

## Effect of women empowerment on household food security in Kwara State, Nigeria

<sup>1</sup>Jimoh O.\*, <sup>1</sup>Muhammad-Lawal A, <sup>2</sup>Jonathan A, and <sup>1</sup>Adebisi L.O.

<sup>1</sup>Department of Agricultural Economics and Farm Management, University of Ilorin, PMB 1515, Ilorin, Kwara-State, Nigeria.

<sup>2</sup>Department of Agricultural Education, FCT College of Education, Zuba-Abuja

\*Corresponding author (E-mail: oluwaremilekunjimoh@yahoo.com)

### ABSTRACT

This study analyzed the effect of women empowerment on household food security in Kwara State, Nigeria. Data was elicited with the use of a structured questionnaire from 150 farming households across ten communities in the State following a three-stage random sampling technique. Women empowerment index, food security index and correlation analysis were employed to analyze data collected. Results of analysis revealed that about 45% of women present in the households have medium level of empowerment, 52% of the farming households were food secure and women empowerment has positive effect on the household food security in the study area ( $r=0.245$ ,  $p=0.004$ ). The study therefore recommends that government should design adult education programmes for women in the rural areas to enhance their level of empowerment. Credit should also be made available to the women through the establishment of low interest credit schemes accessible to them with little or no collateral. The need for the government to raise awareness through which rural dwellers can be nutritionally food secure and not depend on carbohydrates alone is emphasized.

**Keywords:** Effect, women, empowerment, household, food security.

### INTRODUCTION

Nigerian economy is still predominantly agrarian and women are key players in agriculture in the country, especially in rural communities. Women contribute between 40 and 65% of all hours spent in agricultural production and processing and undertake 60 to 90% of the rural agricultural product marketing, thus providing more than two thirds of the workforce in agriculture (Sabo, 2006). In addition to agricultural activities, women often devote more time and resources under their control towards improving household food security than men (Quisumbing *et al.*, 2005).

Most poor and food insecure people live in rural areas and depend primarily on agriculture for their livelihoods. On average, agriculture provides 64% of employment and represents 34% of gross domestic product (GDP) in the poorest countries (FAO, 2012). Although the vast majority of people affected by the rise in food prices live in the poorest countries of sub-Saharan Africa and South Asia, hunger and food insecurity are present among poor, rural and indigenous people in all developing regions where women are more disadvantaged and in need of empowerment (UNDP, 2012).

Food security may be defined as the existence of the necessary conditions for

human beings to have physical and economic access, in socially acceptable ways, to safe and nutritious food in keeping with their cultural preferences, to meet their dietary needs for a productive and healthy life (Inter-American Institute for Cooperation on Agriculture (IICA), 2009).

Investing in women's "capabilities" and empowerment is the surest way to contribute to economic growth and overall development (Pattanaik, 2000). Empowerment goes beyond socio-economic and political attributes but essentially refers to a process of becoming psychologically empowered. Poverty inflicts deep-rooted wounds on the psyche of individuals. If they cease to be oppressed, their first task would be to psychologically empower themselves. In this context, empowerment would mean increasing one's capacity to define, analyze and act upon one's own problem (Sengupta, 1998).

USAID (2012) and UN (2012) showed that the benefits of empowering women are not exclusive for the women alone but for the community at large. The benefits include, higher productivity for 50% of the population, reduction in poverty, increase in economic growth, reduction in gender inequality, increase in annual per capita income growth of the economy and achieving some of the millennium development goals (to reduce poverty; reduce hunger and achieve food security; and achieve gender equality and women's empowerment). In a study carried out by (Ajani, 2008) on "Gender Dimensions of Agriculture, Poverty, Nutrition and Food Security in Nigeria," it was found that many women in Nigeria derive their incomes from both farm and off-farm activities such as making mats, making pottery, trading and other activities thereby making their contribution to the welfare needs of their households.

Dagmar & Ivy, (2013), in their work on "Gender Roles in Ensuring Food Security," found out that women contribute more than twice as much to the household than men. 34% of their maize harvest against 16 % of male farmers' is designated to the household consumption. Though women have other financial obligations to ensure household food needs, this outcome illustrates women's burden in ensuring household food security. Women are vital to food security and family well-being. Similarly, the importance of women as agricultural workers and income earners have become increasingly recognized, which is aimed at improving standard of living (Agnes et al., 1995). However, the role of women is often limited by several constraints including social, cultural and economic circumstances under which they operate. Nigerian rural women have suffered long term marginalization in the affairs of the nation, despite their fundamental role in the area of ensuring peaceful co-existence for sustainable economic development via maintenance of the family by ensuring food security at the household level (Okoli & Umeh, 2001). Given the women's crucial roles and contribution to food security, any effort to reduce food insecurity must take into consideration factors affecting women's ability to carry out those roles and make these contributions with a view of enhancing women's capacities.

In this view, this research examines the effect of women empowerment on rural household food security and the objectives of this study is to:

- Determine the level of women empowerment in the study area.
- Determine the level of food security in the study area.
- Determine the effect of women empowerment on household food security in the study area.

- Examine the constraints to the empowerment of women in the study area.

## MATERIALS AND METHODS

The study was carried out in Kwara State, Nigeria. It lies between latitudes 7°45'N and 9°30'N and longitudes 2°30'E and 6°25'E and covers a land area of about 32,500km<sup>2</sup> (Kwara State Ministry of Information, 2007). Kwara state shares boundaries with Ondo, Oyo, Osun, Niger and Kogi States in Nigeria, and an international border with the republic of Benin. The state has a population of about 2.37 million people (NPC, 2008). Kwara State has two distinct climatic seasons annually: the dry and wet seasons. The wet season falls between April-October while the dry season runs between November-March of each year. The annual rainfall ranges from 1000-1500mm, while maximum average temperature ranges between 30°C and 35°C. The state has sizeable expanse of arable, rich fertile soils which is used for the cultivation of a wide variety of staples like yam, cassava, maize, cowpea, fruits and vegetables (Kwara State Agricultural Development Project (KWADP), 2006).

The population for the study comprised of women in farming households in the study area. The farming household listing obtained from the Kwara State Agricultural Development Project (KWADP) was adopted as the sampling frame for the study. A three-stage random sampling technique was used in the selection of the respondents for the study. The first stage involved the random selection of one out of the four agro-ecological zones in the state. The second stage involved the random selection of 10 farming communities from the selected zone. The third stage involved proportional sampling of 150 respondents across the 10 community. The instrument for the primary data collected was a

structured questionnaire however, only 133 retrieved questionnaires were found useful for analysis. Women Empowerment index was constructed to assess the level of women empowerment, Food Security Index was also constructed to examine the level of food security among rural households. Correlation Analysis was used to determine the effect of women empowerment on food security and a five point Likert scale was used to determine the constraints to women empowerment.

### Women Empowerment Index

The following indicators were itemized and used to measure women empowerment, based on available literature on the socio-cultural, economic, socio-political status of women in the study area. Three broad categories of indicators were used; socio-cultural, economic and socio-political indices of empowerment were identified. A summary of the indicators and individual compute used for the measurement of women empowerment is provided as follows:

- **Economic Indicators:** sole or joint control over income, women access to credit, ownership of asset, and relative contribution to family responsibilities.
- **Socio-cultural indicator:** access to education, Freedom of movement, discrimination against the girl child.
- **Socio-Political indicator:** membership of social group, freedom to speak in the public.

The indicators were weighted equally and the overall index was thereafter derived from the average of the value obtained for the three indicators. The resultant index ranged between 0 and 1 where higher values indicated greater empowerment.

0.00 – 0.30 = Low level of empowerment  
 0.31 – 0.50 = Medium level of empowerment  
 0.50 – 1.00 = High level of empowerment

#### Food Security Index

The food security (Z) index as applied by Fakiyesi (2001) is given by the formula

$$Z = \frac{Y_n}{R}$$

where  $Y_n$  is the farming household's daily per capita calorie intake

$R$  is the recommended per capita daily calorie intake.

Thus,  $Z_n=1$  for food secure farming households

$Z_n= 0$  for food insecure farming households.

$H = \frac{M}{N}$  : where  $H$  is the headcount ratio,  $M$  is the number of insecure household and  $N$  is the total sample.

The nutrients content of both produced and purchased food items were used to derive calorie availability. A daily recommended level of 2470kcal per capita and 65g protein per day defines the food security line, used in this study (Omotesho, Adewumi, & Fadimula, 2007).

#### Correlation Analysis:

$$r = \frac{n(\sum XY) - \sum X \sum Y}{\sqrt{[n\sum X^2 - (\sum X)^2] [n\sum Y^2 - (\sum Y)^2]}}$$

$r$  = correlation coefficient

$X$  = Women Empowerment Index

$Y$  = Food Security Status

$n$  = Number of respondent

## RESULTS

**Table 1:** Distribution According to Women per Household, Women Empowerment Measures and Level (n=133)

No of Women	Frequency	Percentage (%)
0-2	72	54.0
3-5	59	44.4
6-8	02	1.6
		100
Measures	Frequency	Percentage (%)
a. Socio-cultural indicator		
<0.2	31	23.3
0.21-0.40	33	24.8
0.41-0.60	32	24.1
0.61-0.80	23	17.3
Above 0.80	14	10.5
		100
b. Economic indicator		
<0.2	30	22.6
0.21-0.40	24	18.0
0.41-0.60	31	23.3
0.61-0.80	23	17.3
Above 0.80	25	18.8
		100
c. Socio-political indicator		
<0.2	92	69.2
0.21-0.40	16	12.0
0.41-0.60	11	8.3
0.61-0.80	09	6.7

	Above 0.80	05	3.8	100
d.	Overall empowerment index			
	<0.2	22	16.5	
	0.21-0.40	56	42.1	
	0.41-0.60	48	36.1	
	0.61-0.80	06	4.5	
	Above 0.80	01	0.8	100
e.	Levels of empowerment			
	Low level empowerment	46	34.6	
	Medium level empowerment	60	45.1	
	High level empowerment	27	20.3	100

**Table 2:** Distribution of the Basic Food Items Consumed by Rural Households

Food items	Percentage calorie (100%)	Quantity consumed (Kg)	Value (N)
Rice	11.78	3.86	579.00
Sorghum	6.59	2.15	80.26
Maize	7.34	2.34	93.60
Cowpea	9.89	3.44	447.20
Garri	7.87	2.66	199.50
Cassava flour	4.37	1.47	68.60
Yam	9.50	9.55	557.05
Yam flour	12.45	4.45	652.68
Meat	1.78	0.91	500.50
Fish	1.64	1.31	393.00
Egg	0.53	0.65	175.50
Milk	0.08	0.16	152.00
Palm oil	9.46	1.25	300.00
G/nut oil	3.48	0.47	112.80
Orange	0.48	1.34	134.00
Okra	0.09	0.26	36.79
Tomato	0.08	2.18	261.60
Onion	0.38	0.84	71.40
Vegetable	0.32	1.87	74.80
Melon	0.90	0.11	44.58
Pepper	0.53	0.63	119.70
Sugar	1.49	0.42	63.00
Bread	2.50	1.22	305.00
Others	6.49	4.75	1206.65
<b>Total</b>	100	49.52	6182.18

**Table 3:** Food Security Status of Rural Households

	Food Secure	Food Insecure
Household Percentage	51.9	48.1
Mean Adjusted Household Size	5.62	6.30
Household daily energy availability (Kcal)	20702.77	12652.59
Household daily per capita energy	3683.77	2008.35
Household daily protein availability (g)	418.59	248.34
Household daily per capita protein availability	74.48	39.42
Head Count Ratio	0.519	0.481

**Table 4:** Effect of Women Empowerment on Household Food Security

		Women empowerment	Food security
Women empowerment level	Pearson correlation	1	0.245***
	Sig (2-tailed)		0.004
	N	133	133
Food security status	Pearson correlation	0.245***	1
	Sig (2-tailed)	0.004	
	N	133	133

**Table 5:** Constraints to Women Empowerment

INDICATORS	CONSTRAINTS								Mean rating	Rank
		Very Severe	Severe	Less Severe	Not Severe	Not Decided	Total			
SOCIO-CULTURAL	Poverty	600	032	009	004	000	645	4.85	1 <sup>st</sup>	
	Early marriage	450	128	027	004	000	609	4.58	3 <sup>rd</sup>	
	Distance to school	015	088	156	086	013	358	2.69	10 <sup>th</sup>	
	Lack of knowledge of the benefits of education	025	224	168	032	000	449	3.38	4 <sup>th</sup>	
	Personal security	025	056	198	078	009	366	2.75	8 <sup>th</sup>	
	Limited roles for girls and women	015	116	210	058	002	401	3.02	6 <sup>th</sup>	
	Lack of opportunities for educated women	025	192	165	040	005	427	3.21	5 <sup>th</sup>	
	Female seclusion	020	084	177	078	010	369	2.77	7 <sup>th</sup>	
	Sexual abuse/harassment	010	080	189	076	010	365	2.74	9 <sup>th</sup>	
	Domestic violence	010	064	189	076	014	353	2.65	11 <sup>th</sup>	
SOCIO-POLITICAL	Expensive books/school cost/budget	500	084	024	008	000	616	4.63	2 <sup>nd</sup>	
	Traditional/cultural limitation	385	108	012	08	01	514	3.86	1 <sup>st</sup>	

ECONOMIC	Illiteracy	160	224	090	028	01	503	3.78	3 <sup>rd</sup>
	Childcare responsibilities	015	080	159	090	12	356	2.68	6 <sup>th</sup>
	Lack of access to credit	100	320	066	018	02	506	3.80	2 <sup>nd</sup>
	Household chores	130	164	162	024	0	480	3.61	4 <sup>th</sup>
	Low technical know-how	045	120	153	074	06	398	2.99	5 <sup>th</sup>
	Misconceptions of not having ideas	010	032	048	094	60	244	1.83	7 <sup>th</sup>
	Age	075	112	171	054	06	418	3.14	8 <sup>th</sup>
	Illiteracy	190	108	156	028	02	484	3.64	6 <sup>th</sup>
	Lack of access to credit	425	144	018	010	01	598	4.50	2 <sup>nd</sup>
	Poor access to farm resources	060	136	096	052	29	373	2.80	9 <sup>th</sup>
	Traditional/cultural limitations	165	192	090	042	01	490	3.68	5 <sup>th</sup>
	Misconceptions of not having farming ideas	000	056	138	078	34	306	2.30	11 <sup>th</sup>
	The belief that women are subordinate	310	228	030	006	01	575	4.32	3 <sup>rd</sup>
	Multiple domestic responsibilities to men	015	088	150	092	12	357	2.68	10 <sup>th</sup>
	Lack of spouse support	255	196	078	012	01	542	4.07	4 <sup>th</sup>
	Lack of family support	080	240	132	016	05	473	3.56	7 <sup>th</sup>
	Lack of collaterals to secure loans	540	056	018	010	00	624	4.69	1 <sup>st</sup>

## DISCUSSION

Table 1 presents the distribution according to women per household, women empowerment measures and level. Majority of the households have about two women per household and all the women present in the households are a total of 323 women. The table also presents the measures of women empowerment which include socio-cultural, economic and socio-political. Using socio-cultural indicator as a measure, about 48.9% of the household women range from 0.21 - 0.60. Economic indicator as a measure of women empowerment shows that 41% of the household women range from 0.20 – 0.60. Also considering socio-political indicator as a measure, 69.2% of the household women is less than 0.2. The overall empowerment index shows that most of the household women (42.1%) range between 0.21 – 0.40 which account

for their medium level of empowerment. The study revealed that most of the women (79.7%) in the households have low to medium level of empowerment using socio-cultural, economic and socio-political indicators. This is similar to the findings of Shahnaj and Ingrid, (2004) who worked on Empowerment of Rural Women in Bangladesh.

Table 2 presents the distribution of the basic food items consumed by rural households. Cereals together with root and tuber products accounted for 61.39% of the households' weekly calorie intake. This was followed by fats and oils with 12.94%, animal products with 4.03% while fruits and vegetables contributed 2.78% to the total weekly calorie intake among the rural households. This study also shows that a rural household had an average weekly expenditure of ₦6, 182.18 on food items, which was estimated at the sum of N174.61 daily per capita food

expenditure. The study also revealed that rural households derived more of their energy from carbohydrates at the expense of other classes of food items. This finding is similar to the results of the study carried out by Omotesho & Muhammad-Lawal, (2010) on “Optimal food plan for rural households’ food security in Kwara State, Nigeria” in which rural households derived more of their energy from carbohydrates at the expense of other classes of food items. Their study further revealed that cereals together with root and tuber products contributed 67.88% of the households’ weekly calorie intake which was followed by fats and oils with 9.21%, animal products with 2.37% and lastly fruits and vegetables with 1.97% of the total weekly calorie intake among the rural households. The rural household has an average weekly expenditure of N6,768.21 on food items and a sum of N119.96 daily per capita food expenditure.

It is also similar to the results of the study carried out by Dawit, Asefa, Gezahegn & Fekadu, (2013) on Analysis of the Significance of Fishing on Food Security Status of Rural Households which found out that household food consumption is dominated by cereals.

Table 3 presents the food security status of rural households. About 52% of the rural households were food secure and only 48% were food insecure. The mean daily energy and protein available to the food-secure households are 20,702.77 Kcal and 418.59g respectively while the daily per capita energy for food secure and food insecure households are 3683.77kcal and 2008.35kcal respectively. The food secured households consumed largely more than the recommended calorie intake of 1213.77kcal, while the food insecure households consume 462.65kcal short of the recommended calorie intake value. This is similar to the results of the study carried out by Ojeleye, Adebisi and Fadiji, (2014) on Assessment of Farm Household

Food Security and Consumption Indices in Nigeria where the average daily calorie consumption for food secure households was found to be 3303.42kcal while the insecure households was 1925.88kcal with mean daily calorie consumption of 2840.50kcal. It is to be noted that based on the recommended daily calorie intake of 2260kcal (Olayemi, 1998), the food secured household had 1043.42kcal in excess of the recommended intake while the insecure household had 334.12kcal short of the recommended value.

Table 4 presents the effect of women empowerment on household food security. There is a weak positive correlation as shown by ( $r = 0.245$ ) between women empowerment level and food security status of the rural households. The study revealed that women empowerment contributes to rural household food security in the state, which means that increase in the level of women empowerment will increase their household’s food security status.

Table 5 presents the constraints to women empowerment in the study area. Poverty, early marriage and expensive cost of schooling were severe constraints to women socio-cultural status that affects their empowerment. Also, traditional/cultural limitations, lack of access to credit and illiteracy were very severe constraint to women’s socio-political status while lack of collaterals to secure loans, lack of access to credit and the belief that women are subordinate to men as very severe constraint to women economic status which also affects their empowerment. This result agrees with the finding of Manmeet *et al.* (2007) and Kelly (2013) that social taboos, traditional limitations, illiteracy, money being controlled by males, domestic violence and patriarchal culture (male is superior) are the major constraints that suppresses the empowerment of women.



## CONCLUSION

Based on the empirical results from this study, it is concluded that women empowerment has positive effect on the food security status of rural households. The implication of this is that the higher the level of women empowerment in a household, the higher the likelihood of the household being food secured.

## RECOMMENDATIONS

Based on the findings of the study, it is recommended that:

- Government should design adult education programmes for women in the rural areas to enhance their level of empowerment.
- Credit should also be made available to the women through the establishment of low interest credit schemes accessible to them with little or no collateral. This will enable them to take advantage of these to increase their level of empowerment and the food security of their households.
- There is also the need for government or policy makers to increase awareness by which rural dwellers can be nutritionally food secure and not depending on carbohydrates alone.

## REFERENCES

- Dawit, G., Asefa, A., Gezahegn, A., and Fekadu, B., (2013). Analysis of the Significance of Fishing on Food Security Status of Rural Households Around Lake Ziway and Langano in Ethiopia. *Journal of Economics and Sustainable Development*, 4 (18):1-11.
- Fakiyesi, O.M., (2001). Encouraging Growth to Reduce Poverty in Nigeria. *CBN Economic and Financial Review*, 39 (2):132-137.
- Food and Agriculture Organization, FAO, (2012). The State of Food Insecurity in the World. Economic growth is necessary but not sufficient to accelerate reduction of hunger and malnutrition. FAO, Rome, Italy.
- Inter-American Institute for Cooperation on Agriculture, IICA. Newsletter, (2009).
- Kelly, B.O, (2013). Gender Equality and Women Empowerment in Nigeria: The Desirability and Inevitability of a Pragmatic Approach ISSN 2224-607X (Paper) ISSN 2225-0565 (Online) Vol.3, No.4, 59-66.
- Kwara State Agricultural Development Project, KWADP, (2007). Kwara State Crops Area and Yields Reports 1995-2007: *KWADP Bulletin*.
- Kwara State Ministry of Information (2007). Kwara State Diary 2007. 1-8.
- Manmeet, K. Mishra, B. Prakash, S. Archana, S., and Surya, R., (2007). Empowerment of Rural Women: An Analysis of Constraints. *Indian Res. J. Ext. Educ.*, 7:90-94.
- National Population Commission, NPC, (2006). Population of Kwara State. National Population Commission of Nigeria, Abuja.
- Omotesho, O.A., Adewumi, M.O., and Fadimula, K.S., (2007). Food Security and Poverty of the Rural Households in Kwara State, Nigeria. *Africa Association of Agricultural Economists Conference Proceedings*, 571-575.
- Omotesho, O. A. and Muhammad-Lawal, A., (2010). Optimal food plan for rural households' food security in Kwara State, Nigeria: The goal programming approach. *Journal of Agricultural Biotechnology and Sustainable Development*. 2(1):007-014.
- Ojeleye, O. A., Adebisi, O. A., and Fadiji, T. O., (2014). Assessment of Farm Household Food Security and

- Consumption Indices in Nigeria. *Asian Journal of Agriculture and Rural Development*, 4(9): 458-464.
- Okoli, P.I. and Umeh, C.D., (2001). Food security and women in developing countries. *Ahfad Journal*. Available at: <http://findarticles.com/particles/mi-hb003/is-2218/ai-n28892480/>, pg-1-8. Retrieved 04 / 09/2013
- Olayemi JK (1998). Food Security in Nigeria Research Report No. 2. Development Policy Centre, Ibadan 88pp.
- Pattanaik, B.K., (2000). Women welfare and social development. *Yojana*, 44: 24-25.
- Sengupta, N. (1998). Empowerment: A Socio-psychological approach to self help group formation. *Prajnan*, xxvi (4).523-531.
- Shahnaj, P. and Ingrid-Ute, L. (2004). "Empowerment of Rural Women in Bangladesh: A Household Level Analysis". *Conference on Rural Poverty Reduction through Research for Development and Transformation*. Deutscher Tropentag: Berlin, Germany. 5-7 October 2004, pp 1-10
- Quisumbing, A., (2005). Male-Female Differences in Agricultural Productivity, "Journal of Development Economics, 24: 1579-1595
- Udry, C., Hoddinott, J. Alderman, H. and Haddad, L., (1995). Gender Differentials in Farm Productivity: Implications for Household Efficiency and Agricultural Policy. 20 (1995): 407-423. *World Development*
- United Nations, (UN). (2012). *The Millennium Development Goals Report*, p. 54
- United Nations Development Programme, UNDP, 2012. Towards a Food Secure Future. *Africa Human Development Report*, New York..
- United States Agency for International Development, USAID, 2012. Gender Equality and Female Empowerment Policy' March 2012 Washington, D.C U.S. Agency for International Development 1300 Pennsylvania Avenue, NW Washington, DC 2052.