Journal of Food Security, 2017, Vol. 5, No. 6, 223-231
Available online at http://pubs.sciepub.com/jfs/5/6/3

DOI:10.12691/jfs-5-6-3

Factors that Enable Food Insecurity among Orphan and Vulnerable Households in South-East Nigeria

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Abstract Nigeria with its large population and huge oil resources remains a rural agrarian economy. Food insecurity is high as seventy percent of the population live on less than one hundred Naira, N100 (US$ 0.70) per day. The South East Nigeria has high rate of HIV/AIDS and vulnerable households leading to hunger and poverty. The study evaluated food security status of orphans and vulnerable households and factors that enable food insecurity in South East Nigeria. A cross-sectional study employing qualitative and quantitative methods and fourteen focus group discussions were used to obtain views from three thousand two hundred respondents. The FGD data were manually analyzed while quantitative data was analyzed using Statistical Package for Social Sciences. Household hunger scale was used to determine the food security status of the households. **Results:** Nearly all the households (Anambra=96%, Imo=94.4%), did not provide enough food for the household needs. Sixteen percent of households in Anambra and 27 % in Imo could afford only one cooked meal in a day. The household hunger scale showed there was sever hunger in 35% of Imo households and 24% Anambra households. Findings from the FGD revealed that determinants of food insecurity in the region included weak supply side and high demand for food because of increased population; rural poverty; shortage of farmlands; food export to cities; high cost of food at the community level; over dependence on traditional, not mechanized farming; fast urbanization; HIV/AIDS, chronic illnesses and cultural norms which deny women and widows of land ownership. **Conclusion:** High food insecurity rate was found among the surveyed households in both states. There was a strong relationship between the socio-demographic variables and the food insecurity status in the households. Overall, the food supply side is weak, while the demand far outstretches the supply.

Keywords: *orphans, vulnerable children, food insecurity, south east*

Cite This Article: Uzondu Charles, Ogazi Josephine, Orame Ngozi, Okoye Chidimma, and Igbokwe Charles, "Factors that Enable Food Insecurity among Orphan and Vulnerable Households in South-East Nigeria." *Journal of Food Security*, vol. 5, no. 6 (2017): 223-231. doi:10.12691/jfs-5-6-3.

1. Introduction

Providing adequate food for households on a continuous basis has remained a human challenge. Food insecurity at the household level constitutes a threat to human existence because food is one of the basic needs and necessities for human survival. Food security is achieved through qualitative feeding practices. The feeding practices and access to the appropriate quality and quantity of foods are essential components of optimal nutrition for young children. World Health Organization (WHO) has identified poor quality complementary foods with low nutrient density and inappropriate feeding practices as one of the major causes of malnutrition in young children [1]. The risk of nutritional deficiencies witnessed during the second half of infancy in many developing countries has been found to be as a result of either early or too late introduction of complementary foods which are equally insufficient in quality and quantity [2]. More than 10 million children die each year; most from preventable causes, including malnutrition. The majority of children who die are from poor countries [3]. Malnutrition is a condition which occurs among large sections of the poor, mainly amongst women and children. In a broader sense, the variable of concern is household's welfare, which is an important component for determining nutritional status.

For almost all infants, breastfeeding remains the simplest, healthiest and least expensive feeding method that fulfils the infants' needs [4]. The numerous benefits of breast-feeding are of public health relevance for developing countries as well as for industrialized nations. Exclusive breastfeeding, which is giving breast milk only and no other liquids, except drops or syrups with vitamins, mineral supplements or medicines, is superior to non-exclusive breastfeeding with a protective effect against both morbidity and mortality [5]. Exclusive breast-feeding provides low cost, complete nutrition for the infant, protects him/ her against infections including infant diarrhea, and prolongs lactation amenorrhea, thereby increasing birth spacing. Despite strong evidences in support of Exclusive Breastfeeding (EBF) for the first six months of life, its prevalence has remained low worldwide [6]. In Nigeria, breastfeeding is universal with

almost all babies being breastfed. However, the practice of EBF is rare with only 18% of children younger than six months being exclusively breastfed [7]. This proportion is even lower for vulnerable households because mothers themselves are under nourished.

The need to protect, promote and support breastfeeding in Nigerian communities has been widely recognized. It is in realization of this noble objective that the Federal Ministry of Health and Social Services in conjunction with UNICEF and WHO launched the Baby Friendly Hospital Initiative (BFHI) to protect, promote and support breastfeeding in Nigeria. To achieve this objective, a number of Teaching and Specialist hospitals were designated as baby friendly hospitals following the "Innocenti declaration". The Innocenti Declaration has as its main objectives the promotion of early initiation of breastfeeding (within 30minutes of delivery), EBF for the first six months of life, breastfeeding on demand and continuing breastfeeding with complementary feeds into the second year of life [8].

The international covenant on Economic, Social, and Cultural Rights, adopted by the United Nations in 1966, formalized the right to food as a basic human right [9,10]. A more general human rights framework affirms the basic rights of all people irrespective of race, culture, religion and gender. This approach implicates local, nongovernment, and international leaders to define policy and actions to reduce hunger. It refocuses attention on important aspects of food security, including the responsibility of international institutions and states to guarantee human rights, and the ways of incorporating rights-based indicators into food security measurement [11]. In developing countries, including Nigeria, this framework is more of rhetoric than visible facts.

Food security is defined as access to nutritionally adequate and safe food for a healthy and active life. Food and Agricultural Organization (FAO) defined food security as a situation "when people, at all times, have physical and economic access to safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life"."Food insecurity exists when the availability of nutritionally adequate and safe foods, or the ability to acquire foods in a socially acceptable way, is limited or uncertain [12]. There is a direct relationship between food insecurity, hunger, and poverty. Also, studies have shown a direct relationship between food insecurity and malnutrition [13,14]. One of the contributing factors to food insecurity is socio-economic status. Limited income causes people to restrict the number and quality of meals they eat, reduce dietary variety, and look for inexpensively processed food. These options are usually low in essential nutrients and high in fats with empty calories [15].

Studies on the consequences of food insecurity show an association between food insecurity and lower cognitive performance, poor health, obesity, cardiovascular disease, and depression [16,17]. Therefore, food insecurity research helps characterize the impact of malnutrition on the quality of life. Increased food prices have made the situation worse. Studies in Nigeria show prices for millet, maize, and sorghum have increased by about 100 to 200% since 2007, and, consequently, lead to an increase in malnutrition, poverty, and threats to peace and stability [18]. These foods constitute more than 70% of the complementary foods used by the majority of caregivers in the country.

It is reported that Nigeria's total agricultural output in areas of food production (including livestock and fishing), processing and marketing accounted for about 80% by value. However, in spite of the increase of food to the Nigerian agricultural economy, the food intake in the country is still inadequate in terms of quantity and quality [19]. Food consumption studies assess immediate causes of malnutrition, and food security studies predict the adequacy of household dietary intake and nutritional status.

In Nigeria, few studies measure food security status of households, despite common knowledge that many Nigerians are food insecure [20]. Other studies have demonstrated daily eating frequency was directly related to adequate carbohydrates, folic acids, vitamin C, calcium, magnesium, iron, potassium, and fiber intakes, while irregular eating was related to protein, total fat, cholesterol, and sodium intakes. Reports also show high intake of these nutrients could cause chronic health conditions [21]. A study in Lagos and Ibadan, Nigeria shows that household food insecurity is over 70% [20]. Therefore, addressing food insecurity requires knowing the groups and communities affected, and prevalence of the problem.

The purpose of this study was to assess the food security and the feeding practices of the vulnerable households in South-east, Nigeria.

2. Study Area

South-east Nigeria is the indigenous homeland of the Igbo people who constitute a culturally homogenous zone in southern Nigeria. Presently it is made up of five states with a total population of over fifty million inhabitants, and characterized by high population density. The two states studied, Imo and Anambra together have a population of over ten million inhabitants. The south east are primarily agrarian in economy, but this is characterized by subsistence farming. Cassava, maize and vegetables are the main crops. The zone is in the rain forest belt and have adequate rainfall yearly. The zone has very little livestock. Increased urbanization depletes available land for agriculture and enables vulnerability and food insecurity.

The south-east of Nigeria houses the second largest concentration of orphans and vulnerable children in the country [7,22]. HIV prevalence is also high (4.9%), second only to the North Central (5.8%) in a National average of 3.0% [23]. The HIV prevalence in the two states surveyed were Anambra 9.7%, and Imo 7.5%, representing third and fourth highest HIV prevalent states in the country [23].

2.1. Study Population

This study was conducted in one hundred and sixty vulnerable households in twenty Local Government Areas (LGAs) in Imo and Anambra. A total of 3200 persons were interviewed and 3170 (Anambra=1576; Imo=1594)

questionnaires were analyzed. Among the respondents were 1585 caregivers and 1585 children. In each household, one caregiver and one child was interviewed.

2.2. Design of the Study

A cross-sectional descriptive and explorative mixed-study method combining Qualitative and Quantitative methods was used to document the factors that enable food insecurity in the two states. The quantitative method involved the use of structured questionnaires aimed at describing and quantifying the distribution of certain variables in the study population at the time of the survey. A structured questionnaire was used to collect data on socio-demographic characteristics, food cultivation and food security characteristics, as well as household and animal holding characteristics of the respondents. Trained research assistants and enumerators interviewed the respondents.

The qualitative method involved fourteen focus group discussions of four different groups: female and male caregivers, orphans and vulnerable children, traditional community representatives and representatives of government policy makers.

Four variants of semi-structured FGD guides were developed and used to facilitate discussions on the subject of food security among vulnerable households in the two states.

Household hunger scale was used to determine the food security status of the households. Data was analyzed for frequency and percentages. Pearson correlation analysis was used to compare categorical variables and $P<0.05$ was set to be significant.

Ethical approval was obtained from the state ethical committees of both states and only caregivers and government functionaries who willingly consented to participate were finally recruited for the study.

2.3. Sampling Technique

A multi-stage sampling technique was used for data collection. Stage one was the random selection of ten Local Government Areas (LGAs) each from Imo and Anambra. A total of twenty LGAs were surveyed. The second stage was the random selection of eight communities from each LGA. A total of 160 communities were selected by listing all communities in each LGA alphabetically and selecting those that fell into intervals of five. Thirdly, for each community, all the households with orphans and vulnerable children (as already identified by Local Government Social Welfare Officers) were listed and twenty households per community were randomly selected.

2.4. Data Collection

A structured questionnaire was used in the study to collect data on socio-demographic characteristics, food cultivation and food security and animal possession characteristics. Household hunger scale was used to determine the food security status of the households. Content validation of the questionnaire was done by household experts selected from the Ministries of Education, Health, Women Affairs and the University of Nigeria, Nsukka in the South Eastern Nigeria. The questionnaire was corrected and pre-tested in two stages: The first was with the field workers while the second was with similar community that was not part of the study population. Forty research assistants and supervisors who could speak fluently the native dialect and English were recruited and trained on the administration of the questionnaire.

2.5. Data Analysis

Data collected at the quantitative method was analyzed using Statistical Products and Service Solution (SPSS) version 21 for frequencies, percentages, means and standard deviation. Pearson Correlation and Chi square analysis was used to determine relationships between variables of interest. $P<0.05$ was set to be significance.

For the Focus Group Discussions (FGDs), the research team conducted, taped and transcribed all the groups. The FGD data were analyzed manually after transcription. The results of the two methods were triangulated to determine factors that enable food insecurity in the vulnerable households.

Extracts and quotations from the FGD transcripts represented the specific views of the groups, not individual discussants. The issues described in this report are the highlights of the agreements of the different groups on the issue of food security, are not necessarily all the concerns.

3. Results

Table 1 presents the socio-demographic characteristics of the vulnerable households in Imo and Anambra states. It reveals that there are nine thousand, five hundred and ninety-seven vulnerable children (VC) in the 3170 household's surveyed (Anambra 50.2% vs. Imo 49.2%). The table shows that the mean number of persons per household is five; while the mean number of Vulnerable Children per household in both Anambra and Imo is 3.

Most of the children living in the households fall within ages 5-14 years (Anambra 29.4% vs. Imo 30.4%). There were more male orphans than females, but the proportion for Anambra and Imo remained similar (Anambra: 52.4% males vs. 47.6% females); (Imo: 52.5% males vs. 47.5 % females). Mean age of caregivers was forty-five years.

Figure 1 shows that more than four-fifths (Anambra=88.0% vs. Imo=85.6%) of the caregivers were females and aged twenty-five or more years. About one-tenth of caregivers (Anambra=9%; Imo=10%) were males aged ≥25 years. The number of child caregivers was negligible (0. 1% vs. 0.5%) in both states.

Table 2 presents the food security characteristics of the OVC households surveyed in Anambra and Imo. Despite professing that the caregivers are primarily farmers, only 4% of households in Anambra and 5.6% in Imo cultivate enough food to cover household needs on yearly basis. In almost all the households (96% in Anambra and 94.4% in Imo), total annual food cultivation did not provide enough food for the household needs. Consequently, all

households (Anambra 99.5% and Imo 99.7%) do not have enough root crops to feed their families yearly, and therefore have to buy food from the market. This finding was supported by the interjection of an eleven year-old male orphan who, during the focus group discussions, said

"*We eat only one time every day, in the afternoon. But yesterday, I did not eat any food at all until when you served this food today*"

Four fifths (Anambra= 86.9%; Imo 81.3%) reported food deficit for three quarters of the year. In all this, there was virtually no food aid from the government.

Less than one quarter of households (24.4%) in Anambra own goats, compared to 85.9% in Imo, and almost equal proportions own poultry (23.8% vs. 22.9%). As with durable household goods, ownership of animals is considered an asset of economic value. A family may decide to sell some of its animals to fund other family needs like paying school fees, hospital bills, buying food. But where there are no such animals to sell, the economic challenge lingers.

Table 1. Socio-demographic Characteristics of Households surveyed in Anambra and Imo

Variables	Anambra		Imo	
	Frequency	Percent	Frequency	Percent
Total number of Households interviewed	1600	100.0	1600	100.0
Total number of Households with VC	1576	98.5	1594	99.6
Total number of VC in households interviewed	4874	50.8	4723	49.2
Total number of adults in households interviewed	3199	39.6	3869	45.0
Total number of persons (children+adults) in households	8073	100.0	8592	100.0
Mean number of Vulnerable Children per household		3.0		3.0
Mean number of household members (adult + children)		5.1		5.1
Number of Vulnerable children by age group living in the Households				
0 - 4 years	1075	22.1	880	18.6
5 - 9 years	1455	29.8	1400	29.6
10 - 14 years	1436	29.5	1432	30.3
15 - 17 years	547	11.2	871	18.5
≥ 18 years	361	7.4	140	3.0
Total	4874	100.0	4723	100.0
Sex of the Orphans and Vulnerable Children in the Household				
Number of male vulnerable children	2555	52.4	2478	52.5
Number of Female vulnerable children	2319	47.6	2245	47.5
Number of Households with vulnerable children who are living somewhere else	477	30.3	347	21.8

Table 2. Food cultivation and food security characteristics of households in Anambra and Imo State

Variables	Anambra (1576)		Imo (1594)	
	Frequency	Percent	Frequency	Percent
Yearly Cultivation of food to cover household needs				
Yes	63	4.0	89	5.6
No	1513	96.0	1505	94.4
Total	1576	100.0	1594	100.0
Households with sufficient Yearly root crop harvest				
Yes	8	0.5	5	0.3
No	1568	99.5	1589	99.7
Total	1576	100.0	1594	100.0
Number of months there was food deficit in the household				
0 month	71	4.5	97	6.1
1-3	135	8.5	201	12.6
4-6	842	53.5	692	43.4
7-9	401	25.4	442	27.7
10-12	127	8.0	162	10.2
Total	1576	100.0	1594	100.0
Source of meeting household food requirement (N= Multiple Response)				
Bought from the market	1251	79.1	1170	73.4
Relatives come to our aid	611	38.6	391	24.5
Cut down on food	403	25.5	214	13.5
Assistance from friends	353	22.3	155	9.7
Food aid from government	10	0.6	1	0.1
Migrated to earn money	40	2.5	9	0.6
Other	106	6.7	241	15.1
Ownership of animals in the household				
Cattle	2	0.1	0	0
Sheep	66	4.2	14	0.9
Dogs	74	4.7	93	5.8
Goats	384	24.4	224	85.9
Poultry	375	23.8	365	22.9
Pigs	5	0.3	2	0.1
Fisheries	1	0.1	0	0

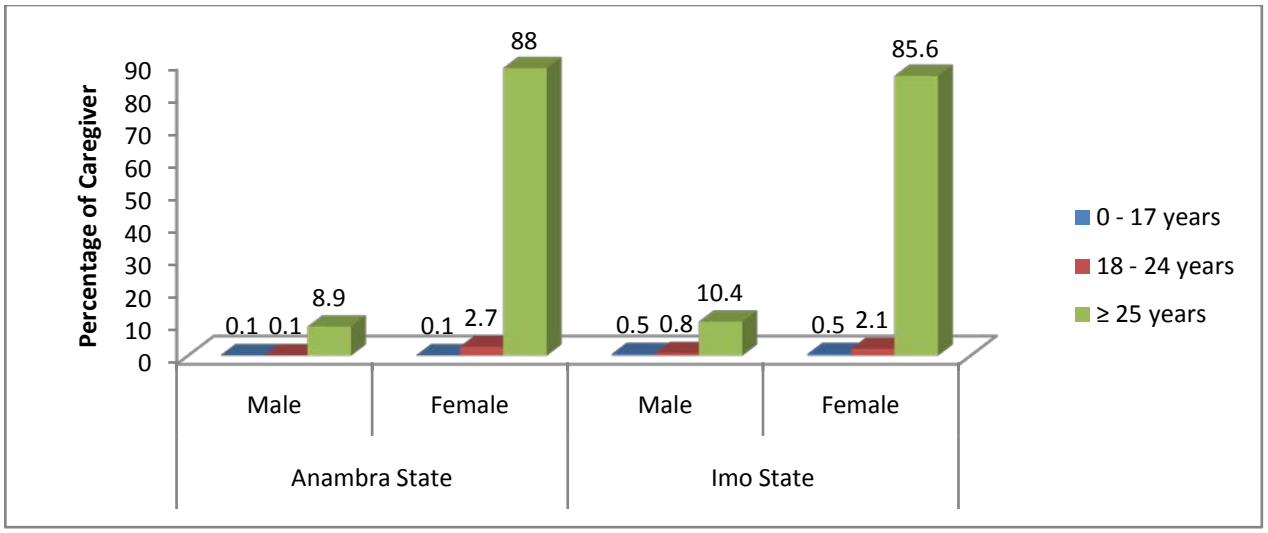

Figure 1. Distribution of Caregivers by age and sex in Anambra and Imo State

Table 3. Food security Characteristics of Households in Anambra and Imo State

Variables	Anambra (1576)		Imo(1594)	
	Frequency	Percent	Frequency	Percent
Average number of cooked meals had by family per day				
One cooked meal	247	15.7	427	26.8
Two cooked meal	1095	69.5	947	59.4
Three cooked meal	234	14.8	220	13.8
Total	**1576**	**100.0**	**1594**	**100.0**
Children going to bed without a meal in the last one month				
Yes	987	62.6	1154	72.4
No	550	34.9	432	27.1
Can't remember	39	2.5	8	0.5
Total	**1576**	**100.0**	**1594**	**100.0**
Frequency of protein (meat, fish, crayfish, milk, eggs) in your meal				
Daily	202	12.8	146	9.2
Twice	274	17.4	427	26.8
Once a week	304	19.3	294	18.4
Monthly	118	7.5	78	4.9
Rarely	598	37.9	633	39.8
Can't remember when last took protein	80	5.1	16	1.0
Total	**1576**	**100.0**	**1594**	**100.0**

Nigerians of the South East geopolitical zone are known to rely for their feeding on cooked meals, mainly root crops, cereals and vegetables. Typical households make fire and cook their meals at each meal time three times daily. When a family cannot light up fire to cook a meal then the poverty is at the extreme.

Table 3 reveals that among the 1576 households responding in Anambra and 1594 in Imo, only about two-thirds in Anambra (69.5%) and slightly more than half (59.4%) in Imo can afford two cooked meals a day. Less than one in every five (15.7%) households in Anambra and about a quarter (26.8%) in Imo can afford one cooked meal a day. Children in almost two-thirds (62.6%) of households in Anambra and almost three-quarters (72.4%) in Imo had gone to bed without a meal in the one month preceding this survey. The table further shows that more than one third (Anambra 37.9% vs. Imo 39.8%) of the households rarely take protein meals. Less than one quarter of households in Anambra (17.4%) and 26.8% in Imo take protein meals twice weekly.

3.1. Household Hunger Scale

Figure 2 showed that only 13% of households in Imo and 26.5% in Anambra had little to no hunger. Approximately half, (Imo=52%) and (Anambra=49.3%) of the households had moderate hunger while another one third in Imo (35%) and a quarter (24.2%) had severe hunger in Imo and Anambra State respectively.

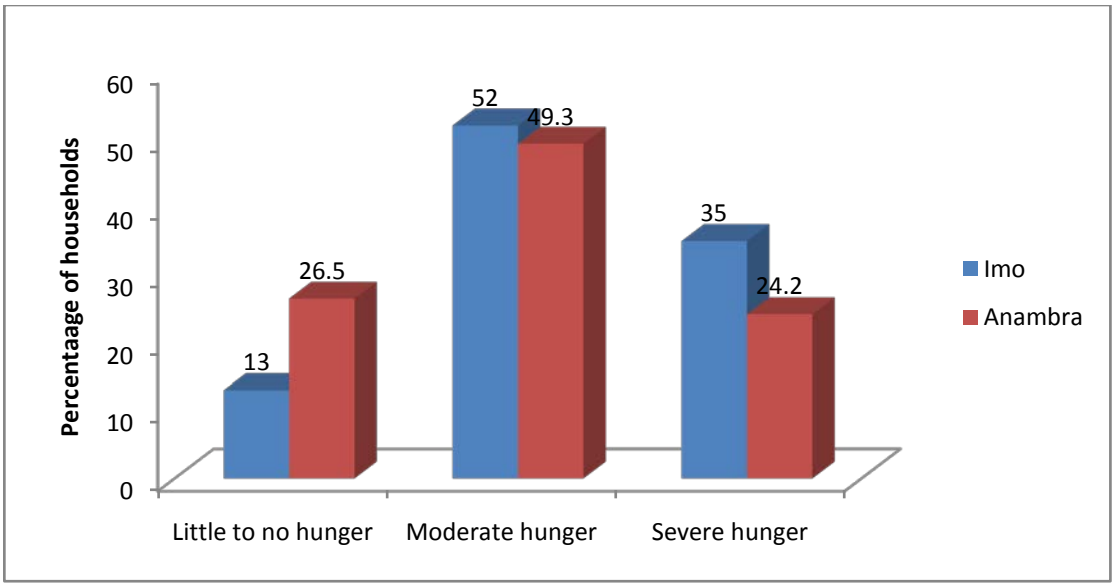

Figure 2. Household hunger scale (HHS) of vulnerable households in Imo State and Anambra State

Findings from the Focus Group Discussions: Discussants at the different focus groups shared their views on the determinants of food insecurity in the south-east of Nigeria. In their summation they agreed to a dozen direct influences that have led to food insecurity in the south-east of Nigeria. The findings of the focus group discussions are not necessarily opinions previously formed by different discussants and uploaded at the discussion meetings, but rather as agreements of intensely discussed subject matter resulting in a social construct and emerging from the context. This section summarizes the group opinions.

Weak supply side and high demand for food: The consensus among all discussants was that food security is based on the balance between food supply and food demand. In the south-east zone of Nigeria, the food demand far outweighs the supply. This conclusion is premised on many other factors which are listed below.

Increased population: The population of the south-east, like that of the entire country, has increased astronomically, without corresponding plans for the upkeep of the huge population. The average household density in the south east is five, as shown in Table 1. This agrees with the national household density of 4.6 persons. And for every two adults in the household, there are at least three children.

Shortage of farmlands: The south east zone is the zone with the least land mass in the country. Meanwhile the zone remains the most rapidly urbanized in the country. *Female caregivers in Anambra during the FDD sessions, reported that government (development) has taken away all the farmlands and that widows have to scavenge to feed their children.* Urbanization has the multiple effect of constricting land for farming and luring young men who should be at the forefront of farming and food production to the city for greener pastures and "white collar" jobs. In the south east, it is considered "abnormal" to see young men remain in the communities and live by farming. Furthermore, for many vulnerable households, the tradition in the south east "that women do not own land" has added to their food insecurity. In most Igbo societies, widows are denied the share of the family land earlier farmed by their late husbands, particularly if the widow has no male child, or the children are still too young to fight for their inheritance.

Overreliance on food import from northern Nigeria: Discussants at all the groups are in consensus that as the young able men leave for the cities, the communities in the south east greatly rely on food import from northern Nigeria for survival. The north of Nigeria contains more than two thirds of the national landmass and because the land holding system in the north allows for individuals and families owning massive land areas, commercial farming is practiced in the north, compared to subsistence farming in the south east. The discussants opined that even in animal rearing and husbandry, the Igbo have grossly neglected their variant of cows (bulls), goats and sheep, and have become heavily dependent on imported animal protein from the north. Unfortunately, poor purchasing power and poverty make it impossible for the vulnerable households to buy and eat animal protein.

Food export to cities, leading to high cost of food at the community level: Discussants were united in their agreement that the little food produced through subsistence farming in the communities are more often exported to the cities in exchange for cash. Therefore, in the south east of Nigeria, food items are cheaper in the cities than in the rural communities. Most rural farmers take their farm produce to the cities for sell, just for the ego that "they sell to the cities".

Over dependence on traditional, not mechanized farming: Farming in the south east has remained at the subsistence level. This explains why a large percentage of caregivers profess to be farmers, yet are unable to produce enough to meet the yearly food needs of their households.

Rapid urbanization resulting in reduced cultivable land and migration of young able men who should farm to the cities has left food production at the doorsteps of the elderly and weak.

Increased educational "paper" qualifications and skewed drive for white collar jobs. The states of the south east compete to achieve education up to tertiary level. The acquisition of good education has not led to

improved feeding. Rather, the newly educated desert the communities, migrate to the cities in search of civil service jobs, and create vacuum for young men to effectively produce food. As some discussants opined,

being educated has become a determinant of food insecurity.

While the growing population of unemployed university graduates populate the cities, searching for non-existing jobs, they add to the demand side of the food scale.

Rural poverty: Food insecurity is heightened by rural poverty. At the household level, rural poverty translates into reduced purchasing power, hunger, lack of access to minimum nutritional requirements, and poor access to healthcare. This in turn leads to more vulnerability. During the FGDs one caregivers retorted…

When poor households claim to buy food from the market, one doubts what they mean because they have no money. So what do they buy? *I belong to that group. We merely go to the market as an exercise. Sometimes you are tempted to steal because you see what to buy for the children, but you do not have the money.*

Breakdown of Family values and traditional Social Safety nets: South east Nigeria was noted for its "spirit of brotherhood" before the civil war. Orphaned children and widows were well protected and taken care of by immediate families and neighbours. Hardly any orphan went to bed any day hungry. All that traditional safety net has broken down and family values that helped protect and provide for the poor and vulnerable has been lost. Vulnerable households now go to bed without food. Neighbours fail to notice when fire has not been kindled and or stoked in a neighbouring household for days. This loss of traditional safety nets has increased the level of food insecurity in the zone and particularly among vulnerable households. One discussant quipped

…I have never heard the traditional ruler or village council talk about orphans and vulnerable children at any meeting. So, if you wait on the community to help you, you are already dead…

Another 13 year-old discussant, referring to her community said

…These people (meaning the community members), rather than call you your name, they call you orphan. Is orphan a name? It is derogatory. It is stigmatizing. So, are these the people you expect to help you?

Natural/Environmental disasters: Flooding and Erosions contribute to food insecurity in the two states. In some parts of Imo state, there have been repeated youth restiveness, which affect farming activities and therefore endanger food security.

HIV/AIDS and chronic illnesses are prevalent in the states resulting in resources which should be used for food production and acquisition to be used in seeking healthcare. The south-east of Nigeria houses the second largest concentration of orphans and vulnerable children in the country [7,22]. Most of the children were orphaned by HIV/AIDS. HIV prevalence remains high (4.9%), second only to the North Central (5.8%) in a National average of 3.0% [23]. The HIV prevalence in the two states surveyed were Anambra 9.7%, and Imo 7.5%, representing third and fourth highest HIV prevalent states in the country [23]. When parents become invalid through HIV/AIDS or other chronic illnesses, the resources used in taking care of them would have been used for the children's feeding. Furthermore, sick parents can no longer go to the farm. HIV also leads to debilitation and death of youths who should be contributing in food sourcing. It also leaves in its wake, a large horde of widows. These large populations strengthen the demand side of food scale while not contributing to the supply side So HIV/AIDS contributes indirectly in food insecurity.

4. Discussion

The socio-demographic characteristics of the households showed that the prevalence of vulnerable children was highest among the age group of 5-9 years (29.8%) and 10-14 years (30.3%) in Imo and Anambra States respectively. This clearly suggests that any interventions that these States hope to administer amongst the OVC in their States should be more focused on these age groups for efficient resource management and effective implementation of their intervention programs. The mean number of persons per household was found to be five. This is in agreement with the national household average of 4.6 people [7]. Larger household sizes are associated with a negative food security status. Larger household sizes require increased food expenditure and competition for limited resources. It was expected that household size would significantly impact household food security.

The mean number of Vulnerable Children per household in both Anambra and Imo was found to be three. This means that three persons out of every five (60%) in a household were vulnerable children. This is very high vulnerability point prevalence and demands an immediate, quick and impactful interventions amongst the OVC in these States to avoid large-scale disaster in the nearest future for these groups.

Majority (88.0% and 85.6%) of the caregivers in Anambra and Imo States respectively were females and aged twenty-five or more years. In a related study, it was discovered that an increase of one year in the age of household caregivers' decreases the chances of a household to become food secure [24]. A study in 2007 by Omonoma & Agoi in Nigeria found an inverse relationship between the age of household caregivers and food security [25] .

Only 4% and 5.6% of households in Anambra and Imo State respectively have yearly cultivation of food to cover household needs. This was validated as more than 70% of the OVC households reported food deficit for more than 6 months. A high percentage (79.1% and 73.4%) met their household food requirement by purchases of these foods from the market. This may have a negative impact on these households because they are already vulnerable households and lack purchasing power. According to the FAO definition of food security, three linkages emerge. These are food availability, access to the available food, and effective utilization of the food. Seydou Zakari and his fellow researchers in 2014 summarized that a household is assumed food secure, only if it has enough food to provide for its members all the usual meals in a day, for the entire period under discussion, otherwise the household is food insecure [26]. A study conducted by Frankenberger *et al*. (2007) suggested that seasonal price fluctuation of staple food contributed to the vulnerability

of many rural poor households because they depend on market and have relatively limited purchasing power [27].

About half of all the households surveyed (Imo=52% and Anambra=49%) had moderate hunger while Imo=35% and Anambra=24.2% had sever hunger. Overall, this implies that 87% of vulnerable households in Imo and 74.2% in Anambra reported hunger. This is a reflection of high level of food insecurity amongst the households. The household food security status recorded in this study was higher than that reported by researchers in Ile-Ife, Nigeria, where 65% of households were food insecure [28]. The Nigeria Food Consumption and Nutrition Survey results also buttress the food insecurity status of many house-holds in southwest Nigeria, as reported in this study. Other studies from southwestern and south-south regions of Nigeria reported food insecurity levels as high as 70 and 61.8% [20,29,] respectively which corroborates the findings from this study. In Oromiya Zone of Ethiopia, researchers found household food insecurity to be as high as 73.1%. Determinants of food security in their study included household size, educational status, average farm land size as well as average per capita production of food in Kilograms [30].

It is also important to note that in Nigeria, like in many other developing countries of sub-Saharan Africa and Asia, a wide seasonal variability in food supply and availability exists, due to the poor food storage and preservation practices in these regions [31]. Also some researchers are of the opinion that variables related to food supply are more potent determinants of food security than those related to food demand. Food in-security is further viewed as a demand concern affecting the poor's access to food, than a supply concern affecting availability of food at the national level [32]. The Federal Government through the Federal Ministry of Agriculture and Rural Development, made efforts to address the rising food insecurity in the country. It operated a pilot project in Kano, with three sites, tagged "Supporting Programmes for Food Security" (SPFS). The success recorded in this pilot scheme has led to a scale-up to the national level, which was formally launched in 2001, with a mandate to reach at least thirty thousand (30,000) households (FAO). Due to the multi-dimensional issues related to food security, many institutions and governments avoid optimal investment of their scarce resource to tackle it [33].

4.1. Policy and Program Implications

Many OVC reported having gone to bed without food many times in a month. Such children cannot be expected to benefit from any other service.

The government and community should identify such households (the poorest of the poor) and target them for food and nutritional support. Many discussants also stressed that a time in the year that they need food support more urgently is between the planting season and harvest. They reported that at this period, they would have invested all their resources to acquire farmland and cultivate, and have no money to buy food from the market. Government and communities should develop local food baskets to support the vulnerable, particularly at the period between planting and harvesting. By so doing, many lives would have been saved.

Providing household economic support by building economic skills of the care giver promises to be a more enduring approach, and should be adopted by the government and communities.

Government needs to specifically target the poorest of the poor in the communities and provide them with some level of food insurance scheme to enable them access food care at dedicated food marts. Communities and implementing organizations should also encourage home gardens all year round for all households. For vulnerable households with adolescents, conditional cash transfer targeted at the adolescents to use their period out of school for farming activities would be a productive venture.

South East communities should revamp the traditional safety net of being the brother's keeper by setting up local food baskets and other welfare packages as part of community welfare for the benefit of the vulnerable. The tradition of not allowing women, particularly widows to own land should be discouraged.

5. Conclusion

Generally, food insecurity in vulnerable households in south east of Nigeria follows the same pattern nationwide. Currently there are no government policies targeted at addressing the food and nutrition needs of orphans and vulnerable households. Even where there are government policies on food security, they may not address the targeted vulnerable populations because of their invisibility in the scheme of things.

The prevalence of food insecurity among the OVC households was high among the states and households surveyed. Factors that contributed to the high levels of food insecurity among the households are associated with socio-demographic characteristics, low purchasing power, lack of food production and food availability. There is need for urgent intervention programs among the OVC households to improve the food security status.

Acknowledgements

We acknowledge the contributions of Paul Eme, Department of Nutrition and Dietetics, University of Nigeria, Nsukka and Ifeanyi Onyeka of WEWE LOPIN in support of reviewing the manuscript. The study was conducted as part of the Orphans and Vulnerable Children (LOPIN 2) Project funded by PEPFAR through the United States Agency for International Development (USAID). WEWE LOPIN manage the project in the study states. The contents of this paper are the responsibility of its authors and do not necessarily reflect the views of USAID or PEPFAR. Anambra and Imo states Ministry of Health Ethical Committees approved the work reported.

This is a Widows and Orphans Empowerment Organization (WEWE) publication.

Statement of Conflicting Interests

We hereby state categorically that the authors has no competing interest.

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