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Effects of Family Size on Household Food Security in Osun State, Nigeria

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Abstract

The study investigated effects of family size on household food security in Osun state, Nigeria. Multistage sampling technique was employed to select 110 respondents for the study. A well structured questionnaire was used in collecting information from the respondents. The data were subjected to descriptive and Tobit regression analysis. The results of the study indicated that about 60.9% had family size of 5and 8 members. Only 24.5% were food secure. Coping strategies employed include borrowing money, relying on less preferred and less expensive food. The constraints faced includes, poor access to credit (84.5%), and lack of input (81.8%). The study concludes that large family size has negative impact on house food security. The study recommended that government and non government agency should intensified effort on importance of family planning and advocate small family size in rural area.

Keywords: Family Size, Household, Food Security

Introduction

Food is a basic necessity of life. Its importance at the household level is obvious since it is a basic means of sustenance (Olayemi 1996). In view of the importance of food in man's life food is rate as the most basic of all human needs (Oluyole and Lawal 2008). According to Okunmadewa (2001), the concern for food security and nutritional well being in an economy is predicated by role of human element in economic development. This shows why at national level food is of economic and political significant especially in issues relating and ensuring peace and stability among the populace. The socio-economic characteristics and resources of individual household have been identified as basic factors influencing the food security status of household (Sanusi et al. 2006). Worldwide, about 852million men, women, children are chronically hungry due to extreme poverty while up to 2billion people lack food security intermittently due to varying degree of poverty (FAO, 2003).

Typically large family size has significant relationship with much greater risk of poverty (Maxwell 1996). Obamiro et al (2003) reported that an increase in household size would likely being the household membership to food insecure group. In Nigeria, the production of food has not increased at the rate that can match the food demand of the increasing population. While food demand increases annually at the rate of 2.5 percent, food demand increases annually at a rate of more than 3.5 percent due to the high rate of annual population growth of 2.83 percent (Oluyole and Lawal

2008). However household food security depends not only on the available of an adequate and sustainable supply of food but also on the coping strategies employed by households for its acquisition. In view of these, this study aims at finding answer to the following questions.

- What are the socioeconomic characteristics of the respondents in the study area?
- What is the food security status of the respondents?
- What are the coping strategies employed by the respondents?
- What are the constraints facing the respondents in the study area?

It was hypothesized that there is no significant relationship between socioeconomic characteristic and food security status.

Methodology

The area of study was Iwo Local Government Area of Osun State. The area shares boundaries with Lagelu LGA in the South, Oyo LGA in the West, Aiyedire LGA in the East, and OlaOluwa LGA in the North. The study area is located between latitude $7^0 45$ [1] N and longitude 4 15E and it cover a land area of 245km.It has a population of about 275,332 people in 2006, according to the National Population Commission (NPC). Farming is the main occupation of the people; others include slaughtering and sales of cattle, artisan and civil service. Population of the study includes all

rural household in the local government area. Multistage sampling technique was used. Five wards were selected through a random sampling technique. From each wards, 22 household head were selected to obtain total sample of one hundred and ten (110) respondents for the study. Both primary and secondary data were used. Descriptive statistical tools such frequency and percentages were used to analyses the data obtained through the use of structured questionnaire. The inferential statistical tool is Tobit model to test the relationship between the variables.

Measurement of Variables

The dependent variable of the study is the household food security level. It was measured using Household Food Insecurity Access Scale HFIAS (Coates et al. 2007). There are nine questions which were asked with a recall period of four weeks (30 days). The respondent was first asked an occurrence question that is whether the condition in the question happened at all in the past four weeks (Yes or No). If the respondent answered "Yes" to an occurrence question, a frequency of occurrence question was asked to determine whether the condition happen rarely, sometimes, often and never. Given a scale of often=3, sometime=2, rarely = I never=0. The maximum score for a household is 27, while the minimum score is 0.The lower the score the less food insecurity (access) a household experienced.

Coping strategies: This refers to strategies employed when food is insufficient. This was measured on a four point scale Always, Sometime, Rarely and Never. These were assign value of 3, 2, 1 and 0. There are 11 items on the scale thus a cumulative score were obtained according to (Maxwell 2008).

Family size: - the ideal family size in Nigeria according to National population policy (1988) classification is six (parents and children). Any number less or equal to six is regarded as small family, while number greater than six constitutes larger family size in this study.

Results and Discussion

Socio economic characteristic of the respondents

Age at marriage
Majority of the respondents were married between the age of 21 and 25 years. Only 16.4% married between the age of 16 and 20 years, while 21.8% married between the age of 26 and 30 years. The mean age at marriage is 21.3. This implies that early marriage will be a dominant factor in the prevalent large family size. This support the findings of Perez-Morales (1996) that

young people in rural area get married earlier and become involved in adult responsibility.

Age of respondents
Majority (69.9%) of small scale farmers are aged between 30 and 49 years. (Table 1). This could be regarded as middle age. Only (5.5%) were young (20-29 years), while 14.5% could be regarded as fairly old i.e. 50-59 years. The mean age of the respondents is 45.7. This result suggests that respondents in the study area are medium to slightly old people.

Gender
Majority (76.4%) of the respondents were male, while 23.6% were female. This indicates that there are more male headed household in the area since household heads were sampled.

Marital status
From Table 1, majority (82.7%) of the respondents were married. Given the very low rate of single (4.5%), widowed (9.1%) and separated (3.6%). This implies that majority of the respondents will have additional responsibilities to their spouses and children.

Educational level
Only (39.1%) of the respondents did not have any form of education. In essence, most of them (60.9%) had one form of education or the other. This shows that majority of respondents were literate which might enhance the food security status literate while might enhance the food security status adoption of improved farm practices. This will improve their production.

Family size
From table 1, majority (60.9%) of the respondents had between 5 and 8 children with mean size of 7.32. This could be regarded as large family size. However it is likely that these children will be used as source of manual labour in the household, also the age at marriage will have an impact on family size. The implication of this finding is that the quantity of food intake will be affected and dependency ratio will be affected. The larger the family size the lesser food availability to each person within the household and also nutritional status is affected.

Monthly Income
The income level was also investigated and the result shows that most (81.8%) of the respondents fell within the range of ₦1,000- ₦ 20,000 with mean value of ₦ 17,395.6. This is in line with FAO (2001) report that household must have sufficient income to purchase the food they are unable to grow.

Farm size

Farm size is the total area (ha) cultivated by each respondent. The result showed that most (55.5%) of the respondents cultivated between 1 and 2 ha with the mean size of 1.55ha. Also result showed that quite a sizeable proportion of the respondents (44.5%) cultivated farm land between 3 and above 5 hectares. This suggests that majority of the respondents were small scale farmers. The implication of this to food security is that food production will remain at a subsistance level and this can lead the respondents to diversity into nonfarm activities in other to be food secure.

Food security status

Figure I show that above 24.5% of the respondents were food secure, 34.5% were severely food insecure. In essence 40.9% of the respondents were moderately food insecure. A food secure household experiences none the food security condition. A moderately food secure household sacrifices more frequently by eating a monotonous diet but does not experience any of the three most severe conditions. A severe food insecure household has started cutting back on meal size, running out of food and going to bed hungry. In other words, 34.5 percent of the respondents experienced the severe condition in the last four weeks.

Coping strategies of respondents

Table 2 shows the coping strategies employed by respondents in the study area when they do not have enough to eat. The frequency of use of various coping strategies was ranked. Borrowing money was ranked 1st with mean score (1.69). This indicates short term household food availability. Using part of saving to buy food was ranked 2nd with mean score (1.65). This shows that respondents increased their access to food by these strategies. Relying on less preferred and less expensive food was ranked 3rd with mean score (1.56). This shows that respondents starts to change their consumption pattern that is (dietary adjustment) in the face of inadequate access to food. Other coping strategies employed included; reducing the quantity of food to be eating ranked 4th mean score (1.45), getting money through cooperative ranked 5th mean score (1.41) and buying food on credit ranked 6th mean score (1.37). The result shows that respondents increases short term household food availability. However reducing number of meals ranked 7th mean score (1.31), relying on help from family and friends ranked 8th mean score (1.21) working in exchange for money ranked 9th mean score (0.87),sending household member to eat elsewhere ranked 10th and lastly selling personal belonging ranked 11th. This implies that respondents in the study area employed different coping strategies in other to be food secure.

Constraints faced by respondents

Table 3 show the constraints to food security in the study area and these include lack of credit facilities (84.5% crop failure (70%), poor storage facilities (62.7%), low income from sales (66.4%), lack of input (81.8%) poor transportation network (49.1%) and pest and diseases 56.4%.This shows that many constraints hindered the food security status of respondents in the study area.

Determinants of food security status

The result in Table 4 shows determinants of food security status of respondents in the study area. The result shows that year of formal education (X_3) has a coefficient of 1.012 and it is significant at 0.01 levels. Farm size (X_4) with coefficient of 1.043 and it is significant at 0.011 family size (X_5) with coefficient of -0.317 and it is significant 0.01. This indicates an inverse relationship with household food security. Monthly income (X_6) with coefficient of 0.431 and it is significant at 0.01.The positive sign of coefficient value shows direct relationship. This implies that for every unit increase in years of formal education, farm size, monthly income there is likelihood increase in household food security. However, the implication of family size with inverse relationship indicates that as family size decreases household food security increases.

Conclusion and Recommendation

Based on the result of the findings, large family size has a negative influence on household food security. The study established that respondents engaged in different coping strategies and majority of the respondents faced with one constraints or the other cause of their production.

Recommendation

- Government and non-government organization should intensify effort on the importance of family planning and advocate small family size.

- Government should provide infrastructures like good transport network, improved storage facilities, in other to produce the constraints faced by respondents.

- There should be easy access to credit facilities and government should subsidized cost of input

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Table 1: Distribution of Respondents according to socio- economic characteristics

Variable	Frequency	Percentage
Age at marriage		
16-20	18	16.4
21-25	68	61.8
26-30	24	21.8
Age range		
20-29	6	5.5
30-39	24	21.8
40-49	53	48.1
50-59	16	14.5
Above 60	11	10.0
Gender		
Male	84	76.4
Female	26	23.6
Marital status		
Single	5	45
Married	91	82.7
Widowed	10	9.1
Separated	4	3.6
Years spent in school		
0	43	39.1
1-6	23	20.9
7-12	32	29.1
Above 12	12	10.9
Family size		
1-4	29	26.4
5-8	67	66.9
9 and above	14	12.7

Monthly income ₦

<10,000	11	10.0
11,000-15,000	39	35.5
16,000-20,000	51	46.3
>21,000	9	8.2
Farm size (hectares)		
1-2	61	55.5
3-5	27	24.5
>5	22	20.0

Source: Field survey 2011

Table 2: Distribution of respondents according to coping strategies employed

Coping strategies	Mean score	Rank order
- Borrowing of money	1.69	1st
- Using part of saving to buy food	1.65	2nd
- Relying on less preferred less expensive food	1.56	3rd
- Reducing the quantity of food to be eating	1.45	4th
- Getting money through cooperative	1.37	5th
- Reducing number of meals to be taken	1.45	6th
- Relying on help from friends and family	1.31	7th
- Working in exchange for money	1.41	8th
- Working in exchange for food	1.21	9th
- Sending household member to eat elsewhere	0.87	10th
- Selling personal belongings	0.75	11th

Source: field survey 2011

Table 3: Distribution of respondents according to constraints faced

Constraint faced	Frequency	Percentage
Lack of credit facilities	93	84.5
Crop failure	77	70.0
Poor storage facilities	69	62.7
Low processing capacity	73	66.4
Lack of input	96	81.8
Poor transportation network	54	49.1
Pest and diseases	62	56.4

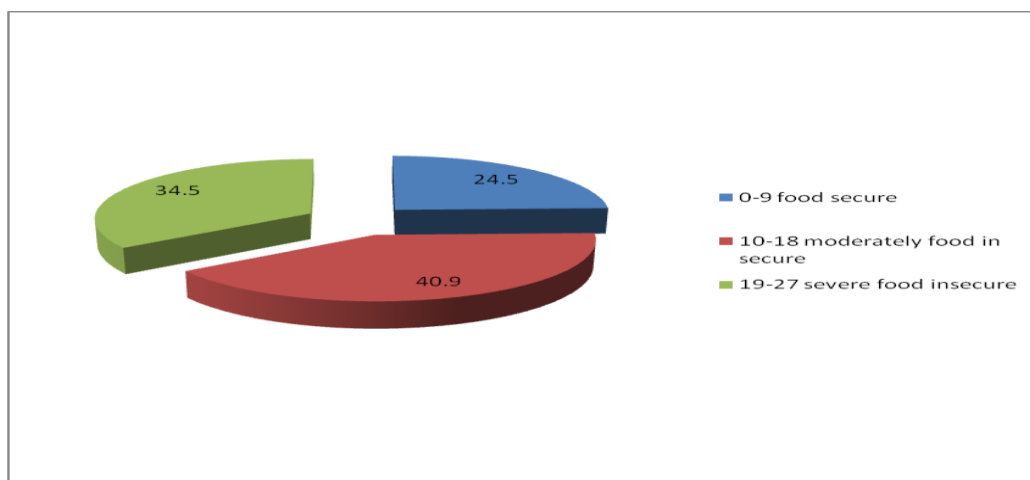**Source:** field survey, 2011

*multiple response recorded

Figure 1: categorization of respondents according to food security status

Table 4: Tobit result showing determinants of food security status

Variable	Coefficient	t-value	P-value
Age (X_1)	0.049	1.366	0.172
Gender (X_2)	0.642	0.769	0.349
Years spent in school (X_3)	1.012	0.010	4.132**
Farm size (X_4)	1.043	0.105	13.222***
Family Size(X_5)	-0.317	-2.475	0.013**
Monthly income (X_6)	1.000	0.432	22.005**

Source: field survey 2011
** Significant at 0.01 sigma value 4.376