sigma bjXji$ ---------- (2)

Where,
Yi = the observed response for ith observation (i.e. binary variable, Yi =0 for food secure households and Yi =1 for food insecure households).

Ii = an underlying unobserved stimulus index for the ith observation (conceptually for each household; if $Ii < Ii^*$ the household is observed to be food secure if $Ii \geq Ii^*$ the household is observed to be food insecure)

G= functional relationship between the observations (Yi) and the observation stimulus index (Ii) which determine the probability of being food secure.

This study adopted and modified the above model as

$Pi = \log(p/(1-p)) = Intercept + BiXi$ ---------- (3)

Where;
Pi = the probability of an ith household being food insecure
Bi= regression parameter of the ith household
Xi = Vector of explanatory variables which are defined below
Explicitly,
X1 = Household size (value),
X2= Sex of a head of household (D=1 for male and D=2 for female),
X3= Children status (D=1 for with children and D=2 for without),
X4= Marital status (D=1 for single, D=2 for married, D=3 for Divorced and D=4 for widowed),
X5 = level of education of household head (D=1 for No formal Education, D=2 for primary education, D=3 for secondary education and D=4 for tertiary education),
X6= Religion (D=1 for Christianity, D=2 for Islam, D=3 for Traditional),
X7 = Number of years spent in the camp (in years).

The four (4) food security status [High Food Security (HFS), Marginal Food Security (MFS), Low Food Security (LFS), and Very Low Food Security (VLFS)] of the households were further categorized into two (2), [food secured (FS) and food unsecured (FU)] to obtain dichotomous data structure for binary logit regression. Based on the above the determinants of food security are specifically represented by equation 4 stated as follows:

$Pi = Log(p/(1-p)) = Intercept + B1X1 + B2X2 + B3X3 + B4X4 + B5X5 + B6X6 + B7X7 + ei$ ------- (4)

Results and Discussion

The majority of the respondents consists mainly of persons within the age range of 31-40 (33.6%) and the least respondents were within the age bracket of < 20 years (0.7%). The mean age is 40. Slightly more than half of the respondents are females (52.6%). A greater proportion of the respondents are married (81%) with the least population represented by those that are divorced (4.4%). The majority of the households are comprised of 6-10 persons (42.3%) with the mean household size being 9. The primary occupation of more than half of the respondents is farming (64.2%) while very few work as security (0.7).
The majority of respondents of 32.8 percent have at least a primary education with the least respondent being those that attended a tertiary education (8.8%). Demographic characteristics of the respondents is displayed in Table 1.

The majority of the household heads are within the age commonly described as the hallmark period of adulthood. This implies that the IDPS household heads are dominated by those still in their active and productive years of life. Thus, it is expected that they engage in extra work to feed their families better. This is similar to a study conducted among internally displaced men in Kenya by Singh et al. (2015) where the mean age was documented as 37 years as well as Otunaiya and Ibuduni (2014) and Aboaba et al. (2020) where over 50 percent of the participants were not more than 50 years old. The results are contrary to the findings of the study conducted in Maiduguri Borno State where most of the respondents were categorized as elderly who can hardly engage in strenuous work to feed their families (Wakili, 2020).

The families are mostly headed by females. This could be a result of the death of their male partners during the farmers-herders clash that occurred mostly in North central Nigeria; where most of the male farmers were killed by herders leaving their wives and children to flee to the IDP camps. This could also affect their food security negatively as farming activities require strength to produce enough food which the female household heads may not effectively fulfill (Aboaba et al., 2020). The result was in agreement with Alobo and Obaji (2006) who conducted a study on Internal Displacement in Nigeria and the Case for Human Rights Protection of Displaced Persons. They reported that 62% of the IDP population in sites are female. The vulnerability identified that within the IDP population, 3.33% are single headed-households, 2.26% are breastfeeding mothers and 1.22% are pregnant women.

Table 1: Demographic characteristics of the respondents

	Variables	Frequency	Percentage (%)	Mean± SD
Age (years)	≤20	1	0.7	40±10.9
	21-30	28	20.4	
	31-40	46	33.6	
	41-50	37	27.0	
	≥51	25	18.3	
Gender (Sex)	Male	65	47.4	
	Female	72	52.6	
Marital status	Single	13	9.5	
	Married	111	81	
	Divorced	6	4.4	
	Widowed	7	5.1	
Household size	≤ 5	50	36.5	9±5.4
	6-10	58	42.3	
	11-15	18	13.1	
	16-20	04	2.9	
	≥21	07	5.1	
Primary Occupation	Farming	88	64.2	
	Trading	33	24.1	
	Artisan	03	2.2	
	Driving	04	2.9	
	Security	01	0.7	
	Motorcyclist (Okada)	05	3.6	
	Shoe repairer	03	2.2	
Religion	Christianity	79	57.6	
	Islam	52	38.0	
	Traditional	6	4.4	
Educational Qualification	No Formal Education	41	29.9	
	Secondary	39	28.5	
	Tertiary	12	8.8	
Length of stay in Camp	0-1 years	7	12.3	4±1.6
	1-3 years	9	21.9	
	4-6 years	67	91.8	
	More than 6 years	17	23.3	

Field Survey, 2021

The average household size is 9 people. The result differs from Otunaiya and Ibuduni (2014) that recorded a smaller household size of 4-6 persons and Wakili (2020) that recorded a higher maximum household size of 11-15 persons.

Results show the primary occupation of the majority of the respondents as farming, whereas very few of the respondents works as security personnel. This is different from a study conducted in Borno State by World Food Programme (2016) documented that most food-insecure household relies solely on solidarity, remittance, and unskilled wage labour, and mostly have no defined occupation.

The majority of respondents have at least a primary education. This implies that the respondents are learned enough to understand simple English. This is similar to Otunaiya and Ibuduni (2014) where 87% had a form of primary education.

Almost all of the respondents have stayed between 4 to 6 years in the IDP camp. This implies that the population of the IDPs in the North-Central had a major increase in the last 4 to 6 years.

Determinants of Food Security

The binary logit regression was used in this study where the independent variable whether food secure or not. The result is estimated in Table 2. The magnitude of the coefficients obtained from the model shows the effect of each explanatory variable.

Table 2: Determinants of Food Security

Variable code	Parameter	Estimate	Std. Error	Sign.
	Intercept	-4.024**	2.37	0.048
X1	Household size	-0.312**	0.044	0.027
X2	Children Status	0.675**	0.847	0.012
X3	Marital status	1.251	0.689	0.069
X4	Highest educational qualification	0.307	0.227	0.176
X5	Religion	0.282**	0.384	0.002
X6	Gender (sex)	0.532	0.405	0.189
X7	Number of years spent in the camp	-0.086	0.154	0.574
	Logit Chi^2	50.904		

**=p < 0.05

Source: Field Survey 2021

The binary logit regression result shows that the variables X1 (Household size), X2 (Children Status), and X5(Religion) are statistically significant at 5% and therefore explain the probability of food security by households. This implies that large household sizes and increased dependency ratio aggravate the probability of household food insecurity condition and that their religion might determine the kind of assistance they receive from donors that might be biased by a particular religion. The determinants of food security differ by location and type of population used for the study as each population have peculiar characteristics that can affect their food security. A study conducted in agrarian communities in southeastern Nigeria identified marital status, level of education monthly income, dependency ratio and distance to markets as

the statistically significant variables affecting food security (Akukwe, 2020). Otunayia and Ibudunni (2014) also identified increased household size and dependency ratio as significant factors aggravating the probability of household food insecurity. Aboaba et al. (2020). In their study among rural

households in southwestern Nigeria also revealed that gender, marital status access to credit and dependency ratio significantly determines whether a household would be food secured or not. A study by Muhammad and Sidique (2019) revealed that age, gender and household size slightly affect food security negatively while education, food and non-food expenditures and the number of adults in a household, have a significant positive influence on food security.

Table 3: Constraints to food security faced by the households

Constraints	Not a constraint	Mildly a constraint	Seriously a constraint	Mean	Std. Dev.	Rank
Illiteracy	60 (43.8)	27 (19.7)	50 (36.5)	1.93	0.90	12th
Poor health status	17 (12.4)	36 (26.3)	84 (61.3)	2.49	0.71	2nd
Religion	61 (44.5)	62 (45.3)	14 (10.2)	1.66	0.67	15th
Culture	49 (35.8)	61 (44.5)	27 (19.7)	1.84	0.73	14th
Food scarcity	29 (21.2)	40 (29.2)	68 (49.6)	2.29	0.80	8th
Poor taste of food in the camp	26 (19.0)	51 (37.2)	60 (43.8)	2.25	0.76	10th
Seasonality of food in the camp	48 (35.0)	58 (42.3)	31 (22.6)	1.88	0.75	13th
High cost of food in the camp	20 (14.6)	35 (25.5)	82 (59.9)	2.45	0.74	4th
Lack of steady income	18 (13.1)	34 (24.8)	85 (62.0)	2.49	0.72	2nd
Lack of food preparatory time	63 (46.0)	57 (41.6)	17 (12.4)	1.66	0.69	17th
Limited access to market	26 (19.0)	42 (30.7)	69 (50.4)	2.31	0.77	7th
Limited access to farmland	19 (13.9)	37 (27.0)	81 (59.1)	2.45	0.73	4th
Low crop yield in the area	22 (16.1)	42 (30.7)	73 (53.3)	2.37	0.75	6th
Poor food nutrition education	33 (24.1)	49 (35.8)	55 (40.1)	2.16	0.77	11th
Limited access to credit facilities	26 (19.0)	47 (34.3)	64 (46.7)	2.28	0.76	9th
Unfavourable climate variability	67 (48.9)	53 (38.7)	17 (12.4)	1.64	0.70	18th
Rapid population growth in the camp	13 (9.5)	39 (28.5)	85 (62.0)	2.53	0.67	1st
Poor post-harvest processing and storage facilities	67 (48.9)	49 (35.8)	21 (15.3)	1.67	0.73	16th

Field survey (2021)

Constraints to Food Security Experienced by the IDP Households

Table 3 identifies different constraints to food security faced by the households and ranked them according to the magnitude of effect. It shows that all the items identified have their mean above 1.5 which is the mid-point for a three points scale Likert scale. This indicates that all the items were perceived to be the constraints to food security in the IDP camps in North Central Nigeria. From the results, the first major constraints to food security the households face are rapid population in the camp, and poor health status, followed by lack of steady income, high cost of food in the camp and Limited access to farmland.

The result is similar with Uyoyou (2010) who identified poverty and low-income level as few people are engaged in farming and high post-harvest losses are incurred. Agada and Igbokwe (2015) categorized constraints to food insecurity into economic constraints (limited access to land, shortage of farm labour), institutional constraints (weak systems, organizational bottlenecks), governance constraints (rapid population rate, political instability, education of women s children, rapid population rate, provision of clean water and health service) and technological constraints (inadequacy or needed water, lack of access to labour saving devices. These categories encompass the result gotten from this study and more.

Population explosion in IDP camps is a major source of concern as it poses a threat to the food security of internally displaced persons by increasing the demand for the limited available food in these camps. The implication is that as the number of individual increases in the camps, without the increase in the quantity of food supply, could increase the deterioration of health conditions of the IDPs and the cost of food within the local market in the camps.

Conclusion

The determinants of food security are household size, children status and the major constraints for food security are population explosion and poor

health status. Hence, it is recommended that government should make more efforts on promoting educational interventions on family planning and its importance to regulate population growth in the IDP camps. Targeted health screening should also be done periodically to ensure that there is no spread of infectious diseases. Occupants of the camps should also be educated on how to maintain good hygiene that can lead to good health and also risky sexual behaviours should be discouraged to maintain good health.

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