

# **CONTRIBUTIONS OF WOMEN TO HOUSEHOLD FOOD SECURITY IN BOSSO LOCAL GOVERNMENT AREA OF NIGER STATE, NIGERIA.**

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## **ABSTRACT**

*This study is to determine the contribution of women and factors influencing their contribution to household food security in Bosso Local Government Area of Niger state. Simple random sampling technique was used to select eight (8) villages from the sixty (60) villages of the LGA and ten (10) respondents from each village bringing the total sample size to eighty (80) respondents. Primary data were obtained from the eighty respondents selected with the aid of structured questionnaire complemented by an interview. All the respondents in the study area were women. The data collected was analyzed using descriptive and inferential statistics such as multiple regression and correlation analysis. Results showed that 82.9% of the respondents were aged from 21- 40 years, 25% of the respondents have small household members, 32.9% of the respondents realized one hundred thousand (100,000) naira and below as income, 43.4% of the respondents have contact with extension agents, 80.3% of the respondents have acquired land by inheritance. Relationship between income and expenditure of the respondents is positive at 1% level of significance. There was a significant relationship between the age, farm size, extension contact and women contribution to household food security; while other socio-economic factors show inverse relationship. Some of the constraints highlighted by the respondents hindering their contribution to household food security are lack of credit facilities (94.7%), storage facilities (63.2%), pest and disease problem (77.6%), non availability of water (44.7%) and land tenure problem (81.6%).*

*Women contribution to household security is very vital, therefore there is need to enhance their production capacity through flexible programmes specifically targeted at them.*

**Key words:** Women contribution, Food security, Household and Agricultural programmes.

## **INTRODUCTION**

Women constitute half of the world's population and about 565 million of them reside in rural areas of under-developed countries where they perform increasingly indispensable roles in agricultural and national development. Women plays very important roles in sub-Saharan African where they physically produce 70-80 percent of domestic food crops, hence helping in ensuring family (Household) and national food security (Akpabio, 2005). It's also been opined that women are the back bone of agricultural sector accounting for 70 percent of agricultural labour force and responsible for 60 percent agricultural production and 80 percent of food production (Kabeen, 1994). Until recently, the general trend across the globe had been to relegate women in the scheme of things such as sowing, weeding, application of fertilizers and pesticides, harvesting, threshing, food processing such as Garri processing, Palm-Oil processing, Fufu making, transportation and marketing of produce and others. In traditional societies, women had no value beyond child bearing and other domestic services. Their contribution to household food security and other spheres of community development attracted inadequate recognition. This situation is still true of women in many contemporary societies particularly in the rural enclaves of developing world (Obasi, 2005). Women contribute to household food security because they have greater influence on household food expenditure, Caloric intake and anthrop mesmeric indicators; this occurred because they allocated their time and resources to ensure that the children and elderly are given adequate attention to meeting their physical, mental and social needs. Women are now faced with the tasks of playing dual roles, which include taking care of their household and fending for them, much more than their

husband in the family (Egunjobi, 1991). The special programme for food security in Nigeria which was a follow up of the November 1996 World Food Summit is to contribute to sustainable improvements in the national food security through rapid increase in productivity and food production, on an economically and environmentally sustainable basis, reduce year-to-year variability in agricultural production, and improve people's access to food. Various challenges face by Nigeria in the building of strong food security base includes physical, political and socio-economic factors. Poverty has serious effects on food and nutrition security because it contributes to poor agricultural productivity as many farmers cannot afford to procure inputs which would have help to increase productivity (IFPRI, 2005). Apart from poverty, other factors influencing food security include consistent access to food nutrition, food production, the availability of resources and coping strategies (Rosegrant *et al.*, 2005). There are lot of problems face by women in the course of their contribution to household food security some of which includes; land not own by women, poor financial base - a serious challenge to women because they do not have access to financial facilities such as credit, farm inputs and others. Majority of Agricultural programmes are focused on men with little or no inclusion of women who are often neglected for participation and benefiting in a programme. Religious barrier also limit the participation of Muslim women in farming activities in most northern areas, especially in the study area. More also, there have been lots of studies on women contribution to household food security carried out in other part of the country (Nigeria) but little have been documented in Niger state particularly of Bosso Local Government Area. Based on these aforementioned, it becomes very imperative to carry out this study on women's contribution to household food security in Bosso Local Government Area. After carefully highlighted the problems above, this study therefore attempts to provide answers to the following research questions;

- i. What are the socio-economic characteristics of women in the study area?
- ii. What is the relationship between income and expenditure of the household?
- iii. What are the factors influencing women contribution to household food security?
- iv. What are the constraints of women contribution to household food security in the study area?

### **Objectives of the Study**

The broad objective of the study is to determine the Contribution of Women to Household Food Security in Bosso Local Government Area of Niger State. The specific objectives are to;

- i. describe the socio-economic characteristics of women in the study area.
- ii. examine the relationship between income and expenditure of the household.
- iii. determine the factors influencing women contribution to household food security.
- iv. identify the constraints of women contribution to household food security in the study area.

### **LITERATURE REVIEW**

According to FAO (1996), food security exists when all people, at all the times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and preferences for an active and healthy life. In the same vein, USDA (2008) stated that food security for a household means access by all members at all times to enough food for an active, healthy life. Food security includes at a minimum, the ready availability of nutritionally adequate and safe foods, and an assured ability to acquire acceptable foods in socially acceptable ways (that is, without resorting to emergency food supplies, scavenging, stealing, or other coping strategies). Therefore food security is defined as a situation in which all (people, nation, household and individual) at all time, have physical and economical access to sufficient, safe and nutrition food to meet their dietary needs and preference for an active and healthy living. Every household is supposed to be food secured. That is a condition in which all its members have access to adequate and sufficient food

(FAO, 1994). If a household can reliably gain access to food of a sufficient quality in quantities that allow all its members to enjoy a healthy and active life, that household is said to be food secure (Benson, 2004). In Sudan and other Sub-Saharan Africa, women perform virtually all the tasks required for household food security, these include: gathering wood for fuel, fetching water, grinding and pounding the grains, rearing and milking small animals, and processing and preserving vegetables, meats and fruits and also preparing food for their household members (Duggan *et al*, 1998). To sum up, it is abundantly clear from many bodies of research in Sub-Saharan Africa, as well as in Sudan, that women are over-burdened with food securing activities (Maxwell, 1999). Therefore, empirical evidence shows that the improvement of household food security and nutritional levels is associated with women's access to gainful employment and education, and with their role in decisions on household expenditure and production matters (FAO, 1997 and World Bank, 2003).

## **CONCEPTUAL / THEORITICAL FRAMEWORK**

Poverty situation is high especially in the rural areas, where up to 80 per cent of the population lives below the poverty line and social services and infrastructure are limited. The country's poor rural women and men depend on agriculture for food and income. About 90 per cent of Nigeria's food is produced by small-scale farmers who cultivate small plots of land and depend on rainfall rather than on irrigation systems (IFAD, 2009). Households headed solely by women are often the most chronically poor groups within rural communities. But women play significant roles in rural economic activities. They play major role in the production, processing and marketing of food crops. Rural infrastructure in Nigeria has long been neglected which affects the profitability of agricultural production. Efficiency of women in contributing to household food security has been hindered by numerous factors. Therefore, current government policy interventions include a focus

on fully integrating women into the economic mainstream. The government is committed to strengthening rural financial services, including improved access to credit, as a key to reducing poverty.

## **METHODOLOGY**

### **The Study Area**

Bosso local government is located between longitude  $06^{\circ}31^1E$  and latitude  $09^{\circ}41^1N$  of the equator (Encarta, 2006). It is one of the twenty-five (25) local government area (LGAs) of Niger State. The local government lies within the middle belt of the country (Nigeria) with total population of 147,359 and has Guinea Savannah type of vegetation (NPC, 2006). The projected population in 2011 was 172,557 at the time of data collection. It is characterized by two seasons- the dry and wet seasons. The annual rainfall varies from about 1100mm to 1200mm, the raining season is at peak around the month of July and August, the temperature range between  $15.22^{\circ}C$  to  $36.55^{\circ}C$  with relative humidity of between 60 percent at noon to 80 percent at late night, the soil type is predominantly clay and loamy soil (Encarta, 2006).

### **Sampling Technique / Sample Size**

Simple random sampling technique was used to select Eight (8) Villages (Pyata, Kanpala, Gurusu, Garatu, Gidan Kwano, Gidan Mangoro, Maitunbi and Tayi Village) from the sixty (60) villages of the LGA and ten (10) respondents from each village bringing the total sample size to eighty (80) respondents.

### **Method of Data Collection**

Primary and secondary data was used for this study. The primary data was obtained directly from the respondent in the study area through administering structured questionnaires

complemented with an interview while secondary data was obtained from various relevant organizations, internet and other useful resources.

### **Method of Data Analysis**

Both descriptive (frequency distribution tables, percentages and mean) and inferential statistics (multiple regression and correlation analysis) were employed to analyse the data collected.

Model specifications of the inferential statistics are given as follows:

### **Correlation Analysis**

This is used to address objective two which is determining the relationship between income and expenditure of the household in the study area. It is mathematically expressed as follows;

$$\gamma = \frac{\sum_{i=1}^n (x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum_{i=1}^n (x_i - \bar{x})^2} \cdot \sqrt{\sum_{i=1}^n (y_i - \bar{y})^2}}$$

Where;

$\gamma$  = the correlation coefficients

$\sum_{i=1}^n$  = the summation of the  $i^{\text{th}}$  term.

$x$  = mean income of the women household

$\bar{x}$  = assumed mean income of the women household

$y$  = mean expenditure of the women household

$\bar{y}$  = assumed mean expenditure of the women household

### **Multiple Regression Analysis**

Regression analysis is a statistical technique for estimating the relationships among variables. It helps to understand how value of the dependent variable changes when any of the independent variables is varied while others remain fixed. This is used to address objective three

– factors influencing women contribution to household food security. The general multiple regression model is mathematically expressed as below:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_7 X_7 + e$$

Explicit forms of the multiple regression function are as follows;

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + e \quad (\text{linear}).$$

$$\ln Y = \alpha + \beta_1 \ln X_1 + \beta_2 \ln X_2 + \beta_3 \ln X_3 + \beta_4 \ln X_4 + \beta_5 \ln X_5 + \beta_6 \ln X_6 + \beta_7 \ln X_7 + e \quad (\text{natural log})$$

$$\text{Log} Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + e \quad (\text{Semi – log}).$$

$$\ln Y = \alpha + \beta_1 \log X_1 + \beta_2 \log X_2 + \beta_3 \log X_3 + \beta_4 \log X_4 + \beta_5 \log X_5 + \beta_6 \log X_6 + \beta_7 \log X_7 + e \quad (\text{cobb})$$

Where;

Y = Dependent Variable (women contribution to household food security).

X<sub>1</sub> = Age (years)

X<sub>2</sub> = Farm size (hectare)

X<sub>3</sub> = Household size (number)

X<sub>4</sub> = Educational level (years)

X<sub>5</sub> = Farming experience (years)

X<sub>6</sub> = Membership of cooperative (number)

X<sub>7</sub> = Contact with extension agent (number)

α = Constant

β<sub>1</sub> – β<sub>7</sub> = regression coefficients

e = error term

## **RESULTS AND DISCUSSION**

### **Socio-Economic Characteristics of the Respondents**

Table 1 revealed that 11.8% of the respondents were aged less than or equal to 20 years while 82.9% of the respondents were aged ranging from 21-40 years. This agreed with Achi (2008)

whose assertion is that youths and adults were the participants of food production in rural areas. 10.5% of the respondents were single although some are married before (i.e. 6.6% widowed and 2.6% divorced) while 89.5% of the respondents were married. According to IFAD (1998), report in Ghana shows that promoting women's on and off-farm production activities can make a direct contribution to household food supply and ensure food security. It also shows that 47.4% of the respondents had no formal education while 52.6% of the respondents have formal education which includes 14.5% primary education, 22.4% secondary education, 6.6% with Qur'anic education and 9.1% have tertiary education. Quisumbing *et al.*, (1995) established that increasing women's education is a key ingredient for women's empowerment which invariably would affect household food security. In terms of household size, 25% of the respondents have small household size of 1-5 While 75% of the respondent have large household size from 6-20 members. According to Oyekanmi (2004) Farming in rural areas are predominantly large families. More also, 43.4% of the respondent had no contact with extension agents while 56.6% of the respondents had contact with extension agents. Osuji (1983) asserted that lack of frequent of extension contact and distance from the source of information on how to apply improved techniques are factors which affect farmers' response to innovation. Finally, 80.3% of the respondents acquired land by Inheritance while 19.7% by Gift. This result confirm the findings of Manju (1995) which state that in order for women farmers who are responsible for 60-80% of the food production in developing countries to use land more efficiently and thereby make a greater contribution to food security; they need access to land, management control of land-based resources and economic incentives that security of tenure provides.

### **Distribution of Respondents base on Income Generation.**

Table 2 shows that 32.9% of the respondents generate income between 50,000 - 100,000 naira in a year which is the lowest level of income while 67.2% of the respondents generate income between 100,000 - 260,000 naira. Olawoye (1996) reported that the primary concern of women is usually the welfare of their families, spending money generated on personal items only after the family needs are met. This research study revealed that the average real incomes of rural farmers are likely to rise as a result of increase in productivity which indicate future prospect.

### **Distribution of Household Expenditure of the Respondents**

Table 3 revealed that 39.5% of the respondents spent between 50,000 and below of their income in purchasing food items for the household while 19.95% of the respondents spent between 50,000 - 75,000 of their income in purchasing food items for the household. In addition, 17.25% of the respondents spent 100,000 and below of their total income in purchasing food items for the household and 23.7% of the respondents spent above 100,000 of their total income in purchasing food items for the household, thereby contributing their quarter to household food security. According to Quisumbing *et al.*, (1995) in his previous study, stated that men and women tend to spend their income differently, women use almost all of their income to satisfy the food needs of the household, while men often used cash income for other purposes.

### **Factors Influencing Women Contribution to Household Food Security**

The regression analysis that was used to determine the socio-economic variables influencing women contribution to household food security are shown in the Table 4. The Exponential Regression Analysis was chosen as the leading equation. The value of coefficient of determination,  $R^2$  indicated that about 76% of the variation in dependent variable was explained by the independent variables of the regression model. The socio-economic factors such as Age

(X<sub>1</sub>), Farm size (X<sub>2</sub>), and Extension contact (X<sub>7</sub>) are positive, indicating that increase in any of the independent variables will lead to an increase in food security implying that the variables significantly explained variation in the food security index. More also, socio-economic factors such as Household size (X<sub>3</sub>), Educational level (X<sub>4</sub>), Farming experience (X<sub>5</sub>) and Cooperative membership (X<sub>6</sub>) are negative indicating that an increase in any of this independent variable will lead to a decrease in food security. Age (X<sub>1</sub>) is significant at 1% while farm-size (X<sub>2</sub>) and Extension contact (X<sub>7</sub>) at 10% and F-value were significant at 1% level of probability.

### **Correlation Analysis**

Result in Table 5 Indicates that the relationship between income and expenditure has positive correlation. The correlation (r) for Income 0.917 is positive and statistically significant at 5% level. The correlation (r) for Expenditure 0.917 is also positive and statistically significant at 5% level. This implies that there is a strong positive relationship between income and expenditure of the household in the study area and vice versa. In other words, as women engage in farming and non-farming activities, they generate incomes able to cover their expenditure. In Nigeria, the study area in particular, farming is generally considered as a way of life. It boosts income that improves on their livelihood. To improve farming, policies that will enhance the agricultural production activities of women should be encourage. Kennedy and Peters (1992) states that children in the poorest households headed by women have been found to have better nutritional status than those in poor households headed by men.

### **Constraints of Women Contribution to Household Food Security**

Table 6 revealed that 94.7% of respondents lack access to credit facilities while 5.3% of respondents have access to credit facilities. According to ILO (2008), it stated that little access to credit facilities limit women's ability to purchase seeds, fertilizers and other inputs which lead to

decrease in production and low interest to adopt new farming techniques. About 63.2% of the respondents have problem of storage facilities while 36.8% of the respondents have no problem of storage facilities. According to Elias (1990), in Africa, it is estimated that women contribute 70 percent of all time expended on food production, 100 percent on food processing, 50 percent on food storage and husbandry, 60 percent on marketing and 90 percent on beer brewing. With good storage, large quantity of farm produce can be saved and household food security can be achieved. More also, 77.6% of respondents have problem of pest and diseases while 22.4% of respondents have no problem of pest and diseases. The table also shows that 55.3% of the respondents have no water problem while 44.7% of respondents have water problem. Smith and Haddad (1999) stated that adequate water supply for household and farm operations will improve high productivity and ensured food security. Land is major factor of production, 81.6% of the respondents do not own farm land while 18.4% of the respondents own land. Lack of land ownership restricts women farmer's to increase production and access to credit as land is often used as collateral.

## **CONCLUSION**

Base on the findings of this study, women contribution to households' food security in the study area is low, high family size with low productivity can lead to a poorer situation, hence increasing food insecurity. The alarming food insecurity level is a threat to national security; so it must be tackled as a matter of urgency with appropriate food policy measures put in place by the policy makers. Though, there have been several agricultural programmes introduced by the Federal Government of Nigeria, recent ones are National Special Programme for Food Security (NSPFS), National Fadama Development Project (NFDP) and others. All the above mentioned programmes and a number of other ones because of one reason or the other, have failed to meet target of self-sufficiency in food production and they are mostly gender insensitive. Therefore,

there is need to inculcate women farmers in the design of agricultural programmes and decision making process. If possible there should be specific programme strictly meant for women in order to enhance their production level as this study have revealed significant of women in contributing to household food security.

## **RECOMMENDATIONS**

For effective and efficient policy formulation that will enhance women production and in turn ensure household food security in the country, the following recommendations are suggested.

- i. Government and Stake-holders at various levels should embark on investing in relevant institutional infrastructure and social amenities in the rural areas because rural people are the backbone of any nation due to their engagement in farming activities that put food on our table.
- ii. Women contribution to household security is very vital, therefore there is need to enhance their production capacity through flexible programmes specifically targeted at them. Their access to production input will definitely increase their output, income and the overall standard of living.
- iii. There is need to engage the service of more female extension agents to visit women farmers in order to help them in their agricultural and home economic activities as religious barriers most of the time hinder male extension agent access to women farmers especially in the study area.
- iv. Financial institutions should be readily available for women farmers to access with flexible administration that do not demand outrageous collateral. Women farmer's cooperatives should be initiated and encouraged to aid them access to credit facilities.

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