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Food Security Situations among Female Headed Households in Enugu East Senatorial Zone of Enugu State, Nigeria

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Abstract

The study examined food security situation of female-headed households in Enugu State, Nigeria. The study identified livelihood activities of respondents, ascertained the food security situation, examined constraints to food security, and examined coping strategies of respondents. Multi-stage sampling procedure, snow ball and simple random techniques were used to select 72 female-headed households. Data were analyzed using mean score and factor analysis. Results showed that respondents livelihood activities included crop production (77.8%), processing and sale of palm produce (43.1%) and processing of farm produce (38.9%). Household food security situations included food secure to moderately food-insecure. Major constraints to food

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security of the respondents were poverty ($\bar{x}$=2.52), lack of education and skill ($\bar{x}$=2.50), poor rural infrastructure ($\bar{x}$=2.50) and poor nutrition education ($\bar{x}$=2.54). Coping strategies included restriction of food consumption of adults ($\bar{x}$=2.21) reducing food consumption per day ($\bar{x}$=2.00) and staying hungry ($\bar{x}$=2.04). The study concludes that the households in the area were grossly food insecure as they spent more of their meager earning only on food. There was poor nutrition education and lack of productive skills. Poverty was found to be a major cause of food insecurity in the area as it robs people the option of fine choices. Hence, government and other development agencies should provide policies and efforts that assist Female headed households in capacity building like providing them with productive resources which will expand their scope of livelihood choices.

Keywords: Food security, female headed household, food situation, poverty

Introduction

The quest for food and the desire to satisfy hunger is undoubtedly man's most important need (Ijatuyi, Omotayo, & Nkonki-Mandleni, 2018). To meet this basic need, there must be physical, social and economic provision and access to safe, sufficient, and nutritious food. Meeting the dietary needs and food preferences of all races, at all times, such that an active and healthy life is guaranteed; is commonly referred to as food security (Food Climate Research Network, 2018). In a broad sense, food security involves the entire food system and touches issues like: quantity of food available for households, the nutrition needs of each member, and the distribution of the food. Therefore, the term is beyond food availability (Disabled World, 2015).

According to the Food and Agricultural Organization (FAO, 2017), food security is achieved when all the four pillars – availability, access, utilization, and stability – are met. Availability ensures there is trustworthy and consistent source of food; access concerns the capability of individuals in having sufficient resources to produce and/or purchase adequate food; utilization aspect deals with people having adequate knowledge and fundamental sanitary conditions to select, prepare, and distribute food capable of providing good nutrition; while stability sees to the sustenance of the availability, access and utilization over time (Swiss Agency for Development and Cooperation (SDC)(2017). Therefore, the ultimate goal of food security is to ensure that health of individuals and households are secured.

A major way of identifying a food secured individual or household is the absence of hunger or fear of starvation, even in period of crisis (Parvathamma, 2015). But contrary wise, an individual or household may lack access to sufficient quantities of nutritious and safe food, hence, an impediment in leading normal and healthy lives

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(Food Security Information Network (FSIN), 2017). This reverse food insecurity can result when all or any of the four pillars are/is absent (Matemilola & Elegbede, 2017). And usually, it is an unpleasant condition detrimental to an individual's or household health.

In the globe, about 800 million people are hunger stricken; but gruesomely, close to 2 billion suffer deficiencies particular to micronutrient (SDC, 2017). While poverty might cause hunger, (Disabled World, 2015) noted that issues like inability of households to combine right nutrients and food is not poverty related. Of the many factors that can cause food insecurity, conflicts, terrorism, drought, pest and disease are notable (FSIN, 2017); and in some cases, unexpected changes in the economic circumstances of households, like: loss of income, increased household size/bills etc can lead to food insecurity (Seivwright, Callis & Flatau, 2020).

Generally, food securities situations can be food secure, mild food insecurity, moderate food insecurity, and severe food insecurity. While mild food insecurity has less severe cases than the moderately food insecure; moderate food insecurity has reduced food quantity, and in some cases, have monotonous diets; while severe/chronic food insecurity household can complete an entire day without a meal (Saint Ville, Po, Sen, Bui & Melgar-Quinonez, 2019).

Although food security is a global discourse, yet, the impact of its deficiency is felt more in the developing countries of the world, especially, sub-Saharan Africa and East Asia (Nwalie, 2017). For instance, a recent report by Food and Agricultural Organization indicated that about 7.1 million people in Nigerian State were challenged by acute food insecurity and also needed urgent and reliable lifesaving and livelihood protection Food Security Information Network (FSIN, 2017). Although the country has recorded a growing economy in recent years, yet, this, does not reflect in the living standards of many households as greater proportion of its populace live below the poverty line ($1 per day) (Matemilola & Elegbede, 2017).

While it is evidenced that food security at household level is poor in developing countries (Ngema, Sibanda, & Musemwa, 2018), female-headed ones are worst (Lutomia, Obare, Kariuki & Muricho, 2019). This is so as women are constrained by gender inequalities displayed in obstacles like: poor access to productive resources (land, credit, fertilizers, improved livestock and seeds etc); low education; poor extension services contact etc. (Debela, 2017). Again, they are more vulnerable to shocks from the effects of environmental changes like climate change and/or other rapid changes (Meybeck, Laval, Lévesque, & Parent, 2018). Contrariwise, when there is improvement in their access to certain productive resources, agricultural productivity experiences increase, poverty level declines and nutrition improves; thus, an improvement in the food security status (Ashagidigbi, Afolabi & Adeoye, 2017). Farzana et al., (2017) & Owunka, Ihemezie, and Olumba (2018) identified that a notable way the above improvement can be achieved is through the adoption of livelihood strategies.

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Female headed household (FHH) is one which has the head of the household as a female, and as a result of the male head being absent (dead or unavailable for at about a year or more), the major decisions of the family, as well as the economic provision of the household rests on the female (Milazzo & Van De Walle, 2015). But for the sake of this research, the paper refers to FHH as the category, which includes single, widowed, divorced or separated women (Milazzo & Van De Walle, 2015). The study generally sought to examine the food security situation of FHH in the area. Specifically; it: (1) identified various livelihood activities the FHHs engage in; (2) examined the food security situation of the FHH; (3) identified the factors affecting food security of the FHH; and (4) ascertained the coping strategies of FHH in the area.

Methodology

The study was carried out in Enugu East senatorial zone in Enugu State, Nigeria. The area is located at the Latitude 6°.30 and 85°00 North of Equator and Longitude 7°30 and 14° 10 East of Greenwich. The area comprises six local government areas (LGAs), namely Enugu East, Enugu South, Enugu North, Nkanu West, Isi-uzo, and Nkanu east. The zone is estimated to have a population of 1,166,864 in 2006. The population of the study included all FHH in Enugu East Senatorial zone of Enugu State, Nigeria Multistage sampling procedure, and snow ball and simple random techniques were used to select the sample from the study area. In the first stage, three LGAs; Nkanu west, Nkanu east, Enugu south local government area, were randomly selected from the six LGAs in the senatorial zone. In the second stage, two town communities; Nkanu west (Akpugo and Agbani), Nkanu east (Amagunze and Ihuokpara) and Enugu south (Isiagu and Umunnaji-Ngene) were selected through simple random sampling technique from each of the LGA giving a total of six town communities. In the third stage, two villages communities were randomly selected from each of the town communities giving a total of twelve (12) villages. In the fourth stage, 6 female headed households were selected using snowball sampling technique from each of the 12 villages. This gave a total of 72 female headed households for the study.

To identify the various livelihood activities, the respondents engaged in; the respondents were asked to indicate yes or no from a list of activities such as crop production, crop processing, palm oil processing and sale, livestock keeping, petty trading among others. The food security situation of the female headed households was ascertained using their monthly food expenditure, perception and number of times the household fed daily. To identify factors that affect food security of the female headed households, a list of possible factors such, poor nutrition education, poverty, poor rural infrastructure, poor health services among others were provided for respondents to rate on a 3 point Likert-type scale of; to a great extent=3, little extent=2, no extent= 1. Hence, a cut off point of 2.0 was obtained. Thus, variables with mean scores more than 2.0 were considered to be serious factors affecting food security while those less than 2.0 were not serious factors.

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To ascertain the coping strategies of the respondents, a list of possible strategies was provided for the respondents to rate on a three-point Likert type scale of often=3, sometimes=2, never=1. Any strategy with value ≥0.40 (10% overlapping variance, was considered a significant strategy to cushion the effect of food insecurity in the area whilst, any item with a mean score <0.40 is not considered as significant as the case may be.

The socio-economic characteristics and livelihood activities of the respondents were analysed using frequency counts, percentages and mean scores. Also, variables from food security situation were analysed using percentages, while variables from objectives four and five were analysed using mean score and factor analysis with varimax rotation respectively.

Results and discussion

Characteristics of Female Headed Household

Table 1 shows that, 61.1% of the respondents had farming as primary occupation while only 37.5% of the women had between 0.01 and 0.10 available hectares of land for farming, with mean hectare of land cultivated as 0.16. The mean value of less than one hectare as practiced by the women is in contrast to the statement of Ahmed, Eugene, and Abah (2015) that increase in farm size will result in increased food production which ultimately, increases the likelihood of household food security. Additionally, only 36.1% of the respondents had above 25years of farming experience, with average farming experience of 21.97 years. Moreover, greater proportion (59.7%) of the respondents had annual income ranging from ₦10, 000 to ₦109, 999 ($22.73 – $249.99), with average annual income as ₦168, 666.67 ($383.33). The average income suggests a meagre income barely enough for an individual for a year let alone taking care of their large household sizes. Thus, revealing the poverty level of those household based on income alone. The Table also shows that greater proportion (76.4%) of the women had no access to credit. The main source of credit available was women's meeting (28.5%), and the annual financial support from friends and family stood at between ₦20, 000 and ₦34, 999 with (13.9%), where as the majority 64.3% of the respondents belonged to a social organization. Access to credit provides a lifeline for poor income earners. It becomes extremely dangerous when this vulnerable group cannot access it even in a minute way and amount. The economic and social implication could be huge. This is because, lack of money or access to credit facilities will deeply plunge one deeper into poverty. It leaves people with no option for a better living.

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Table 1: Characteristics of female-headed households

Characteristics	Percentage (n=72)	Mean
Primary occupation		
Farming	61.1	
Trading	19.4	
Civil or public services	18.1	
Artisan	1.4	
Farm size (Hectares)		
0.01 - 0.10	37.5	
0.11 - 0.20	20.8	
0.21 - 0.30	5.6	
0.31 - 0.40	20.8	0.16
0.41 - 0.50	2.8	
Above 0.50	12.5	
Farming experience (Years)		
1 – 5	16.6	
6 – 10	26.4	
11 – 15	12.5	21.97
16 – 20	5.6	
21 – 25	2.8	
Above 25	36.1	
Annual income (Naira)		
10000 – 109999	59.7	
110000 – 209999	15.3	
210000 – 309999	13.9	168,666.67
310000 – 409999	1.4	
410000 above	9.7	
Access to credit		
Yes	23.6	
Sources of credit		
Women's meeting	28.5	
Cooperative Society	14.3	
Bank	16.7	
Relatives	23.8	
Friends	14.3	
Annual financial support from friends and relatives (Naira)		
5000 – 19999	4.2	
20000 – 34999	13.9	
35000 – 49999	1.4	36,923.08
50000 – 64999	12.5	
65000 above	4.2	

Source: Field survey, 2019

Livelihood Activities of Female Headed Household

Table 2 reveals that the livelihood strategies used by female headed households were: crop production (77.8%), processing and sale of palm oil (43.1%), processing of farm produce (38.9%), petty trading (36.1%), livestock keeping (30.6%), marketing of farm produce (30.6%), providing labour (19.4%), and civil service (15.3%). The livelihood activities practiced by the women were more of agricultural (crop and livestock production, processing etc.) and trading (petty and produce). The female headed households engaged in these livelihood activities as a result of their low educational level, poor skills and the rural environment where they reside which lack basic amenities and industries for better paying jobs. This also suggests why their income was poor. In line with this, Kpoor (2019) noted that the livelihood activities of

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FHH are meagre when compared with their male counter-part. According to the author, men have more assets which are invested and/or used in livelihood activities. Women have little assess to productive resources and hence their choices for a higher and better livelihood options are very limited even as the responsibility of taking care of their familie's rest on their shoulder.

Table 2: Livelihood activities of female headed households

Livelihood Activities	Percentage (n=72)*
Crop production	**77.8**
Livestock keeping	**30.6**
Petty trading	**36.1**
Dress making/ Tailoring	4.2
Providing labour	**19.4**
Babysitting / Nanny	4.2
Civil service	15.3
Hair dressing	8.3
Processing and sale of palm oil	**43.1**
Processing of farm produce	**38.9**
Marketing of farm produce	**30.6**
Making of soaps and pomade	2.8
Making of confectioneries like chin-chin, cake etc	5.6
Frying bean-ball, yam, potatoes	2.8
Traditional birth attendant	4.2
Serving the masons in construction places	4.2
Selling firewood	4.2
Selling of okpa	1.4
Selling of pap	2.8
Gathering and selling of gravel and stones	2.8
Fast food business	1.4
Selling of meat	1.4
Selling of palm kernel	1.4

Multiple responses.** ***Field survey, 2019

Food Security Situation of Female Headed Household Monthly Food Expenditure

Table 3 shows that only 26.4% of the women had their monthly food expenditure between ₦200, 500 and ₦300, 499 ($455.68 – $682.95); and 15.3% spent between ₦500 and ₦100,499 ($1.14 – $228.40); among others with average mean monthly expenditure was ₦22,803 ($51.83). The food security situation of the FHH was poor. The women spent an average of ₦22,803.00 ($51.83); an indication that their large household size of 6 persons (Table 1) will not be properly nourished using the United Nation scale of $1 per day. The argument still remains that the availability and procurement of food materials alone can't guarantee food security. The FAO (2017) noted that availability and access of food that is not accompanied by knowledge and fundamental sanitary conditions to select, prepare, and distribute food capable of

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providing good nutrition; and also stable over time, is not food security. This statement is also corroborated by the report of the Swiss Agency for Development and Cooperation (SDC, 2017) that the affordability of food must be matched with safety and nutrition of such food available for people.

Table 3: Monthly food expenditure of the respondents

Monthly food expenditure	Percentage (n=60)	Mean
500 – 100499	15.3	
100500 – 200499	25.0	
200500 – 300499	26.4	22,803.00
300500 – 400499	12.5	
400500 and above	4.2	

Field survey, 2019

Perception of Food situation of household in 2018

The findings from Table 4 revealed that greater proportion (47%) accepted that their food security situation of 2019 was a little worse compared to what was obtainable in 2018. This was followed by 25.7% of the respondents who acknowledged that their food security situation was much worse than the normal in the previous year. Perception of food security is relative and at the same time may lack general acceptance as peoples' views are always divergent. However, a perceptive comparison can always be deduced to assess food security situation of a group, a place over a relative period of time using some socio-economic indices. This perception index uses prices of goods and services to ascertain what was and what is. It looks at increases or reduction in the prices of food and other composite items.

Table 4: Perception of food situation in 2018

Food situation of household in 2018	Frequency	Percentage
Much worse	2	25.7
A little worse now	11	47.0
Same	17	14.3
A little better now	25	2.3
Much better now	15	10.7

Field survey, 2019

Number of Times Household Feed Daily

Figure 1 shows that the majority (71.0%) of the households feed three times in a day, 27.6% of the households also feed twice in a day, while the remaining 1.4% feed more than three times a day. Also, with evidence in Figure 1, the FHHs do not experience chronic food insecurity, but may have mild or moderate food insecurity, with few food secured individuals. Saint Ville et al., (2019) stated that individuals or households with severe/chronic food insecurity can complete an entire day without a meal.

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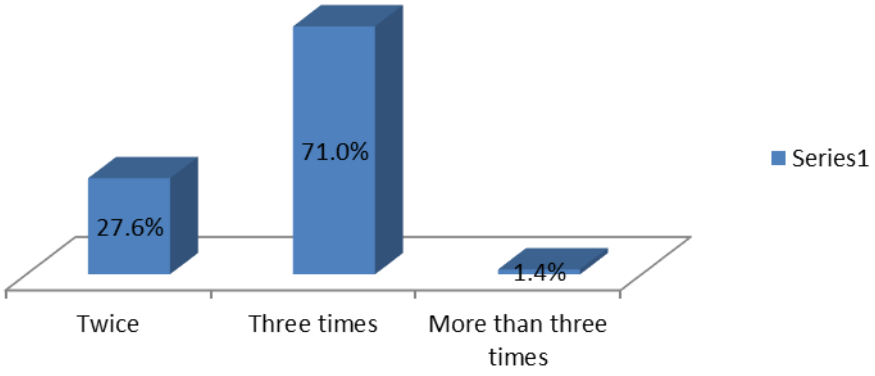

Fig.1: Number of times household feed daily

Factors Affecting Food Security of Female Headed Households

Table 5 shows that the major constraints to food security of female headed households include: poor nutrition education ($\bar{x}$=2.54), poverty ($\bar{x}$= 2.52), lack of education and skills ($\bar{x}$= 2.50), poor rural infrastructure (roads) ($\bar{x}$= 2.50), lack of consistent food supply ($\bar{x}$ = 2.42), poor health services ($\bar{x}$ = 2.41), weak support services (research, extension and finance) ($\bar{x}$ = 2.39), poor post-harvest processing and storage technologies ($\bar{x}$ = 2.37), and inadequate knowledge on food storage ($\bar{x}$ = 2.35) etc. Poor nutrition education acts as a barrier to eating a good balanced diet. Since most of the women are either primary school leavers or had no formal education, it can pose a threat to their knowledge of food nutrition. Aside this, poverty can affect their access to private health facilities and food. In terms of infrastructures, government often neglects the development of rural areas where most subsistence farmers dwell thus, leaving them inaccessible to information that could change their feeding habits. These above are in agreement with the findings of Zhou, Shah, Ali, Ahmad, Din, and Ilyas (2019) who observed unequal distribution of resources and wealth, unemployment, poverty etc as major challenges to health, nutrition and food security of the vulnerable groups such as women. The challenges the women face may have led to engaging in activities with no opportunities in terms of acquiring technical skills and capital (Tashikalma et al., 2015).

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Table 5: Factors affecting food security of female headed households

Factors	Mean	Std. Deviation
Climate change and variability	1.84	0.656
Shortage of farm labour	2.12*	0.832
Low crop yields	1.97	0.785
Lack of access to labour saving devices	2.29*	0.830
Inadequacy and lack of access to improved agricultural inputs (seeds, fertilizer, agro-chemicals and irrigation)	2.03*	0.727
Rapid population growth	1.72	0.688
Limited access to land	2.09*	0.762
Lack of education and skills	2.50*	0.743
Poverty	2.52*	0.678
Weak support services (research, extension and finance)	2.39*	0.875
Religious and ethnic conflicts	1.77	0.825
High food prices	2.07*	0.724
Poor rural infrastructure (roads)	2.50*	0.782
Political problems (corruption, collusion and nepotism)	1.75	0.699
Lack of consistent food supply	2.42*	0.705
Poor nutrition education	2.54*	0.703
Poor post-harvest processing and storage technologies	2.37*	0.845
Chronic diseases such as HIV/AIDS	1.21	0.475
Lack of access to clean water	2.22*	0.808
Poor sanitation	2.31*	0.868
Poor health services	2.41*	0.815
Food taboos	1.63	0.714
Poor food habits	2.16*	0.765
Poor health status	2.09*	0.707
Inadequate knowledge on food storage	2.35*	0.787
Large number of dependants	1.82	0.752

*Cut-off=2.0

Field survey, 2019

Coping Strategies for Household Food Insecurity

Table 6 shows the varimax rotated factors of the coping strategies of female headed households. The identified factors were: adaptation and diversification factors. Variables that loaded high under adaptation coping strategies included remaining hungry ($\bar{x}$ = 0.677), restriction of food consumption of adult to feed children ($\bar{x}$ = 0.609), sending household members to eat elsewhere ($\bar{x}$ = 0.587), removing children from school ($\bar{x}$ = 0.575), sending children to hawk ($\bar{x}$ = 0.574), reducing food consumption per day ($\bar{x}$ = 0.563), reducing expenditure on essential requirements ($\bar{x}$ = 0.457), relying on less preferred food ($\bar{x}$ = 0.444), going to praying houses to beg food ($\bar{x}$ = 0.420), and sales of assets or household productive resources ($\bar{x}$ = 0.416). The items that loaded high in factor 2, (diversification), included diversifying crop production with animal production ($\bar{x}$ = 0.714), diversifying crop production ($\bar{x}$ = 0.708), and borrowing money to buy food ($\bar{x}$ = 0.431). From the findings in Table 8, it was clear that the coping strategies adopted by the respondents were more of

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adaptation and few of diversification. These further shows that the women resorted into strategies that will enable their homes survive in the face of food insecurity than engaging in income generating activities. While some coping strategies (remaining hungry, reducing food intake per day, restricting consumption of adult to children etc.) may not affect future food security of the households, the long term health is endangered. Moreover, the sale of assets/productive resources, and withdrawal of children from school will have negative effect on the future food security of the households. Ezeama, Ibeh, Adinma, Emelumadu, and Adoga (2015) argued that the strategies such as marketing of household productive resources and minimizing expenditures on essential services like health and education are expected to have long-term negative effects on the household food security.

Table 6: Coping strategies of female-headed households

Coping strategies	Adaptation	Diversification
Reducing food consumption per day	**0.563**	-0.046
Remaining hungry	**0.677**	-0.020
Restriction of food consumption of adult to feed children	**0.609**	0.151
Sending household member to eat elsewhere	**0.587**	-0.042
Relying on less preferred food	**0.444**	0.008
Sales of assets or household productive resources	**0.416**	0.117
Removing children from school	**0.575**	0.236
Reducing expenditure on essential requirements	**0.457**	0.375
Diversifying crop production	0.054	**0.708**
Diversifying crop production with animal production	-0.133	**0.714**
Borrowing money to buy food	0.147	**0.431**
Going to praying houses to beg food	**0.420**	0.035
Sending children to hawk	**0.574**	0.140

Extraction Method: Principal Axis Factoring.
Rotation Method: Varimax with Kaiser Normalization.

Conclusion and Recommendations

The respondents were grossly food insecure. Lack of requisite skills, education, technical and practical skills limits the scope of economic sustaining options among the FHH. The female headed homes are limited with paucity of productive and lucrative resources, seen from their meagre income and consequent low earning for expenditure on food consumption.

Special development policies that assist women especially FHH in capacity building like providing them with access to productive resources to ensure sustainable economic activities in rural areas will be of great impact. Development partners should concentrate effort on agriculture, processing, and trading activities prevalent in the area, by partnering with the government in providing mechanized agricultural equipment, training, and provision of support for the women.

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