

ASSESSMENT OF THE CONTRIBUTIONS OF SMALL HOLDER FARMING TO HOUSEHOLD FOOD SECURITY IN MAKURDI LOCAL GOVERNMENT AREA OF BENUE STATE NIGERIA

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ABSTRACT

Food insecurity persists when global food production cannot meet the needs of every person on the planet. Smallholder farmers play important roles as producers of food, employers of labour, managers of natural resources, income earners, and caretakers of household food and nutrition security. It is thus seen, that the food security status of a nation especially agrarian and developing countries like Nigeria is a consequence of its agricultural sector of which smallholder farmers constitute the majority. Yet, there tends to be little development in the state and the level of food insecurity, poverty and unemployment in the state is a matter that calls for due attention. Hence, the study to describe the status of household food security in the study area and examine the level of agricultural output in the study area became necessary. One hundred and twenty (120) semi-structured questionnaires through random sampling of respondents were administered in this research. The study revealed that majority (87.5 per cent) of smallholder farmers surveyed were food secure, while 12.5 per cent were food insecure. Majority of the farmers, revealed to have food from farm production meant for household consumption lasting all year round. There was difference in the agricultural output of food secure and food insecure smallholder farmers at 1 per cent significant level. Based on this result, the null hypothesis, which states that there is no significant difference in the agricultural output of food secure and food insecure smallholder farmer was rejected.

Keywords: small holder farming, food security, households, Nigeria

INTRODUCTION

Concept and characteristics of smallholder farming

The evolution of smallholder farming, can be said to have started as far back as the commencement of farming. Commonly, the 'smallholder' label implies that one is talking about subsistence farming with low competitiveness and market orientation (Syngenta, 2012). The concept involves a form of farming in which nearly all the crops or livestock produced are used to maintain the farmer and the farmer's family leaving surplus for sale. It is usually the prevalent type of farming practice common in developing countries with about 80% of food output produced by them (IFAD, 2012).

Smallholdings and their operators in Makurdi and in Nigeria as a whole share similar characteristic even though they are widely dispersed over a large expanse of land. According to Ijere (1992), a farm is considered small scale if it ranges from between less than 1 to 5.99 hectares. In India the figure is less as about 85% of their farms are 2 hectares and below (Syngenta, 2012).

Another prevalent characteristic of smallholder farmer is that they are often too poor to employ modern tools, such as tractors and plows even with substantial government support (Takeshima, et al; 2010). This type of farming is usually practiced in resource-poor conditions operating with few purchased and limited access to inputs like seed and fertilizer (Syngenta, 2012).

According to Akosile (2011), a majority of the smallholder farm operators are women with Estimates showing that 60% of food crop farmers in Nigeria are women. The report went further to state that 80% of those in the internal agricultural distribution, marketing and processing systems in Nigeria are women. In essence, women dominate the number of those engaged in smallholder farming.

In addition, Dixon *et al* (2005) suggests that most smallholders have diverse sources of livelihood including significant off-farm income yet are still vulnerable to economic and climatic shocks. Furthermore, an important reality of smallholder farming is that they face a high degree

of vulnerability to risk. Thus, the probability of being hit by shocks - that affect production, income, and subsequently welfare - that may cause setbacks, of which it may take many years to recover, is high.

Smallholder farming differ in individual characteristics, farm size, resource distribution between food and cash crops, livestock and off-farm activities, their use of external inputs and hired labour, the proportion of food crops sold and household expenditure patterns. These differences and constraints highlighted above are typical characteristics of smallholder farming in Makurdi, Nigeria and the world at large.

The state of food security in the world

Food insecurity persists when global food production cannot meet the needs of every person on the planet. According to FAO (2013), the total number of undernourished in the world has fallen from 19% in 1992 to 12% in 2013 (from 1015 million to 842 million) with the vast majority living in developing countries and 15.7 million in developed countries. In addition, historical series compiled by Theones (2004), showed that in the developing countries, the number of chronically undernourished and their proportion has declined significantly over the 1970-2000 period. The reduction, according to the report, was associated with a substantial increase in calories available per person daily. In parallel, some important improvements in nutrition have occurred; diets have become more diverse, with shifts away from cereals, roots and tubers towards more milk, meat, fruits, vegetables, sugar and vegetable oils. Moreover, the proportion of people with inadequate food energy has declined in all regions, with the exception of sub-Saharan Africa (FAO, 1996; Theones, 2004). According to FAO (2013), Sub-Saharan Africa remains the region with the highest prevalence of undernourishment in the world with one in four people (24.8%) estimated to be hungry.

Although the poverty rate in Sub-Saharan Africa declined marginally, the number of those living in poverty increased by 140 million. According to FAO (2013), though the percentage of hungry people in the world has fallen between 1990 and 2013, an estimated 842 million people worldwide are still chronically undernourished; among them are 170 million children under 5 years of age (IFPRI, 2005). The FAO (2013) report reveals that currently, about 842 million people of the world's population lived in extreme poverty. In spite of the decline in the percentage of the chronically undernourished worldwide, the overall progress so far made is not enough to ease the number of people growing hungry.

The state of food security in Nigeria

In many African countries, food security at both the national and the household level is dismal (Babatunde and Sholatan *et al*, 2007). According to Aletor (1999), food insecurity especially in the developing countries (Nigeria inclusive) remains the humbler and the leveler. It degenerates and debases, wastes bodies and stunt minds. It may not be the deadliest but certainly, it is the most miserable form of affliction.

According to FAO's 1995 estimates, more than half (53.3%) of Nigerian children are stunted in growth arising mainly from declining intake of food nutrients. The poor state of nutrition especially among African children as expressed by Voumard (1999) showed that, in the southern part of Nigeria, for instance, one in every two children (50%) under the age of five is stunted in growth due to undernourishment. One in every three (33%) is also under weight; and one in every ten (10%) is wasted or accurately undernourished. He further stressed that the redeeming feature was that nearly 97.7% of the people in the region consume iodized salt, which reduces the threat to growth and mental retardation (Iorlamen, 2010).

Sanusi, *et al* (2006), graphically revealed that the percentage of food insecure households in Nigeria was 18% in 1986 and over 40% in 2005. Figures released by FAO (2005) on the state of food insecurity in the world indicated that 9% of the Nigerian population was chronically undernourished between 2000 and 2002. This was less than the regional average of 33% for Sub-Saharan Africa. However, 9% or about 11 million undernourished Nigerians translate to about 5.4% of the undernourished in the Sub-Saharan Africa as a whole.

On the national level, the per capital growth of production of major food items in Nigeria has not been sufficient to satisfy the demand of increasing population. The result is a big gap between national supply and demand for food. In the view of Sanusi *et al.*, (2006), several reports have been published that show a consistent increase in the production of staple food in the country especially between 1999 and 2005. Nevertheless, there is still an observable gap between food demand and food supply. This is a great threat to the nation's food security.

Food security State in Benue State, Nigeria

Household food security depends on the household's access to sufficient food. It depends on the household commanding enough resources (productive assets income, savings, ability to borrow, etc.) always to get enough food. Although, there is no exact measure of the household's lack of food security; an estimate of the number of people lacking

food security (population consuming insufficient calories, below 90% as outlined by (FAO/WHO) is constantly used.

By implication, it means that a household lacking food security is poor. Food insecurity at the household level means extreme poverty. This entails not being sure that the family will have enough to eat, if income falls, price rise substantially or the family increases (Morris, 2001).

OBJECTIVES

- (1) To describe the status of household food security in the study area
- (2) To examine the level of agricultural output in the study area

Hypothesis for the study

H_{01} : There is no significant difference in the agricultural output of food secure and food insecure smallholder farming households in the study area.

METHODOLOGY

The study area

The selected area of study is Makurdi local government area of Benue state. It is geographically located in the middle belt zone of Nigeria and lies between longitude 8° and 9° East and latitude 7° and 8° North. Guma bounds the local government area to the north, to the south it is bounded by Gwer, to the west by Gwer-west and to the east by Gboko local government areas of the state respectively. It has a total land area of 835.62 square kilometers The farmers grow a wide range of crops and livestock. The major crops grown include rice, groundnut, sorghum, millet, beneseed, cowpea, sweet potatoes and cassava. Makurdi comprises of a mixture of various tribes but the predominant tribes here are the Tiv's while other substantial tribes are the Idoma, Igede, Igbo, Hausa Igala and Jukun.

Sampling procedure and sample size

The researcher administered one hundred and twenty (120) semi-structured questionnaires through random sampling of respondents in the research location. The research location comprises of eleven (11) council wards but only the wards relevant to the research were selected. They are; Agan, Bar, Central south mission, Clerk mission, Fiidi, Modern market, North bank I and North bank II. With the assistance of enumerators, the questionnaires were administered to the respondents and their responses recorded.

Method of data collection and analysis

The researcher obtained data for the study using primary source of data in the study area. The primary data were obtained by administering semi-structured questionnaires randomly to one hundred and twenty (120) smallholder farmers (respondents) chosen from relevant wards within the study area.

Method of data analysis

Objective one (food security status) was categorized into food secure and food insecure using the United State Department of Agriculture (USDA) six-item household food security survey module (Rasch's model), where food secure refer to availability and access to enough food throughout the year and food insecure indicates a shortfall in availability and access to enough food during the year.

RESULTS AND DISCUSSION

Food security status of households

Table 1: Food security status (n=120)

Sr. No.	Food security status	Frequency	Percent
1	Food secure	105	87.50
2	Food insecure	15	12.50

Source: Field survey

The result in Table 1 classified the food security status of respondents in the study area. It revealed that majority (87.50 per cent) of smallholder farmers surveyed were food secure, while 12.5 per cent were food insecure. This was obtained using the United State Six-item food security survey-module.

Agricultural output level

The agricultural output level of smallholder farmers in the research location was determined using the income from sales of quantities of four major crops cultivated by each farmer in the research area as well as the income equivalent of farm products consumed by households. Majority of the farmers, revealed to have food from farm production meant for household consumption lasting all year round. The result in Table 2 showed the minimum income from sales of produce to be ₦8000, the maximum as ₦190000 and the mean income from sales per farmer to be ₦63466.67. It also showed consumption to have a minimum monetary equivalent of ₦8000, a maximum of ₦380000 and a mean of ₦85141.67 per farmer. In all, the result showed ₦20000 and ₦570000 as the minimum and maximum incomes from sales and consumption of farm produce with ₦148608.33 as the mean income per farmer.

Table 2: Average agricultural output level

(n=120)

Source	Minimum	Maximum	Mean
Sales ₦	8000	190000	63466.67
Consumption and gifts ₦	8000	380000	85141.67
Total income ₦	20000	570000	148608.33

Source: Field survey

Hypothesis Testing

Hypothesis 1:

Hypothesis 1 states that there is no significant difference in the agricultural output of food secure and food insecure smallholder farmers. However, the result in table 3 showed that there is difference in the agricultural output of

food secure and food insecure smallholder farmers at the 1% significant level.

Based on this result, the null hypothesis, which states that there is no significant difference in the agricultural output of food secure and food insecure smallholder farmer was rejected.

Table 3: Test of Hypothesis 1

Income of Respondents	Equal variances not assumed	t	df	Sig.	Mean Difference
		-4.233	55.454	0.000	-53228.5714

Source: Data analysis

CONCLUSION

It can be concluded that this research assessed the contribution of smallholder farming to household food security in Makurdi Local Government Area of Benue State Nigeria. The study has shown that there is a significant difference in the agricultural output of food secure and food insecure smallholder farming households. It showed that majority (87.5 per cent) of the smallholder farming households in the study area were food secure during the period of the survey. Consistent with findings from previous studies, farm income, farming experience and family size were found to significantly influence household food security in the study area positively.

RECOMMENDATION

The government should formulate and implement policies that will allow for the establishment of efficient farming systems in the rural areas, as smallholder farming has been seriously affected by the rural-urban migration. These policies should include the provision of reliable and effective infrastructures and social amenities in the rural areas in order to give to the dwellers those benefits that their urban counterparts enjoy.

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